RENOVATE ARMORY

3030 McGRAW, DETROIT, MICHIGAN

MICHIGAN DEPARTMENT OF MILITARY AND VETERANS AFFAIRS

DETROIT OLYMPIA ARMORY

MDMVA PROJECT NO. 26A7722012

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. ALL EXISTING CONDITIONS ARE TO BE FIELD VERIFIED BY THE G.C. AND ANY DISCREPANCIES BROUGHT TO THE OWNER'S ATTENTION.
2. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO VERIFY CONDITION OF EXISTING CONSTRUCTION. DOCUMENT ANY EXISTING CONDITION THAT COULD BE MISCONSTRUED AS DAMAGED DURING NEW CONSTRUCTION. NOTIFY THE GOVERNMENT OF EXISTING CONDITIONS IN WRITING PRIOR TO THE COMMENCEMENT OF WORK.
3. WHERE NEW CONSTRUCTION ABUTS EXISTING CONSTRUCTION AND APPEARS TO ALIGN FLUSH WITH EXISTING CONSTRUCTION, THE NEW CONSTRUCTION SHALL ALIGN AND BE FLUSH WITH NO VISIBLE JOINT, UNLESS THE MATERIALS OR SUBSTRATES DIFFER; THEN, AN EXPANSION JOINT SHALL BE INSTALLED.
4. DRAWINGS ARE NOT TO BE SCALED FOR ANY DIMENSIONS.
5. ALL VERTICAL DIMENSIONS SHOWN FOR NEW CONSTRUCTION ARE FROM THE TOP OF FINISH FLOOR (AFF). G.C TO VERIFY DIMENSIONAL THICKNESS OF ALL FLOOR FINISHES.
6. ALL WORK MUST COMPLY WITH THE DRAWINGS AND SPECIFICATIONS, ANY REVISIONS REQUIRED DUE TO FIELD CONDITIONS MUST BE REVIEWED AND APPROVED BY THE PROJECT MANAGER PRIOR TO CONSTRUCTION.
7. PATCH AND REPAIR EXISTING WALLS, FLOORS AND COLUMNS THROUGHOUT TO ACHIEVE A SMOOTH AND BLEMISH FREE SURFACE SUITABLE FOR RECEIVING SPECIFIED FINISH.
8. ALL ROUGH FRAMING WOOD (E.G. PLYWOOD ETC.) BEING INSTALLED SHALL BE TREATED WITH FIRE–RETARDANT CHEMICALS BY A PRESSURE–IMPREGNATION PROCESS OR OTHER METHODS WHICH TREAT THE MATERIAL THROUGHOUT (AS OPPOSED TO A SURFACE TREATMENT) TO MAKE IT FIRE SAFE.
9. ALL CONDUIT AND PIPE PENETRATIONS IN WALL SHALL BE SEALED. ALL PENETRATIONS IN FIRE RATED WALLS AND IN ALL FLOORS SHALL BE FIRE STOPPED. PROVIDE FLOOR–TO–FLOOR FIRESTOPPING AT ANY VERTICAL PIPING OR CONDUIT PENETRATIONS, WHICH ARE EXPOSED IN THE COURSE OF THIS RENOVATION WORK.
10. COORDINATE NEW AND RELOCATE ANY EXISTING CONDUITS, ETC. TO ACCOMMODATE LIGHT FIXTURES, HVAC ACCESSORIES AND VARIOUS DEVICES.
11. PROVIDE ADDITIONAL WIRING, CONDUIT AND ACCESSORIES FOR DEVICES TO BE RELOCATED. AT NO ADDITIONAL COST.
12. ALL WALL MOUNTED DEVICES SHALL BE FULLY CONCEALED UNLESS NOTED OTHERWISE.
13. PROVIDE ESCUTCHEONS FOR ALL VISIBLE FLOOR AND WALL PENETRATIONS.
14. BIDS FOR CONSTRUCTION OF ALL WORK SHOWN ON THE PLANS ARE SOLICITED ON A LUMP SUM BASIS. NO SEPARATE PAYMENT OR ADJUSTMENTS TO THE LUMP SUM BID WILL BE MADE UNLESS SPECIFICALLY INDICATED ON THE PLANS AND IN THE PROPOSAL OR WHEN ADDITIONAL WORK IS AUTHORIZED IN WRITING BY THE ENGINEER.
15. THE CONTRACTOR SHALL HAVE A KNOWLEDGEABLE REPRESENTATIVE ON SITE AT ALL TIMES DURING WORK UNDER THIS CONTRACT. THIS REPRESENTATIVE SHALL HAVE ON SITE, HIS OWN COPY OF THE CONTRACT SPECIFICATIONS, DRAWINGS AND DMVA APPROVED SHOP DRAWINGS.

CONTRACTOR SCHEDULE NOTES

1. MAINTAIN BUILDING TEMPERATURE OF 68 DEGREES DURING COLD SEASON.

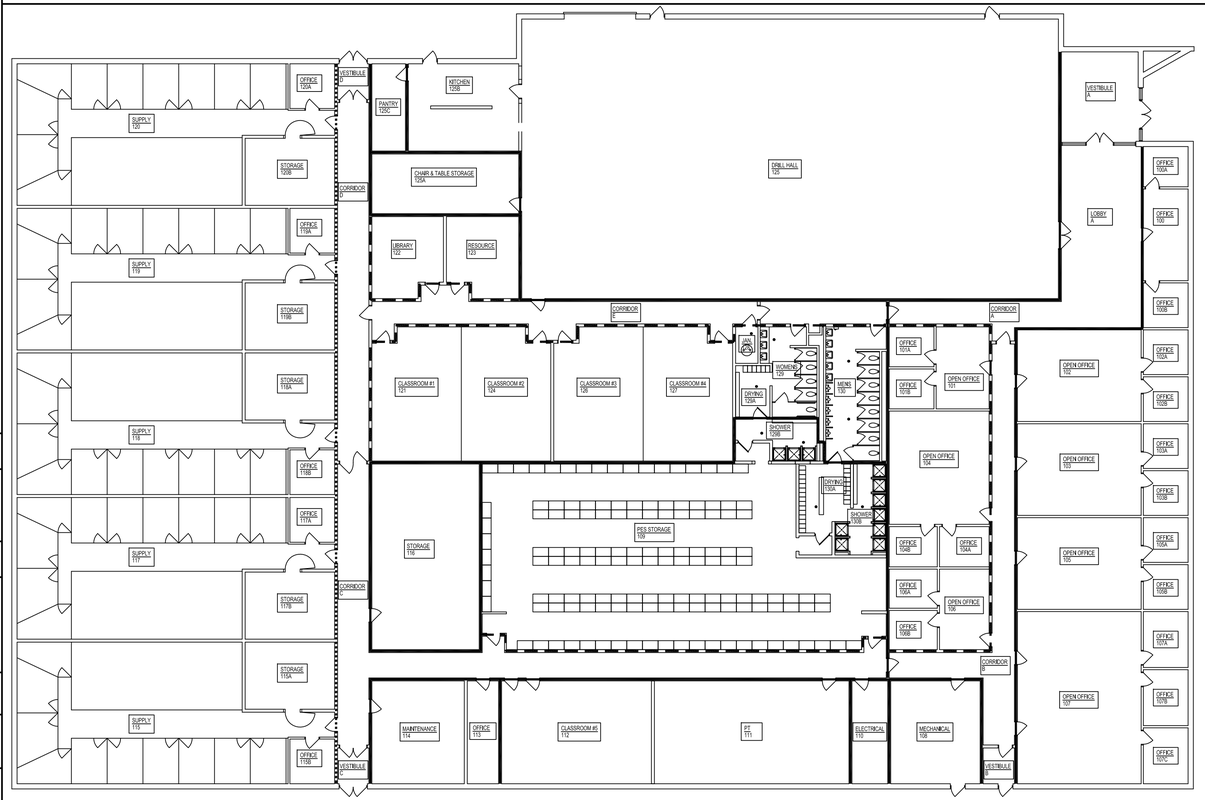
CONTACT INFORMATION

- MDMVA ARCHITECTURAL, PLUMBING, AND CIVIL SCOTT DOMANSKI.....(517) 481–7570
- MDMVA MECHANICAL BEN KOPIETZ.....(517) 481–7552
- MDMVA ELECTRICAL MICHAEL MOREY.....(517) 481–7589
- MDMVA INSPECTOR DOUG SHILLINGS.....(517) 599–6881

PERMITS REQUIREMENTS

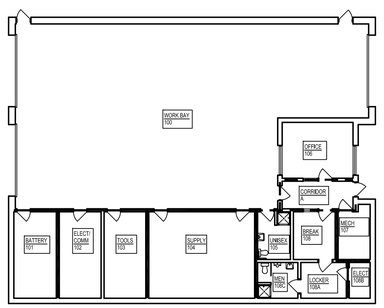
1. BUILDING, PLUMBING, MECHANICAL, & ELECTRICAL PERMITS WILL BE REQUIRED.

SHEET INDEX

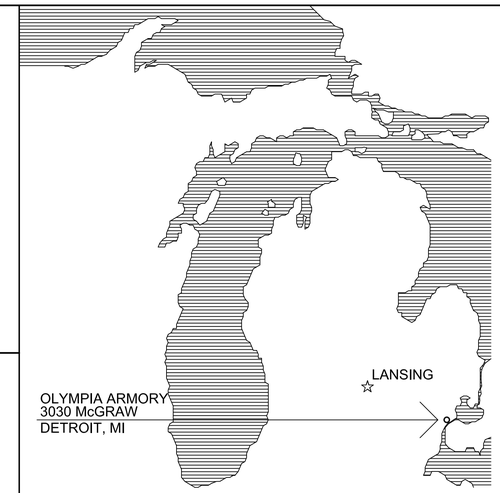


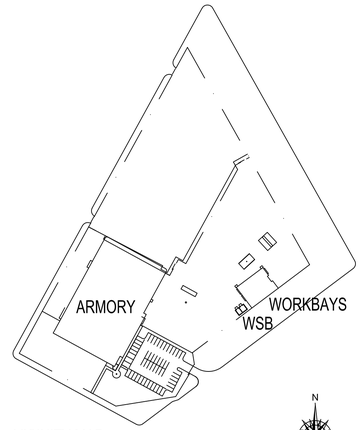
1 HR FIRE SEPARATION WALL
2 HR FIRE SEPARATION WALL
3 HR FIRE SEPARATION WALL

1 G1.0 OVERALL ARMORY FLOOR PLAN
SCALE: 1/16" = 1'-0"



2 G1.0 OVERALL WORKBAY FLOOR PLAN
SCALE: 1/16" = 1'-0"





VICINITY MAP

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY - OLYMPIA
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	JJD
DRAWN	JJD
CHECKED	BAB
APPROVED	KLW

ISSUED FOR	DATE
PRELIMINARY ■	02 MAR 2022
CONSTRUCTION ■	10 JULY 2023
FINAL RECORD □	

IDENTIFICATION NO.
PROJECT 26A7722012
INDEX CODE 1540

SHEET G1.0

GENERAL BUILDING DATA

APPLICABLE CODES:

THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH:

THE MICHIGAN BUILDING CODE	2015	EDITION
THE MICHIGAN MECHANICAL CODE	2015	EDITION
THE MICHIGAN PLUMBING CODE	2018	EDITION
THE MICHIGAN ENERGY CODE	2015	EDITION
THE NATIONAL ELECTRICAL CODE	2017	EDITION
NFPA 101 – THE LIFE SAFETY CODE	2018	EDITION

OCCUPANCY:

MIXED USE — MBC SECTION 303

OCCUPANCY LOAD (CALCULATED)	MBC TABLE 1004.1.2	
ROOM FUNCTION:	LOAD:	TYPE:
ASSEMBLY (CHAIRS NOT FIXED)	5 NSF/P	B/A-2
ASSEMBLY (TABLES & CHAIRS)	15NSF/P	B/A-2
BUSINESS USE	100GSF/P	B
STORAGE	300GSF/P	S-2
CLASSROOM	20NSF/P	B
MECHANICAL SPACES	300GSF/P	S-2
LOCKER ROOM	50GSF/P	B
EXERCISE	50GSF/P	B
KITCHEN	200GSF/P	A-2

FIRE PROTECTION SYSTEM:

SPRINKLER SYSTEM:	PROVIDED MBC 903.2.8
FIRE EXTINGUISHERS:	REQUIRED & PROVIDED
MANUAL FIRE ALARM SYSTEM:	PROVIDED

GENERAL NOTES

A. SEE ELECTRICAL DRAWINGS FOR EGRESS LIGHTING AND SMOKE DETECTOR LOCATIONS, TYPICAL.

B. SEE DOOR SCHEDULE FOR FIRE RATED DOORS.

C. 2015 MICHIGAN BUILDING CODE, FOLLOWING SECTION 1103.2.15 FOR MILITARY AND FIRE SERVICE EXEMPTION, IT IS NOT REQUIRED TO BE ACCESSIBLE.

LEGEND

EXIT / OCCS / IN. REQ'D / 72 IN PROV — DOOR EGRESS POPULATION / DOOR EGRESS CAPACITY

OCCUPANCY TYPE — ROOM FUNCTION

B OFFICE 467 SF 5 P

ROOM AREA — ROOM POPULATION

MICHIGAN PLUMBING CODE - CHAPTER 4 FIXTURE COUNTS

SECTION 403,1	USE GROUP: A-2,B,S-2			
	MALE WATER CLOSET	MALE LAVATORY	FEMALE WATER CLOSET	FEMALE LAVATORY
EXISTING:	8 W.C. +5 URINALS	5	5	3
ADDITIONAL:	0	0	4	1
SUBTRACTION:	-1 W.C.*	0	0	0
TOTAL:	7 W.C. + 5 URINALS	5	9	4
	*ONE EXISTING W.C IS BEING REMOVED FOR ADA STALL			
	DRINKING FOUNTAIN	SERVICE SINK		
EXISTING:	1	1		
ADDITIONAL:	1*	0		
TOTAL:	2	1		
	*ONE DRINKING FOUNTAIN IS A NEW HIGH-LOW UNIT			

PLUMBING FIXTURE COUNTS TABLE 403.1, 2015 MICHIGAN PLUMBING CODE WAS FOLLOWED USING 939 OCCUPANTS AS THE TOTAL BUILDING LOAD

ENERGY CODE THIS PROJECT SHALL COMPLY WITH ASHRAE 90.1 (2013)

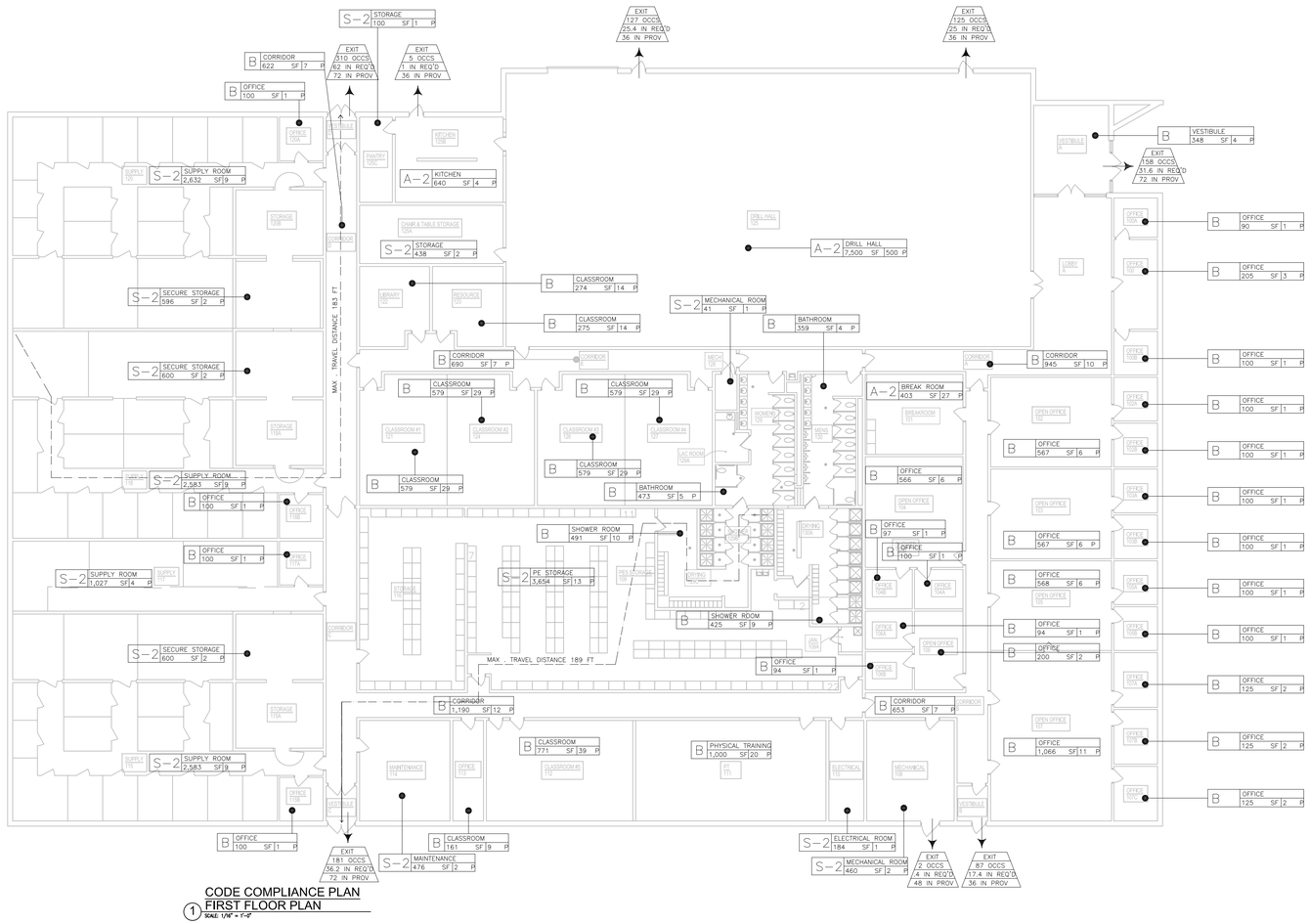
DETROIT, MICHIGAN IS IN ZONE 5A. R-38 CI AT ROOF AND R-13 CI AT WALLS IS CODE MINIMUM. THIS PROJECT WILL MEET THE CODE MINIMUM.

AREA CALCULATIONS:

AREA CALCULATIONS:

NEW AREA(GROSS)

FIRST FLOOR ADDITION:	0 SF
SECOND FLOOR:	0 SF
SUB-TOTAL	0 SF
RENOVATION AREA	
FIRST FLOOR:	11,802 SF
SUB-TOTAL:	
GRAND TOTAL (GROSS):	11,802 SF



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

CODE ANALYSIS - BUILDING DO001

CODE PATH

PROPOSED RENOVATION DOES INCLUDE AN AUTOMATIC SPRINKLER SYSTEM USED TO ALLOW FOR NON-SEPARATED OCCUPANCIES (TABLE 508.3) OR FOR INCREASING ALLOWABLE AREA (TABLE 503).

STRUCTURAL DESIGN INFORMATION

BUILDING RISK CATEGORY: IV

BUILDING CONSTRUCTION

CONSTRUCTION TYPE (TABLE 601): II - B

BUILDING HEIGHT (TABLE 504,3):	ALLOWED: 55'-0"	1 STORY	EXISTING: 22'-0" DRILL HALL	1 STORY
SPRINKLER'S USED TO INCREASE STORIES:	NO		BASEMENT: NO BASEMENT	
BUILDING FLOOR AREA (TABLE 506.2):	ALLOWED: 234,000 SF		PROPOSED: 0 SF	

FIRE RESISTIVE REQUIREMENTS (TABLE 601):	RATING REQUIRED:	RATING PROVIDED:
STRUCTURAL FRAME:	0 HOURS	0 HOURS
BEARING WALLS - EXTERIOR:	0 HOURS	2+ HOURS
BEARING WALLS - INTERIOR:	0 HOURS	0 HOURS
NONBEARING WALLS AND PARTITIONS - INTERIOR:	0 HOURS	1 HOUR AT REQ'D SEPARATION
FLOOR CONSTRUCTION:	0 HOURS	0 HOURS
ROOF CONSTRUCTION:	0 HOURS	0 HOURS

BUILDING OCCUPANCY CLASSIFICATIONS AND SEPARATIONS

USE AND OCCUPANCY CLASSIFICATIONS: MIXED-USE: A-2, B, S-2

SEPARATED OR NON-SEPARATED USES (TABLE 508.4): OCCUPANCIES ARE TO BE SEPARATED

OCCUPANCY SEPARATION RATINGS REQUIRED (TABLE 508.4):	B to S-2 = 1 HR
	A-2 to S-2 = 0 HR NO SEPERATION REQUIRED
	B to A-2 = 1 HR

SPRINK. REDUCTION USED: YES

MEANS OF EGRESS

NUMBER OF EXITS PER SPACE TABLE 1006.3.1

OCCUPANT LOAD: 510–1,000 3 EXIT IS REQUIRED
7 EXIT IS PROVIDED

EXIT ACCESS TRAVEL DISTANCE TABLE 1017.2

USE A–2 250 FT. MAX WITH SPRINKLER SYSTEM

USE B 300 FT. MAX WITH SPRINKLER SYSTEM

USE S–2 400 FT. MAX WITH SPRINKLER SYSTEM

EGRESS WIDTH FACTORS:

DOORS: 0.20" / PERSON SECTION 1005.3.2

MAX. DEAD END CORRIDORS:
USE A–2: 20 FT
USE B,S–2: 50 FT ** SECTION 1020.4
**1020.4 STATES THAT THE DEAD END RULE SHOULD BE FOLLOWED IF MORE THAN ONE EXIT OR EXIT ACCESS DOORWAY IS REQUIRED. EXCEPTION 2 BUILDING EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM SHALL NO EXCEED 50 FT. TABLE 1006.2.1 IS ALSO FOLLOWED FOR MAXIMUM EGRESS TRAVEL DISTANCE.

BUILDING AREA AND OCCUPANT LOAD SUMMARY

	PROPOSED: 1ST FLR			NEW TOTALS:	PROPOSED: 2ND FLR	NEW TOTALS:	EXISTING: 1ST FLR			NEW TOTALS:
OCCUPANCY:	A-2	B	S-2		-		A-2	B	S-2	
AREA:	8,543 SF	16,682 SF	15,974 SF	41,199 SF	0 SF	0 SF	8,140 SF	16,421 SF	16,638 SF	41,199 SF
OCCUPANTS:	531	349	59	939	0	0	504	355	61	920
ALLOWABLE SF WITH SPRINKLER INCREASE(+200%)	38,000 SF	92,000 SF	104,000 SF	234,000 SF	0 SF	0 SF	38,000 SF	92,000 SF	104,000 SF	234,000 SF
PERCENTAGE	0.2248	0,1813	0,1535	0,1760<1	0	0<1	0,2142	0,1784	0,1599	0,1760<1

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DESIGNED	YDD
DRAWN	YDD
CHECKED	BAB
APPROVED	KLW

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■ CONSTRUCTION	10 JULY 2023
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IDENTIFICATION NO.
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INDEX CODE 1540

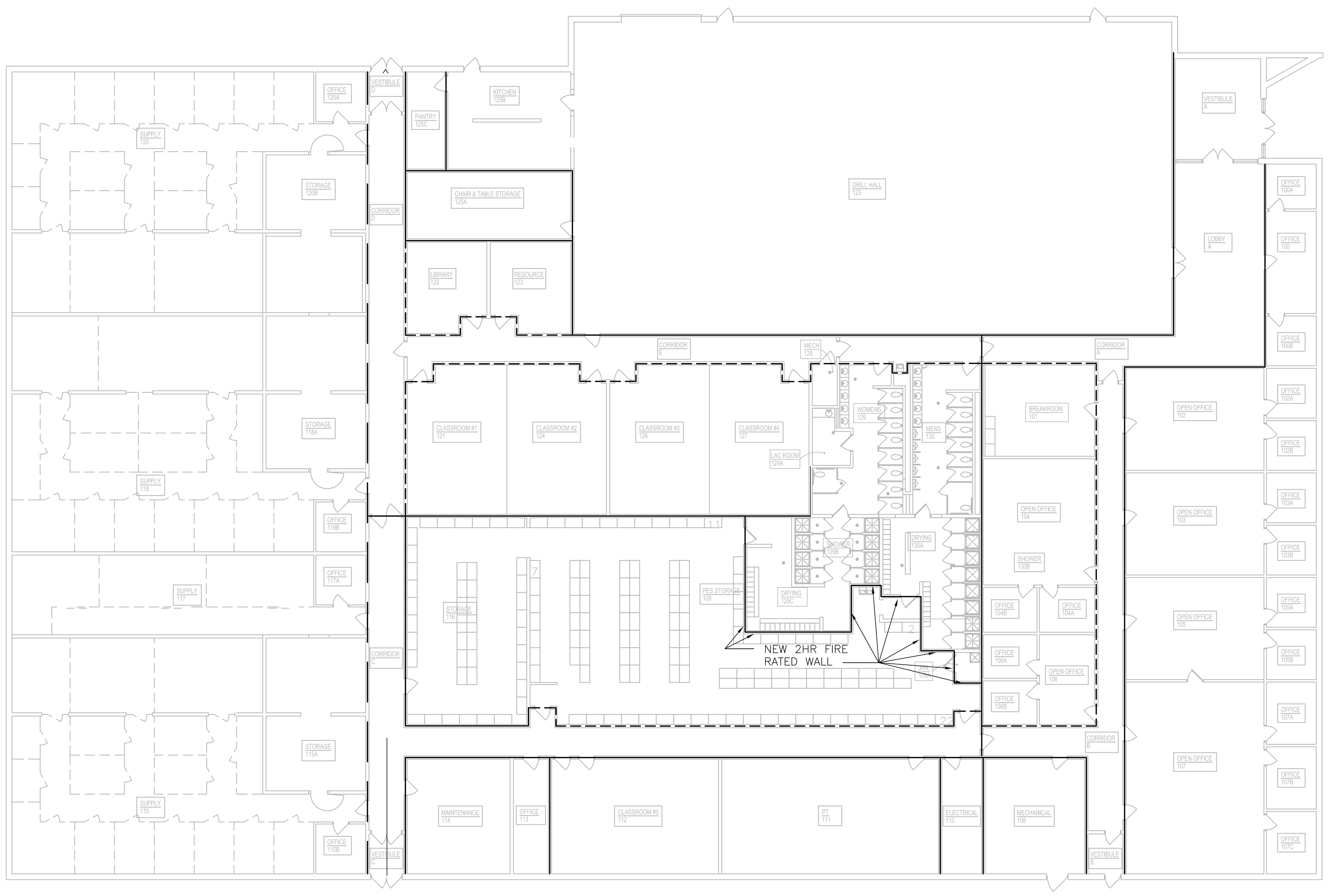
SHEET
G1.1

GENERAL NOTES

1. NEW WALLS WILL BE FLOOR TO ROOF METAL DECK SEAL OPENINGS IN METAL DECK TO REACH FIRE RATING.
2. INSTALL NEW FIRE SPRINKLER HEADS TO MET FIRE RATING SEE SHEET FP2
3. INSTALL FIRE DAMPERS IN MECHANICAL DUCTWORK FOR A 2 HR RATING WHERE NEW WALL IS BEING INSTALLED TO SEPARATE PE STORAGE FROM SHOWER ROOMS
4. INSTALL FIRE CAULK AROUND OPENINGS AND PENETRATIONS IN WALL TO MEET RATING BELOW
5. NEW METAL DOORS WILL BE FIRE RATED TO WALL RATING BELOW SEE DOOR SCHEDULE SHEET A7.0

LEGEND

Line type	Description
Short dashed line	1 HR FIRE SEPARATION WALLS WALLS TO UNDERSIDE OF CONSTRUCTION
Solid line	2 HR FIRE SEPARATION WALLS WALLS TO UNDERSIDE OF CONSTRUCTION
Long dashed line	3 HR FIRE SEPARATION WALLS GROUTED CMU WALLS SOLID WALLS TO UNDERSIDE OF CONSTRUCTION



1 NEW FIRE WALL PLAN
SCALE: 1/16" = 1'-0"

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DESIGNED	SDD
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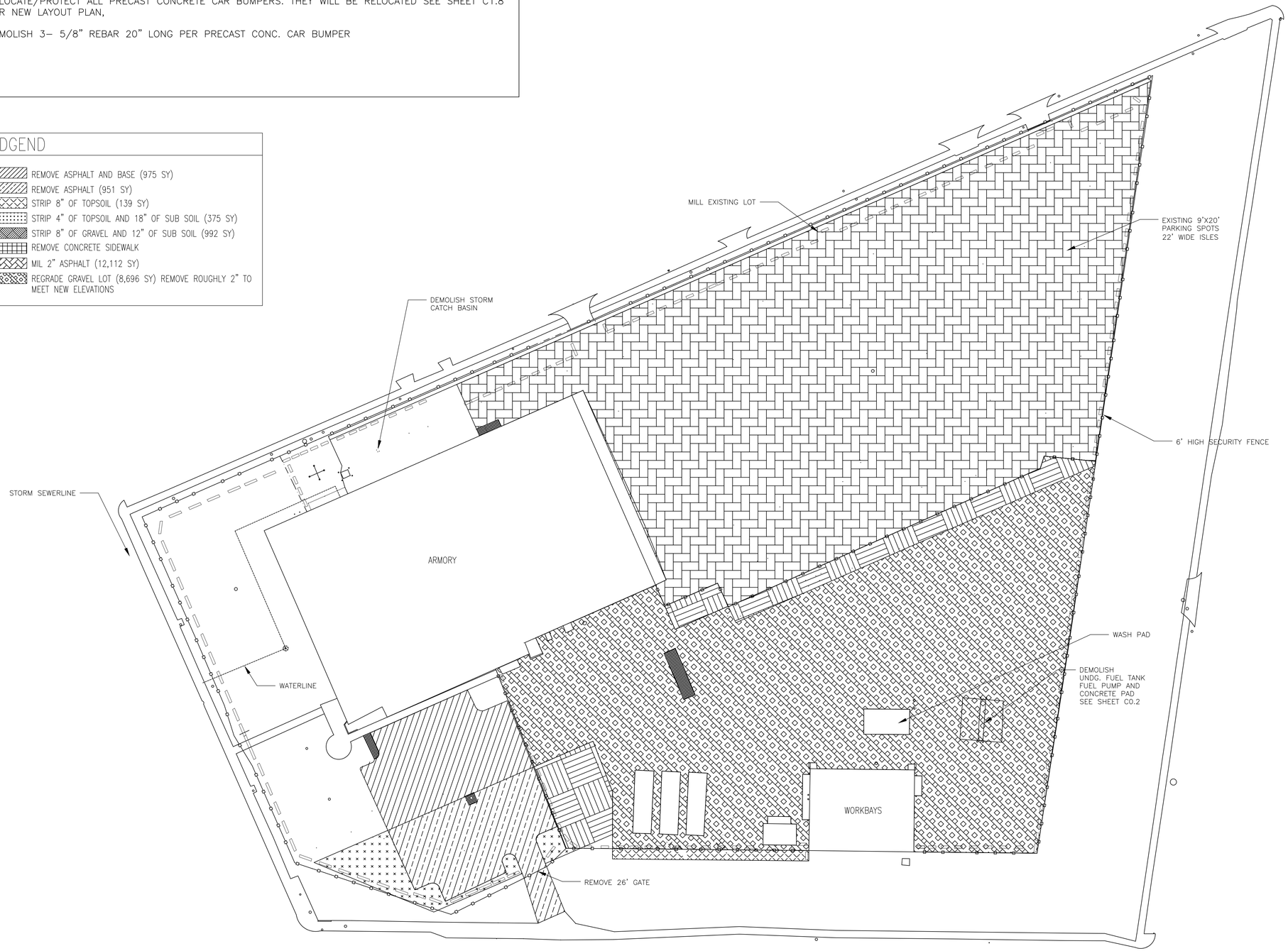
SHEET	IDENTIFICATION NO.
G1.2	PROJECT 26A7722012 INDEX CODE 1540

SITE NOTES

1. DISPOSE OF 6 MARKED CONC. BARRIERS.
2. RELOCATE ALL PERIMETER CONC. BARRIERS, ON SITE, TO COMPLETE WORK REQUIRED
3. RELOCATE/PROTECT ALL PRECAST CONCRETE CAR BUMPERS. THEY WILL BE RELOCATED SEE SHEET C1.8 FOR NEW LAYOUT PLAN,
4. DEMOLISH 3– 5/8" REBAR 20" LONG PER PRECAST CONC. CAR BUMPER

LEDGEND

- REMOVE ASPHALT AND BASE (975 SY)
- REMOVE ASPHALT (951 SY)
- STRIP 8" OF TOPSOIL (139 SY)
- STRIP 4" OF TOPSOIL AND 18" OF SUB SOIL (375 SY)
- STRIP 8" OF GRAVEL AND 12" OF SUB SOIL (992 SY)
- REMOVE CONCRETE SIDEWALK
- MIL 2" ASPHALT (12,112 SY)
- REGRADE GRAVEL LOT (8,696 SY) REMOVE ROUGHLY 2" TO MEET NEW ELEVATIONS



N

EXISTING SITE DEMO PLAN

SCALE: 1" = 40'

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DETROIT, MICHIGAN

DESIGNED	YDD
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APPROVED	KLM

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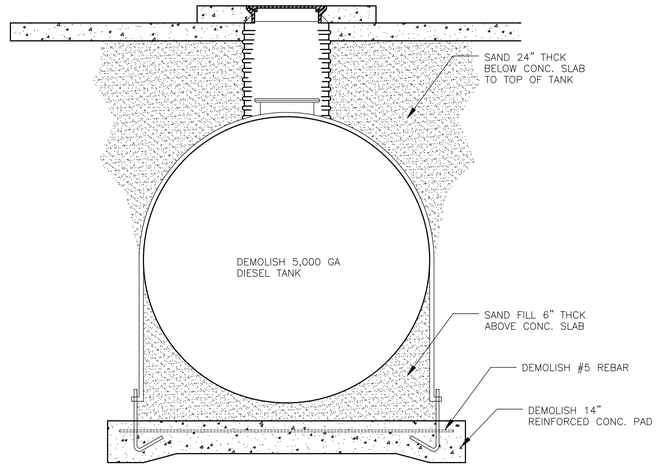
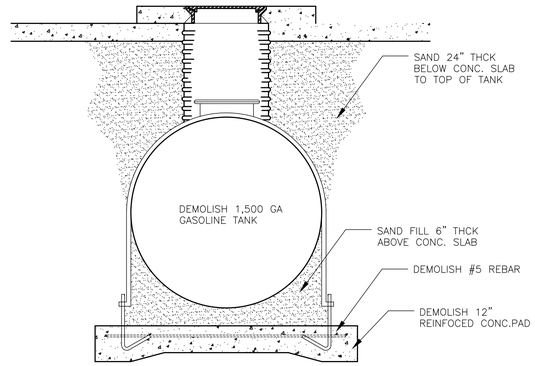
SHEET C0.1

TANK DEMOLITION NOTES

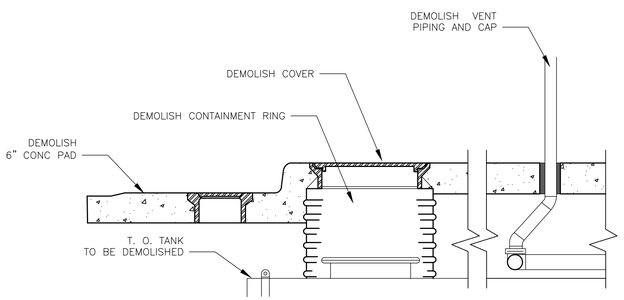
1. NOTIFY DMVA ENVIRONMENTAL DEPARTMENT AT LEAST 3 DAYS PRIOR TO REMOVAL OF TANK SO THEY ARE AVAILABLE TO BE ON SITE THE DAY THE TANKS ARE BEING PULLED.
2. NOTIFY LARA TANK DIVISION REGIONAL INSPECTOR AT LEAST 3 DAYS PRIOR TO REMOVAL OF TANKS SO THAT THEY CAN BE ON SITE.
3. COVER HOLE UP WITH PLASTIC ACCORDING TO SESC GUIDELINES UNTIL SOIL TESTING HAS BEEN COMPLETED AND CLEARED FOR BACK FILL.
4. ENSURE PROPER BARRICADES AND SAFETY STANDARDS ARE USED TO PREVENT INJURY DURING TESTING PERIOD.



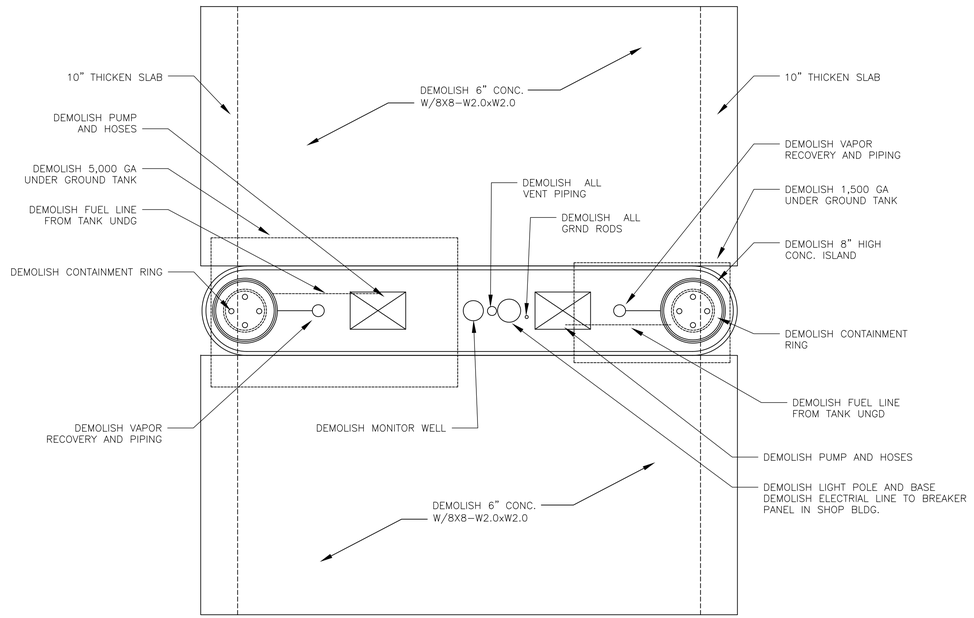
1 C1.0 C1 — 5,000 GA TANK SECTION
SCALE: 1/2" = 1'-0"



2 C1.0 C1 — 1,500 GA TANK SECTION
SCALE: 1/2" = 1'-0"



3 C1.0 C1 — FUEL ISLAND SECITON
SCALE: 3/4" = 1'-0"



4 C1.0 C1 — FUEL ISLAND PLAN VIEW
SCALE: 1/4" = 1'-0"

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DRAWN	YDD	
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APPROVED	ALL	
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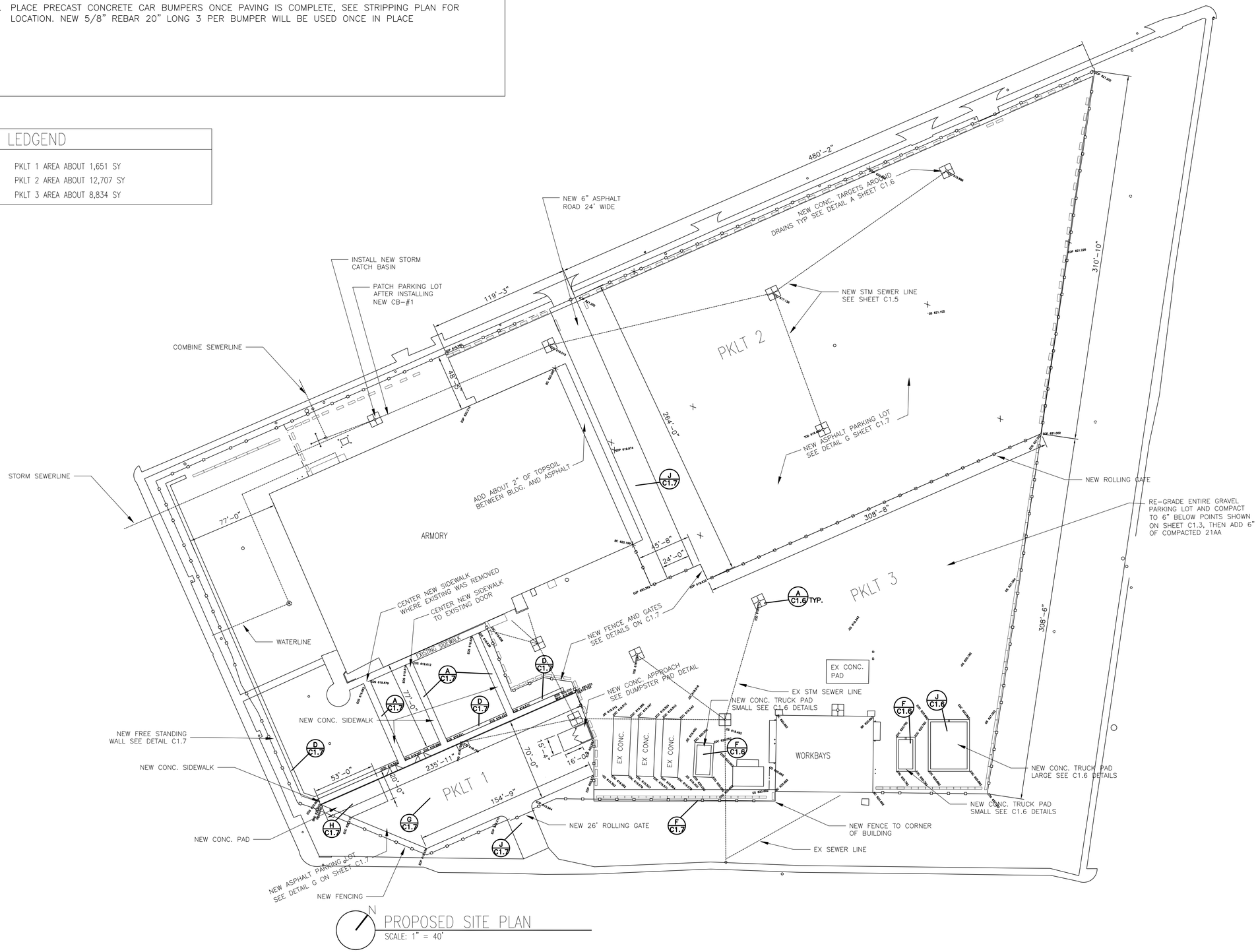
IDENTIFICATION NO.	PROJECT 26A7722012	INDEX CODE 1540
SHEET	C0.2	

SITE NOTES

1. INSTALL NEW 5' WIDE SIDEWALKS
2. RELOCATION OF ALL CONC. BARRIERS WILL BE DONE BY CONTRACTOR TO NEW PLAN
3. PLACE PRECAST CONCRETE CAR BUMPERS ONCE PAVING IS COMPLETE, SEE STRIPPING PLAN FOR LOCATION. NEW 5/8" REBAR 20" LONG 3 PER BUMPER WILL BE USED ONCE IN PLACE

LEDGEND

PKLT 1 AREA ABOUT 1,651 SY
PKLT 2 AREA ABOUT 12,707 SY
PKLT 3 AREA ABOUT 8,834 SY



PROPOSED SITE PLAN

SCALE: 1" = 40'

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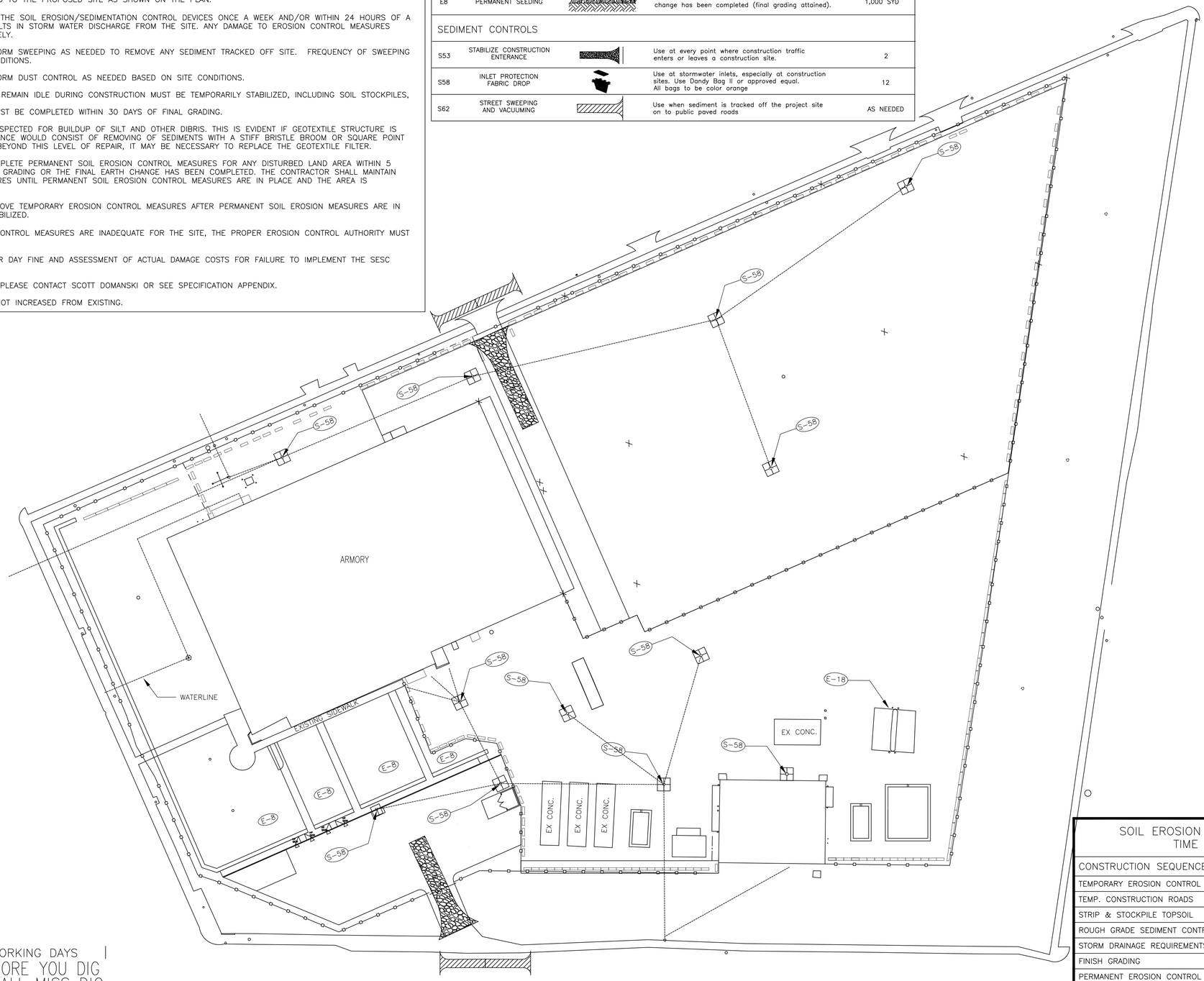
SHEET
C1.1

SESC NOTES

1. CONTRACTOR IS REQUIRE TO SUBMIT THEIR SESC PLAN AND PULL, AT NO COST, A SOIL EROSION PERMIT FROM THE DMVA. CONTACT CURT ROEBUCK, ENVIROMENTAL COMPLIANCE, ENVIRONMENTAL DIVISION, MICHIGAN DEPARTMENT OF MILITARY AND VETERANS AFFAIRS, 3423 N. MARTIN LUTHER KING JR. BLVD., LANSING, MI 48906. EMAIL: ROEBUCKC@MICHIGAN.GOV, MOBILE: 269-209-3381.
2. EARTHWORK SHALL BE LIMITED TO THE PROPOSED SITE AS SHOWN ON THE PLAN.
3. CONTRACTOR SHALL INSPECT THE SOIL EROSION/SEDIMENTATION CONTROL DEVICES ONCE A WEEK AND/OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN STORM WATER DISCHARGE FROM THE SITE. ANY DAMAGE TO EROSION CONTROL MEASURES MUST BE REPAIRED IMMEDIATELY.
4. THE CONTRACTOR WILL PERFORM SWEEPING AS NEEDED TO REMOVE ANY SEDIMENT TRACKED OFF SITE. FREQUENCY OF SWEEPING WILL BE BASED ON SITE CONDITIONS.
5. THE CONTRACTOR WILL PERFORM DUST CONTROL AS NEEDED BASED ON SITE CONDITIONS.
6. DISTURBED AREAS THAT WILL REMAIN IDLE DURING CONSTRUCTION MUST BE TEMPORARILY STABILIZED, INCLUDING SOIL STOCKPILES,
7. PERMANENT STABILIZATION MUST BE COMPLETED WITHIN 30 DAYS OF FINAL GRADING.
8. INLET FILTERS SHOULD BE INSPECTED FOR BUILDUP OF SILT AND OTHER DIBRIS. THIS IS EVIDENT IF GEOTEXTILE STRUCTURE IS CAUSING FLOODING. MAINTENANCE WOULD CONSIST OF REMOVING OF SEDIMENTS WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTER IS BEYOND THIS LEVEL OF REPAIR, IT MAY BE NECESSARY TO REPLACE THE GEOTEXTILE FILTER.
9. THE CONTRACTOR SHALL COMPLETE PERMANENT SOIL EROSION CONTROL MEASURES FOR ANY DISTURBED LAND AREA WITHIN 5 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. THE CONTRACTOR SHALL MAINTAIN TEMPORARY CONTROL MEASURES UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IN PLACE AND THE AREA IS STABILIZED.
10. THE CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER PERMANENT SOIL EROSION MEASURES ARE IN PLACE AND THE AREA IS STABILIZED.
11. IF SOIL EROSION/SEDIMENT CONTROL MEASURES ARE INADEQUATE FOR THE SITE, THE PROPER EROSION CONTROL AUTHORITY MUST BE NOTIFIED.
12. DMVA CAN ISSUE A $500 PER DAY FINE AND ASSESSMENT OF ACTUAL DAMAGE COSTS FOR FAILURE TO IMPLEMENT THE SESC IMPLEMENTATION PLAN.
13. FOR PROPERTY DESCRIPTION PLEASE CONTACT SCOTT DOMANSKI OR SEE SPECIFICATION APPENDIX.
14. IMPERVIOUS SURFACES ARE NOT INCREASED FROM EXISTING.

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED	QUANTITY
EROSION CONTROLS				
E5	DUST CONTROL		For use on construction sites, unpaved roads, ect. to reduce dust and sedimentation from wind and construction activities.	AS NEEDED
E8	PERMANENT SEEDING		Stabilization method utilized on sites where earth change has been completed (final grading attained).	1,000 SYD
SEDIMENT CONTROLS				
S53	STABILIZE CONSTRUCTION ENTERANCE		Use at every point where construction traffic enters or leaves a construction site.	2
S58	INLET PROTECTION FABRIC DROP		Use at stormwater inlets, especially at construction sites. Use Dandy Bag II or approved equal. All bags to be color orange	12
S62	STREET SWEEPING AND VACUUMING		Use when sediment is tracked off the project site on to public paved roads	AS NEEDED



KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
(TOLL FREE) FOR THE LOCATION OF UNDERGROUND FACILITIES

N

SOIL EROSION SEDIMENTATION CONTROLS PLAN
SCALE: 1" = 40'

SOIL EROSION & SEDIMENTATION CONTROL OPERATION
TIME SCHEDULE FOR CONSTRUCTION

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY EROSION CONTROL MEASURES												
TEMP. CONSTRUCTION ROADS												
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADE SEDIMENT CONTROL												
STORM DRAINAGE REQUIREMENTS												
FINISH GRADING												
PERMANENT EROSION CONTROL MEASURES												

DISTURBANCE AREA 0.31 ACRES
PROPERTY ADDRESS: 3030 McGRAW ST., DETROIT, MI 48208

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

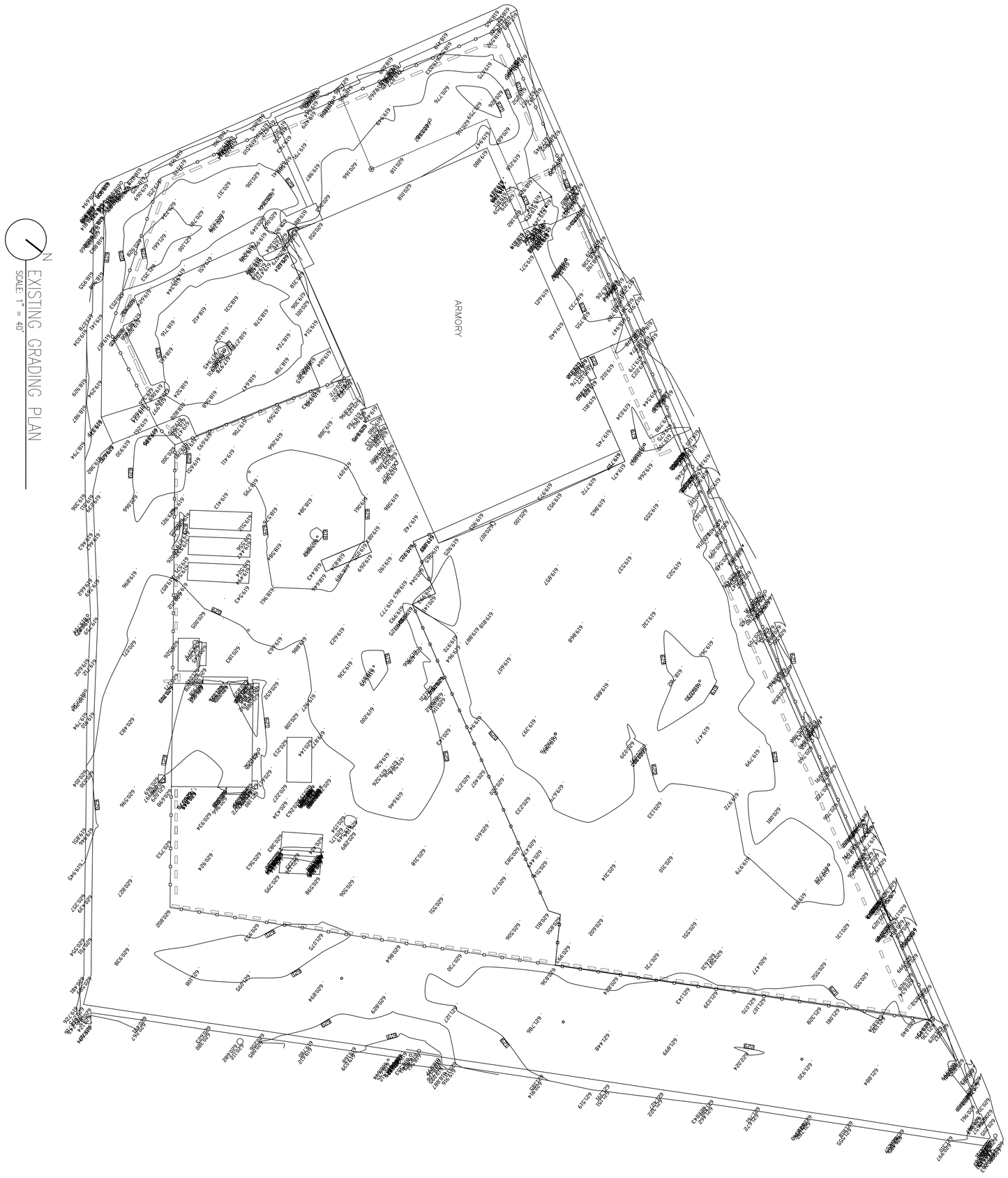
DESIGNED	YDD
DRAWN	YDD
CHECKED	BAB
APPROVED	ACLH

DATE: 10 OCT 2022 / 07 JULY 2023

ISSUED FOR: PRELIMINARY ■ CONSTRUCTION ■ FINAL RECORD □

IDENTIFICATION NO.: PROJECT 26A7722012 / INDEX CODE 1540

SHEET: C1.1



EXISTING GRADING PLAN

SCALE: 1" = 40'

SHEET	IDENTIFICATION NO.	ISSUED FOR	DATE		
C1.2	PROJECT 26A7722012	PRELIMINARY ■	10 OCT 2022	DESIGNED	JDD
	INDEX CODE 1540	CONSTRUCTION ■	07 JULY 2023	DRAWN	JDD
		FINAL RECORD □		CHECKED	BAB
				APPROVED	KMM

RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS

DETROIT, MICHIGAN

STATE OF MICHIGAN

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET

FACILITIES AND BUSINESS SERVICES ADMINISTRATION

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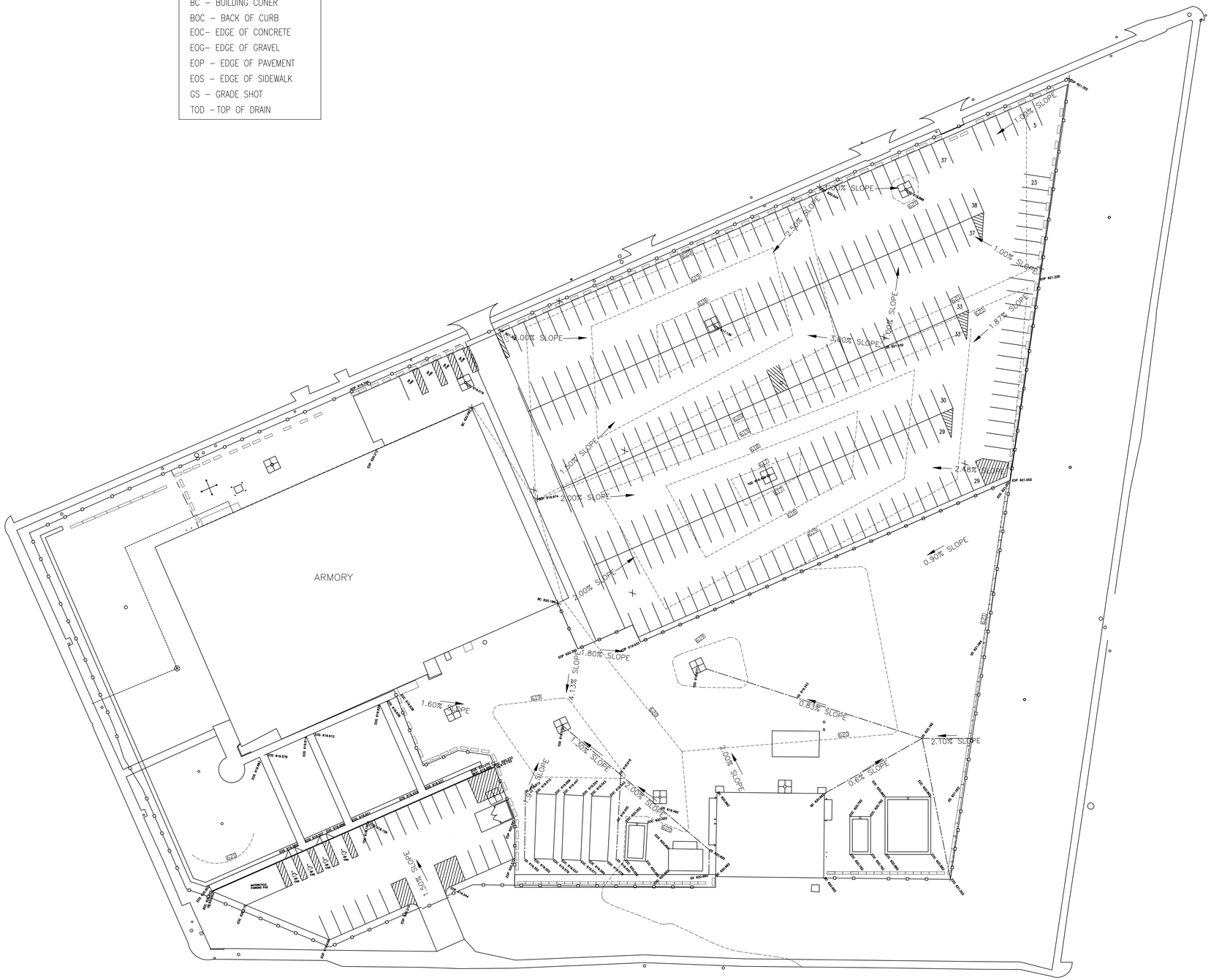
ADAM LACH, RA, DIRECTOR

LEDGEND

BC – BUILDING CONER
BOC – BACK OF CURB
EOC– EDGE OF CONCRETE
EOG– EDGE OF GRAVEL
EOP – EDGE OF PAVEMENT
EOS – EDGE OF SIDEWALK
GS – GRADE SHOT
TOD – TOP OF DRAIN



N

NEW GRADING PLAN
SCALE: 1" = 40'

STATE OF MICHIGAN
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RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	SDD
DRAWN	SDD
CHECKED	BAB
APPROVED	ACLH

ISSUED FOR	DATE
PRELIMINARY ■	10 OCT 2022
CONSTRUCTION ■	07 JULY 2023
FINAL RECORD □	

IDENTIFICATION NO.
PROJECT 26A7722012
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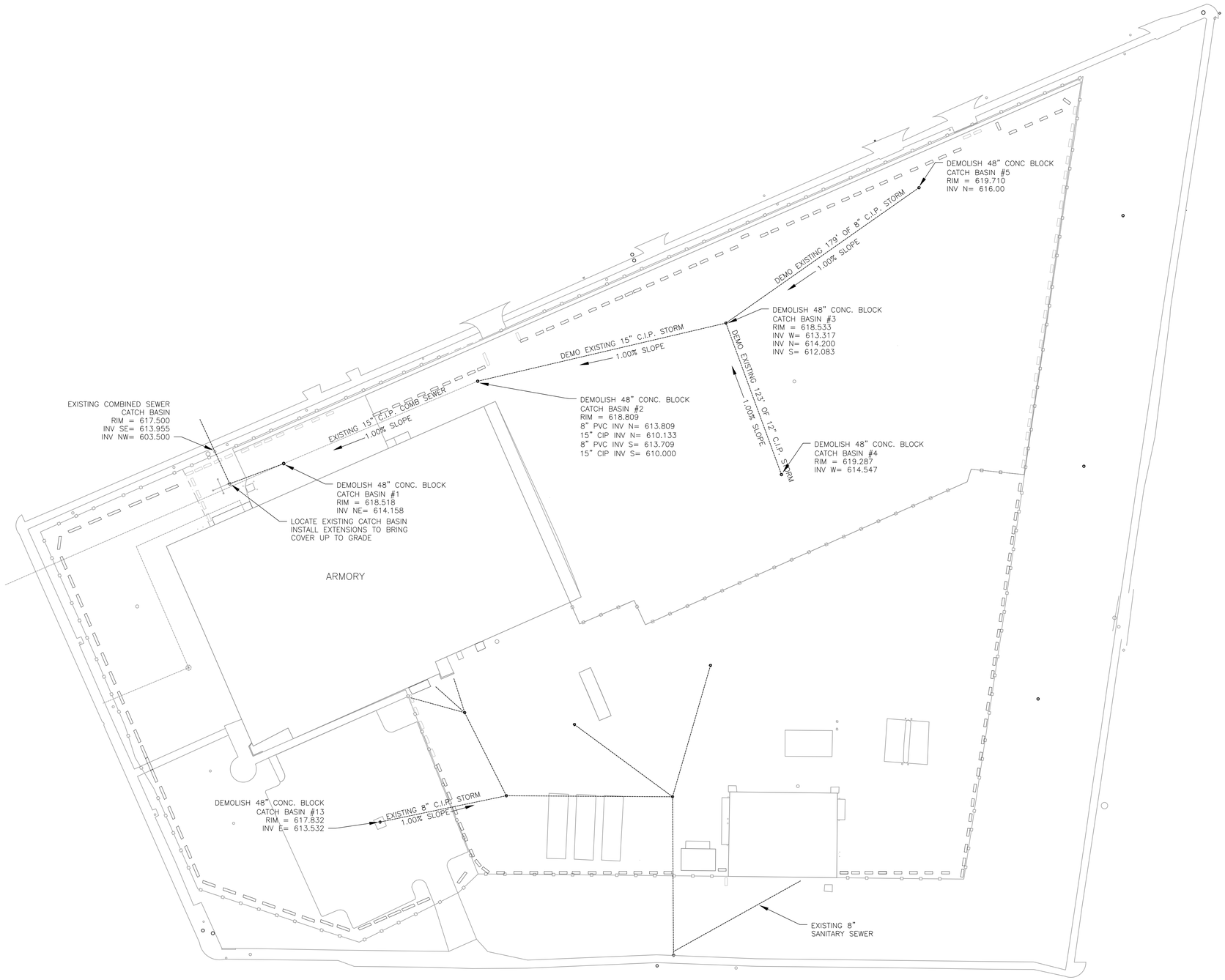
SHEET C1.3



N

DEMO DRAINAGE PLAN

SCALE: 1" = 40'

STATE OF MICHIGAN
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FACILITIES AND BUSINESS SERVICES ADMINISTRATION
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RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS

DETROIT, MICHIGAN

DESIGNED	JPD
DRAWN	JPD
CHECKED	BAB
APPROVED	JCLL

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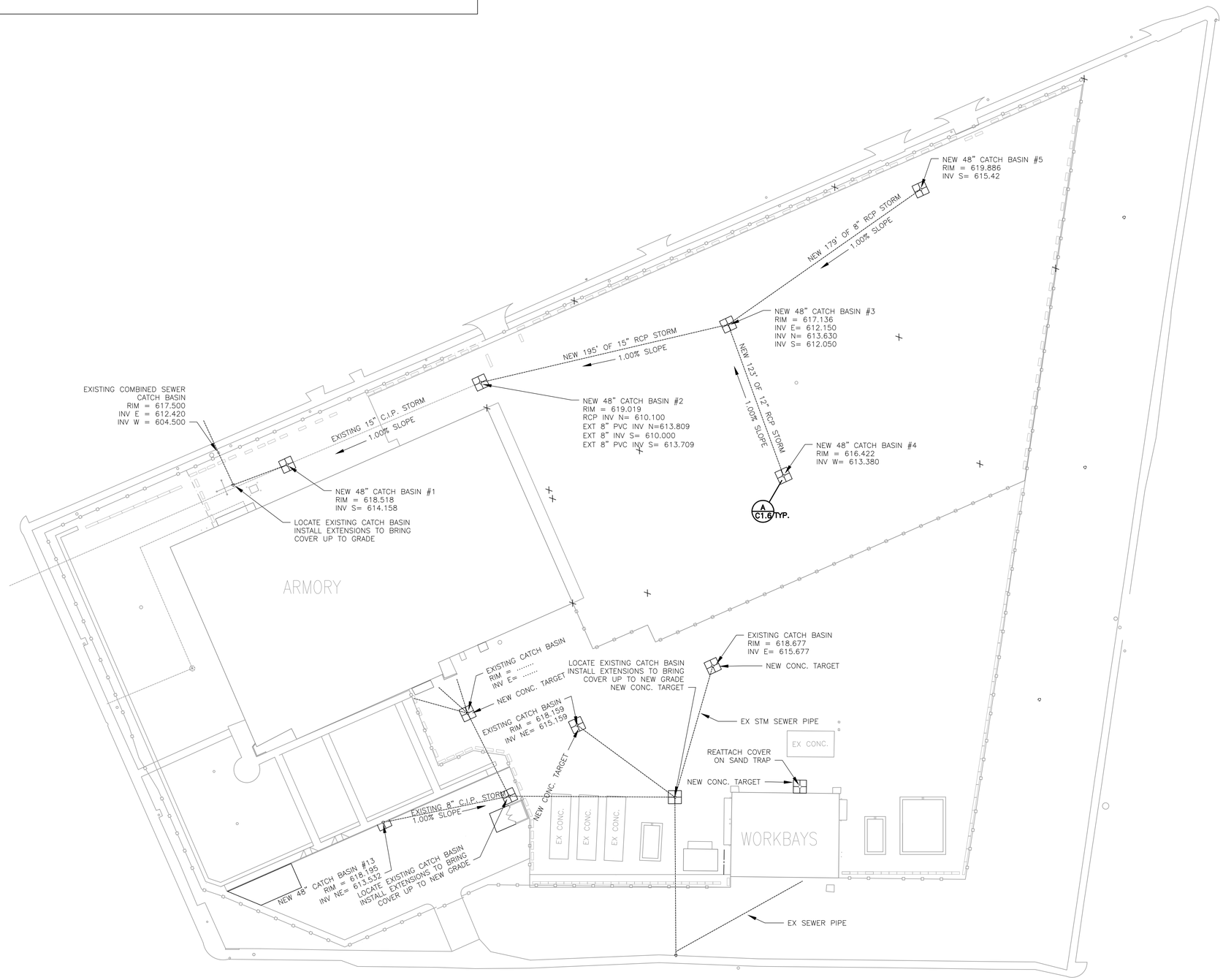
PROJECT 26A7722012
INDEX CODE 1540

SHEET C1.4

SITE NOTES

1. CONTRACTOR TO VERIFY EXISTING REMAINING PIPE INVERTS BEFORE ORDERING CATCH BASINS.



N

NEW DRAINAGE PLAN

SCALE: 1" = 40'

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PROJECT	26A7722012
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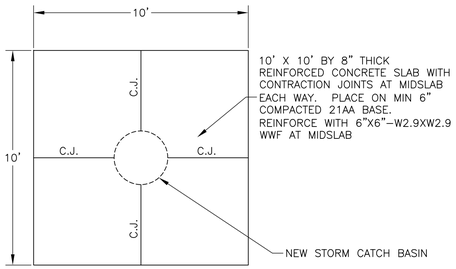
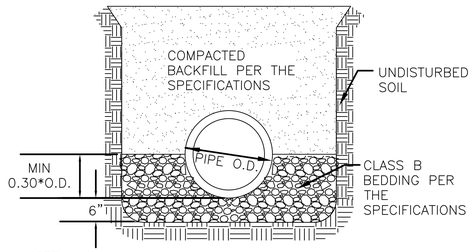
SHEET C1.5



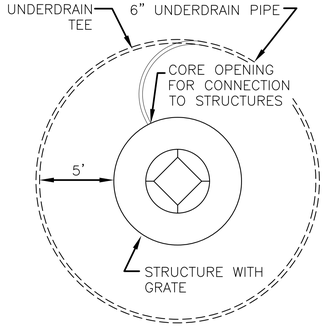
A CATCH BASIN SLAB
SCALE: NONE



NOTE:

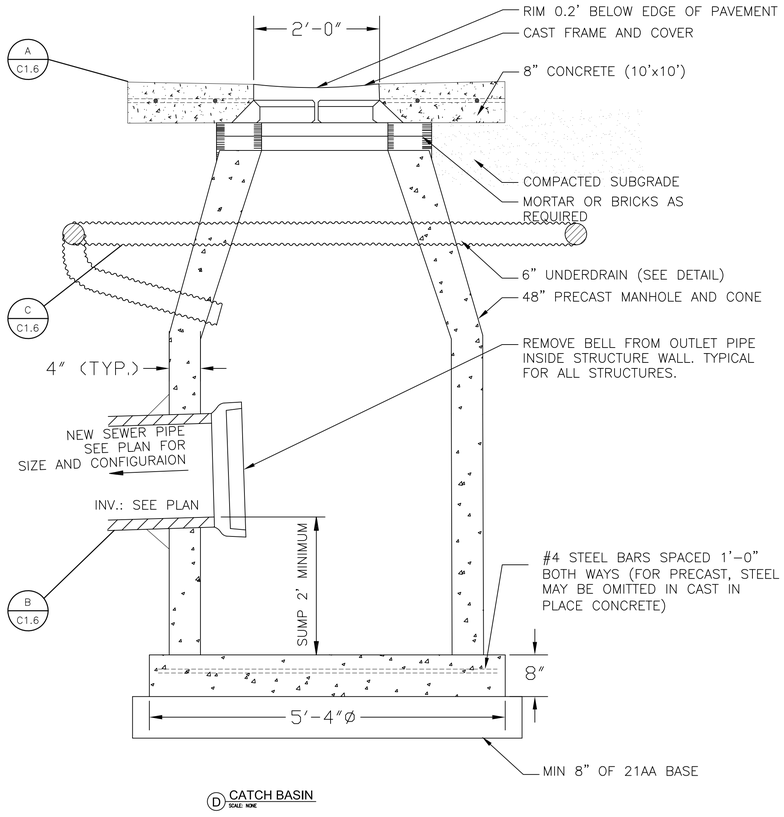
BOTTOM OF TRENCH SHALL BE A MINIMUM WIDTH OF THE PIPE O.D. PLUS 12 INCHES.

B CONC. PIPE BEDDING DET.
SCALE: NONE

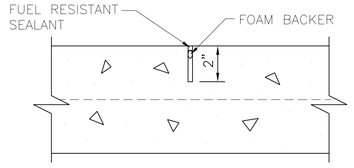


NOTES:
1. ALL STORM STRUCTURES WITH GRATES LOCATED IN PAVEMENT AREAS SHALL HAVE A RADIUS OF UNDERDRAIN 5' FROM THE OUTSIDE OF THE STRUCTURE AT THE BASE OF THE SUBGRADE.
2. CONNECTION OF UNDERDRAIN TO THE STRUCTURE SHALL BE CORED.
3. PIPE UNDERDRAIN SHALL BE CORRUGATED POLYEHYELENE PLASTIC WRAPPED IN GEOTEXTILE FABRIC CONFORMING TO THE SPECIFICATIONS.

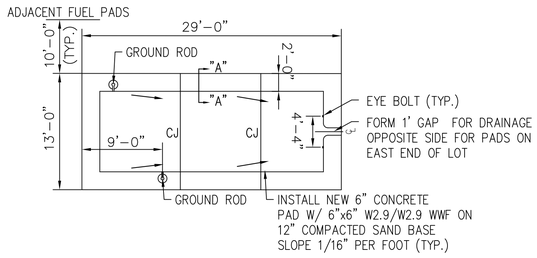
C CATCH BASIN DRAINAGE PLAN
SCALE: NONE



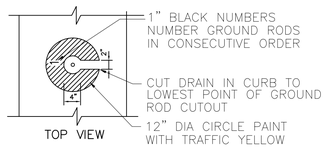
D CATCH BASIN
SCALE: NONE



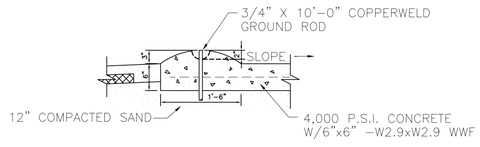
E TRUCK PAD CONTROL JOINT (CJ)
SCALE: 1 1/2" = 1'-0"



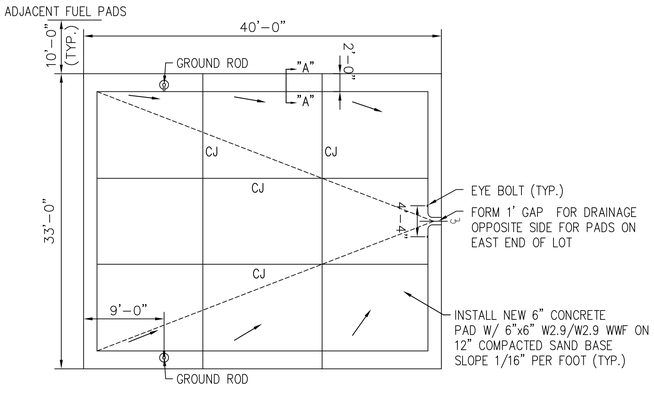
F TRUCK PAD (SMALL) PLAN
SCALE: NONE



G TRUCK PAD GROUND ROD DETAIL #1
SCALE: 3/4" = 1'-0"



H TRUCK PAD GROUND ROD DETAIL #1
SCALE: 3/4" = 1'-0"



J TRUCK PAD (LARGE) PLAN
SCALE: NONE

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RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	YDD
DRAWN	YDD
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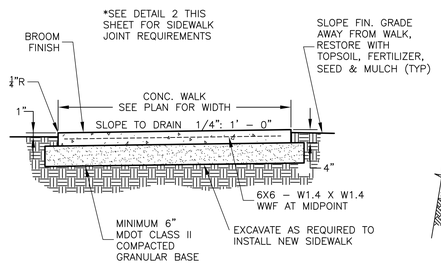
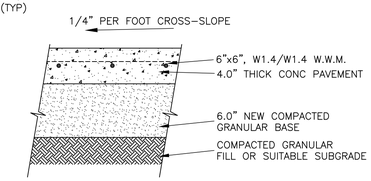
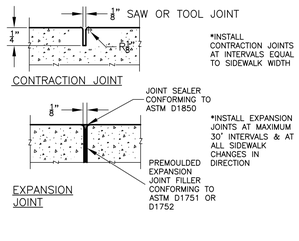
PROJECT	26A7722012
INDEX CODE	1540
SHEET	C1.6



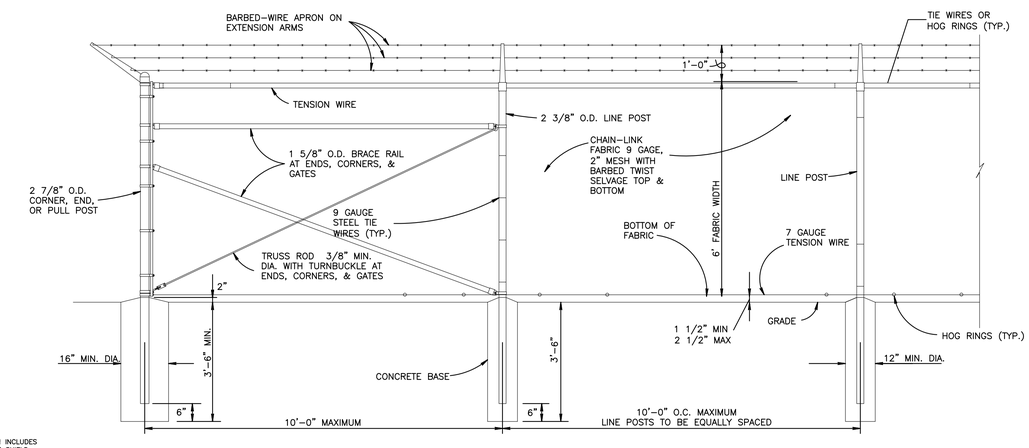
A SIDEWALK SECTION
SCALE: NONE



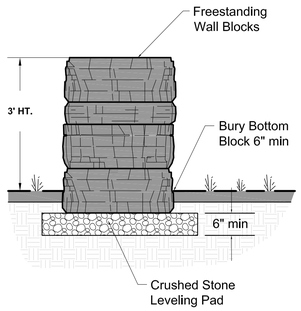
B SIDEWALK DETAIL
SCALE: 1 1/2" = 1'-0"



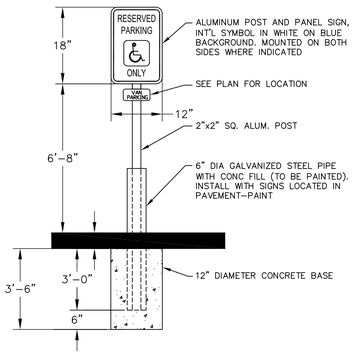
C CONC. SIDEWALK JOINTS
SCALE: NONE



F1 6' SECURITY FENCE DETAIL
SCALE: 1/2" = 1'-0"



D FREE STANDING WALL DETAIL
SCALE: NONE

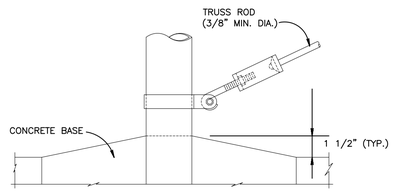


E PARKING SIGN DETAIL
SCALE: NONE

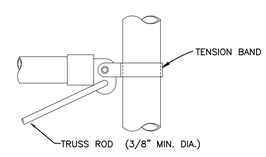
** THE CONTRACTOR SHALL INSTALL GSA PERIMETER SIGNS PROVIDED BY DMVA FOR ALL NEW FENCING AND GATES. THE CONTRACTOR SHALL INSTALL SIGNS ON THE SECURE SIDE OF THE FENCING WITH NOMENCLATURE SHOWN TO THE ROAD SIDE OF THE FENCING. THE SIGNS SHALL BE POSTED AT INTERVALS OF NO MORE THAN 100 FEET AND ON ALL NEW GATES. FASTEN WITH HOG RINGS ON 4 CORNERS.

GSA SAFETY SIGN
NONREFLECTORIZED SIGN INCLUDES A RED, WHITE AND BLUE SHIELD ON A CREAM BACKGROUND
GSA NUMBER 9905-00-559-2971

F2 FENCE SIGNAGE DETAIL
SCALE: NOT TO SCALE

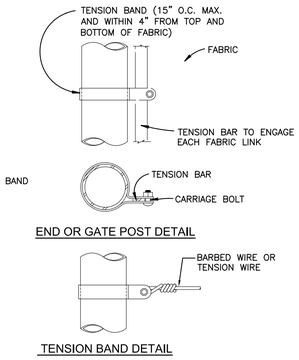


TRUSS ROD AND BAND



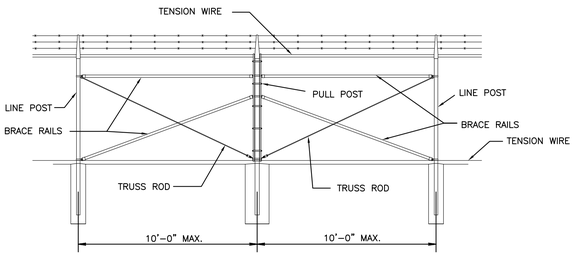
ROUND POST

BRACE RAIL CLAMP DETAILS



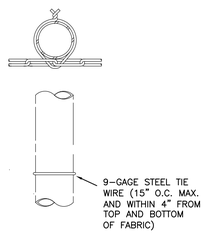
TENSION BAND DETAIL

FASTENING DETAILS
NO SCALE

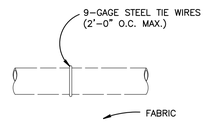


BRACE PANEL DETAIL
NO SCALE

NOTE:
PROVIDE BRACE PANEL WHENEVER STRAIGHT RUNS EXCEED 660 FEET.

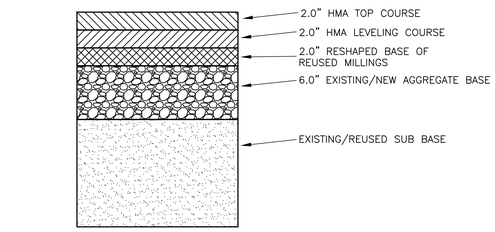


LINE POST ATTACHMENTS
NO SCALE

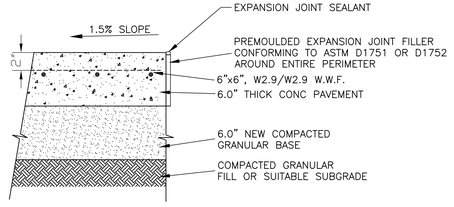


TOP OR BRACE RAIL ATTACHMENT

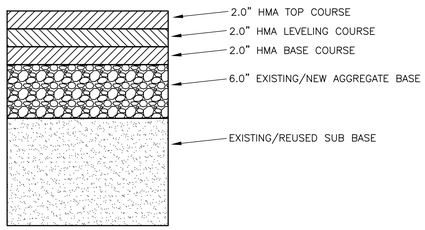
F3 NEW FENCE DETAILS
SCALE: 1/2" = 1'-0"



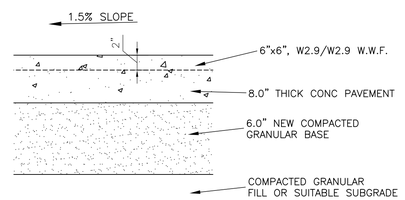
G HMA PAVEMENT SECTION 4"
SCALE: NONE



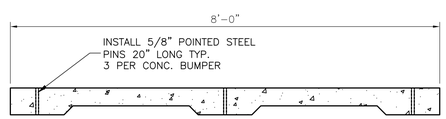
H CONC. MOTORCYCLE PAD SECTION
SCALE: 1-1/2" = 1'-0"



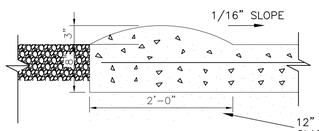
J HMA PAVEMENT SECTION 6"
SCALE: NONE



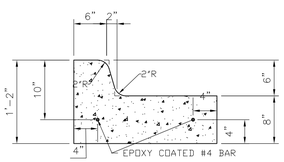
K FUEL TRUCK PAD SECTION
SCALE: 1-1/2" = 1'-0"



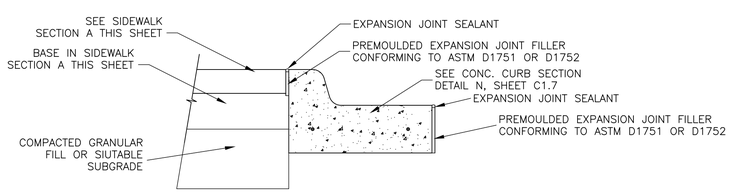
L CONC. BUMPER ELEVATION
SCALE: 3/4" = 1'-0"



M FUEL TRUCK PAD SECTION A-A
SCALE: NONE



N CONC. CURB SECTION
SCALE: 1" = 1'-0"



P CONC. CURB SECTION
SCALE: 1" = 1'-0"

STATE OF MICHIGAN
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RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
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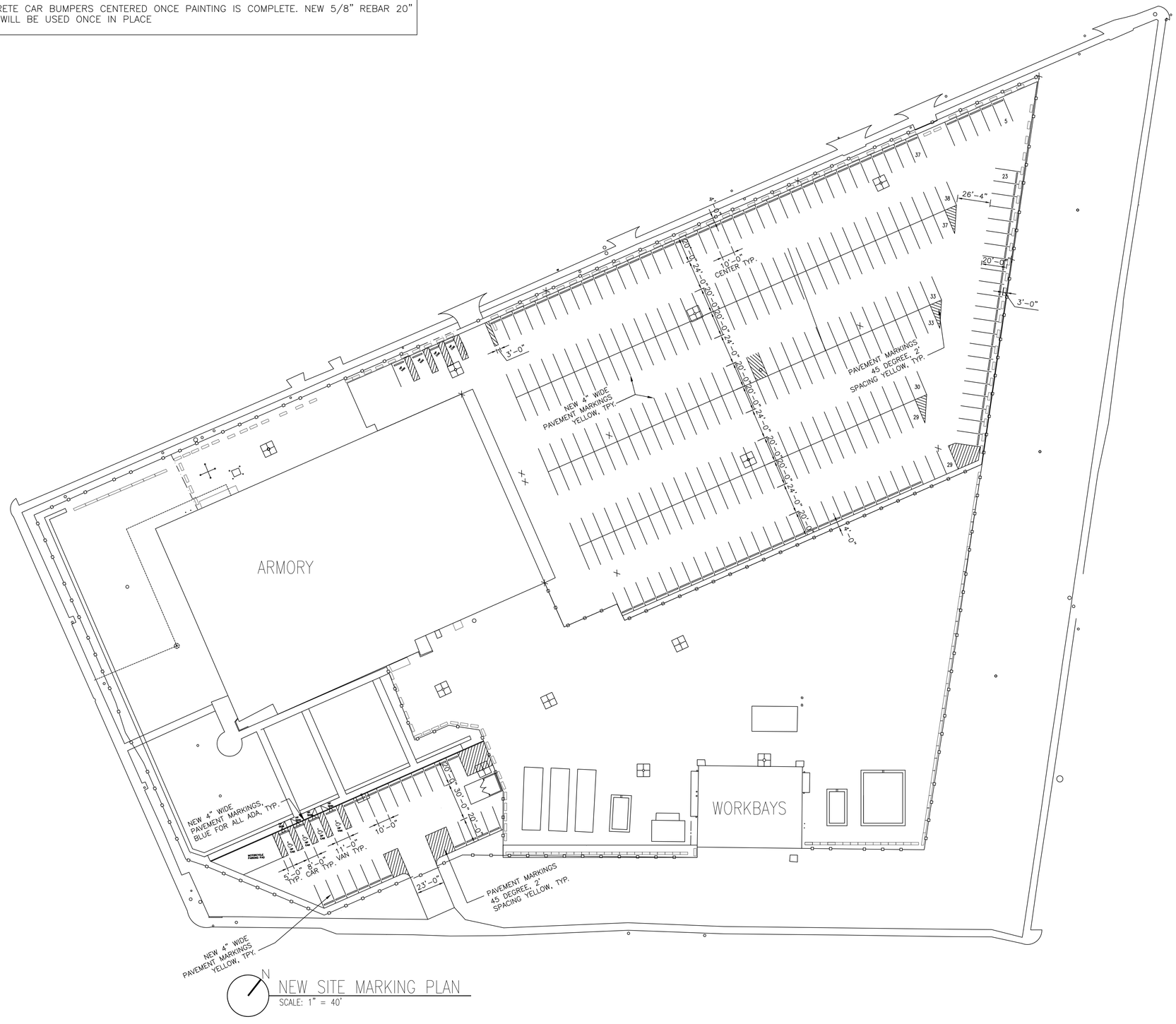
PROJECT	264772012
INDEX CODE	1540
SHEET	C1.7

PAINTING NOTES

1. ALL LINES PAINTED ARE TO BE 4" WIDE
2. MULTIPLE COATS OF PAINT ARE REQUIRE, SEE SPECIFICATIONS
3. PLACE PRECAST CONCRETE CAR BUMPERS CENTERED ONCE PAINTING IS COMPLETE. NEW 5/8" REBAR 20" LONG 3 PER BUMPER WILL BE USED ONCE IN PLACE



NEW SITE MARKING PLAN
SCALE: 1" = 40'

STATE OF MICHIGAN
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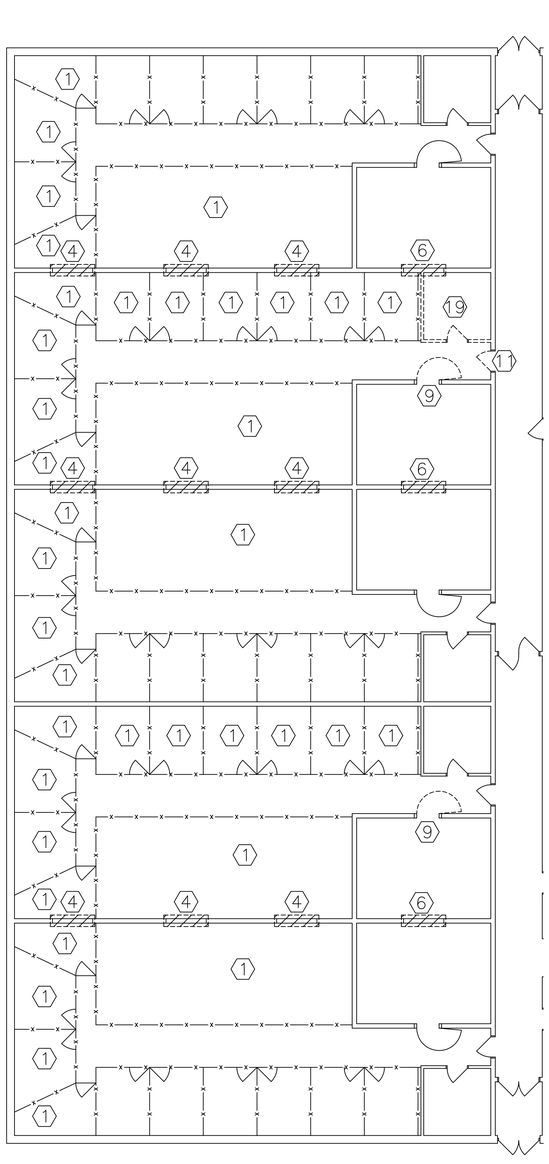
PROJECT 26A7722012
INDEX CODE 1540

SHEET C1.8

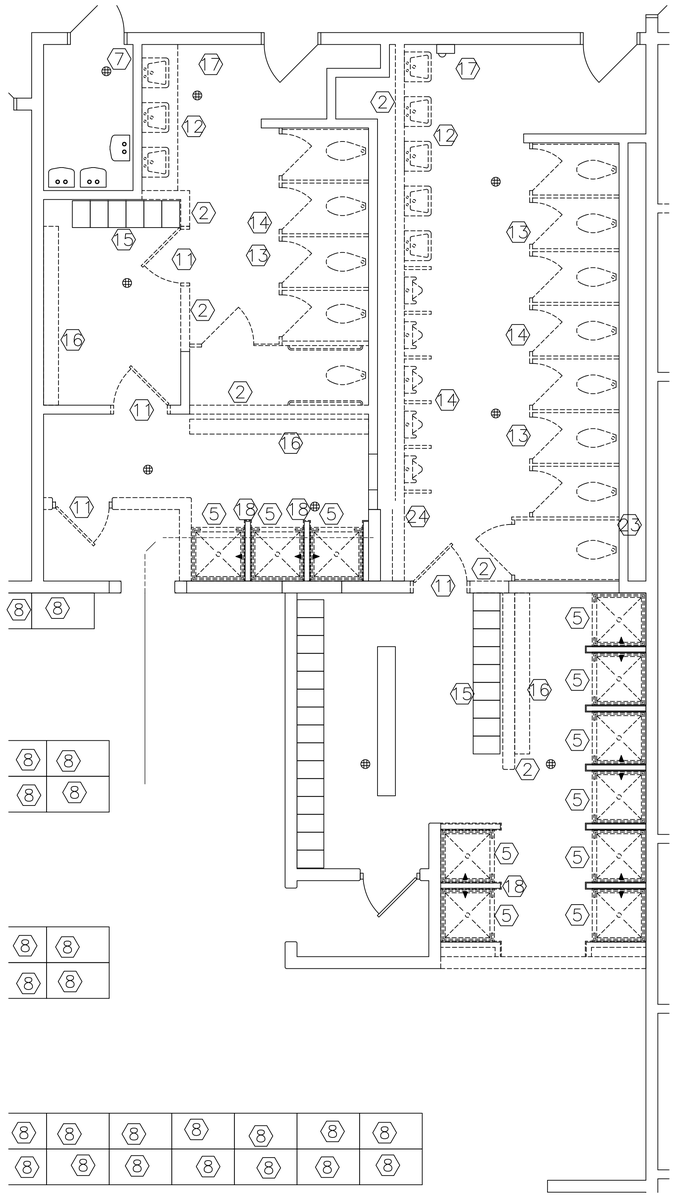
GENERAL NOTES

1. REMOVE ALL CAGED AREA
2. REMOVE MASONRY WALL
3. REMOVE CEILING AND LIGHT FIXTURES
4. REMOVE 5'–4" OPENING IN MASONRY WALL
5. DEMOLISH SHOWERS
6. DEMOLISH 4'x6'–6" OPENING IN REINFORCED CONC WALL
7. DEMOLISH JANITOR SINK AND PLUMBING
8. MOVE LOCKERS TO NEW LAYOUT LOCATION
9. REMOVE VAULT DOOR AND FRAME (TURN OVER TO OWNER)
10. DEMOLISH CONCRETE FLOOR
11. DEMOLISH DOOR AND FRAME
12. DEMOLISH SINKS, MIRRORS, SOAP DISPENSERS
13. DEMOLISH ALL WATER CLOSET
14. DEMOLISH ALL STALL PARTITIONS
15. RELOCATE LOCKERS (FUTURE USE)
16. DEMOLISH BENCH
17. DEMOLISH ALL HAND DRYERS/ PAPER TOWEL DISPENCERS
18. DEMOLISH TILE, PLUMBING, AND STUD WALL
19. DEMOLISH OFFICE, INCLUDING WALLS, DOOR, LIGHTS, CEILING, ELECTRICAL, CARPET, AND COMM
20. REMOVE 6'–0" OPENING IN MASONRY WALL
21. DEMOLISH DRYWALL CEILING
22. DEMOLISH TILE FLOORING
23. REMOVE CMU BLOCK AS NEEDED FOR PLUMBING
24. DEMOLISH CMU BLOCK WALL

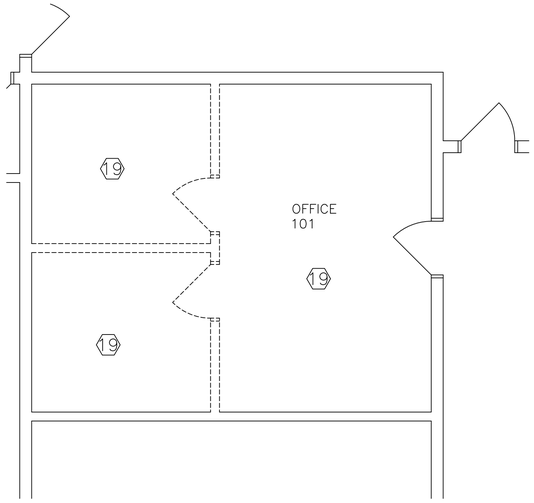
SEE PLUMBING FOR ADDITIONAL DEMOLITION
SEE ELECTRICAL FOR ADDITIONAL DEMOLITION
SEE MECHANICAL FOR ADDITONAL DEMOLITION



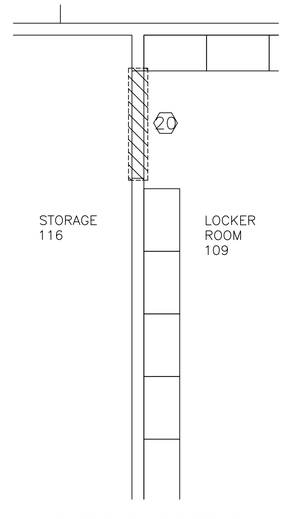
1 SUPPLY ROOM DEMO PLAN
SCALE: 3/32" = 1'-0"



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



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



1 LOCKER ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

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ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	SDD
DRAWN	SDD
CHECKED	BAB
APPROVED	ACLH

DATE
10 OCT 2022
10 JULY 2023

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CONSTRUCTION ■
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IDENTIFICATION NO.
PROJECT 26A7722012
INDEX CODE 1540

SHEET
A0.1

GENERAL NOTES

1. REMOVE ALL CAGED AREA
2. REMOVE MASONRY WALL
3. REMOVE CEILING AND LIGHT FIXTURES
4. REMOVE 5'–4" OPENING IN MASONRY WALL
5. DEMOLISH SHOWERS
6. DEMOLISH 4'x6'–6" OPENING IN REINFORCED CONC WALL
7. DEMOLISH JANITOR SINK AND PLUMBING
8. MOVE LOCKERS TO NEW LAYOUT LOCATION
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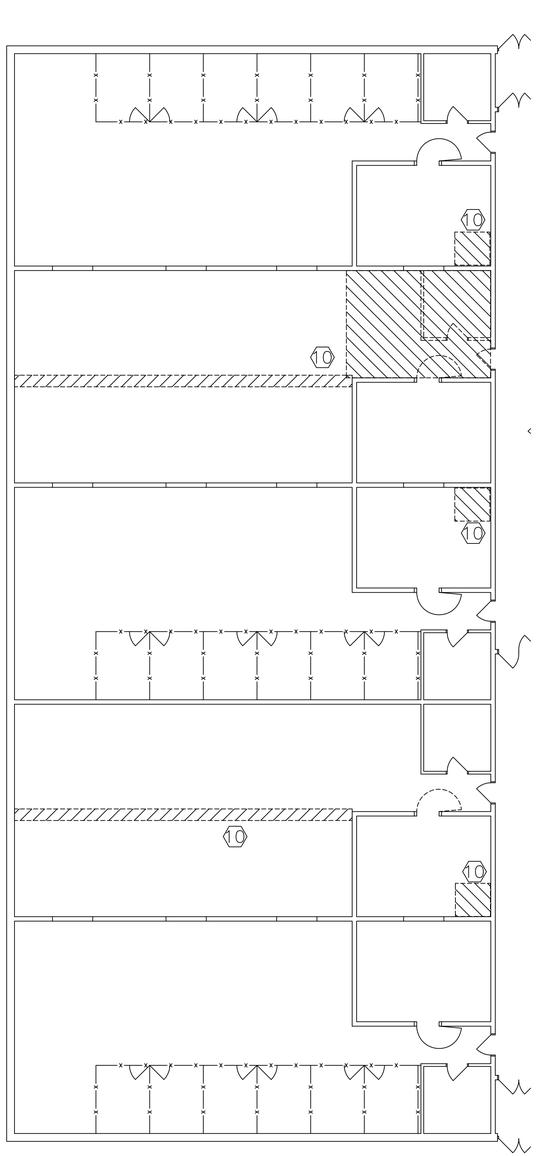
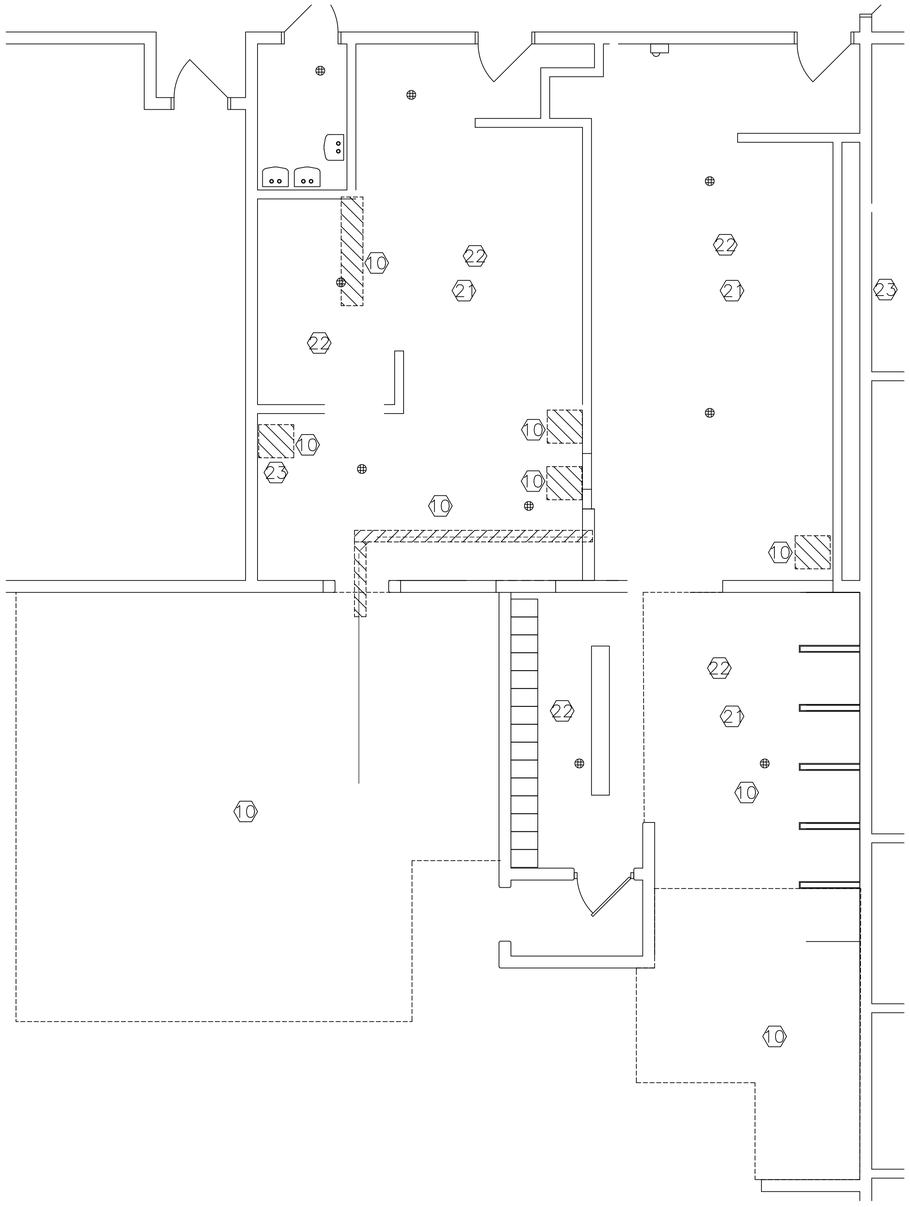
24. DEMOLISH CMU BLOCK WALL

SEE PLUMBING FOR ADDITIONAL DEMOLITION
SEE ELECTRICAL FOR ADDITIONAL DEMOLITION
SEE MECHANICAL FOR ADDITONAL DEMOLITION



1 SUPPLY ROOM FLOOR DEMO PLAN
SCALE: 3/32" = 1'-0"



1 BATHROOM DEMOLITION FLOOR AND CEILING PLAN
SCALE: 1/4" = 1'-0"

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RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	YDD
DRAWN	YDD
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APPROVED	ACLL

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CONSTRUCTION ■	10 JULY 2023
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PROJECT 26A7722012
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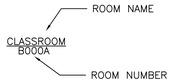
SHEET
A0.2

TYPICAL SYMBOLS AND REFERENCES

ROOM IDENTIFICATION TAG

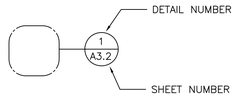


NOTE:
ROOM NAMES AND NUMBERS ARE FOR CONSTRUCTION PURPOSES ONLY. SEE SHEET IN SET FOR PROPOSED NUMBERS FOR ALL SIGNAGE, SCHEDULES AND PANEL DESIGNATION

DETAIL TITLE

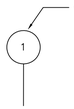
TYPICAL NOTATION SYMBOLS

CALLOUT REFERENCE BUBBLE

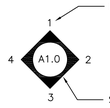


EXTERIOR ELEVATION REFERENCE BUBBLE

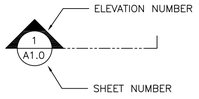
WALL TYPE REFERENCE BUBBLE

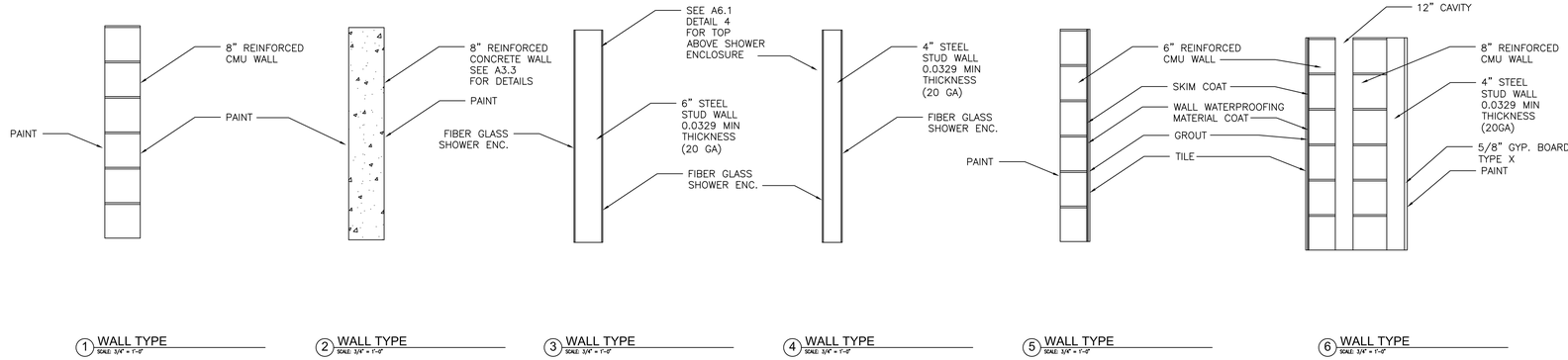


INTERIOR ELEVATION REFERENCE BUBBLE



BUILDING SECTION REFERENCE BUBBLE





1 WALL TYPE — SCALE: 3/4" = 1'-0"
2 WALL TYPE — SCALE: 3/4" = 1'-0"
3 WALL TYPE — SCALE: 3/4" = 1'-0"
4 WALL TYPE — SCALE: 3/4" = 1'-0"
5 WALL TYPE — SCALE: 3/4" = 1'-0"
6 WALL TYPE — SCALE: 3/4" = 1'-0"

7 WALL TYPE — SCALE: 3/4" = 1'-0"
8 WALL TYPE — SCALE: 3/4" = 1'-0"
9 WALL TYPE — SCALE: 3/4" = 1'-0"
10 WALL TYPE — SCALE: 3/4" = 1'-0"
11 WALL TYPE — SCALE: 3/4" = 1'-0"

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RENOVATE
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
ARMORY– OLYMPIA
DETROIT, MICHIGAN

DESIGNED	JPD	
DRAWN	JPD	
CHECKED	B.A.B.	
APPROVED	K.L.M.	

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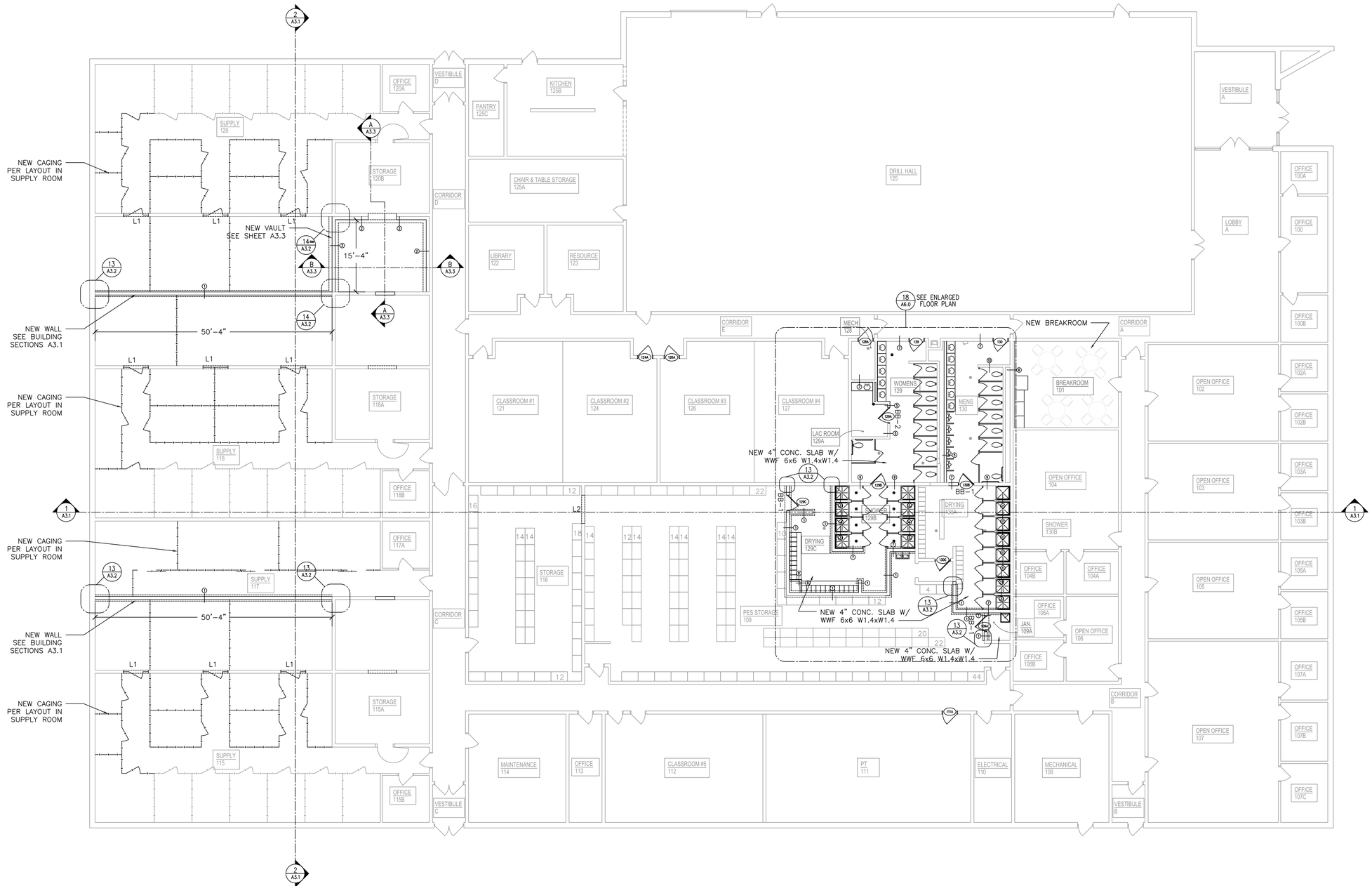
SHEET
A0.3

GENERAL NOTES

1. NEW CAGING IS TO BE INSTALLED WITH IN 3" OF ROOF DECK.
2. NEW CAGING IS TO BE FABRICATED AROUND TRUSSES AND OTHER OBSTACLES WITH A MAX GAP CLEARANCE OF 3".
3. 2 VAULT DOORS AND FRAMES THAT ARE BEING REMOVED WILL BE TURNED OVER TO OWNER.



1 NEW FLOOR PLAN
SCALE: 1/32" = 1'-0"

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DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

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PROJECT	26A7722012
INDEX CODE	1540
SHEET	A1.0

GENERAL NOTES

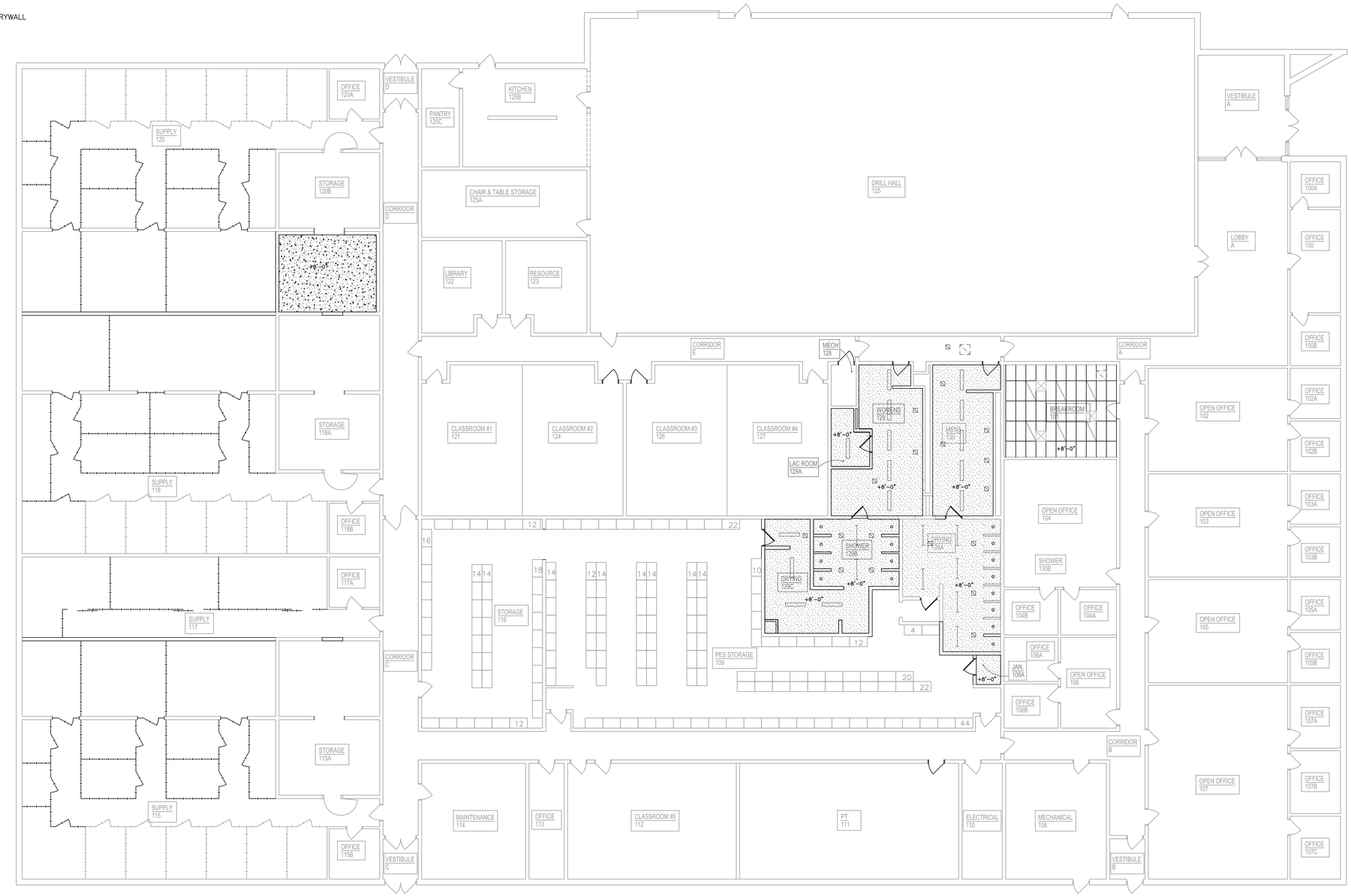
1. SEE SHEET A7.1 FOR ROOM FINISH SCHEDULE
2. PAINT ALL SUPPLY ROOM CEILINGS AND VAULT CEILINGS SEE SPECIFICATIONS

LEGEND

ACOUSTICAL CEILING TILE

CONCRETE

DRYWALL



1 NEW REFLECTIVE CEILING PLAN
SCALE: 1/32" = 1'-0"

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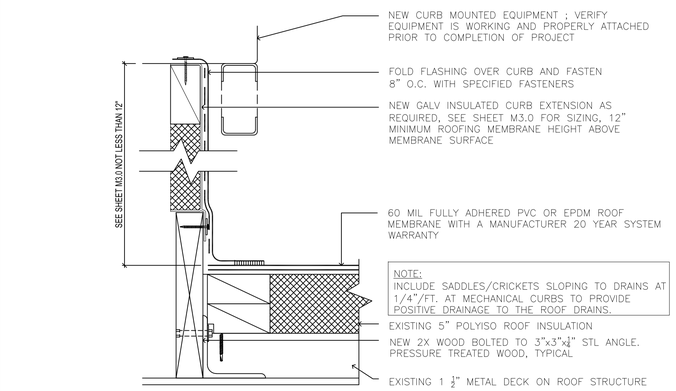
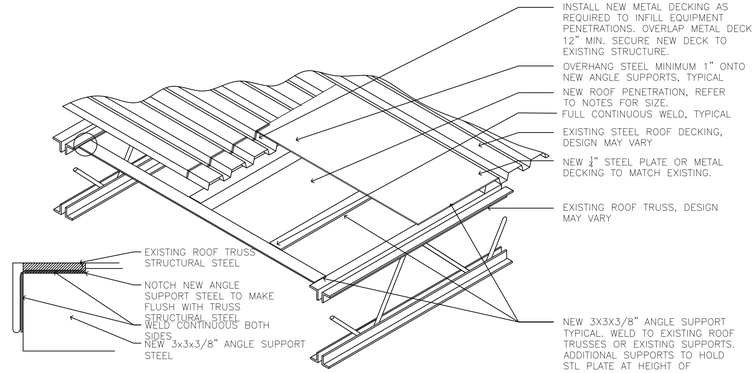
SHEET A1.1



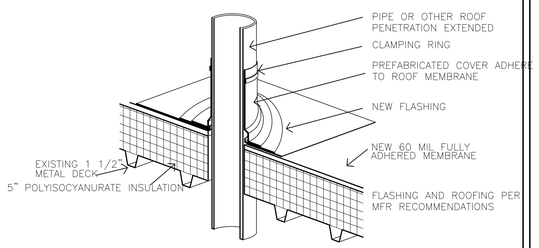
1 EQUIPMENT SUPPORT DETAIL
SCALE: NONE



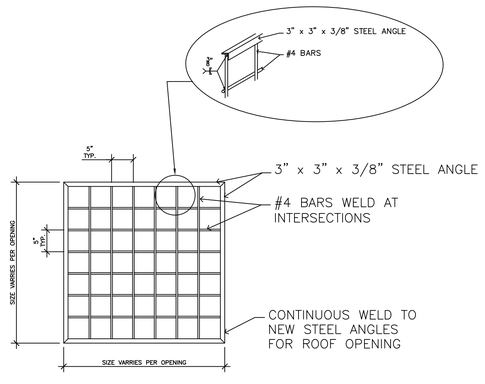
2 CURB DEMO/ NEW OPENING DETAIL
SCALE: NONE

GENERAL NOTES

1. DEMOLISH ROOF CURB AND EQUIPMENT, PATCH OPENING PER DETAIL 2 ON THIS SHEET, INSTALL 5" OF POLYISOCYANURATE MECHANICALLY ATTACHED AND A 60 MIL EPDM MEMBRANE FULLY ADHERED PATCH PER MANUFACTURES RECOMMENDATIONS.
2. INSTALL NEW ROOF CURB AND OPENING PER DETAILS 1 AND 2 ON THIS SHEET.
3. PLUMBING VENTS WILL BE INSTALLED. CORDINATE WITH PLUMBING CONTRACTOR TO ENSURE ROOF STAYS WATER TIGHT.
4. INSTALL SECURITY GRILLS IN SUPPLY ROOM ROOF OPENING. SIZES VARY TO HOLE OPENING. 8 OPENING REQUIRE THIS. SEE DETAIL 4 THIS SHEET FOR BUILDING REQUIREMENTS.
5. EXISTING ROOF IN UNDER A FIRESTONE 20 YEAR TOTAL SYSTEM WARRANTY WHICH WILL HAVE TO BE RE-CERTIFIED ONCE WORK IS COMPLETED. DMVA HAS THE WARRANTY NO AND WILL BE GIVEN OUT TO THE WINNING CONTRACTOR.



3 PIPE FLASHING DETAIL
SCALE: NONE



4 SECURITY GRILL DETAIL
SCALE: NONE

1 NEW ROOF PLAN
SCALE: 3/32" = 1'-0"

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RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

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SHEET A1.2

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

2 BUILDING SECITON
SCALE: 1/8" = 1'-0"

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DETROIT, MICHIGAN

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DRAWN	JDD
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APPROVED	KAM

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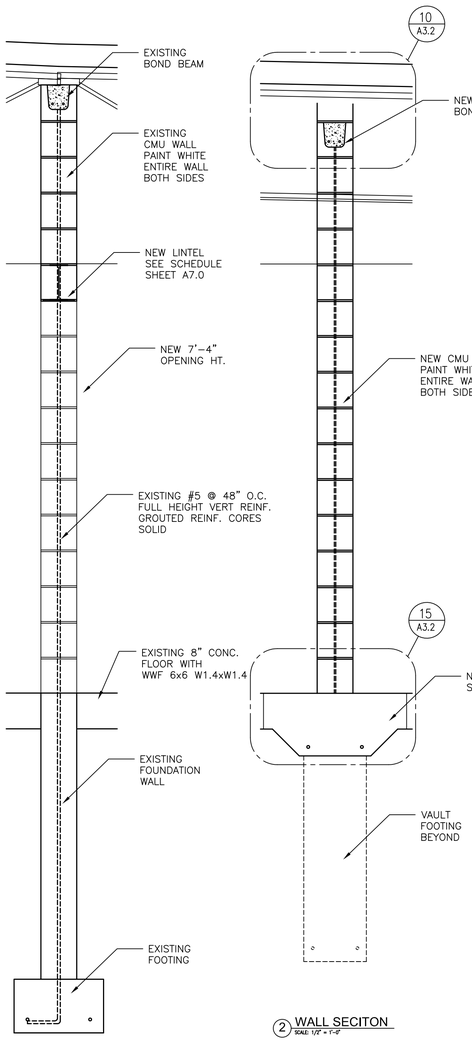
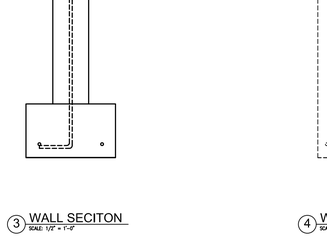
INDEX CODE 1540

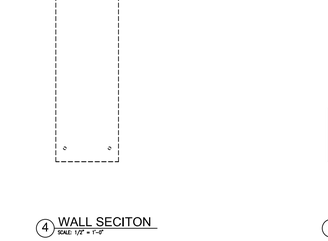
SHEET
A3.1



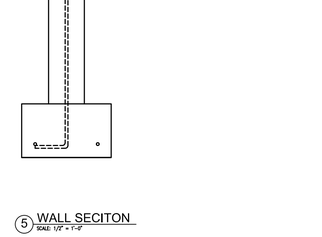
1 WALL SECITON
SCALE: 1/2" = 1'-0"



2 WALL SECITON
SCALE: 1/2" = 1'-0"

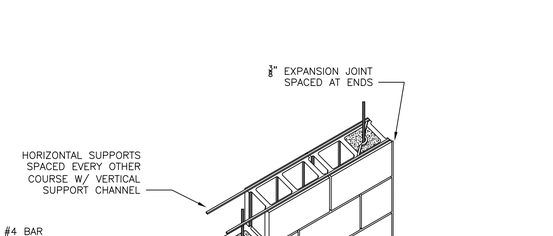


3 WALL SECITON
SCALE: 1/2" = 1'-0"



4 WALL SECITON
SCALE: 1/2" = 1'-0"

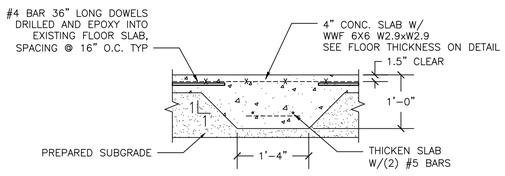
5 WALL SECITON
SCALE: 1/2" = 1'-0"



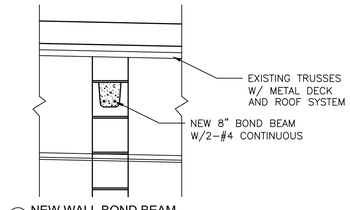
6 WALL SECITON
SCALE: 1/2" = 1'-0"

7 WALL SECITON
SCALE: 1/2" = 1'-0"

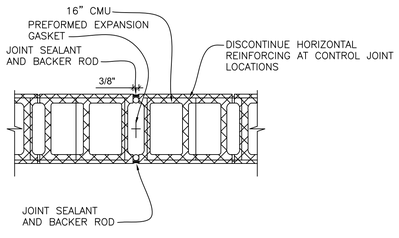
8 WALL SECITON
SCALE: 1/2" = 1'-0"



9 WALL THICKENED SLAB DETAIL
SCALE: 3/4" = 1'-0"

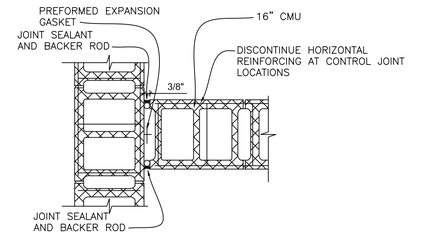


10 NEW WALL BOND BEAM
SCALE: 3/4" = 1'-0"

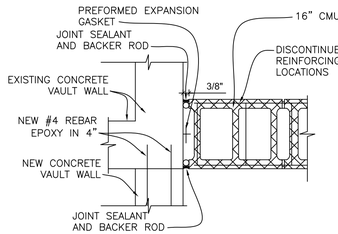


11 EXPANSION JOINT DETAIL
SCALE: 1" = 1'-0"

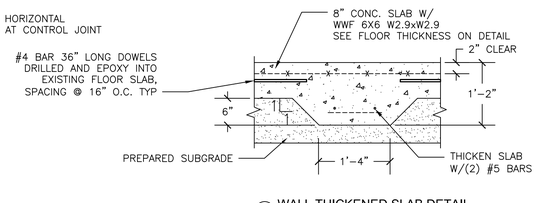
12 TYPICAL NEW CMU WALL DETAIL
SCALE: 3/4" = 1'-0"



13 EXPANSION JOINT DETAIL
SCALE: 1" = 1'-0"



14 EXPANSION JOINT DETAIL
SCALE: 1" = 1'-0"



15 WALL THICKENED SLAB DETAIL
SCALE: 3/4" = 1'-0"

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RENOVATE ARMORY – OLYMPIA
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	YDD
DRAWN	YDD
CHECKED	BAB
APPROVED	KAA

DATE
23 FEB 2022
10 JULY 2023

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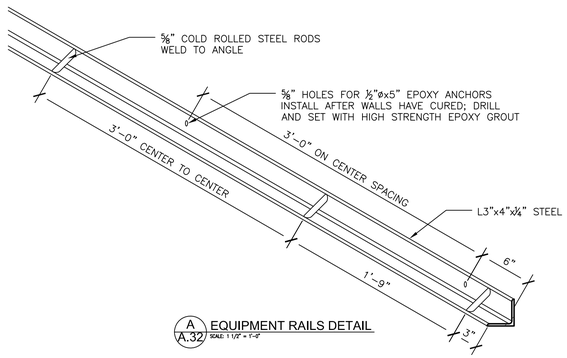
INDEX CODE 1540

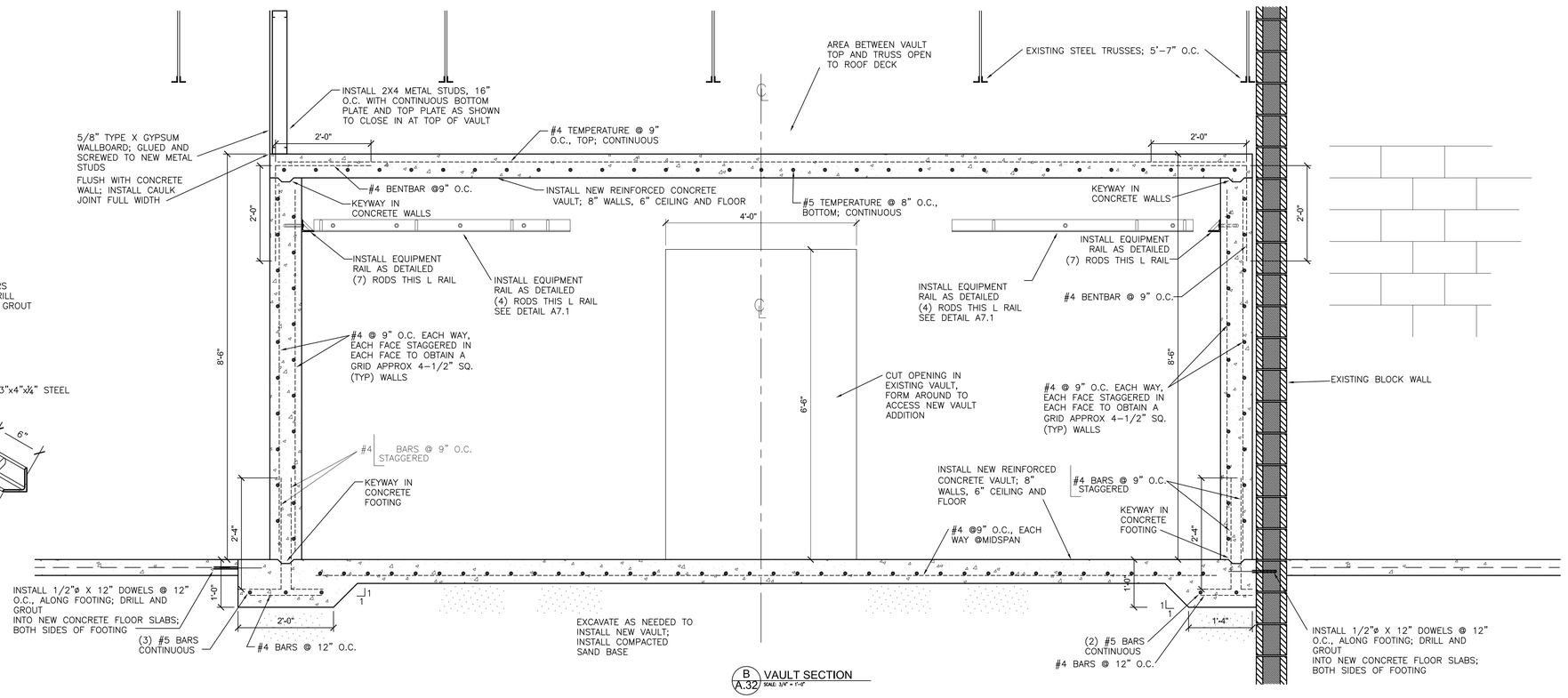
SHEET
A3.2

GENERAL NOTES

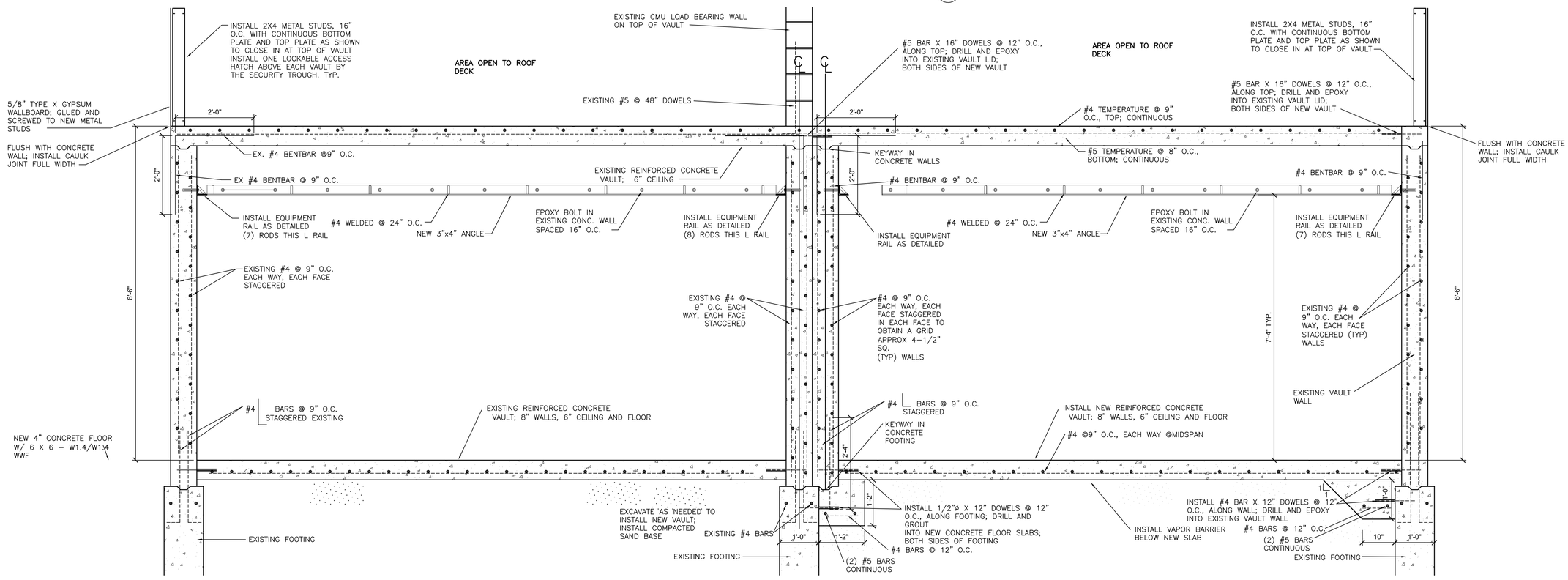
1. EVERY VAULT WILL HAVE EQUIPMENT RAILS INSTALLED ON ALL SIDES SIMILAR TO WHAT IS SHOWN IN THE VAULT SECTIONS ON THIS SHEET



A/A.32 EQUIPMENT RAILS DETAIL
SCALE: 1 1/2" = 1'-0"



B/A.32 VAULT SECTION
SCALE: 3/4" = 1'-0"



A/A.32 VAULT SECTION
SCALE: 3/4" = 1'-0"

STATE OF MICHIGAN
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DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	YDD
DRAWN	YDD
CHECKED	BAB
APPROVED	KAA

ISSUED FOR	DATE
PRELIMINARY	02 FEB 2022
CONSTRUCTION	10 JULY 2023
FINAL RECORD	

IDENTIFICATION NO.
PROJECT 264722012
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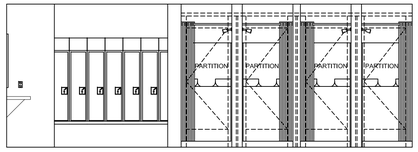
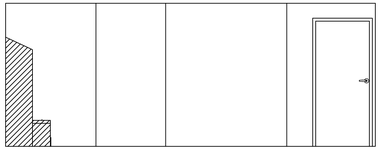
SHEET A3.3

GENERAL NOTE

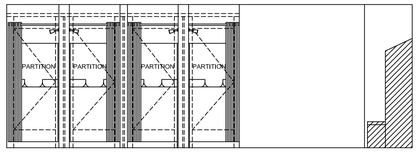
1. ALL DIMENSIONS ON ENLARGED PLAN DOESN'T INCLUDE TILE
2. SHOWER ENCLOSURES HAVE TO BE IN ROOM BEFORE DOOR/FRAMES ARE INSTALLED.



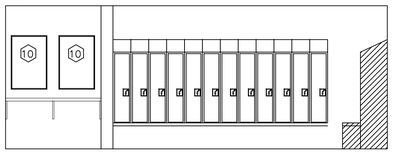
1 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



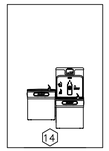
2 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



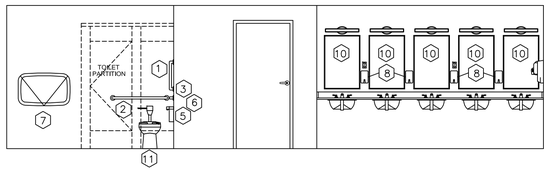
3 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



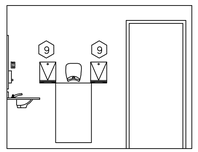
4 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



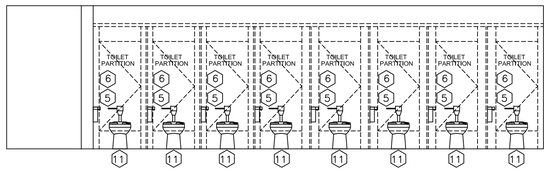
5 PES STORAGE
SCALE: 1/4" = 1'-0"



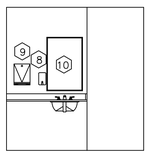
6 WOMENS RESTROOM
SCALE: 1/4" = 1'-0"



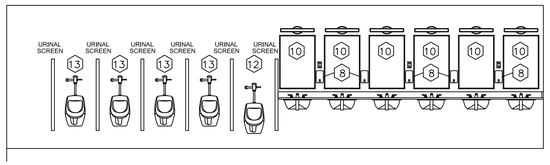
7 WOMENS RESTROOM
SCALE: 1/4" = 1'-0"



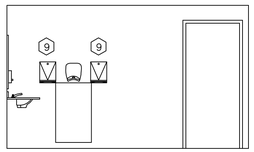
8 WOMENS RESTROOM
SCALE: 1/4" = 1'-0"



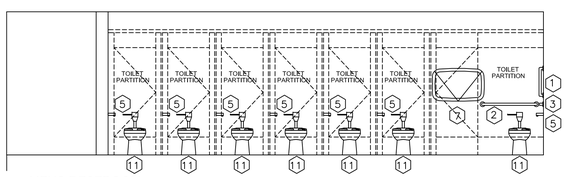
9 LACTATION ROOM
SCALE: 1/4" = 1'-0"



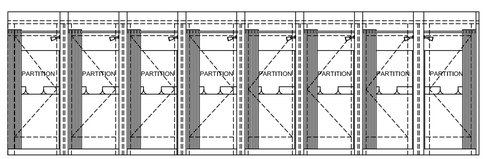
10 MENS RESTROOM
SCALE: 1/4" = 1'-0"



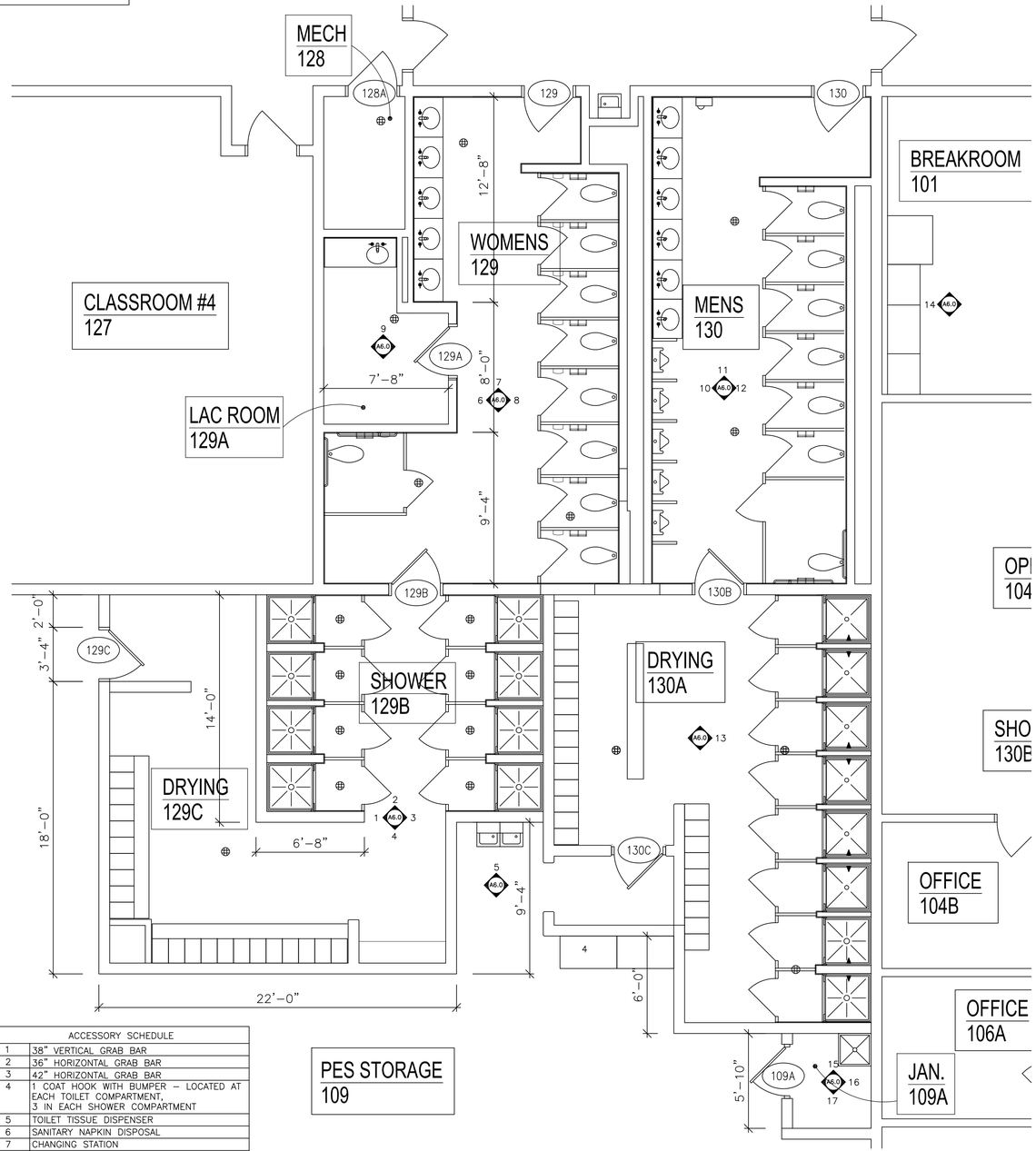
11 MENS RESTROOM
SCALE: 1/4" = 1'-0"



12 MENS RESTROOM
SCALE: 1/4" = 1'-0"

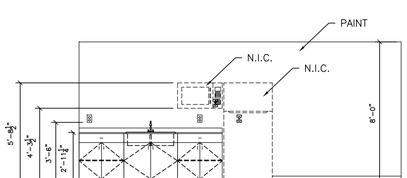


13 MENS SHOWER ROOM
SCALE: 1/4" = 1'-0"

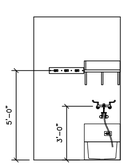


18 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"

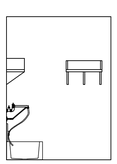
ACCESSORY SCHEDULE	
1	38" VERTICAL GRAB BAR
2	36" HORIZONTAL GRAB BAR
3	42" HORIZONTAL GRAB BAR
4	1 COAT HOOK WITH BUMPER – LOCATED AT EACH TOILET COMPARTMENT, 3 IN EACH SHOWER COMPARTMENT
5	TOILET TISSUE DISPENSER
6	SANITARY NAPKIN DISPOSAL
7	CHANGING STATION
8	SOAP DISPENSER
9	PAPER TOWEL DISPENSER HAND DRYER W/SPLASH GUARD
10	MIRROR
11	WATER CLOSET
12	ADA URINAL
13	URINAL
14	DRINKING FOUNTAINS
15	FIRE EXTINGUISHER CABINET (NOT PICTURED)



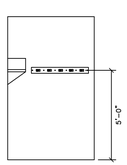
14 BREAK ROOM
SCALE: 1/4" = 1'-0"



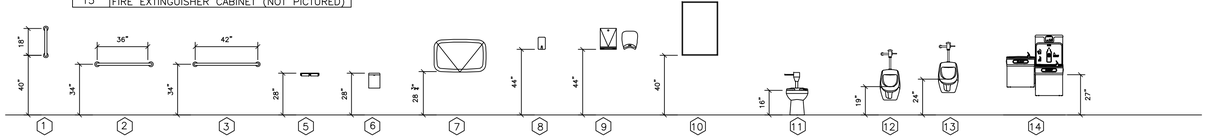
15 JANITOR CLOSET
SCALE: 1/4" = 1'-0"



16 JANITOR CLOSET
SCALE: 1/4" = 1'-0"



17 JANITOR CLOSET
SCALE: 1/4" = 1'-0"



19 ACCESSORY LEDGEND
SCALE: 1/4" = 1'-0"

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RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

OP
104

SHO
130E

DESIGNED	JDD
DRAWN	JDD
CHECKED	BAB
APPROVED	KLM

DATE
10 OCT 2022
10 JULY 2023

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SHEET
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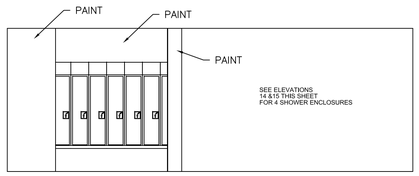
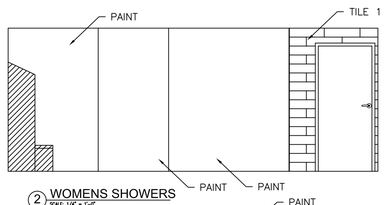
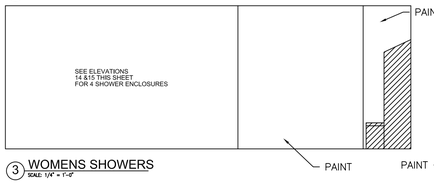


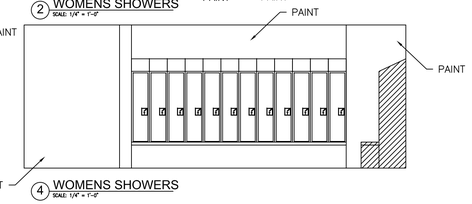
1 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



2 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



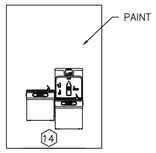
3 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"



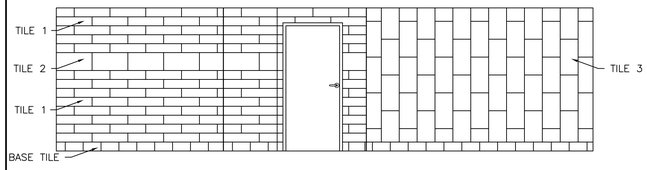
4 WOMENS SHOWERS
SCALE: 1/4" = 1'-0"

GENERAL NOTE

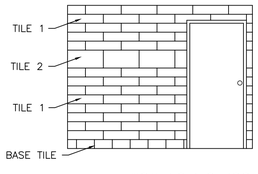
1. SHULTER IS REQUIRED AT ALL CORNERS
2. GROUT GAP BETWEEN TILE TO BE 1/8"
3. SHULTER IS REQUIRED ON FLOOR AT DOOR OPENINGS 129, 129C, 130, 130B
4. STOP TILE IN MENS SHOWER ROOM AT STALL PARTITIONS
5. ROUND HOLES ARE REQUIRE AROUND ALL PLUMBING PIPING AND FITTINGS
6. ALL MORTAR JOINTS ARE TO BE COLORED (TBD)



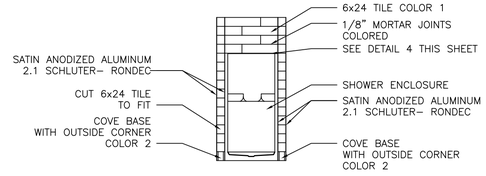
5 PES STORAGE
SCALE: 1/4" = 1'-0"



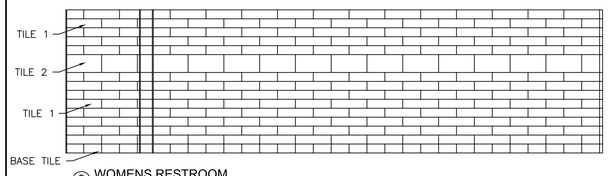
6 WOMENS RESTROOM
SCALE: 1/4" = 1'-0"



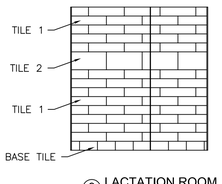
7 WOMENS RESTROOM
SCALE: 1/4" = 1'-0"



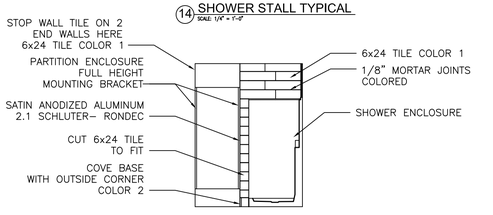
14 SHOWER STALL TYPICAL
SCALE: 1/4" = 1'-0"



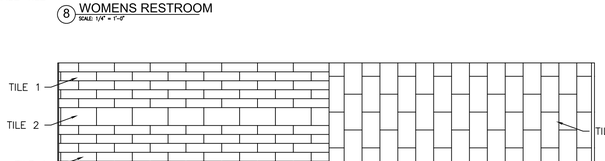
8 WOMENS RESTROOM
SCALE: 1/4" = 1'-0"



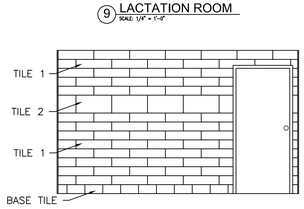
9 LACTATION ROOM
SCALE: 1/4" = 1'-0"



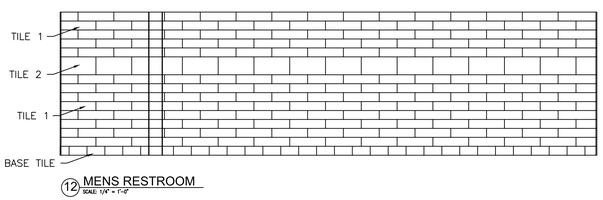
15 SHOWER STALL SIDE TYPICAL
SCALE: 1/4" = 1'-0"



10 MENS RESTROOM
SCALE: 1/4" = 1'-0"

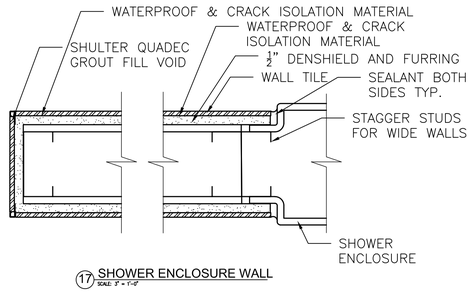


11 MENS RESTROOM
SCALE: 1/4" = 1'-0"

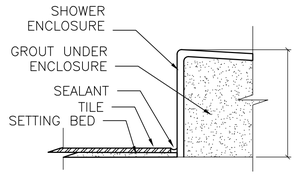


12 MENS RESTROOM
SCALE: 1/4" = 1'-0"

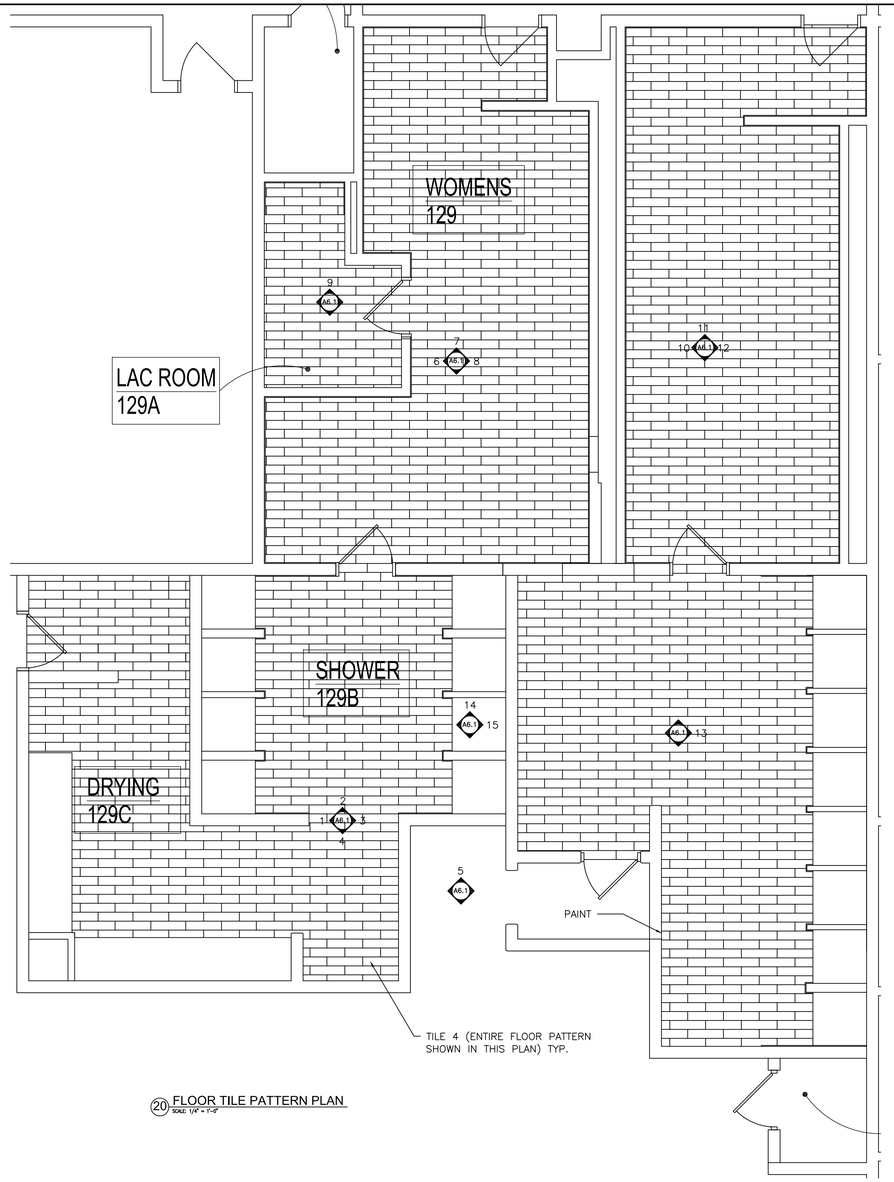
13 MENS SHOWER ROOM
SCALE: 1/4" = 1'-0"



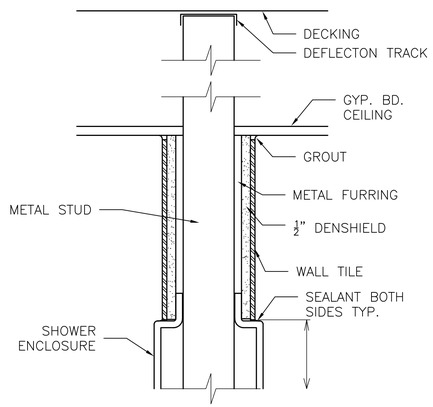
17 SHOWER ENCLOSURE WALL
SCALE: 3" = 1'-0"



18 SHOWER ENCLOSURE FLOOR
SCALE: 3" = 1'-0"



20 FLOOR TILE PATTERN PLAN
SCALE: 1/4" = 1'-0"



19 TOP OF SHOWER ENCLOSURE
SCALE: 3" = 1'-0"

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DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	YSD	DATE	10 OCT 2022
DRAWN	YSD		10 JULY 2023
CHECKED	BAB		
APPROVED	KLM		

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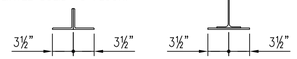
INDEX CODE 1540

SHEET A6.1

LINTEL SCHEDULE

MARK	SIZE (NOTE 1)	LOCATION	TYPE	COMMENTS
L-1	W8X18 + PL 1/4"X7", 6'-8" LONG	NEW SUPPLY WALLS	B	SEE NOTE 1,2
L-2	(2) L3½"X3½"X ½" LLV, 7'-4" LONG	LOCKER ROOM	A	SEE NOTE 1,2

1. ON ALL LINTELS ARE TO EXTEND 8" ON EACH SIDE OF OPENING
2. GROUT CORE BELOW END OF LINTEL SOLID TO FLOOR.



TYPE A TYPE B

DOOR SCHEDULE

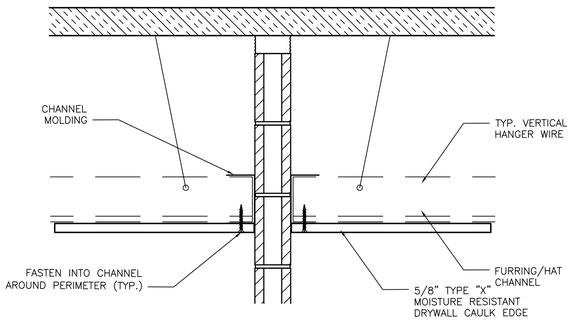
OPENING			DOOR		FRAME		DETAILS		FIRE	HWR.
NO.	WIDTH	HEIGHT	TYPE	MAT'L	TYPE	MAT'L	HEAD	JAMB	RATING	SET
109A	3'-0"	7'-0"	F	HM	2	HM	13	14	1HR	05
111A	3'-0"	7'-0"	N	HM	2	HM	9	10	2HR	03
124A	3'-0"	7'-0"	N	HM	2	HM	7	8	1HR	01
126A	3'-0"	7'-0"	N	HM	2	HM	7	8	1HR	01
128A	3'-0"	7'-0"	F	HM	2	HM	7 OPS	8 OPS	1HR	01
129	3'-0"	7'-0"	F	HM	2	HM	5	6	1HR	02
129A	3'-0"	7'-0"	F	HM	1	HM	3	4	1HR	04
129B	3'-0"	7'-0"	F	HM	1	HM	11	12	1HR	02
129C	3'-0"	7'-0"	F	HM	2	HM	13	14	2HR	02
130	3'-0"	7'-0"	F	HM	2	HM	5	6	1HR	02
130B	3'-0"	7'-0"	F	HM	1	HM	5	6	1HR	02
130C	3'-0"	7'-0"	F	HM	2	HM	13	14	2HR	02

ABBREVIATIONS
HM = HOLLOW METAL
OPS= OPPOSITE
SIM= SIMILAR

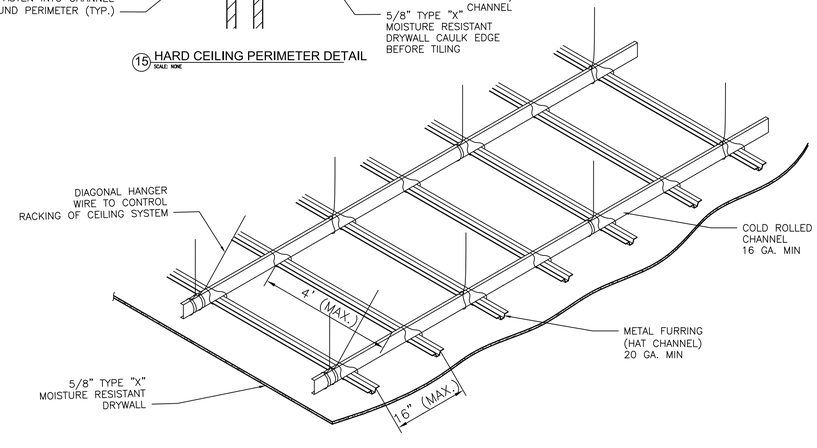
ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR		WALLS				CEILING	
		FINISH	BASE	NORTH	SOUTH	EAST	WEST	FINISH	HEIGHT
101	BREAKROOM	CPT	RB	PAINT	PAINT	PAINT	PAINT	ACT	8'-0"
109A	JANITOR	CONC	RB	PAINT	PAINT	PAINT	PAINT	GYP, P	8'-0"
115	SUPPLY	EX CONC	EX	PAINT	PAINT	PAINT	PAINT	EX, P	
115A	STORAGE	EX CONC	EX	PAINT	PAINT	PAINT	PAINT	EX, P	8'-0"
117	SUPPLY	EX CONC	EX	PAINT	PAINT	PAINT	PAINT	EX, P	
118A	SUPPLY	EX CONC	EX	PAINT	PAINT	PAINT	PAINT	EX, P	
118B	STORAGE	EX CONC	EX	PAINT	PAINT	PAINT	PAINT	EX, P	8'-0"
120	SUPPLY	EX CONC	EX	PAINT	PAINT	PAINT	PAINT	EX, P	
120B	STORAGE	CONC	NONE	PAINT	PAINT	PAINT	PAINT	CONC, P	8'-0"
129	WOMENS	TILE	TILE	TILE	TILE	TILE	TILE	GYP, P	8'-0"
129A	LAC ROOM	TILE	TILE	P	P	TILE	P	GYP, P	8'-0"
129B	SHOWER	TILE	TILE	TILE	TILE	TILE	TILE	GYP, P	8'-0"
129C	DRYING	TILE	TILE	P	P	P	P	GYP, P	8'-0"
130	MENS	TILE	TILE	TILE	TILE	TILE	TILE	GYP, P	8'-0"
130A	DRYING	TILE	TILE	P	TILE	P	P	GYP, P	8'-0"

ABBREVIATIONS
ACT = ACOUSTICAL CEILING TILE
CPT = CARPET
CONC= CONCRETE
EPD= EXPOSED
EX = EXISTING
GPY = GYPSUM
P = PAINT
RB = 4" RUBBER BASE
TILE = TILE



15 HARD CEILING PERIMETER DETAIL
SCALE: NONE

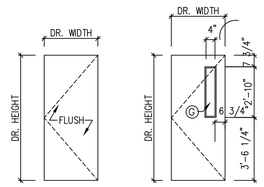


16 HARD CEILING DETAIL
SCALE: NONE

BOND BEAM SCHEDULE

MARK	SIZE (NOTE 1)	REINFORCING (NOTE 2)	COMMENTS
BB-1	(3) BEAM 8"D x 8"W SOLID GROUT 1 COURSE ABOVE	2- #5 BARS	SEE NOTE 3
BB-2	(1) BEAM 8"D x 6"W SOLID GROUT 1 COURSE ABOVE	2- #5 BARS	SEE NOTE 3

1. BOND BEAMS SHALL EXTEND A MINIMUM OF 16" PAST MASONRY OPENINGS EXCEPT WHERE BOND BEAMS TERMINATES INTO PERPENDICULAR WALL. AT THESE LOCATIONS BOND BEAM (AND GROUTED COURSE IF APPLICABLE) SHALL EXTEND FULL DEPTH OF PERPENDICULAR WALL.
2. DISTANCE FROM REINFORCING BARS TO BOTTOM OF BOND BEAM = 2 INCHES (±)
3. ON ALL BOND BEAMS THAT HAVE SOLID GROUTED COURSE ABOVE, PROVIDE #4 BENT VERTICAL BAR AT EACH END AND AT 16"O.C. MAXIMUM.
4. ALL BOND BEAMS SHALL BE SHORED FOR A MINIMUM OF 7 DAYS



F (FLUSH) N (NARROW LITE)

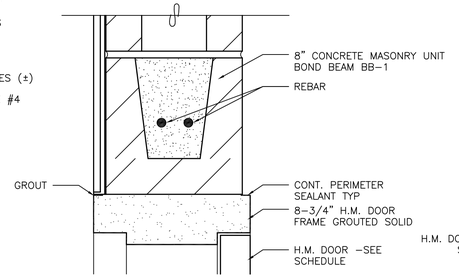
DOOR TYPES

NOTE: REFER TO DOOR SCHEDULE FOR HEIGHTS/WIDTHS AND GLAZING TYPE

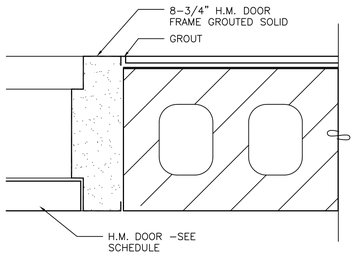
1 2

FRAME TYPES

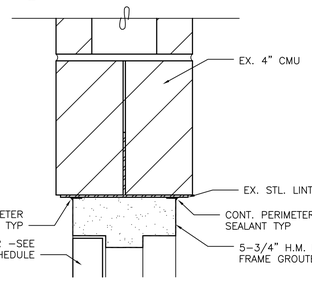
NOTE: REFER TO DOOR SCHEDULE FOR HEIGHTS AND WIDTHS



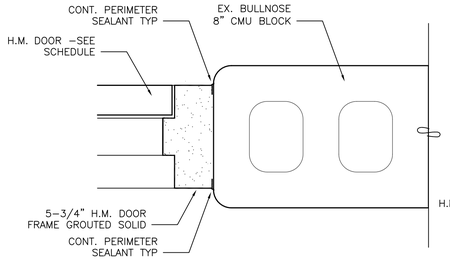
1 DOOR HEAD
SCALE: 3" = 1'-0"



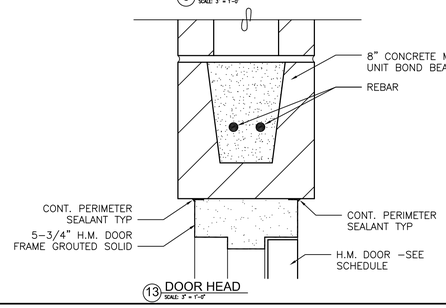
2 DOOR JAMB
SCALE: 3" = 1'-0"



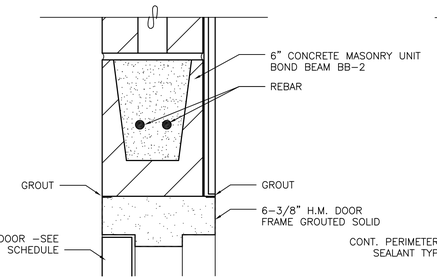
7 DOOR HEAD
SCALE: 3" = 1'-0"



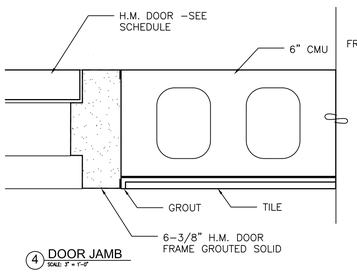
8 DOOR JAMB
SCALE: 3" = 1'-0"



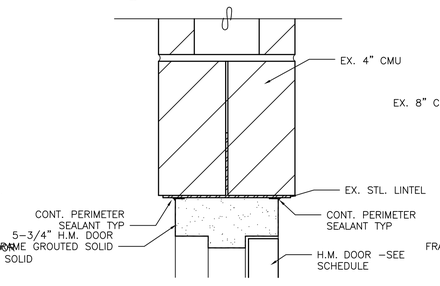
13 DOOR HEAD
SCALE: 3" = 1'-0"



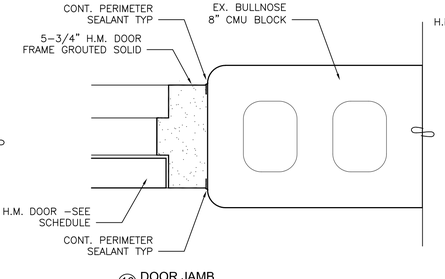
3 DOOR HEAD
SCALE: 3" = 1'-0"



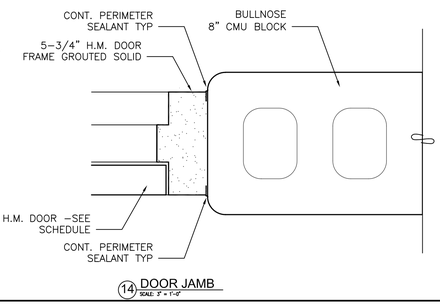
4 DOOR JAMB
SCALE: 3" = 1'-0"



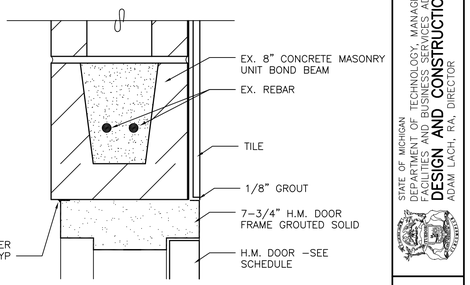
9 DOOR HEAD
SCALE: 3" = 1'-0"



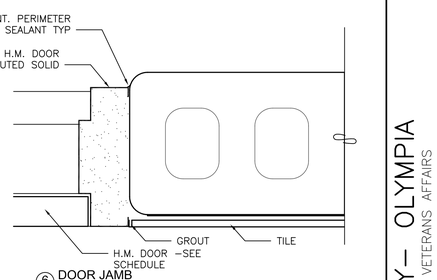
10 DOOR JAMB
SCALE: 3" = 1'-0"



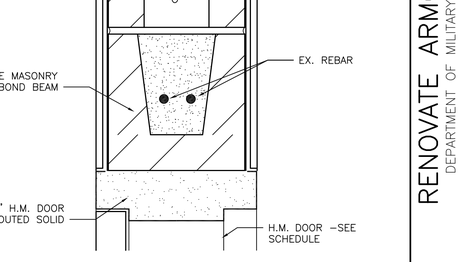
14 DOOR JAMB
SCALE: 3" = 1'-0"



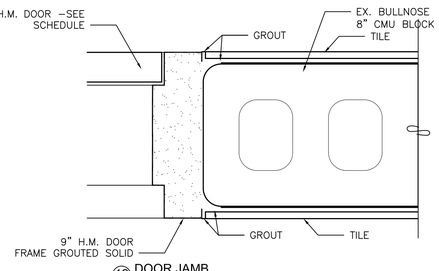
5 DOOR HEAD
SCALE: 3" = 1'-0"



6 DOOR JAMB
SCALE: 3" = 1'-0"



11 DOOR HEAD
SCALE: 3" = 1'-0"



12 DOOR JAMB
SCALE: 3" = 1'-0"

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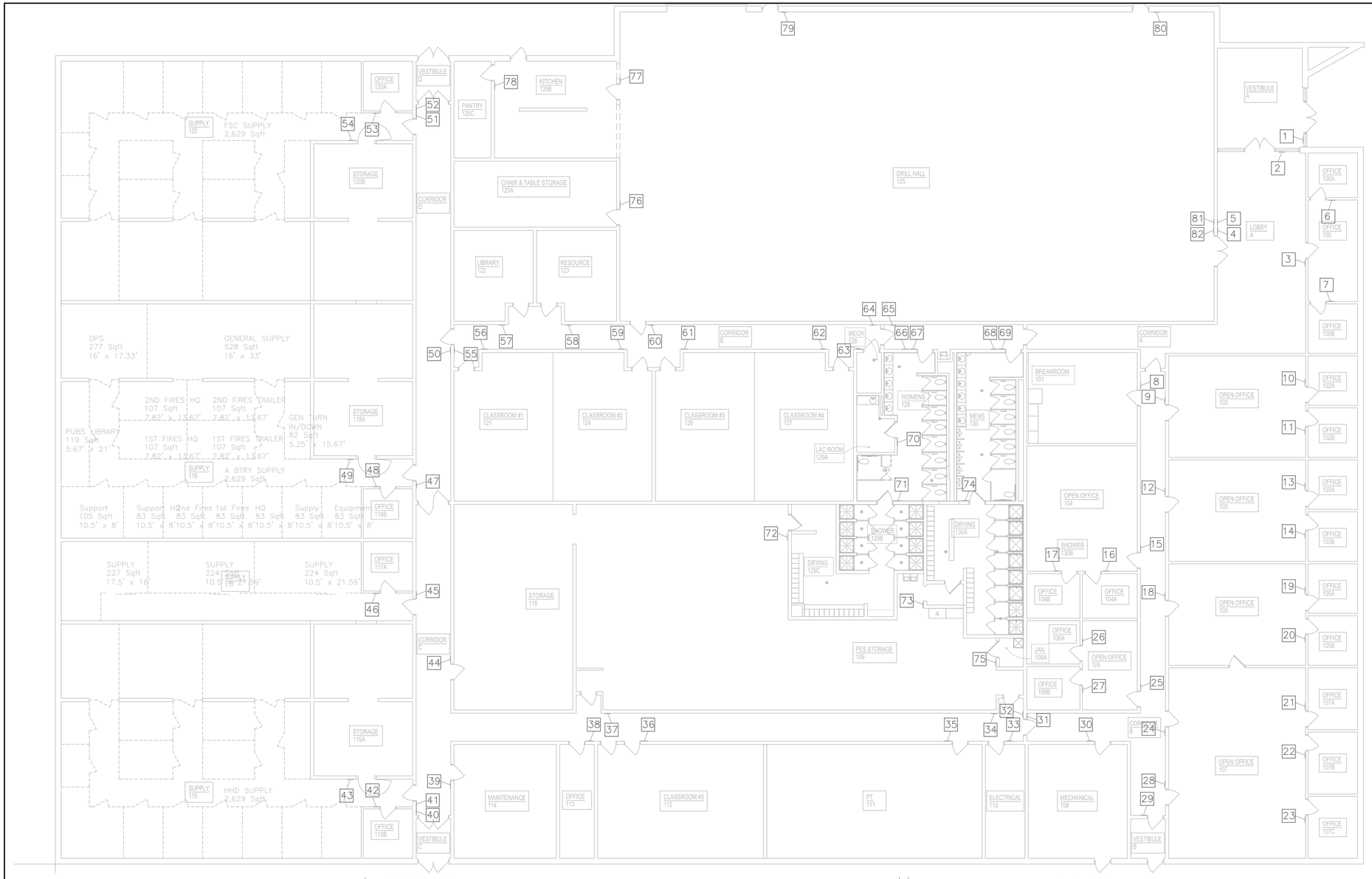
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

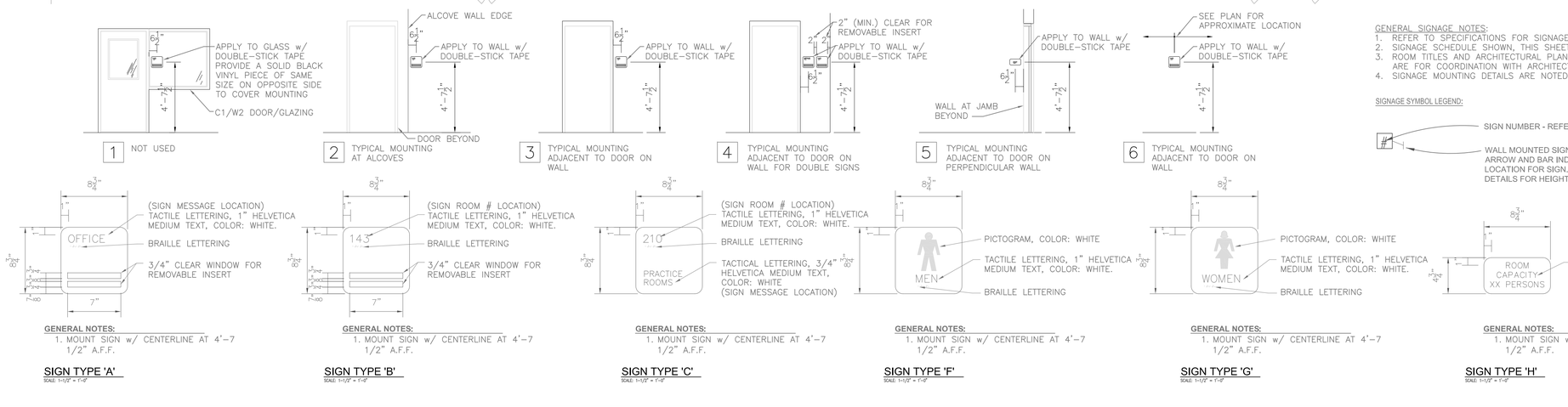
RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	JSD
DRAWN	JSD
CHECKED	BAB
APPROVED	KLM
DATE	10 OCT 2022
	10 JULY 2023
ISSUED FOR	■ PRELIMINARY ■ CONSTRUCTION □ FINAL RECORD
IDENTIFICATION NO.	
PROJECT	26A7722012
INDEX CODE	1540
SHEET	A7.0



SIGNAGE SCHEDULE						
SIGN NO.	ROOM NO.	ROOM FUNCTION	SIGN TYPE	SIGN ROOM #	SIGN MESSAGE	MOUNTING DETAIL
1	VEST A	VESTIBULE A	I	–	EXIT	1
2	–	LOBBY A	I	–	EXIT	1
3	100	RECRUITING	C	100	RECRUITING	3
4	125	DRILL HALL	C	–	DRILL HALL	4
5	125	DRILL HALL	H	–	XX = 500 PERSONS	4
6	100A	OFFICE	B	100A	–	3
7	100B	OFFICE	B	100B	–	3
8	101	BREAKROOM	C	101	BREAKROOM	3
9	102	OFFICE	B	102	–	3
10	102A	OFFICE	B	102A	–	3
11	102B	OFFICE	B	102B	–	3
12	103	OFFICE	B	103	–	3
13	103A	OFFICE	B	103A	–	3
14	103B	OFFICE	B	103B	–	3
15	104	OFFICE	B	104	–	3
16	104A	OFFICE	B	104A	–	3
17	104B	OFFICE	B	104B	–	3
18	105	OFFICE	B	105	–	3
19	105A	OFFICE	B	105A	–	3
20	105B	OFFICE	B	105B	–	3
21	107A	OFFICE	B	105C	–	3
22	107B	OFFICE	B	105D	–	3
23	107C	OFFICE	B	105E	–	3
24	107	OFFICE	B	105	–	3
25	106	OFFICE	B	106	–	3
26	106A	OFFICE	B	106A	–	3
27	106B	OFFICE	B	106B	–	3
28	107	OFFICE	B	105	–	3
29	–	CORRIDOR B	I	–	EXIT	3
30	108	MECHANICAL	C	108	MECHANICAL ROOM	3
31	–	CORRIDOR B	A	–	CORRIDOR C	3
32	–	CORRIDOR C	A	–	CORRIDOR B	3
33	110	IT/ELECTRIC	C	110	IT/ELECTRIC	3
34	109	PES	B	109	–	2
35	111	PHYSICAL TRAINING	C	111	PHYSICAL TRAINING	3
36	112	CLASSROOM	B	112	–	3
37	109	PES	B	109	–	2
38	113	OFFICE	B	113	–	3
39	114	MAINTENANCE	C	114	MAINTENANCE	3
40	–	CORRIDOR C	I	–	EXIT	3
41	115	SUPPLY ROOM	B	115	–	3
42	115A	OFFICE	B	115A	–	3
43	115B	VAULT	C	115B	VAULT	3
44	116	STORAGE	B	109	–	3
45	117	SUPPLY ROOM	B	117	–	3
46	117A	OFFICE	B	117A	–	3
47	118	SUPPLY ROOM	B	118	–	3
48	118A	OFFICE	B	118A	–	3
49	118B	VAULT	C	118B	VAULT	3
50	–	CORRIDOR D	A	–	CORRIDOR E	3
51	120	SUPPLY ROOM	B	120	–	3
52	–	CORRIDOR D	I	–	EXIT	3
53	120A	OFFICE	B	120A	–	3
54	120B	VAULT	C	120B	VAULT	3
55	–	CORRIDOR E	A	–	CORRIDOR D	6
56	121	CLASSROOM	B	121	–	2
57	122	LIBRARY	B	122	–	2
58	123	RESOURCE	B	123	–	2
59	124	CLASSROOM	B	124	–	2
60	125	DRILL HALL	C	125	DRILL HALL	3
61	126	CLASSROOM	B	126	–	2
62	127	CLASSROOM	B	127	–	2
63	128	MECHANICAL	C	128	MECHANICAL ROOM	3
64	–	CORRIDOR E	A	–	CORRIDOR A	5
65	–	CORRIDOR A	A	–	CORRIDOR E	5
66	129	LADIES RESTROOM	B	129	–	4
67	129	LADIES RESTROOM	G	–	WOMEN	4
68	130	MENS RESTROOM	B	130	–	4
69	130	MENS RESTROOM	F	–	MEN	4
70	129A	LACTATION ROOM	C	129A	LACTATION ROOM	3
71	129B	SHOWER ROOM	C	129B	SHOWER ROOM	3
72	109	PES	G	–	WOMEN	3
73	109	PES	F	–	MEN	3
74	130	MENS RESTROOM	C	130A	SHOWER ROOM	3
75	109	PES	C	109A	JANITOR CLOSET	3
76	125A	CHAIR/TABLE STORAGE	C	125A	CHAIR/TABLE STORAGE	3
77	125B	KITCHEN	C	125B	KITCHEN	3
78	125C	PANTRY	B	125C	–	3
79	125	DRILL HALL	I	–	EXIT	1
80	125	DRILL HALL	I	–	EXIT	1
81	125	DRILL HALL	H	–	XX = 500 PERSONS	4
82	125	DRILL HALL	I	–	EXIT	1



GENERAL SIGNAGE NOTES:
1. REFER TO SPECIFICATIONS FOR SIGNAGE SPECIFICATIONS.
2. SIGNAGE SCHEDULE SHOWN, THIS SHEET.
3. ROOM TITLES AND ARCHITECTURAL PLAN ROOM NUMBERS ARE FOR COORDINATION WITH ARCHITECTURAL SET ONLY.
4. SIGNAGE MOUNTING DETAILS ARE NOTED BELOW.

SIGNAGE SYMBOL LEGEND:

GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

SIGN TYPE 'A'
SCALE: 1-1/2" = 1'-0"

GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

SIGN TYPE 'B'
SCALE: 1-1/2" = 1'-0"

GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

SIGN TYPE 'C'
SCALE: 1-1/2" = 1'-0"

GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

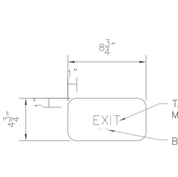
SIGN TYPE 'F'
SCALE: 1-1/2" = 1'-0"

GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

SIGN TYPE 'G'
SCALE: 1-1/2" = 1'-0"

GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

SIGN TYPE 'H'
SCALE: 1-1/2" = 1'-0"



GENERAL NOTES:
1. MOUNT SIGN w/ CENTERLINE AT 4'-7 1/2" A.F.F.

SIGN TYPE 'I'
SCALE: 1-1/2" = 1'-0"

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DESIGNED	JJD
DRAWN	JJD
CHECKED	BAB
APPROVED	KLM

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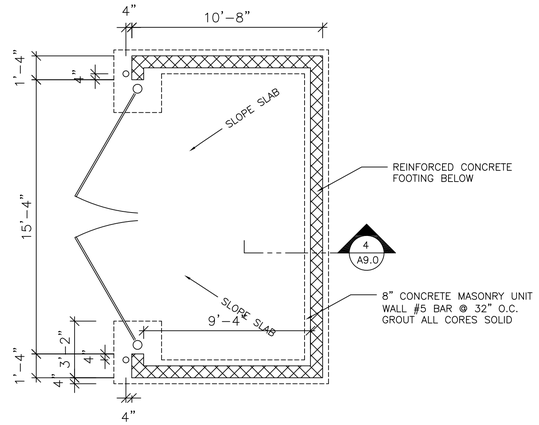
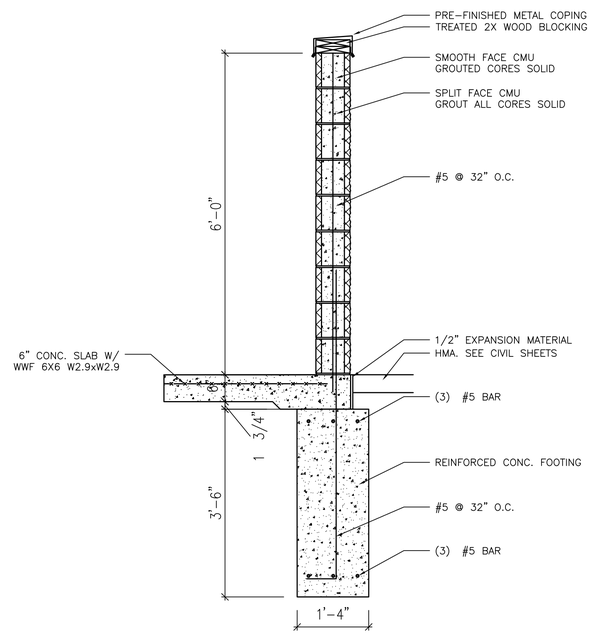
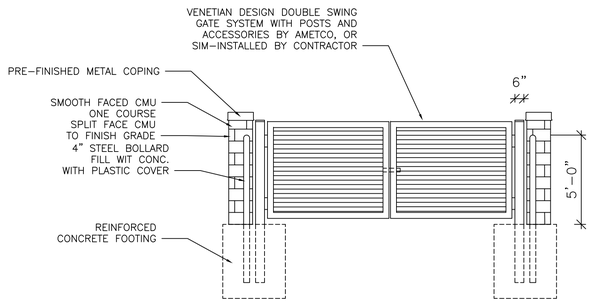


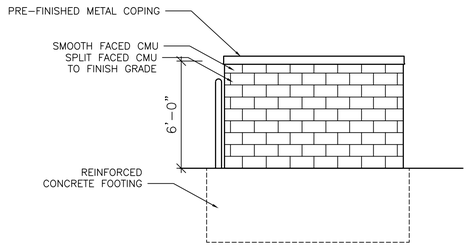
1 DUMPSTER ENCLOSURE PLAN
SCALE: 1/4" = 1'-0"



4 DUMPSTER ENCLOSURE SECTION
SCALE: 1/4" = 1'-0"



2 DUMPSTER ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



3 DUMPSTER ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"

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SHEET
A9.0

GENERAL NOTES – PLUMBING

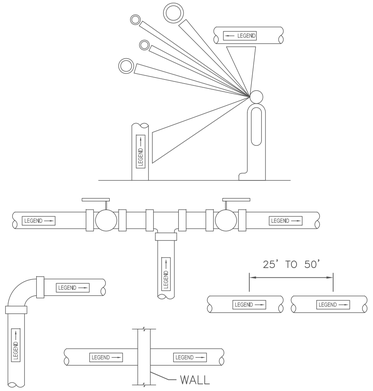
1. ALL PLUMBING EQUIPMENT AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE 2018 STATE OF MICHIGAN PLUMBING CODE AND THE 2018 INTERNATIONAL PLUMBING CODE.
2. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING A PLUMBING PERMIT AND INSPECTIONS. A FINAL INSPECTION CERTIFICATE SHALL BE SUBMITTED BEFORE FINAL PAYMENT WILL BE ISSUED.
3. THE PLUMBING CONTRACTOR SHALL FURNISH SHOP DRAWINGS ON FIXTURES, APPURTENANCES AND MATERIALS THAT THEY INTEND TO FURNISH, FOR OWNER APPROVAL.
4. ONE BOUND MANUAL AND ONE ELECTRONIC MANUAL SHALL BE SUBMITTED UPON COMPLETION WITH MAINTENANCE INSTRUCTIONS, PARTS LIST, AND MANUFACTURER'S WARRANTIES. ALONG WITH A WARRANTY FROM THE PLUMBING CONTRACTOR.
5. INSTALL NEW TRAP SEALS IN EXISTING FLOOR DRAINS THAT WILL REMAIN.

PLUMBING ABBREVIATIONS

AAV – AIR ADMITTANCE VALVE	MISC– MISCELLANEOUS
AFF – ABOVE FINISH FLOOR	MTD – MOUNTED
BFP – BACK FLOW PREVENTER	OD – OVERFLOW DRAIN
DF – DRINKING FOUNTAIN	RD – ROOF DRAIN
DWV – DRAIN WASTE&VENT	S – SINK
EWC – ELECTRIC WATER COOLER	SH – SHOWER
FD – FLOOR DRAIN	TYP – TYPICAL
FCO – FLOOR CLEAN OUT	UR – URINAL
HB – HOSE BIB	VRT – VENT THROUGH ROOF
HVAC– HEATING VENTILATING & AIR CONDITIONING	WC – WATER CLOSET
HWCP– HOT WATER CIRCULATION PUMP	WCO – WALL CLEAN OUT
LAV – LAVATORY	WH – WATER HEATER
MH – MANHOLE	X... – EXISTING

PLUMBING FIXTURE SCHEDULE

TYPE	DESCRIPTION	BASIS OF DESIGN	TRIM	REMARKS
WC–1	FLOOR MOUNTED, BOTTOM DISCHARGE, FLUCH VALVE, VITREOUS CHINA, WHITE, ELONGATED RIM, 1.6 GAL FLUSH	AMERICAN STANDARD, MADERA 16–1/2" MODEL: 2854.016	SEAT K–4731–C–0, FLUSH VALVE MODEL: SLOAN 180–1.5	ADA– MOUNT FLUSH VALVE 26" AFF
WC–2	FLOOR MOUNTED, BOTTOM DISCHARGE, FLUCH VALVE, VITREOUS CHINA, WHITE, ELONGATED RIM, 1.6 GAL FLUSH	AMERICAN STANDARD, MADERA 16–1/2" MODEL: 2854.016	SEAT K–4731–C–0, FLUSH VALVE MODEL: SLOAN 180–1.5	ADA– MOUNT FLUSH VALVE 26" AFF
UR–1	WALL MOUNTED, REAR DISCHARGE, FLUSH VALVE, VITREOUS CHINA, WHITE, 1.0 GAL FLUSH	AMERICAN STANDARD PINTBROOK, MODEL:6002001.020	FLUSH VALVE MODEL: SLOAN 180–1.0	ADA– MOUNT FLUSH VALVE 44" AFF, RIM HEIGHT 19" AFF
UR–2	WALL MOUNTED, REAR DISCHARGE, FLUSH VALVE, VITREOUS CHINA, WHITE, 1.0 GAL FLUSH	AMERICAN STANDARD PINTBROOK, MODEL:6002001.020	FLUSH VALVE MODEL: SLOAN 180–1.0	MOUNT FLUSH VALVE 44" AFF, RIM HEIGHT 24" AFF
FD–1	FLOOR DRAIN, SQUARE, NICKLE–BRONZE	SIOUX CHIEF MODEL: 832 SERIES		FINSIH LINE, 1,500LBS HEAL PROOF
SH–1	SHOWER ENCLOSURE, THREE SIDED, FIBERGLASS, 36"x36"	OASIS MODEL: SH3636	KOHLER FORTE MODEL:K–22169–G SIOUX CHIEF MODEL: 825 SERIES	1.75 GPM; BOTTOM OF HEAD IS 6'6" AFF, DRAIN ROUND SCREW ON TYPE STRAINER
EWC–1	STAINLESS STEEL ELECTRIC WATER COLLER AND BOTTLE FILLER	ELKAY MODEL: LZSTL8WSSP	BI–LEVEL ADA COOLER FILTERED, BOTTLE FILLER 115V, 8.0 GPH	
LAV–1	INTEGRAL BOWLS IN ACRYLIC SOLID SURFACE COUNTER TOP	BRADLEY TERREON LAV DECK MODEL: LD–3010	KOHLER TRITON BOWE MODEL: K–800T20–5ANL	ADA COMPLIANT
LAV–2	ACRYLIC SOLID SURFACE COUNTER TOP	ELKAY CELEBRITY MODEL: BCR15	CHICAGO FAUCETS MODEL: W4D–SB6AE1–317ABCP	ADA COMPLIANT
SS–1	SEVICE SINK	STERN WILLIAMS MOP SINK BASIN MODEL: SB–802	KOHLER TRITON BOWE MODEL: K–837T60–4A SIOUX CHIEF MODEL: 825 SERIES	SPLASH CATCHER PANELS, HOSE AND WALL HOOK, 48" STAINLESS STEEL SHELF WITH MOP HANGERS
KS–1	BREAKROOM SINK	GLACIER BAY STAINLESS STEEL DROP IN SINK	DELTA MODEL: 26C3934	



NOTE: LABELS SHALL COMPLY WITH ANSI/ASME A13.1–2015.

PIPE MARKING AND VALVE TAG DETAILS

SCALE: NONE

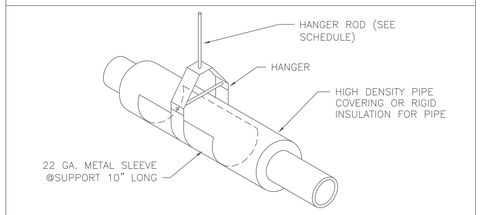
SIZE OF LEGEND LABELS

PIPE COVERING O.D. (IN.)	LENGTH OF COLOR FIELD (IN.)	HEIGHT OF LETTERS (IN.)
¾" TO 1¼"	8"	½"
1½" TO 2"	8"	¾"
2½" TO 6"	12"	1¼"
8" TO 10"	24"	2½"
OVER 10"	32"	3½"

COLOR OF LEGEND LABELS

SERVICE	BACKGROUND COLOR	LETTERS
DOMESTIC COLD WATER	SAFETY GREEN	WHITE
DOMESTIC HOT WATER	SAFETY GREEN	WHITE
DOM. HOT WATER RETURN	SAFETY GREEN	WHITE
HEATING WATER SUPPLY	SAFETY GREEN	WHITE
HEATING WATER RETURN	SAFETY GREEN	WHITE
SANITARY DRAIN	SAFETY GREEN	WHITE
NATURAL GAS	SAFETY YELLOW	BLACK
FIRE PROTECTION	SAFETY RED	WHITE
COMPRESSED AIR	SAFETY BLUE	WHITE

PIPE HANGER SCHEDULE

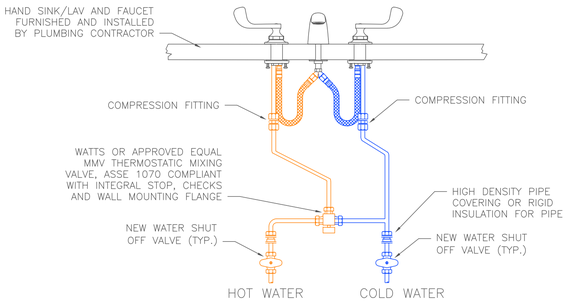


PIPE SIZE (NOMINAL)	HANGER SPACING (FT)				HANGER ROD SIZE
	STEEL	CAST IRON	COPPER	PVC/ABS	
1/2"	5	–	6	3	3/8"
3/4"	6	–	6	4	3/8"
1"	7	–	6	4	3/8"
1 1/4"	8	–	6	4	3/8"
1 1/2"	9	5	10	4	3/8"
2"	10	5	10	4	3/8"
2 1/2"	10	–	10	4	1/2"
3"	10	5	10	4	1/2"
4"	10	5	10	4	1/2"
5"	10	5	10	–	1/2"
6"	10	5	10	–	1/2"

PIPE INSULATION SCHEDULE

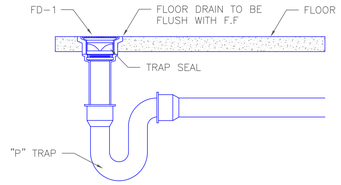
PIPE SYSTEM	THICKNESS	TYPE	REMARKS
DOMESTIC HOT WATER	1" TO 1 1/2" SEE NOTE 1	FIBERGLASS	SELF SEALING W/PVC FITTING COVERS
DOMESTIC COLD WATER	1"	FIBERGLASS	SELF SEALING W/PVC FITTING COVERS
HOT WATER RECIRCULATING	1" TO 1 1/2" SEE NOTE 1	FIBERGLASS	SELF SEALING W/PVC FITTING COVERS

1. FOR PIPING LESS THAN 1 1/2", INSULATION THICKNESS SHALL BE 1", FOR PIPING 1 1/2" AND LARGER, INSULATION THICKNESS SHALL BE 1 1/2"



FAUCET PIPING DETAIL

SCALE: NONE



FLOOR DRAIN DETAIL (TYP.)

SCALE: NONE

PIPING SYMBOL LEGEND

PIPING

	NEW	EXISTING	DEMOLISH
DOMESTIC COLD WATER	3"Ø	3"Ø	3"Ø
DOMESTIC HOT WATER	3"Ø	3"Ø	3"Ø
HOT WATER CIRCULATION	3"Ø	3"Ø	3"Ø
SANITARY VENT	3"Ø	3"Ø	3"Ø
SANITARY WASTE	3"Ø	3"Ø	3"Ø
STORM SEWER	3"Ø	3"Ø	3"Ø

VALVES

- 3WAY VALVE
- BALL VALVE
- BUTERFLY VALVE
- CHECK VALVE
- CONTROL VALVE
- GATE VALVE
- GLOBE VALVE
- RELIEF VALVE
- BFP – BACK FLOW PREVENTER
- PRV – PRESSURE REDUCING VALVE
- W – WATER REGULATOR VALVE
- GM – GAS METER
- WM – WATER METER

PIPE FITTINGS

- HOSE BIB
- CONNECT TO EXISTING
- ELBOW DOWN
- ELBOW UP
- TEE UP
- TEE DOWN
- CLEAN OUT
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- END CAP
- UNION
- STRAINER
- FLANGED CONNECTION
- EXPANSION JOINT

PIPE FITTINGS

- AIR CHAMBER
- AIR ELIMINATOR
- S – AIR SEPARATOR
- AUTOMATIC AIR VENT
- COMPOUND GAUGE
- PRESSURE GAUGE
- SHOCK ABSORBER

OTHER SYMBOLS

- XX–X – PLUMBING FIXTURE/ EQUIPMENT INDICATOR
- FLOOR DRAIN

THIS SHEET IS TO BE PRINTED IN COLOR TO SEE DIFFERENT LINES

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DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
FACILITIES AND BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY– OLYMPIA
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	JJD
DRAWN	JJD
CHECKED	B.A.B
APPROVED	K.M.M.

DATE: 22 FEB 2023; 10 JULY 2023

ISSUED FOR: ■ PRELIMINARY ■ CONSTRUCTION □ FINAL RECORD

IDENTIFICATION NO.
PROJECT 264772012
INDEX CODE 1540

SHEET P0.1

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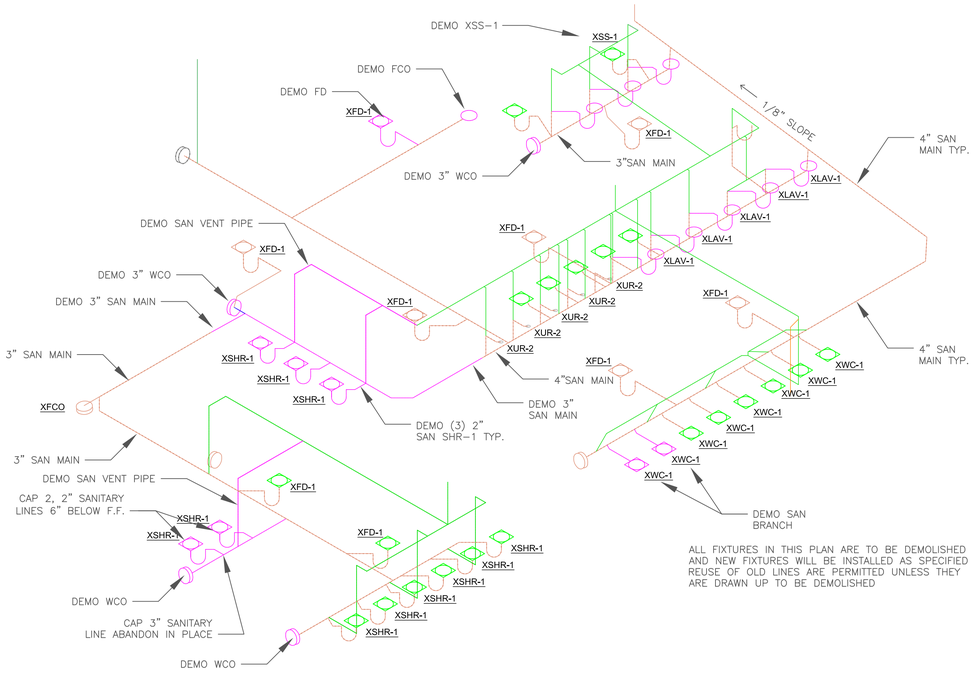
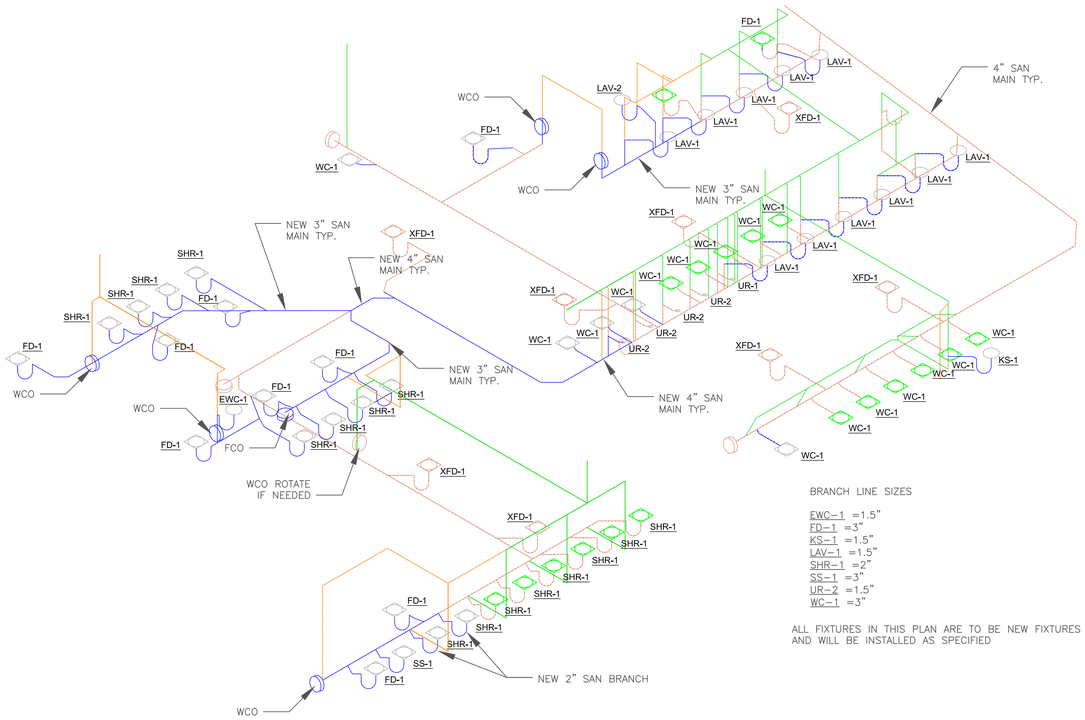


ALL FIXTURES IN THIS PLAN ARE TO BE DEMOLISHED AND NEW FIXTURES WILL BE INSTALLED AS SPECIFIED REUSE OF OLD LINES ARE PERMITTED UNLESS THEY ARE DRAWN UP TO BE DEMOLISHED

SANITARY SEWER DEMO ISOMETRIC
SCALE: NONE

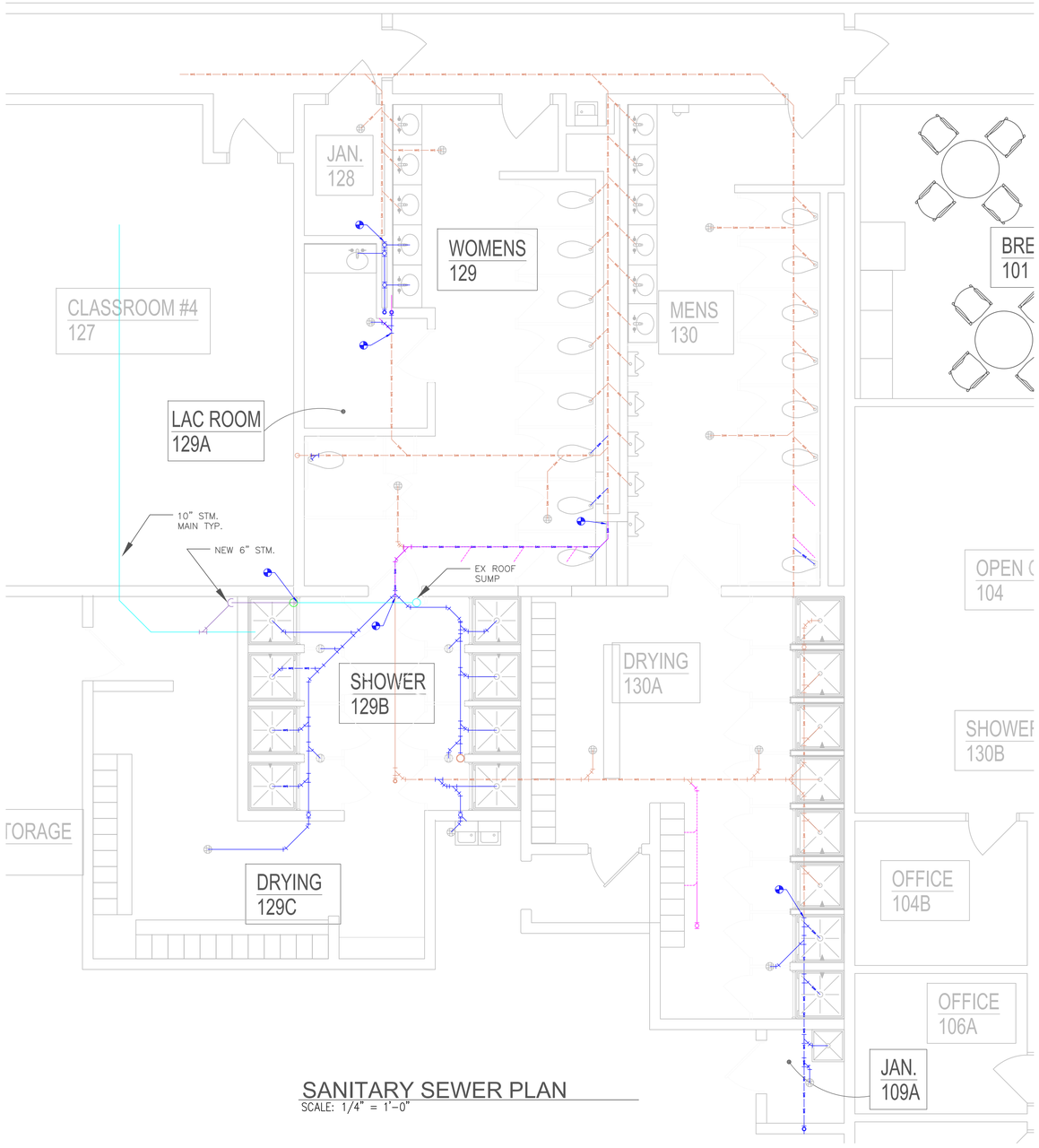


BRANCH LINE SIZES

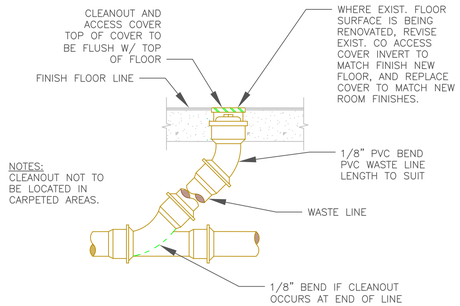
EWC-1 =1.5"
FD-1 =3"
KS-1 =1.5"
LAV-1 =1.5"
SHR-1 =2"
SS-1 =3"
UR-2 =1.5"
WC-1 =3"

ALL FIXTURES IN THIS PLAN ARE TO BE NEW FIXTURES AND WILL BE INSTALLED AS SPECIFIED

SANITARY SEWER ISOMETRIC
SCALE: NONE

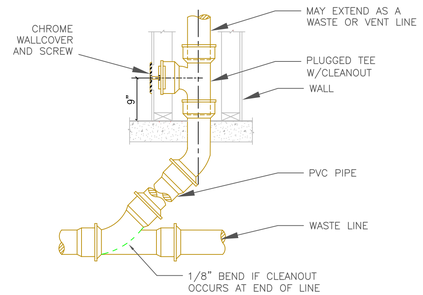


SANITARY SEWER PLAN
SCALE: 1/4" = 1'-0"



NOTES:
CLEANOUT NOT TO BE LOCATED IN CARPETED AREAS.

FLOOR CLEANOUT DETAIL
SCALE: NONE



WALL CLEANOUT DETAIL
SCALE: NONE

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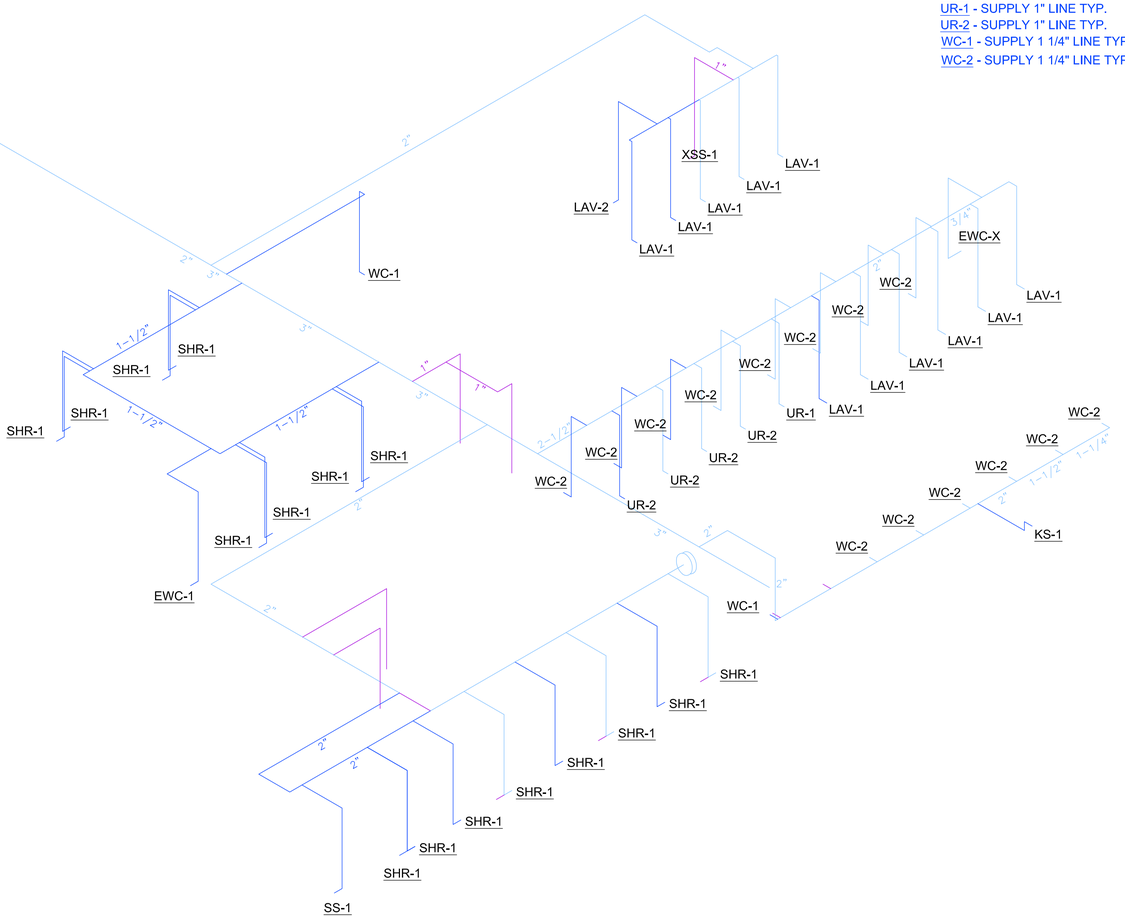
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY– OLYMPIA
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

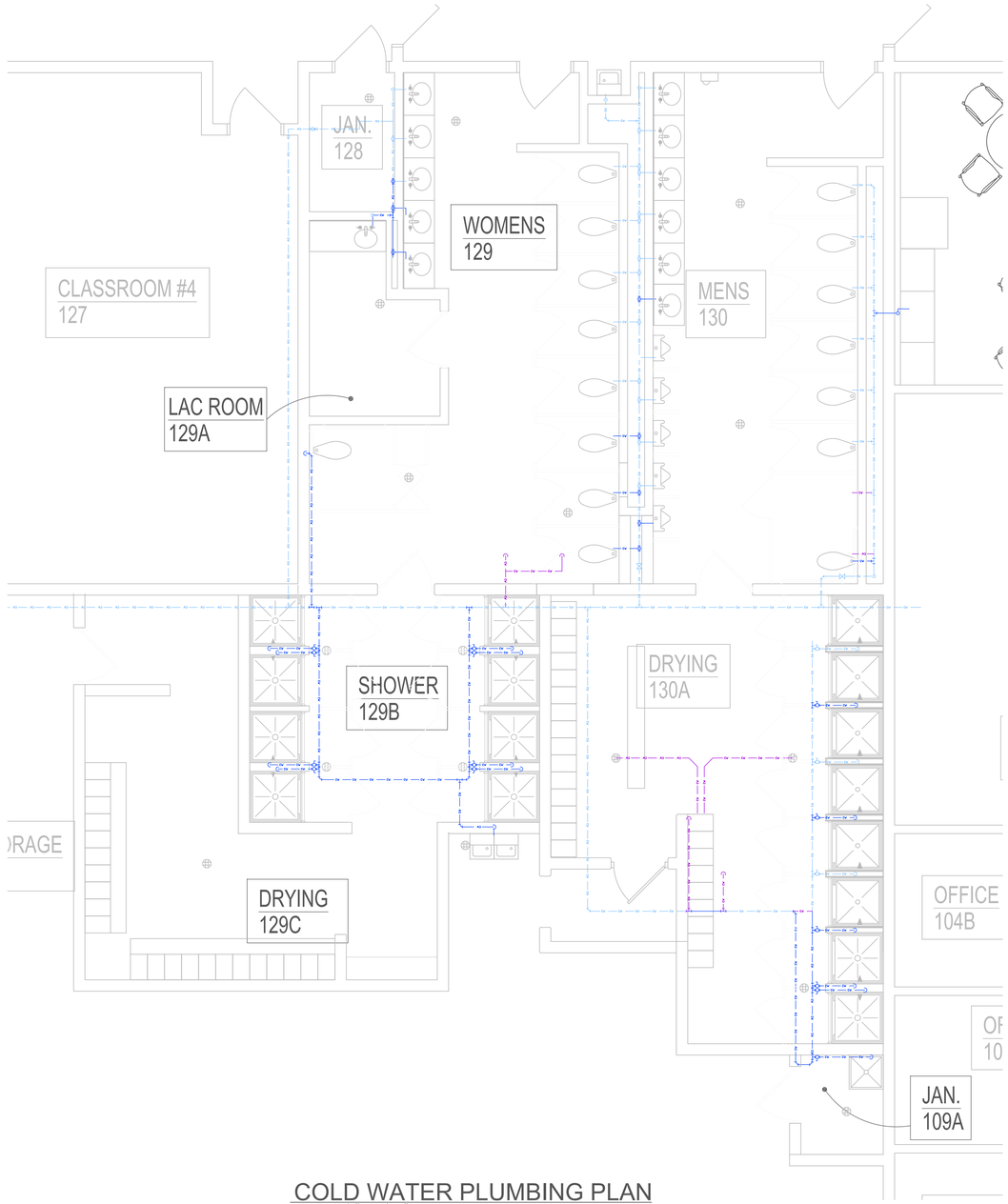
DESIGNED	JSD
DRAWN	JSD
CHECKED	BAB
APPROVED	KLM
DATE	10 OCT 2022
	10 JULY 2023
ISSUED FOR	■ PRELIMINARY
	■ CONSTRUCTION
	□ FINAL RECORD
IDENTIFICATION NO.	
PROJECT	26A7722012
INDEX CODE	1540
SHEET	P1.0

THIS SHEET IS TO BE PRINTED IN COLOR TO SEE DIFFERENT LINES

EWC-1 - SUPPLY 1/2" LINE TYP.
LAV-1 - SUPPLY 1/2" LINE TYP.
KS-1 - SUPPLY 1/2" LINE TYP.
SHR-1 - SUPPLY 1/2" LINE TYP.
SS-1 - SUPPLY 1/2" LINE TYP.
UR-1 - SUPPLY 1" LINE TYP.
UR-2 - SUPPLY 1" LINE TYP.
WC-1 - SUPPLY 1 1/4" LINE TYP.
WC-2 - SUPPLY 1 1/4" LINE TYP.



DOMESTIC COLD WATER ISOMETRIC
SCALE: 1/4" = 1'-0"



COLD WATER PLUMBING PLAN
SCALE: 1/4" = 1'-0"

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DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	JPD
DRAWN	JPD
CHECKED	BJB
APPROVED	KJLL

DATE: 10 OCT 2022; 10 JULY 2023

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IDENTIFICATION NO.
PROJECT 26A7722012
INDEX CODE 1540

SHEET P1.1

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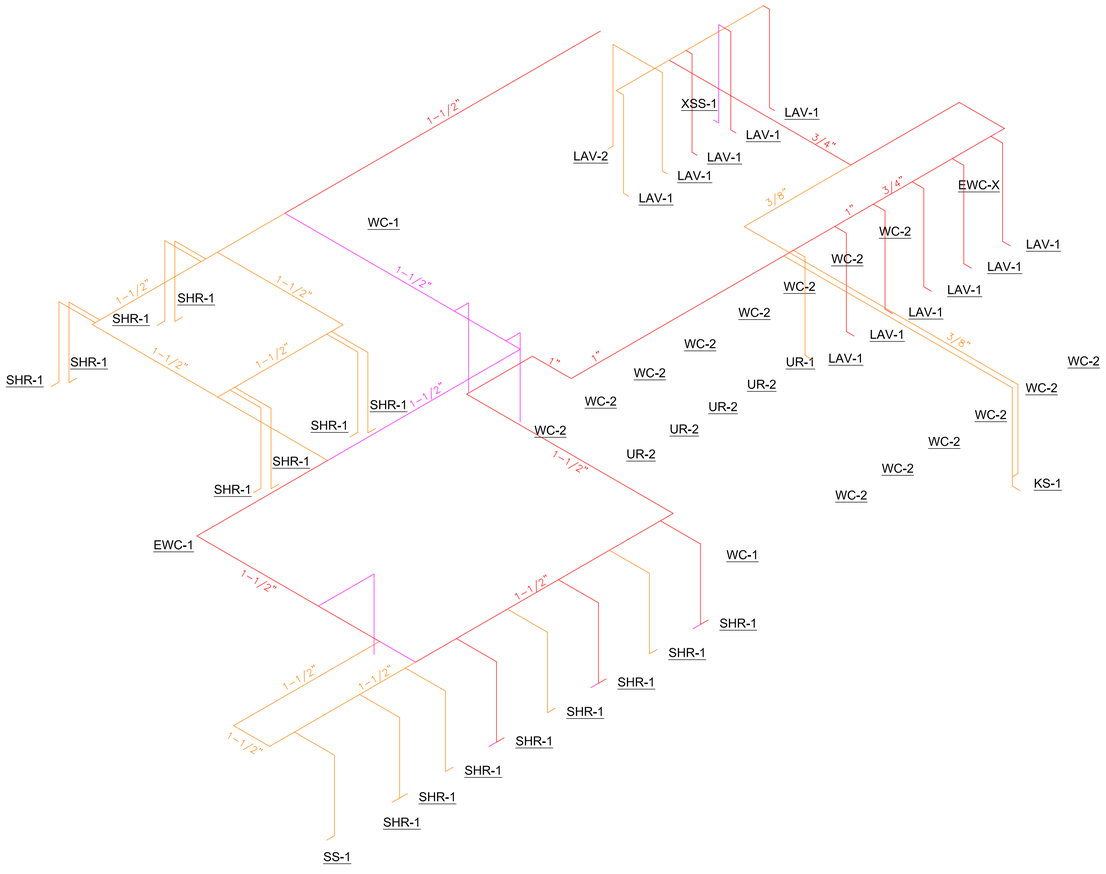
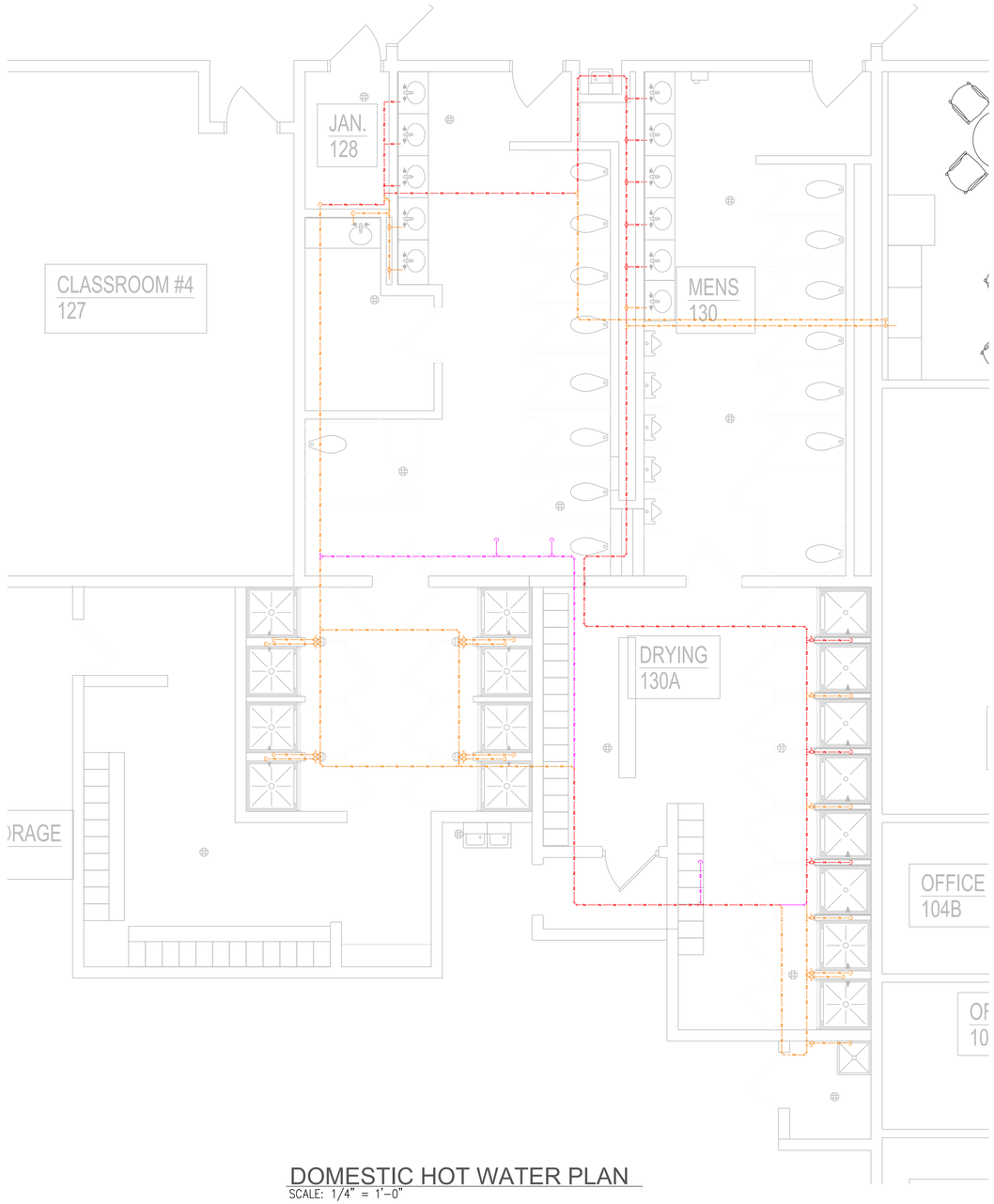
LAV-1 - SUPPLY 1/2" LINE TYP.
KS-1 - SUPPLY 1/2" LINE TYP.
SHR-1 - SUPPLY 1/2" LINE TYP.
SS-1 - SUPPLY 1/2" LINE TYP.



DOMESTIC HOT WATER ISOMETRIC
SCALE: 1/4" = 1'-0"



DOMESTIC HOT WATER PLAN
SCALE: 1/4" = 1'-0"

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ADAM LACH, RA, DIRECTOR

RENOVATE
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
STATE ARMORY– OLYMPIA
DETROIT, MICHIGAN

DESIGNED	JPD
DRAWN	JPD
CHECKED	BAB
APPROVED	KLM
DATE	10 OCT 2022 / 10 JULY 2023
ISSUED FOR	PRELIMINARY ■ CONSTRUCTION ■ FINAL RECORD □
IDENTIFICATION NO.	PROJECT 26A7722012 / INDEX CODE 1540
SHEET	P1.2

GENERAL NOTES

1. A CERTIFIED SPRINKLER COMPANY NEEDS TO DESIGN THE NEW LAYOUT. THE LAYOUT SHOWN IS JUST A ROUGH ESTIMATE FOR BIDDING PURPOSES. THIS COST IS TO BE INCLUDED IN BID. ORIGINAL DRAWINGS WILL BE PROVIDED TO WINNING CONTRACTOR IN PDF FORMAT.
2. THIS SYSTEM HDYRAULICALLY CALCULATED PER N.F.P.A. #13 STANARDS, AT A DENSITY OF 0.19 GPM OVER REMOTE 1500#, ORDINARY HAZARD W/250 GPM FOR HOSE.
3. ALL MAIN PIPING IS SCH 10 ROLL GROOVED PER NFPA #13
4. ALL LINE PIPING IS SCH. 40 THREADED PER NFPA#13
5. ALL SCREWED FITTINGS ARE PER NFPA-13 SPECS, CAST IRON 125#.
6. ALL GROOVED FITTINGS ARE PER NFPA-13 SPECS., ROLL-GROVOVED.
7. CENTERLINE ELEVATIONS OF MAINS IS TYP AS NOTED ON THE DRAWINGS.
8. CENTERLINE ELEVATION OF BRANCHLINES IS TYP. AS NOTED ON DRAWINGS.
9. THIS SYSTEM NEEDS TO BE DESIGNED AND INSTALLED PER STANDARDS OF N.F.P.A. #13
10. SUPPLY ROOM BASIS OF DESIGN GLOBE "J" UPRIGHT HEADS, 155 TEMP, BRASS FINISH
11. BATHROOM AND SHOWERS BASIS OF DESIGN GLOBE "J" PENDANT HEADS, 155 TEMP, BRASS FINISH
12. PAINT ALL NEW LINES TO MATCH EXISTING.

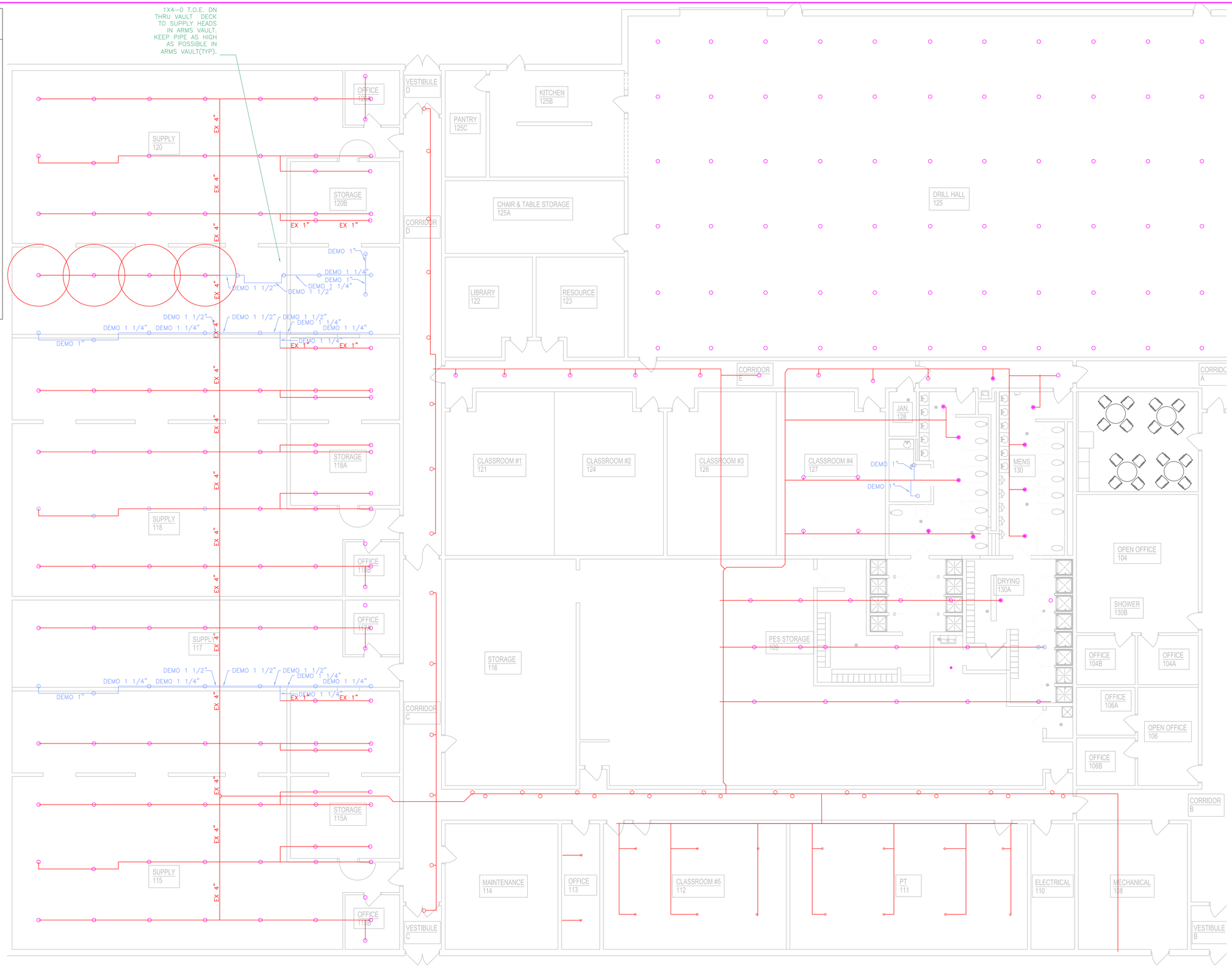
PIPING LEGEND

PIPING

FIRE PROTECTION

- NEW
- EXISTING
- DEMOLISH

1X4-0 T.O.E. DN THRU VAULT DECK TO SUPPLY HEADS IN ARMS VAULT. KEEP PIPE AS HIGH AS POSSIBLE IN ARMS VAULT(TYP).



FIRE SUPPRESSION DEMO PLAN

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

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RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	JDD
DRAWN	JDD
CHECKED	BAB
APPROVED	KLM

DATE	ISSUED FOR
22 FEB 2023	PRELIMINARY ■
10 JULY 2023	CONSTRUCTION ■
	FINAL RECORD □

IDENTIFICATION NO.
PROJECT 26A7722012
INDEX CODE 1540

SHEET FP1

GENERAL NOTES

1. A CERTIFIED SPRINKLER COMPANY NEEDS TO DESIGN THE NEW LAYOUT. THE LAYOUT SHOWN IS JUST A ROUGH ESTIMATE FOR BIDDING PURPOSES. THIS COST IS TO BE INCLUDED IN BID. ORIGINAL DRAWINGS WILL BE PROVIDED TO WINNING CONTRACTOR IN PDF FORMAT.
2. THIS SYSTEM HDYRAULICALLY CALCULATED PER N.F.P.A. #13 STANARDS, AT A DENSITY OF 0.19 GPM OVER REMOTE 1500#, ORDINARY HAZARD W/250 GPM FOR HOSE.
3. ALL MAIN PIPING IS SCH 10 ROLL GROOVED PER NFPA #13
4. ALL LINE PIPING IS SCH. 40 THREADED PER NFPA#13
5. ALL SCREWED FITTINGS ARE PER NFPA-13 SPECS, CAST IRON 125#.
6. ALL GROOVED FITTINGS ARE PER NFPA-13 SPECS., ROLL-GROVOVED.
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8. CENTERLINE ELEVATION OF BRANCHLINES IS TYP. AS NOTED ON DRAWINGS.
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11. BATHROOM AND SHOWERS BASIS OF DESIGN GLOBE "J" PENDANT HEADS, 155 TEMP, BRASS FINISH
12. PAINT ALL NEW LINES TO MATCH EXISTING.

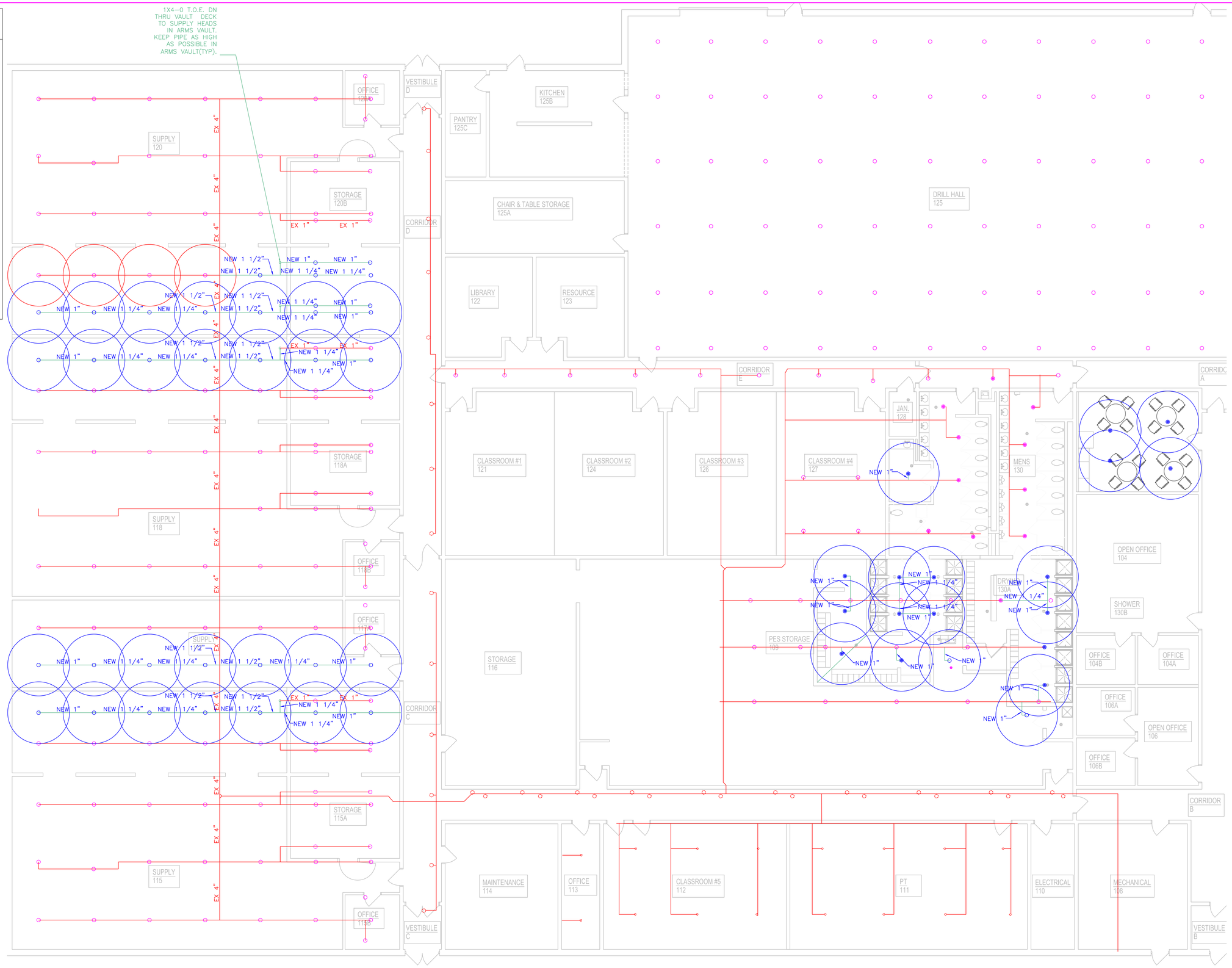
PIPING LEGEND

PIPING

FIRE PROTECTION

- NEW
- EXISTING
- DEMOLISH

1X4-0 T.O.E. DN THRU VAULT DECK TO SUPPLY HEADS IN ARMS VAULT. KEEP PIPE AS HIGH AS POSSIBLE IN ARMS VAULT(TYP).



NEW FIRE SUPPRESSION PLAN

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

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FACILITIES AND BUSINESS SERVICES ADMINISTRATION
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ADAM LACH, RA, DIRECTOR

RENOVATE
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

ARMORY- OLYMPIA

DESIGNED	JDD
DRAWN	JDD
CHECKED	BAB
APPROVED	KLM

DATE: 22 FEB 2023; 10 JULY 2023

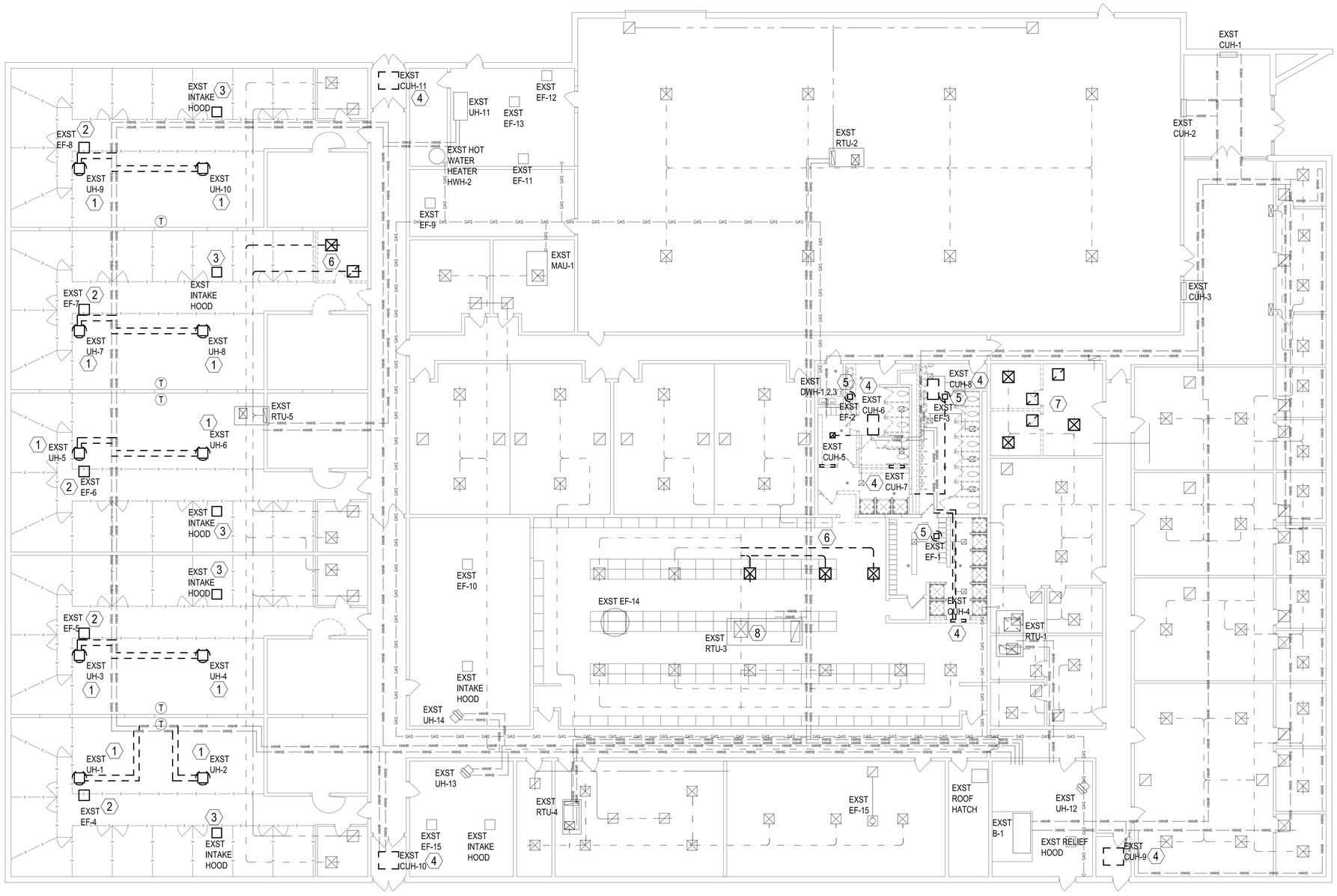
ISSUED FOR: PRELIMINARY ■ CONSTRUCTION ■ FINAL RECORD □

IDENTIFICATION NO.: PROJECT 26A7722012; INDEX CODE 1540

SHEET: FP2

MECHANICAL DEMO NOTES

1. REMOVE EXISTING UNIT HEATERS UH-1,2,3,4,5,6,7,8,9 &10 AND ALL CORRESPONDING COMPONENTS. REMOVE SUPPLY & RETURN PIPING, CUT & CAP AT MAIN. COORDINATE WITH ELECTRICAL AND DDC CONTRACTORS TO DISCONNECT ELECTRICAL CIRCUIT & ANY DDC EQUIPMENT & WIRING.
2. REMOVE EXISTING EXHAUST FANS EF-4,5,6,7 & 8 AND ALL CORRESPONDING COMPONENTS INCLUDING ANY SUPPORT STRUCTURE. COORDINATE WITH ELECTRICAL AND DDC CONTRACTORS TO DISCONNECT ELECTRICAL CIRCUIT & ANY DDC EQUIPMENT & WIRING. COORDINATE WITH ROOFING CONTRACTOR TO REMOVE CURBS.
3. REMOVE EXISTING INTAKE HOOD AND ALL CORRESPONDING COMPONENTS INCLUDING ANY SUPPORT STRUCTURE. COORDINATE WITH ELECTRICAL AND DDC CONTRACTORS TO DISCONNECT ELECTRICAL CIRCUIT & ANY DDC EQUIPMENT & WIRING.
4. REMOVE EXISTING CABINET UNIT HEATER CUH-4,6,7,8,9,10 & 11 AND ALL CORRESPONDING COMPONENTS. COORDINATE WITH ELECTRICAL AND DDC CONTRACTORS TO DISCONNECT ELECTRICAL CIRCUIT & ANY DDC EQUIPMENT & WIRING.
5. REMOVE EXISTING EXHAUST FANS EF-1,2 & 3. COORDINATE WITH ELECTRICAL AND DDC CONTRACTORS TO DISCONNECT ELECTRICAL CIRCUIT & ANY DDC EQUIPMENT & WIRING. EXISTING ROOF CURBS TO REMAIN.
6. REMOVE EXISTING SUPPLY DIFFUSER & RETURN GRILLE. REMOVE SUPPLY AND/OR RETURN DUCTS BACK TO MAIN. INSTALL SHEET METAL PLATE WITH SEALANT OVER OPENING TO MAKE AIRTIGHT.
7. REMOVE EXISTING SUPPLY DIFFUSERS & RETURN GRILLES. REMOVE SUPPLY DUCTS AS REQUIRED TO EXTEND TO NEW LOCATIONS.
8. DDC CONTRACTOR TO REMOVE EXISTING DDC EQUIPMENT LOCATED ON SUPPLY DUCT BELOW RTU-3. RELOCATE ON OPPOSITE SIDE OF DUCT TO AVOID NEW WALL.



1 / M1 MECHANICAL DEMO PLAN
SCALE: 3/32" = 1'-0"

N

GENERAL MECHANICAL DEMO NOTES

1. CONTRACTOR TO PROVIDE PROPER DUST CONTROL MEASURES PER SPECIFICATIONS.
2. CONTRACTOR TO MAINTAIN A CLEAN WORKSPACE AT THE END OF EACH DAY PER SPECIFICATIONS.
3. DURING DEMOLITION, KEEP ALL ROOF AND EXTERIOR WALL PENETRATIONS SEALED OFF FROM EXTERIOR.
4. DMVA HAS LAST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED.

LEGEND

- MECHANICAL DEMO
- NEW HOT WATER HEATING SUPPLY
- NEW HOT WATER HEATING RETURN
- EXISTING HOT WATER HEATING SUPPLY
- EXISTING HOT WATER HEATING RETURN
- NEW SUPPLY DUCT
- NEW RETURN DUCT
- EXISTING SUPPLY DUCT
- EXISTING RETURN DUCT
- DDC LONBUS COMMUNICATION WIRE
- R1 / 800 — EXISTING RETURN AIR GRILLE (DESIGNATION & VOLUME)
- S1 / 800 — EXISTING SUPPLY AIR DIFFUSER (DESIGNATION & VOLUME)
- R1 / 800 — RETURN AIR GRILLE (DESIGNATION & VOLUME)
- S1 / 800 — SUPPLY AIR DIFFUSER (DESIGNATION & VOLUME)
- EXHAUST FAN INLINE
- LOCKABLE BALANCE DAMPER

STATE OF MICHIGAN
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PROCUREMENT AND REAL ESTATE SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY - OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT OLYMPIA ARMORY DETROIT, MICHIGAN

DESIGNED	BOK
DRAWN	BOK
CHECKED	KMM
APPROVED	BAB

ISSUED FOR	DATE
■ PRELIMINARY	21 APR 2023
■ CONSTRUCTION	28 APR 2023
□ FINAL RECORD	

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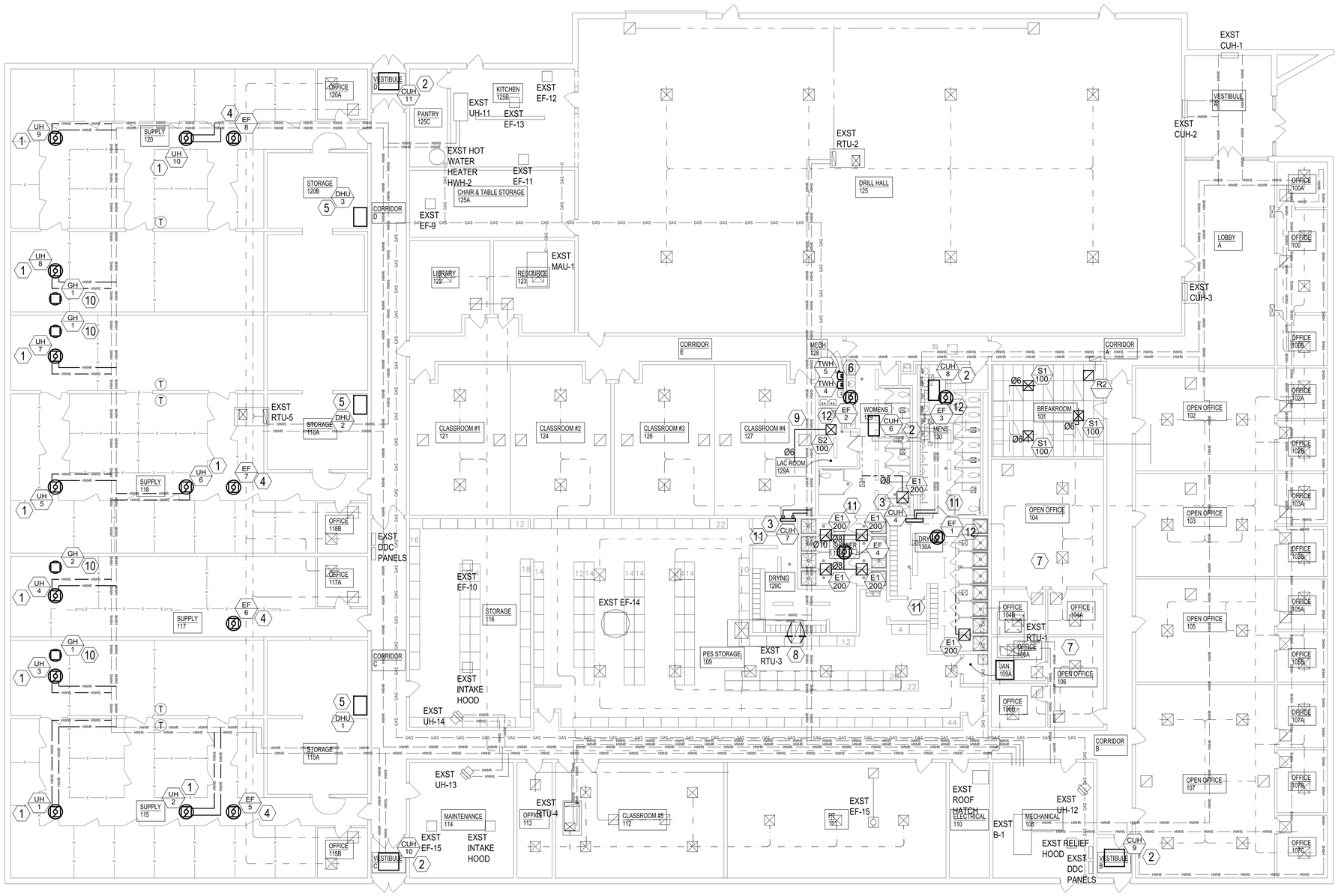
SHEET
MECHANICAL DEMO PLAN
M1.0

MECHANICAL NOTES

1. INSTALL NEW UNIT HEATERS UH-1 THRU UH-10 PER MANUFACTURER'S RECOMMENDATIONS. CONNECT TO EXISTING HOT WATER HEATING SUPPLY & RETURN, REFER TO UNIT HEATER PIPING DETAIL ON SHEET M3. COORDINATE WITH CAGING CONTRACTOR TO INSTALL NEW UNITS & PIPING IN WALKWAYS.
2. INSTALL NEW CEILING MOUNTED CABINET UNIT HEATERS CUH-6, CUH-8, CUH-9, CUH-10 & CUH-11 PER MANUFACTURER'S RECOMMENDATIONS. EXTEND & CONNECT TO EXISTING HOT WATER HEATING SUPPLY & RETURN PIPING, REFER TO HYDRONIC PIPING DETAIL ON SHEET M3. CONTRACTOR TO MODIFY EXISTING OPENING & SUPPORTS AS REQUIRED FOR NEW UNIT. COORDINATE WITH GC TO FINISH DRYWALL AS REQUIRED. ALL VALVES TO BE ACCESSIBLE, INSTALL NEW ACCESS PANELS AS REQUIRED FOR MAINTENANCE.
3. INSTALL NEW WALL MOUNTED CABINET UNIT HEATERS CUH-4 & CUH-7 PER MANUFACTURER'S RECOMMENDATIONS. EXTEND & CONNECT SUPPLY & RETURN PIPING AS REQUIRED TO NEW LOCATION, SEE HYDRONIC PIPING DETAIL ON SHEET M3. COORDINATE WITH GC TO INSTALL PIPING INSIDE WALL. ALL VALVES TO BE ACCESSIBLE, INSTALL NEW ACCESS PANELS AS REQUIRED FOR MAINTENANCE.
4. INSTALL NEW EXHAUST FANS EF-4, EF-5, EF-6 & EF-7 THRU NEW ROOF PENETRATION PER MANUFACTURER'S RECOMMENDATIONS, SEE SCHEDULE ON SHEET M3. INSTALL NEW EXHAUST DUCT UP AND CONNECT TO NEW 24" TALL INSULATED ROOF CURB. COORDINATE WITH ROOFING CONTRACTOR TO INSTALL NEW CURB. COORDINATE WITH ELECTRICAL AND DDC CONTRACTOR TO RUN NEW WIRES THRU CURB. PROVIDE STARTUP SHEET WITH CLOSEOUT DOCUMENTS.
5. INSTALL NEW DEHUMIDIFICATION UNIT DHU-1,2 & 3 IN SUPPLY ROOM VAULTS PER MANUFACTURER'S RECOMMENDATIONS. UNITS TO BE SUSPENDED FROM VAULT CEILING ~12". INSTALL WITH PROPERLY SIZED DRAIN PAN. ROUTE GRAVITY CONDENSATE DRAIN TO FLOOR DRAIN, SECURE TO WALL. INSTALL DRAIN LINE FROM DRAIN PAN AND CONNECT TO UNIT CONDENSATE LINE.
6. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS (2) NATURAL GAS TANKLESS WATER HEATERS TWH-4 & TWH-5, SEE SCHEDULE ON SHEET M3. EXTEND EXISTING GAS, WATER, INTAKE, VENT AND CONDENSATE PIPING AS REQUIRED AS SHOWN IN DETAIL ON SHEET M3. CONNECT TO EXISTING MASTER WATER HEATER AND PROGRAM PER MANUFACTURER. GAS, WATER, INTAKE, VENT AND CONDENSATE PIPING FOR TWH-4 ARE EXISTING, EXTEND FROM VALVE/CAP TO NEW UNIT AS REQUIRED.
7. INSTALL NEW 2" INSULATION ON EXISTING MAIN SUPPLY DUCTS ABOVE OFFICES 104, 104A, 104B, 106, 106A & 106B. INSTALL NEW 2" INSULATION ON SUPPLY & RETURN DUCT TRANSITIONS COMING OFF EXISTING RTU-1.
8. MODIFY EXISTING SUPPLY DUCT, RETURN DUCT & DUCT TRANSITIONS AT RTU-3 TO ACCOMMODATE NEW WALL. COORDINATE WITH MASONS TO INSTALL NEW RETURN DUCT TRANSITION AS REQUIRED INTO NEW MASONRY WALL. INSTALL FIRE DAMPER ON RETURN AT MASONRY WALL. INSTALL NEW WALL MOUNTED RETURN GRILLE LOUVERS SIMILAR TO TITUS 350RL, SIZE AS REQUIRED. FIRE CAULK ALL PENETRATIONS.
9. EXTEND EXISTING SUPPLY DUCT INTO NEW LACTATION ROOM AS REQUIRED. INSTALL NEW SUPPLY DIFFUSER AS SHOWN.
10. INSTALL (4) NEW GRAVITY INTAKE HOODS PER MANUFACTURER'S RECOMMENDATIONS, SEE SCHEDULE ON SHEET M3. COORDINATE WITH ROOFING CONTRACTOR TO INSTALL NEW ROOF CURB. STUB NEW METAL DUCT INTO SUPPLY ROOM WITH NEW GRAVITY DAMPER D-1.
11. COORDINATE WITH GC TO INSTALL LOUVER ON THIS DOOR FOR EXHAUST FAN MAKEUP AIR.
12. INSTALL NEW EXHAUST FANS EF-1, EF-2, & EF-3 PER MANUFACTURER'S RECOMMENDATIONS ON EXISTING CURB, SEE SCHEDULE ON SHEET M3. INSTALL CURB ADAPTER AS REQUIRED TO UTILIZE EXISTING CURB. COORDINATE WITH ELECTRICAL AND DDC CONTRACTOR TO RUN NEW WIRES THRU CURB. PROVIDE STARTUP SHEET WITH CLOSEOUT DOCUMENTS.



1 / M2 MECHANICAL PLAN
SCALE: 3/32" = 1'-0"

GENERAL MECHANICAL NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL CEILING/WALL ACCESS PANELS IN APPROPRIATE LOCATIONS AS REQUIRED FOR VALVES, FIRE DAMPERS, OR ANY MECHANICAL EQUIPMENT NEEDING ACCESS.
2. INSTALL ALL DUCT PER CURRENT SMACNA REQUIREMENTS. ALL BRANCH DUCTS MUST INCLUDE TAKEOFFS PER CURRENT SMACNA REQUIREMENTS.
3. INSTALL NEW DUCT INSULATION PER SPECIFICATIONS.
4. ALL SUPPLY, RETURN & DOMESTIC PIPING TO BE INSULATED, SEE SPECIFICATIONS.
5. INSTALL NEW BALANCING DAMPER ON ALL SUPPLY DUCT BRANCHES UNLESS OTHERWISE NOTED ON GRD SCHEDULE. INSTALL UPSTREAM FROM FLEXIBLE DUCT AND BE A LOCKABLE TYPE.
6. SEAL ALL DUCT SEAMS AND JOINTS PER SPECIFICATIONS.
7. FIRE CAULK ALL PENETRATIONS THRU FIRE WALLS, CEILINGS AND FLOORS. REFER TO SHEET G1 FOR FIRE WALL LOCATIONS.
8. PERFORM AIR AND WATER TEST AND BALANCE PER SPECIFICATIONS.
9. CONTRACTOR TO COORDINATE ALL NEW EQUIPMENT STARTUP AND TESTING. PROVIDE ALL TRAINING PER SPECIFICATIONS.
10. MECHANICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR/DDC CONTRACTOR FOR SUPPLY DIFFUSER, RETURN GRILLE AND EQUIPMENT LOCATIONS.
11. COORDINATE THE INSTALLATION OF NEW PIPING WITH NEW PLUMBING PIPING, ELECTRICAL CONDUIT & DDC WIRING.
12. CONTRACTOR TO MEET ALL EQUIPMENT CLEARANCES. ANY CHANGES TO EQUIPMENT MUST MEET ANY NEW CLEARANCE REQUIREMENTS.

LEGEND

- MECHANICAL DEMO
- NEW HOT WATER HEATING SUPPLY
- NEW HOT WATER HEATING RETURN
- EXISTING HOT WATER HEATING SUPPLY
- EXISTING HOT WATER HEATING RETURN
- NEW SUPPLY DUCT
- NEW RETURN DUCT
- EXISTING SUPPLY DUCT
- EXISTING RETURN DUCT
- DDC LONBUS COMMUNICATION WIRE
- R1 800 — EXISTING RETURN AIR GRILLE (DESIGNATION & VOLUM
- S1 800 — EXISTING SUPPLY AIR DIFFUSER (DESIGNATION & VOLU
- R1 800 — RETURN AIR GRILLE (DESIGNATION & VOLUME)
- S1 800 — SUPPLY AIR DIFFUSER (DESIGNATION & VOLUME)
- EXHAUST FAN INLINE
- LOCKABLE BALANCE DAMPER

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CONSTRUCTION	28 APR 2023
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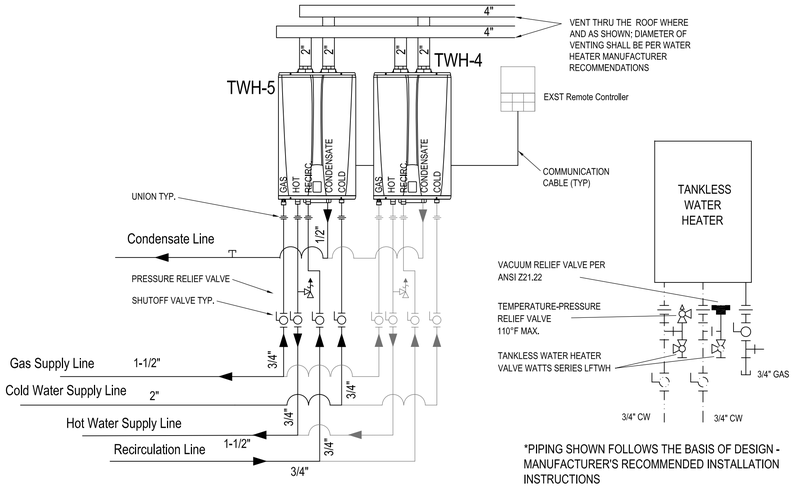
SHEET
MECHANICAL HVAC PLAN
M2.0



*PIPING SHOWN FOLLOWS THE BASIS OF DESIGN - MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS

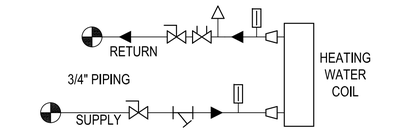
1 / M3 TANKLESS WATER HEATER DETAIL
SCALE: N.T.S.

HYDRONIC PIPING DETAIL NOTES:

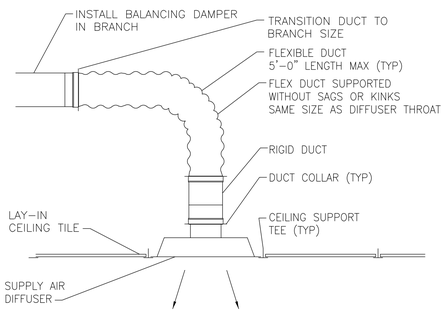
1. INSTALL ALL TEMPERATURE GAUGES AS SHOWN. GAUGES TO BE VISIBLE FROM A NORMAL INSPECTION LOCATION.
2. PIPE CONTROL VALVE TO NORMALLY OPEN THRU HEATING COIL IN CASE OF FAILURE.
3. INSTALL REDUCERS AT CONTROL VALVES AS REQUIRED.
4. DELETE REDUCERS AT COILS IF COIL CONNECTION IS SAME AS PIPE SIZE.
5. INSTALL UNIONS AT ALL PUMPS UNLESS PUMP IS FLANGED.
6. INSTALL MANUAL AIR VENT AT HIGH POINT AS SHOWN.
7. LABEL ALL EQUIPMENT AND HVAC/DOMESTIC PIPING. SHOW FLOW DIRECTION ON PIPING. SIZE PER SPECIFICATION.
8. INSTALL INSULATION ON ALL HYDRONIC & DOMESTIC HOT WATER PIPING. SEE SPECIFICATIONS FOR THICKNESS.
9. COORDINATE WITH COIL MANUFACTURER FOR HEATING COIL PIPE SIZES.
10. INSTALL ACCESS PANELS TO ALL PIPING EQUIPMENT BEING CONCEALED.

LEGEND

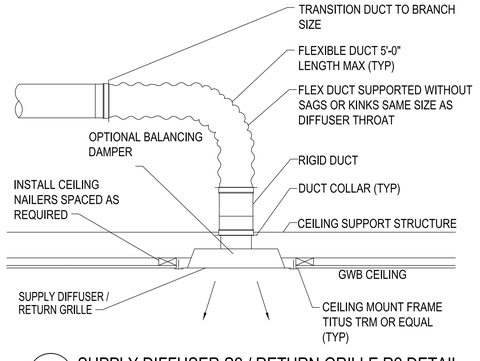
- NEUTRALIZING KIT
- SHUTOFF VALVE
- UNION
- REDUCER AS REQUIRED
- PUMP
- PRESSURE GAUGE
- PRESSURE RELIEF/SAFETY VALVE
- MANUAL AIR VENT @ HIGH POINT
- TEMPERATURE GAUGE
- TEMP SENSOR BY DDC CONTRACTOR
- CALIBRATED BALANCING VALVE
- GAS VALVE
- END CAP
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- ACTUATOR BY DDC CONTRACTOR
- DRAIN VALVE W/ CAP
- CHECK VALVE
- STRAINER w/ BLOW OFF VALVE
- POINT OF NEW CONNECTION
- EXISTING EQPM & PIPING
- NEW PIPING
- NEW EQUIPMENT



6 / M3.0 UNIT HEATER & CABINET UNIT HEATER PIPING DETAIL
SCALE: NO SCALE



2 / M3.0 SUPPLY DIFFUSER S1 DETAIL
SCALE: NO SCALE



3 / M3.0 SUPPLY DIFFUSER S2 / RETURN GRILLE R2 DETAIL
SCALE: NO SCALE

TANKLESS WATER HEATER SCHEDULE

MARK	SELECTION BASED ON		INPUT (MBH)	E.W.T °F	L.W.T. °F	GPM	HEAT EXCHANGER	WEIGHT (LBS)	MOUNTING	ELECTRICAL DATA				REMARKS
	MFR	MODEL								WATTS	VOLTAGE	PH	HZ	
TWH-4	NAVIEN	NPE-240A	199	50	117	5.6	S.S.	82	WALL	200	115V	1	60	READY LINK CABLES
TWH-5	NAVIEN	NPE-240A	199	50	117	5.6	S.S.	82	WALL	200	115V	1	60	READY LINK CABLES

DEHUMIDIFIER SCHEDULE

MARK	SERVING	MFR	MODEL	CFM	WATER REMOVAL	ELECTRICAL DATA					NOTES
						WATTS	AMPS	VOLTAGE	PH	HZ	
DHU-1	SUPPLY VAULT	QUEST	MODEL 70	150	70 Pints/Day	680	5.1A	115V	1	60	PROVIDE W/ OPTIONAL MERV 13 FILTER & HANG KIT
DHU-2	SUPPLY VAULT	QUEST	MODEL 70	150	70 Pints/Day	680	5.1A	115V	1	60	PROVIDE W/ OPTIONAL MERV 13 FILTER & HANG KIT
DHU-3	SUPPLY VAULT	QUEST	MODEL 70	150	70 Pints/Day	680	5.1A	115V	1	60	PROVIDE W/ OPTIONAL MERV 13 FILTER & HANG KIT

GRILLES, REGISTERS, DIFFUSERS, HOODS & DAMPERS

Mark No.	Type	Unit Size	Connection Size	Design CFM	Mounting	Pattern	Throw @ 50 fpm	P.D.	Material	Finish	Remarks
S1	SUPPLY DIFFUSER	24"x24"	SEE PLANS	SEE PLANS	LAY-IN	4-WAY	10'	.03	STEEL	WHITE	TITUS TMS, DAMPER IN BRANCH
S2	SUPPLY DIFFUSER	12"x12"	SEE PLANS	SEE PLANS	DRYWALL W/TRIM FRAME	4-WAY	10'	.03	ALUM.	WHITE	TITUS TMS, W/ OPTIONAL DAMPER & TRM FRAME
R1	CEILING RETURN	24"x24"	SEE PLANS	SEE PLANS	LAY-IN	--------	--------	--------	ALUM.	WHITE	TITUS 50F W/ SRG ADAPTER
R2	CEILING RETURN	24"x24"	SEE PLANS	SEE PLANS	DRYWALL W/TRIM FRAME	--------	--------	--------	ALUM.	WHITE	TITUS 50F W/ SQUARE TO ROUND ADAPTER, TRM FRAME & OPTIONAL DAMPER
E1	CEILING EXHAUST	12"x12"	Ø8	SEE PLANS	DRYWALL W/TRIM FRAME	--------	--------	--------	ALUM.	WHITE	TITUS 50F W/ SQUARE TO ROUND ADAPTER, TRM FRAME & OPTIONAL DAMPER
E2	CEILING EXHAUST	24"x24"	Ø16	1250	LAY-IN	--------	--------	--------	ALUM.	WHITE	TITUS 50F W/ SQUARE TO ROUND ADAPTER, & OPTIONAL BALANCE DAMPER
GH-1	GRAVITY INTAKE HOOD	MODEL 18	18"x18"	1900	CURB	--------	--------	--------	ALUM.	MILL	GREENHECK GRSI, GRAVITY DAMPER IN DUCT & 24" TALL INSULATED ROOF CURB
GH-2	GRAVITY INTAKE HOOD	MODEL 12	12"x12"	730	CURB	--------	--------	--------	ALUM.	MILL	GREENHECK GRSI, GRAVITY DAMPER IN DUCT & 24" TALL INSULATED ROOF CURB
D-1	BACKDRAFT DAMPER	AS REQ'D	AS REQ'D	-	DUCT	--------	--------	--------	ALUM	MILL	GREENHECK EM-40

EXHAUST FAN

MARK	LOCATION	SERVING	SELECTION BASED ON 0.375 SP				MOTOR				NOTES
			MFR	MODEL	CFM	RPM	PHASE	VOLTAGE	HERTZ	HP	
EF-1	RM 130A (ON ROOF)	MALE SHOWER ROOM	GREENHECK	G-095	800	1725	1	120	60	1/6	DIRECT DRIVE, NOTES 2,4,5
EF-2	RM 129 (ON ROOF)	FEMALE LATRINE	GREENHECK	G-090	630	1725	1	120	60	1/10	DIRECT DRIVE, NOTES 2,4,5
EF-3	RM 130 (ON ROOF)	MALE LATRINE	GREENHECK	G-095	840	1725	1	120	60	1/6	DIRECT DRIVE, NOTES 2,4,5
EF-4	RM 129B (ON ROOF)	FEMALE SHOWER ROOM	GREENHECK	G-095	800	1725	1	120	60	1/6	DIRECT DRIVE, NOTES 1,2,3,4,5
EF-5	RM 115 (ON ROOF)	SUPPLY ROOM	GREENHECK	G-160	1900	860	1	120	60	1/4	DIRECT DRIVE, NOTES 1,2,3,4,5
EF-6	RM 117 (ON ROOF)	SUPPLY ROOM	GREENHECK	G-095	730	1550	1	120	60	1/8	DIRECT DRIVE, NOTES 1,2,3,4,5
EF-7	RM 118 (ON ROOF)	SUPPLY ROOM	GREENHECK	G-160	1900	860	1	120	60	1/4	DIRECT DRIVE, NOTES 1,2,3,4,5
EF-8	RM 120 (ON ROOF)	SUPPLY ROOM	GREENHECK	G-160	1900	860	1	120	60	1/4	DIRECT DRIVE, NOTES 1,2,3,4,5

NOTES: 1. NEW ROOF CURB
2. VARI-SPEED FAN CONTROLLER
3. NEW BACKDRAFT DAMPER
4. NEMA RATED DISCONNECT SWITCH
5. BIRD SCREEN

UNIT HEATER SCHEDULE

MARK	SERVING	MFR	MODEL	MBH	GPM	CFM	EAT / LAT (°F)	ELECTRICAL DATA					NOTES
								HP	AMPS	VOLTAGE	PH	HZ	
UH-1 thru UH-10	MALE SHOWER RM	DAIKEN	UDH-59	37	3.7	1150	60 / 85	1/10	1.3A	115V	1	60	INCLUDE OPTIONAL FACTORY MOTOR STARTER

CABINET UNIT HEATER SCHEDULE

MARK	SERVING	MFR	MODEL	MBH	CFM	ROWS	GPM	ELECTRICAL DATA					NOTES
								HP	AMPS	VOLTAGE	PH	HZ	
CUH-4	MALE SHOWER RM	MODINE	CW00307ALL*130P00	15.1	195	1	2.3	0.03	0.7A	115V	1	60	LOW SPEED, WALL MOUNTED ARRANGEMENT 07 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS
CUH-6	FEMALE LATRINE	MODINE	CW00458ALL*130P00	21.0	270	1	3.0	0.05	1.05A	115V	1	60	LOW SPEED, CEILING MOUNTED ARRANGEMENT 58 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS
CUH-7	FEMALE SHOWER RM	MODINE	CW00307ALL*130P00	15.1	195	1	2.3	0.03	0.7A	115V	1	60	LOW SPEED, WALL MOUNTED ARRANGEMENT 07 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS
CUH-8	MALE LATRINE	MODINE	CW00458ALL*130P00	21.0	270	1	3.0	0.05	1.05A	115V	1	60	LOW SPEED, CEILING MOUNTED ARRANGEMENT 58 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS
CUH-9	VESTIBULE B	MODINE	CW00258ALL*130P00	9.5	150	1	1.3	0.03	0.7A	115V	1	60	LOW SPEED, CEILING MOUNTED ARRANGEMENT 58 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS
CUH-10	VESTIBULE C	MODINE	CW00258ALL*130P00	9.5	150	1	1.3	0.03	0.7A	115V	1	60	LOW SPEED, CEILING MOUNTED ARRANGEMENT 58 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS
CUH-11	VESTIBULE D	MODINE	CW00258ALL*130P00	9.5	150	1	1.3	0.03	0.7A	115V	1	60	LOW SPEED, CEILING MOUNTED ARRANGEMENT 58 W/ PERMA-LAP FRAME, PROVIDE COLOR OPTIONS

FIRE DAMPER SCHEDULE (BEARING UL LABEL)

TAG	*QUANT.	LOCATION	SUPPLY/RETURN	SERVICING	DESCRIPTION	SIZE (W X H)	MFG/MODEL
FD-1	1	AT MECH ROOM WALL	SUPPLY	2ND FLR CLASSROOMS	CURTAIN NOT IN AIRSTREAM 165° F	SEE PLAN	NATIONAL CONTROLLED AIR, INC., TYPE B; PROVIDE THERMAL BLANKET AS NEEDED

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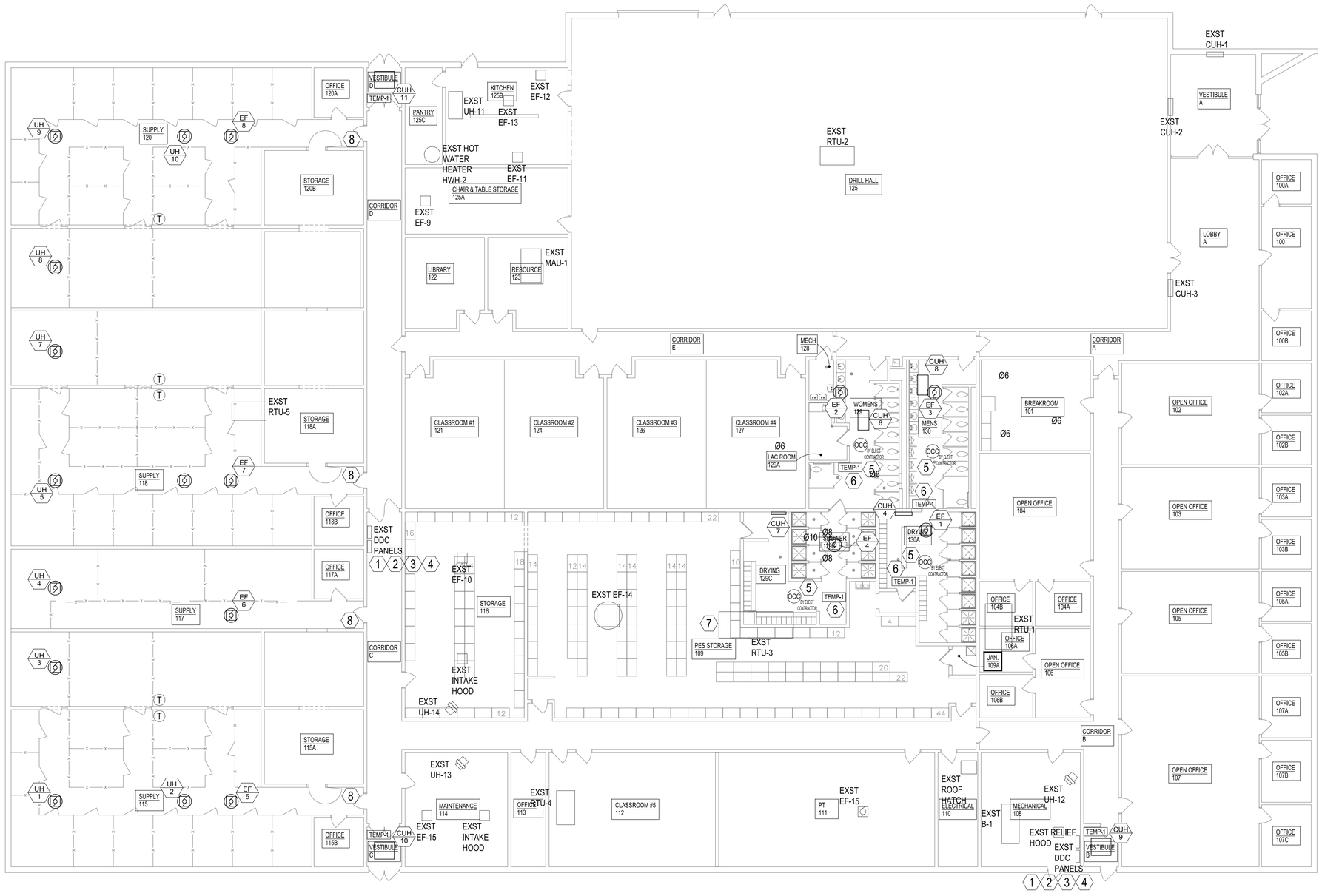
SHEET MECHANICAL SCHEDULES & DETAILS
M3.0

ENERGY MANAGEMENT PLAN NOTES:

1. REFER DDC SCHEMATIC ON SHEET M5 FOR ADDITIONAL DDC POINTS/EQUIPMENT. COORDINATE WITH MECHANICAL CONTRACTOR FOR DDC EQUIPMENT LOCATIONS. COORDINATE WITH ELECTRICAL CONTRACTOR TO INSTALL MECHANICAL EQUIPMENT RELAYS & SENSORS.
2. INSTALL NEW DDC ENCLOSURE ENC-1 AS REQUIRED. CONTRACTOR MAY USE EXISTING DDC CONTROLLERS IF SPACE ALLOWS. REFER TO DDC EQUIPMENT ELEVATION DETAIL ON ENERGY MANAGEMENT SHEET M5. ALL DDC POINTS TO BE LOCATED ON AS-BUILT CONTROL DRAWINGS. SUBMIT WITH FINAL CLOSEOUT DOCUMENTS. INCLUDE A COPY IN DDC ENCLOSURE.
3. INSTALL NEW 3/4" CONDUIT FROM ANY NEW DDC ENCLOSURE DDC-1 TO EXISTING DDC CONTROLLER IN BUILDING. INSTALL NEW LONBUS COMMUNICATION WIRE IN CONDUIT AND CONNECT TO EXISTING DDC SYSTEM. SEE SPECIFICATIONS FOR CORRECT WIRE TYPE.
4. CONTRACTOR TO UPDATE EXISTING DDC LONWORKS BMS TO INCLUDE NEW DDC EQUIPMENT ON THIS PROJECT. UPDATE FRONT END INTERFACE TO INCLUDE ALL NEW AREAS OF WORK. REFER TO SPECIFICATIONS.
5. COORDINATE WITH ELECTRICAL CONTRACTOR TO CONNECT NEW EXHAUST FAN TO 24V AUXILIARY OUTPUT ON LIGHTING OCCUPANCY SENSOR. INSTALL NEW DPDT RELAY, INPUT FROM EACH LIGHTING OCCUPANCY IN THE MENS LATRINE, WOMENS LATRINE, MENS SHOWER ROOM & WOMENS SHOWER ROOM , OUTPUT TO ENABLE/DISABLE THE EXHAUST FAN AND TO THE DDC SYSTEM FOR STATUS.
6. INSTALL NEW FLUSH MOUNTED SPACE TEMPERATURE SENSOR TEMP-1 IN THIS LOCATION. INSTALL NEW CONDUIT IN EXISTING WALL AS REQUIRED.
7. RELOCATE EXISTING DDC EQUIPMENT TO OPPOSITE SIDE OF SUPPLY DUCT TO AVOID NEW MASONRY WALL. INSTALL NEW WIRING AS REQUIRED TO EXTEND TO NEW LOCATION.
8. INSTALL (4) NEW LOW VOLTAGE EXHAUST FAN OVERRIDE SWITCH IN THIS LOCATION.

GENERAL ENERGY MANAGEMENT NOTES:

1. PRIOR TO ANY INSTALLATION OF DDC EQUIPMENT OR DDC WIRING, CONTRACTOR SHALL REQUEST A DDC PRECONSTRUCTION MEETING WITH DMVA ENGINEERING TO DISCUSS CONSTRUCTION SCHEDULING, PRECISE DDC EQUIPMENT LOCATIONS, STARTUPS, LABELING PROCEDURES, AND COMMISSIONING.
2. ALL DDC PROGRAMMING / SOURCE CODE INCLUDING ANY CUSTOM USER DEFINED DEVICES OR UDD ALONG WITH ANY SOFTWARE NECESSARY TO RUN THE SYSTEM TO BE TURNED OVER TO DMVA DDC TECHNICIAN UPON PROJECT COMPLETION.
3. DDC CONTRACTOR TO INCLUDE 8 HOURS OF DDC COMMISSIONING WITH IN-HOUSE DDC / MECHANICAL TECHNICIAN.
4. ROUTE ALL DDC CONTROL WIRES PER SCHEDULE AND SPECIFICATIONS.
5. REFER TO DDC SCHEMATIC THIS SHEET FOR ADDITIONAL END DEVICES NOT SHOWN ON PLANS.
6. CONTRACTOR TO INSTALL A MINIMUM 3/4" CONDUIT FOR ALL DDC WIRING. CONTRACTOR IS ALLOWED TO INSTALL J-HOOKS 4' O.C. FOR DDC CONTROL WIRING ONLY IN AREAS ABOVE A SUSPENDED CEILING. ALL CONDUIT IN WALLS TO BE STUBBED INTO CEILING SPACE.
7. CONTRACTOR SHALL PULL ALL DDC WIRING AS SHOWN ON DDC FLOOR PLAN AND DDC EQUIPMENT SCHEDULE. ALL WIRES SHALL BE LABELED WITH A LABEL MAKER APPROVED BY DMVA ENGINEERING. NO HAND WRITTEN LABELS WILL BE ALLOWED. ALL LABELS LOCATED IN ENCLOSURE ENC-1 & 2 MUST BE PLACED 6" DOWN ON WIRE ONCE INSIDE THE ENCLOSURE, DO NOT LOCATE LABEL AT THE END OF WIRE.
8. ALL INPUT/OUTPUT CONTROL WIRES TO BE LON RATED, SEE SPECIFICATIONS.
9. DDC SEQUENCE AND PROGRAMMING WILL BE COMPLETED BY A DMVA APPROVED SUBCONTRACTOR, SEE SPECIFICATIONS.
10. INSTALL TEMPERATURE SENSORS, TEMP-1, 60" AFF.
11. INSTALL OCCUPANCY SENSORS, OCC-1, 6" FROM CEILING.
12. INSTALL ALL OAT-1 ON NORTH FACING EXTERIOR WALL, MAKE WEATHERTIGHT
13. LABEL ALL DDC EQUIPMENT TO CORRESPOND TO DDC SCHEMATIC.
14. PROVIDE AND INSTALL ALL END DEVICES SHOWN ON PLANS, DDC SCHEMATIC AND DETAILS.
15. COORDINATE WITH ELECTRICAL TO INSTALL NEW RELAYS. ELECTRICAL CONTRACTOR WILL INSTALL J-BOX FOR NEW RELAYS TO MOUNT ON.



1 / M4 ENERGY MANAGEMENT PLAN
SCALE: 3/32" = 1'-0"

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DESIGNED	BOK
DRAWN	BOK
CHECKED	KMM
APPROVED	BAB

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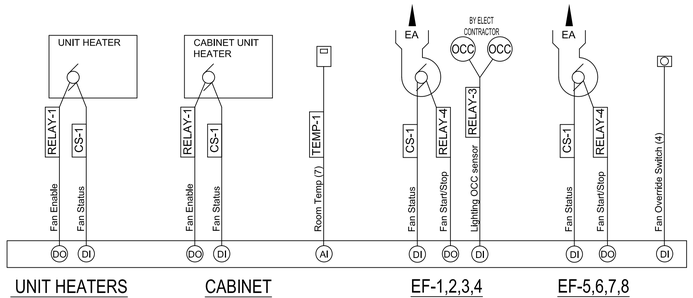
SHEET
ENERGY MANAGEMENT PLAN
M4.0

DDC SCHEMATIC NOTES:

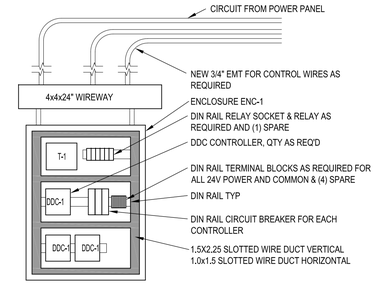
1. INSTALL ADDITIONAL PROGRAMMABLE CONTROLLERS AS REQUIRED FOR ALL MECHANICAL EQUIPMENT. PROVIDE PRELIMINARY AS-BUILT CONTROL DRAWINGS PRIOR TO CONSTRUCTION.
2. REFER TO ENERGY MANAGEMENT PLAN FOR ALL DDC SENSOR AND EQUIPMENT LOCATIONS.
3. REFER TO ENERGY MANAGEMENT SHEETS FOR ADDITIONAL BMS SEQUENCE OF OPERATIONS.
4. INDIVIDUAL CURRENT STATUS RELAY NOT REQUIRED IF CONTROL RELAY PROVIDES CURRENT STATUS.
5. LOCAL OCCUPANCY SWITCHES NOT CONNECTED TO BMS WILL NOT REQUIRE CURRENT STATUS SENSOR FOR EQUIPMENT IT CONTROLS.
6. ALL EQUIPMENT RUN OFF OCCUPANCY SWITCHES CONNECTED TO BMS WILL REQUIRE CURRENT STATUS SENSOR FOR EQUIPMENT IT CONTROLS.
7. INSTALL ADDITIONAL CONTROL RELAYS AS REQUIRED FOR MULTI STAGE EQUIPMENT REFER TO MECHANICAL SHEETS FOR MORE DETAIL.

GENERAL ENERGY MANAGEMENT NOTES:

1. PRIOR TO ANY INSTALLATION OF DDC EQUIPMENT OR DDC WIRING, CONTRACTOR SHALL REQUEST A DDC PRECONSTRUCTION MEETING WITH DMVA ENGINEERING TO DISCUSS CONSTRUCTION SCHEDULING, PRECISE DDC EQUIPMENT LOCATIONS, STARTUPS, LABELING PROCEDURES, AND COMMISSIONING.
2. REFER TO DDC EQUIPMENT SCHEDULE THIS SHEET.
3. ROUTE ALL DDC CONTROL WIRES PER SCHEDULE AND SPECIFICATIONS.
4. REFER TO DDC SCHEMATIC THIS SHEET FOR ADDITIONAL END DEVICES NOT SHOWN ON PLANS.
5. CONTRACTOR TO INSTALL A MINIMUM 3/4" CONDUIT FOR ALL DDC WIRING. CONTRACTOR IS ALLOWED TO INSTALL J-HOOKS 4' O.C. FOR DDC CONTROL WIRING ONLY IN AREAS ABOVE A SUSPENDED CEILING. ALL CONDUIT IN WALLS TO BE STUBBED INTO CEILING SPACE.
6. CONTRACTOR SHALL PULL ALL DDC WIRING AS SHOWN ON DDC FLOOR PLAN AND DDC EQUIPMENT SCHEDULE. ALL WIRES SHALL BE LABELED WITH A LABEL MAKER APPROVED BY DMVA ENGINEERING. NO HAND WRITTEN LABELS WILL BE ALLOWED. ALL LABELS LOCATED IN ENCLOSURE ENC-1 & 2 MUST BE PLACED 6" DOWN ON WIRE ONCE INSIDE THE ENCLOSURE, DO NOT LOCATE LABEL AT THE END OF WIRE.
7. ALL INPUT/OUTPUT CONTROL WIRES TO BE LON RATED, SEE SPECIFICATIONS.
8. DDC SEQUENCE AND PROGRAMMING WILL BE COMPLETED BY A DMVA APPROVED SUBCONTRACTOR, SEE SPECIFICATIONS.
9. CONTRACTOR TO PURCHASE (1) BUILDING MANAGEMENT WORKSTATION AND TURN OVER TO DMVA ENGINEERING. SEE SPECIFICATIONS FOR FURTHER DETAIL.
10. INSTALL TEMPERATURE SENSORS, TEMP-1, 60" AFF.
11. INSTALL OCCUPANCY SENSORS, OCC-1, 6" FROM CEILING.
12. INSTALL ALL OAT-1 ON NORTH FACING EXTERIOR WALL, MAKE WEATHERTIGHT
13. PRINT COPY OF DDC WIRE COLOR SCHEDULE AND SCHEMATIC AND SECURE TO THE BACK OF THE DOOR IN ENC-1 & 2. LABEL ALL MECHANICAL EQUIPMENT TO CORRESPOND TO DDC SCHEMATIC.
14. PROVIDE AND INSTALL ALL END DEVICES SHOWN ON PLANS, DDC SCHEMATIC AND DETAILS.
15. COORDINATE WITH ELECTRICAL TO INSTALL NEW RELAYS. ELECTRICAL CONTRACTOR WILL INSTALL J-BOX FOR NEW RELAYS TO MOUNT ON.
16. RELAYS FOR EXHAUST FANS O BE LOCATED IN ELECTRICAL CLOSET. COORDINATE WITH ELECTRICAL.



1 M5.0 DDC SCHEMATIC
SCALE: NO SCALE



2 M5.0 DDC EQUIPMENT ENCLOSURE DETAIL
SCALE: 1" = 1'-0"

SPACE TEMPERATURE SET POINTS (ADJUSTABLE)
OCCUPIED COOLING: 74.0 F
OCCUPIED HEATING: 70.0 F
UNOCCUPIED COOLING: 80.0 F
UNOCCUPIED HEATING: 62.0 F

SEQUENCE OF OPERATION FOR EQUIPMENT

GENERAL
OCCUPANCY SENSORS (OCC-1) & AUXILLARY OUTPUT ON LIGHTING OCCUPANCY SENSORS WILL HAVE AN ADJUSTABLE SOFTWARE SET POINT (IN MINUTES) TO TELL THE CONTROL SYSTEM THE DESIRED DURATION OF THE OCCUPIED MODE EACH TIME THE SENSOR IS ACTIVATED.
MECHANICAL COOLING AND OUTDOOR AIR DAMPERS WILL NOT BE UTILIZED WITHOUT PROOF OF SUPPLY FAN OPERATION THRU THEIR RESPECTIVE CURRENT SENSING SWITCHES.

CABINET UNIT HEATERS (CUH-4,6,7,8,9,10 & 11)
SPACE TEMPERATURE WILL BE DIRECTLY CONTROLLED BY THE ASSOCIATED UNIT HEATER FAN.

DURING OCCUPIED MODE WILL BE INITIATED THRU EITHER THE BUILDINGS OCCUPANCY SCHEDULE, AS SET THRU THE WEB SERVER USER INTERFACE, OR BY THE BUILDINGS COMMON AREA OCCUPANCY SENSOR (OCC-1). DURING THIS MODE, THE UNIT SUPPLY FAN WILL ENERGIZE UNTIL THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SET POINT.

DURING UNOCCUPIED MODE A CALL FOR HEATING WILL CAUSE THE UNIT SUPPLY FAN TO BE ENERGIZED UNTIL THE SPACE TEMPERATURE RISES THREE (3.0) DEGREES F ABOVE THE UNOCCUPIED HEATING SET POINT.

UNIT HEATERS (UH-1 thru UH-10)
SPACE TEMPERATURE WILL BE DIRECTLY CONTROLLED BY THE ASSOCIATED UNIT HEATER FAN.

DURING OCCUPIED MODE WILL BE INITIATED THRU EITHER THE BUILDINGS OCCUPANCY SCHEDULE, AS SET THRU THE WEB SERVER USER INTERFACE, OR BY THE BUILDINGS COMMON AREA OCCUPANCY SENSOR (OCC-1). DURING THIS MODE, THE UNIT SUPPLY FAN WILL ENERGIZE UNTIL THE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SET POINT.

DURING UNOCCUPIED MODE A CALL FOR HEATING WILL CAUSE THE THE UNIT SUPPLY FAN TO BE ENERGIZED UNTIL THE SPACE TEMPERATURE RISES THREE (3.0) DEGREES F ABOVE THE UNOCCUPIED HEATING SET POINT.

EXHAUST FAN (EF-1,2,3,4)
EXHAUST FAN WILL BE ENABLED THRU NETWORK COMMUNICATION CONTROLLED RELAY WHENEVER THE LOCAL OCCUPANCY SENSOR IS ACTIVATED.

EXHAUST FAN (EF-5,6,7,8)
WHEN OUTDOOR AIR CONDITIONS ARE APPROPRIATE AN ECONOMIZER CYCLE WILL BE UTILIZED FOR FREE COOLING. THE EXHAUST FAN WILL BE MODULATED TO MAINTAIN THE OCCUPIED COOLING SET POINT. DURING THIS MODE THE SUPPLY AIR WILL NOT BE ALLOWED TO FALL BELOW A LOW LIMIT OF 55.0 F.
WHEN EXHAUST FAN OVERRIDE SWITCH IS ACTIVATED, ENABLE CORRESPONDING EXHAUST FAN FOR A PERIOD OF (2) HOURS (ADJUSTABLE).

ALARMS

AN ALARM CONDITION WILL BE REPORTED TO THE WEB SERVER USER INTERFACE FOR THE FOLLOWING; ALL EQUIPMENT TYPES ARE LISTED BELOW, INCLUDE ALL EQUIPMENT LISTED ON PLANS FOR EXACT QUANTITY.

LOW SPACE TEMPERATURE
HIGH SPACE TEMPERTAURE
EXHAUST FAN FAILURE (ALL)
CABINET UNIT HEATER FAN FAILURE (ALL)
UNIT HEATER FAN FAILURE (ALL)

DDC EQUIPMENT SCHEDULE

MARK	LABEL	DESCRIPTION	BASIS OF DESIGN	SERVICE	LOCATION	QTY / WIRE SIZE TO EQUIPMENT	NOTES
ENC-1	ENC-1	DDC ENCLOSURE	KELE - RET2620	DDC EQUIPMENT ENCLOSURE	MECHANICAL ROOM	-	NO SUBSTITUTIONS, STANDARD BROWN
DDC-1	DDC-1	PROGRAMMABLE CONTROLLER	SMART CONTROLS - EC240 OR CIRCON - UHC-400	DDC	DDC ENCLOSURE	-	NO SUBSTITUTIONS
DDC-2	CATNET	CATNET INTERFACE W/ LON CARD	CATNET - CLI-FT	ENC-1	ONE PER BUILDING, ENC-1	-	NO SUBSTITUTIONS
DDC-3	WEBSERVER	CATNET WEBSERVER	CATNET - HMI CH-2	ENC-1	ONE PER BUILDING, ENC-1	-	NO SUBSTITUTIONS
DDC-4	MODBUS	INTERFACE MODBUS	CATNET - CMI-485	ENC-1	DDC ENCLOSURE	-	NO SUBSTITUTIONS
T-1	T-1-ENC#	TRANSFORMER W/ OUTLET	AIR PROD. & CONTROLS - T-PB-202-0	DDC ENCLOSURE EQUIPMENT	DDC ENCLOSURE	-	
T-2	T-1-ENC#	VAV-1 TRANSFORMER	RIB - PSMN300A or PSMN500A	VAV-1 CONTROLLERS	ENCLOSURE	-	100VA FOR EACH VAV-1, W/ NEMA 1 ENCLOSURE
TEMP-1	TEMP-1-AREA	ROOM TEMPERATURE SENSOR	SAP - SAP-10K-3-B4	ROOM TEMP	SEE LAYOUT, WALL MOUNTED 60" AFF	3 CONDUCTOR / 18 GA.	18 INCHES, TEMP, AVERAGING
TEMP-2	TEMP-2-AHU# or RTU#	DUCT TEMPERATURE SENSOR	SAP - SAP-10K-3-D-18"	MIXED AIR TEMP	RETURN DUCT AFTER FRESH AIR	3 CONDUCTOR / 18 GA.	18 INCHES, TEMP, AVERAGING
TEMP-3	TEMP-3-AHU# or RTU#	PIPE TEMPERATURE SENSOR	SAP - SAP-10K-3-S	DISCHARGE AIR TEMP	SUPPLY DUCT	3 CONDUCTOR / 18 GA.	
HD-1	HD-1-AHU# or RTU#	DUCT HUMIDITY SENSOR	VERIS - HD2XVSX w/ (1) SPARE SENSOR HS2xxx	HUMIDITY	RETURN DUCT BEFORE FRESH AIR	2 CONDUCTOR / 18 GA. SHIELD, 2 CONDUCTOR / 18 GA. DC PWR, USE 16 GA. ON RUNS OVER 150FT	
OAT-1	OAT-1	OUTDOOR AIR TEMP SENSOR	SAP - SAP-10K-3-O-EU	OAT	BLDG EXTERIOR	4 CONDUCTOR / 18 GA.	(2) SINGLE POLE DOUBLE THROW 15A
CS-1	CS-1-(DEVICE NAME)	CURRENT SENSOR	ACI - A/MSCS	AHU/PUMPS/EXHAUST FANS	VARIES	3 CONDUCTOR / 18 GA.	
CO2-1	CO2-1-AHU# OR RTU#	DUCT CO2 SENSOR	VERIS - CDE	CO2	RETURN DUCT	3 CONDUCTOR / 18 GA.	
SD-1	SD-1	SMOKE DETECTOR	AIR PRODUCTS & CONTROLS - SL-2000-P	AHU/RTU	RETURN DUCT BEFORE FRESH AIR	2 CONDUCTOR / 18 GA.	
DIN RAIL	-	DIN RAIL	KELI - BAM-1000	MECHANICAL EQUIP	DDC ENCLOSURE / RTU	-	
WIRE DUCT	-	SLOTTED WIRE DUCT	IBOCO - T1E-1522W & T1E-1015W	MECHANICAL EQUIP	DDC ENCLOSURE	-	
RELAY-1	(VARIES ON DEVICE)	RELAY	RIB - RIBU1S	MECHANICAL EQUIP	VARIES	-	
RELAY-2	(VARIES ON DEVICE)	RELAY	RIB -	MECHANICAL EQUIP	VARIES	2 CONDUCTOR / 18 GA.	-
RELAY-3	(VARIES ON DEVICE)	DIN RAIL RELAY SPDT	VERIS - VMD1B-F24A w/ RELAY SOCKET VERIS - VBD1B-F	AHU/RTU/AC	DDC ENCLOSURE	2 CONDUCTOR / 18 GA.	SINGLE POLE DOUBLE THROW 2A
RELAY-4	(VARIES ON DEVICE)	RELAY	RIB - RIBX24SBA	24V INPUT, 120V OUTPUT MECH EQIP	VARIES	-	HAND, OFF, AUTO
VAV-#	VAV-#-RM#	VAV UNIT CONTROLLER	CIRCON - VAV-332-IMV	VAV UNIT	VARIES	LONBUS COMM / 2 CONDUCTOR / 18 GA. PWR, USE 16 GA. ON RUNS OVER 150FT	
DP-1	DP-1-AHU# or RTU#	DUCT PRESSURE SENSOR	ACI - A/LP2-3-10	AHU/RTU VFD	2/3 DOWN MAIN SUPPLY DUCT	2 CONDUCTOR / 18 GA.	
TBLCK	-	TERMINAL BLOCK	KELE - CDU4N	MECHANICAL EQUIP	DDC ENCLOSURE / RTU	2 CONDUCTOR / 18 GA.	
BRKR	-	CIRCUIT BREAKER FOR CONTROLLER	CBI ELECTRIC - QL-2	PROGRAMMABLE CONTROLLER	DDC ENCLOSURE / RTU	2 CONDUCTOR / 18 GA. SHIELD, 2 CONDUCTOR / 18 GA. PWR, USE 16 GA. ON RUNS OVER 150FT	
ACT-1	ACT-1-(DEVICE NAME)	DAMPER ACTUATOR	KMC CONTROLS - MEP-7552	CONTROL DAMPERS	VARIES	2 CONDUCTOR / 18 GA. SHIELD, 2 CONDUCTOR / 18 GA. PWR, USE 16 GA. ON RUNS OVER 150FT	
ACT-2	ACT-2-(DEVICE NAME)	1/2" & 3/4" VALVE ACTUATOR	KMC CONTROLS - MEP-4252V	CONTROL VALVES	VARIES	2 CONDUCTOR / 18 GA. SHIELD, 2 CONDUCTOR / 18 GA. PWR, USE 16 GA. ON RUNS OVER 150FT	
ACT-3	ACT-3-(DEVICE NAME)	1" - 3" VALVE ACTUATOR	KMC CONTROLS - MEP-4552V	CONTROL VALVES	VARIES	2 CONDUCTOR / 18 GA. SHIELD, 2 CONDUCTOR / 18 GA. PWR, USE 16 GA. ON RUNS OVER 150FT	
OCC-1	OCC-1-RM#	OCCUPANY SENSOR	WATTSTOPPER - CX100	ROOM OCCUPACNY	SEE LAYOUT, WALL MOUNTED 6" FROM CEILING	2 CONDUCTOR / 18 GA. SHIELD, 2 CONDUCTOR / 18 GA. DC PWR, USE 16 GA. ON RUNS OVER 150FT	
ACDC-1	ACDC-1	AC TO DC VOLTAGE CONVERTER	IDEC - PS5R-VA24	OCCUPACNY & HUMIDITY SENSORS	DDC ENCLOSURE		

NOTES:
1. CONTRACTOR TO FURNISH AND INSTALL MATERIALS IN SCHEDULE. WIRE SHOWN TO BE PULLED INTO ENCLOSURES / MECHANICAL EQUIPMENT AND LABELED AT EACH END.
2. SUBSTITUTIONS SHALL BE REVIEWED AND APPROVED BY DMVA ENGINEERING PRIOR TO INSTALLATION.
3. INSTALL CAT 6 DATA CABLE TO DDC ENCLOSURE W/ CATNET WEBSERVER

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
PROCUREMENT AND REAL ESTATE SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY - OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT OLYMPIA ARMORY DETROIT, MICHIGAN

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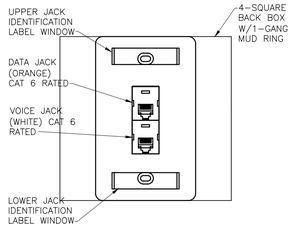
ENERGY MANAGEMENT PLAN
M5.0

ELECTRICAL LEGEND

A	GRID OR SURFACE MOUNTED LIGHTING FIXTURE, LETTER INDICATES TYPE.
B	WALL OR CEILING MOUNTED LIGHTING FIXTURE
EX	"EX" INDICATES EXISTING–TO–REMAIN LIGHTING FIXTURE
C	WALL OR CEILING MOUNTED LIGHTING FIXTURE, LETTER INDICATES TYPE.
F	CEILING MOUNTED FIXTURE
E	WALL MOUNTED FIXTURE
D	WALL MOUNTED EMERGENCY LIGHT FIXTURE, PROVIDE NUMBER OF HEADS INDICATED IN LIGHTING FIXTURE SCHEDULE
E	CEILING MOUNTED EMERGENCY LIGHT FIXTURE, PROVIDE NUMBER OF HEADS INDICATED IN LIGHTING FIXTURE SCHEDULE
X	WALL/CEILING MOUNTED EXIT LIGHTING UNIT
X	EMERGENCY LIGHT FIXTURE REMOTE HEAD CONNECT TO TYPE "F" UNIT INDICATED WITH #10AWG WIRE.
$	SINGLE POLE WALL SWITCH
$2	DOUBLE POLE WALL SWITCH
$3	3–WAY WALL SWITCH
$4	4–WAY WALL SWITCH
$D	LED DIMMER SWITCH
$T	THERMAL OVERLOAD SWITCH SUCH AS THE BUSSMAN SSU OR SSW UNIT. PROVIDE WITH BACK BOX AND CORRECTLY SIZED FUSE.
E	EXISTING 120V DUPLEX RECEPTACLE
N	NEW 120V DUPLEX RECEPTACLE, CONNECT TO CIRCUIT INDICATED
	TWO 120V DUPLEX RECEPTACLES IN A DOUBLE GANG BOX
	120V SIMPLEX RECEPTACLE
	120V GFI RECEPTACLE
WP	120V GFI RECEPTACLE WITH WEATHER PROOF COVER
	240V 2P RECEPTACLE
	SPECIAL RECEPTACLE OR CONNECTION – COORDINATE WITH EQUIPMENT SUPPLIER
EWC	ELECTRIC WATER COOLER GFI RECEPTACLE – MOUNT HORIZONTALLY BELOW THE WATER COOLER ON WALL. COORDINATE HEIGHT OF RECEPTACLE WITH PLUMBING TRADES.
CR	ROOF JOIST MOUNTED CABLE REEL. MOUNT SIMPLEX RECEPTACLE NEXT TO REEL UNIT, CONNECT TO CIRCUIT INDICATED.
TV	CABLE ANTENNA SYSTEM OUTLET (CATV) AND 120V RECEPTACLE MOUNTED AT HEIGHT INDICATED OR 20" BELOW CEILING. CONNECT RECEPTACLE TO CIRCUIT INDICATED.
	DATA JACKS (DATA DROP) LOCATION IN A DOUBLE GANG BOX WITH A SINGLE–GANG MUD RING, & TWO (2) CABLES TOTAL.
J	JUNCTION BOX
PC	PHOTO CONTROL SWITCH
	MOTOR
	NON–FUSIBLE TYPE DISCONNECT SWITCH, SIZE AS NOTED
	FUSIBLE TYPE DISCONNECT SWITCH, SIZE AS NOTED
	COMBINATION MOTOR STARTER/DISCONNECT SWITCH, FUSIBLE TYPE. SIZE AS NOTED.
	MANUAL MOTOR STARTER WITH PROVISIONS FOR LOCKING OUT HANDLE
	PUSH BUTTON STATION
	LIGHTING CONTACTOR AND ASSOCIATED EQUIPMENT
	OCCUPANCY SENSOR (x = REFER TO SENSOR SCHEDULE) ARROWS INDICATE SENSOR DIRECTION FOR DIRECTIONAL UNITS
	CIRCUIT CONNECTION & HOME RUN
ACT	ABOVE COUNTER TOP – MOUNT ITEM ABOVE COUNTER TOP BACKSPLASH. COORDINATE WITH GENERAL TRADES.
AFF	ABOVE FINISHED FLOOR
xxAS	AMPERE SWITCH, xx DENOTES SIZE
xxAF	AMPERE FUSE, xx DENOTES SIZE
S PA	SPEAKER – PUBLIC ADDRESS SYSTEM
H PA	HORN SPEAKER – PUBLIC ADDRESS SYSTEM



DATA FACEPLATE DETAIL

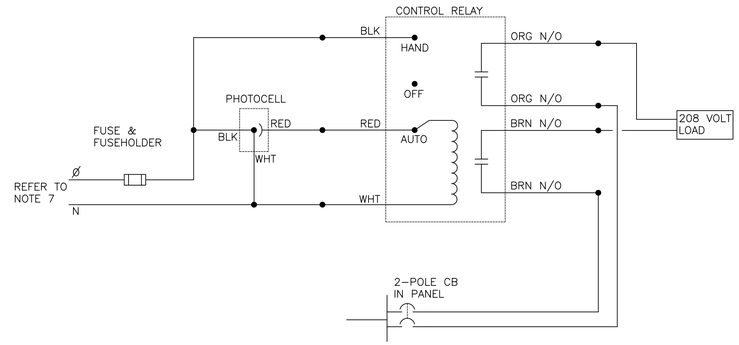
NOT TO SCALE

LIGHTING CONTROL & OCCUPANCY SENSOR SCHEDULE

SYMBOL	MOUNTING LOCATION	MANUFACTURER & CAT. NO.	TECHNOLOGY	NOTES
1	CEILING MOUNT	CURRENT LIGHTING # OMNI–IR–L–RP	INFRARED TECHNOLOGY	1,2,3
2	CEILING MOUNTED	CURRENT LIGHTING # OMNI–DT–2000–RP	DUAL TECHNOLOGY	1,2,3
3	CEILING MOUNT	CURRENT LIGHTING # LOIRWV–RP	INFRARED TECHNOLOGY	1,2,3
4	WALL MOUNT	CURRENT LIGHTING # TD300–W	DIGITAL PROGRAMMABLE TIMER	1,2,4
5	CEILING MOUNT, CORRIDOR	HUBBELL CONTROL # OMNIUS2000RP	ULTRASONIC TECHNOLOGY	1,2,3
	ASSOCIATED POWER PACKS	CURRENT LIGHTING # UVPP	UNIVERSAL POWER PACK	1,2

LIGHTING CONTROL & OCCUPANCY SENSOR SCHEDULE NOTES:
1. CONTRACTOR SHALL PROVIDE PRODUCTS FOR THE LIGHTING CONTROL SYSTEM MANUFACTURED BY HUBBELL CONTROL SOLUTIONS. PRODUCTS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED IF EQUAL IN ALL RESPECTS, OTHERWISE PROVIDE THE UNIT SPECIFIED. SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL CONTROLS INTENDED FOR INSTALLATION.
2. PROVIDE WITH LIGHTING FIXTURE CIRCUIT CONTROL RELAY (POWER PACK) AND LOW–VOLTAGE POWER SUPPLY.
3. PROVIDE WITH ISOLATED RELAY OUTPUT CONTACTS FOR CONTROL SIGNAL TO HVAC CIRCUITS.
4. SET TIMER TO SHUT–OFF AFTER 120 MINUTES.

GENERAL ELECTRICAL CONSTRUCTION NOTES (APPLIES TO ALL ELECTRICAL DRAWINGS & DETAILS):
1. SEAL ALL FIRE RATED WALL & CEILING PENETRATIONS.
2. COORDINATE LOCATIONS OF LIGHT FIXTURES WITH ALL PIPING, DUCTWORK, AND EQUIPMENT. MOUNT LIGHT FIXTURES TO ALLOW THE GREATEST POSSIBLE HEADROOM.
3. UNLESS OTHERWISE NOTED OR DETAILED, INSTALL ALL CONDUCTORS IN CONDUIT.
4. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST ACCEPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES.
5. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN EVERY POWER AND LIGHTING CONDUIT, ONE GROUNDING CONDUCTOR FOR EACH CIRCUIT.
6. ALL LIGHTING AND POWER CONDUCTORS SHALL BE 12 AWG MINIMUM.
7. MINIMUM CONDUIT SIZE SHALL BE 3/4" INTERNAL DIAMETER.
8. MC (METAL CLAD) CABLE SHALL NOT BE USED ON THIS PROJECT.
9. CONTRACTOR SHALL TRANSITION FROM PVC CONDUIT TO GALVANIZED RIGID METALLIC CONDUIT WHEN TURNING UP FROM BELOW A CONCRETE SLAB OR FROM BELOW GRADE TO ABOVE GRADE, WEATHER INDOORS OR OUTDOORS, BY INSTALLING A GALVANIZED METALLIC NINETY DEGREE ELBOW AND THEN CONTINUING ABOVE SLAB OR GRADE UTILIZING GALVANIZED RIGID METAL CONDUIT. THIS APPLIES TO ALL RACEWAYS FOR ALL SYSTEMS INCLUDING VOICE/DATA, UTILITY POWER AND/OR EMERGENCY POWER, LIGHTING, & COMMUNICATIONS SYSTEMS.
10. CONNECT ALL NEW EXIT LIGHTS AND EMERGENCY LIGHT UNITS TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHES OR OCCUPANCY SENSORS.



LIGHTING CONTROL CIRCUIT (LCC) DETAIL

LIGHTING CONTROL CIRCUIT (LCC) DETAIL NOTES:
A. COMPONENTS
1. PHOTOCELL: INTERMATIC #K4221C.
2. FUSE: BUSSMAN FNM/FNQ SERIES, SIZE AS REQUIRED FOR LOAD.
3. FUSE HOLDER: BUSSMAN BM SERIES, MOUNT IN CONTACTOR ENCLOSURE.
4. CONTROL RELAY: FUNCTIONAL DEVICES (www.FunctionalDevices.com, 800.888.5538) RIB #RIB01P30–S.
5. OVERALL ENCLOSURE–STEEL 4–11/16" JUNCTION BOX WITH BLANK COVER AND ID LABEL INDICATING "EXTERIOR LIGHTING CONTROL". MOUNT OVERALL ENCLOSURE 60" AFF IN LOCATION INDICATED ON THE PLANS.
6. REFER TO PANELBOARD SCHEDULE FOR CIRCUIT NUMBER.

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER & CAT. NO.	LAMPS	MOUNTING TYPE	MOUNTING HT.	REMARKS	NOTES
A	STRIP LED FIXTURE	CURRENT LIGHTING #MPS4–50VW–FW–EDU–GLR	W/UNIT 5000K	SURFACE MOUNT	10'–0"	120V OPERATION	1,2
B	STRIP LED FIXTURE	CURRENT LIGHTING #MPS4–50MW–CW–EDU–GLR	W/UNIT 5000K	SURFACE MOUNT	10'–0"	120V OPERATION	1,2
C	STRIP LED FIXTURE	CURRENT LIGHTING #MPS4–50HL–FW–EDU–GLR	W/UNIT 5000K	SURFACE MOUNT	10'–0"	120V OPERATION	1,2
D	STRIP LED FIXTURE	CURRENT LIGHTING #MPS4–50LW–FW–EDU–GLR	W/UNIT 5000K	SURFACE MOUNT	10'–0"	120V OPERATION	1,2
E	EMERGENCY LIGHTING 2–HEAD UNIT	DUAL–LITE #EV2I	W/UNIT	SURFACE MOUNT	---	120V OPERATION AND BATTERY BACK–UP	1,2
E2	EMERGENCY LIGHTING 2–HEAD DAMP LOCATION UNIT	DUAL–LITE #EV2DI	W/UNIT	SURFACE MOUNT	---	120V OPERATION AND BATTERY BACK–UP	1
E3	EMERGENCY LIGHTING 2–HEAD UNIT WITH REMOTE CAPABILITY	DUAL–LITE #EV4I	W/UNIT	SURFACE MOUNT	---	120V OPERATION AND BATTERY BACK–UP	1
E4	EMERGENCY LIGHTING 2–HEAD REMOTE UNIT	DUAL–LITE #EVR2	W/UNIT	SURFACE MOUNT	---	CONNECT TO ASSOCIATED EM OR EXIT LIGHT UNIT	1
F	LED 2X4 TROFFER	COLUMBIA LIGHTING #LCAT24–50XLG–R–EDU–GLR	W/UNIT 5000K	GRID MOUNT	8'–0"	120V OPERATION	1,2
G	STRIP LED FIXTURE	CURRENT LIGHTING #MPS4–50VW–CW–EDU–GLR	W/UNIT 5000K	SURFACE MOUNT	10'–0"	120V OPERATION	1,2
H	WRAPAROUND LED FIXTURE	COLUMBIA LIGHTING #CRW4–LSCS–3000–28W	W/UNIT MULTI–COLOR SETTINGS	SURFACE MOUNT	10'–0"	120V OPERATION	1,2,3
J	6" ROUND SLIM LED DOWNLIGHT	ELITE LED LIGHTING #RL675–700L–DIM10–120–27K/30K/35K/40K/50–W–RL–ACC–SLIM–1–10F	W/UNIT MULTI–COLOR SETTINGS	SURFACE MOUNT	7'–0"	120V OPERATION, ORDER WITH 10' EXTENSION CORD	
K	22" PARALLEL LED BATH FIXTURE	PROGRESS LIGHTING #P300183–009–30	W/UNIT 3000K	SURFACE MOUNT	6'–6.25"	120V OPERATION	
L	SURFACE WET LOCATION LED FIXTURE	COLUMBIA LIGHTING #LXEM4–50VW–RFA–EDU–GLR	W/UNIT 5000K	SURFACE MOUNT	8'–0"	120V OPERATION	1,2
M	LED 2X4 TROFFER	COLUMBIA LIGHTING #LCAT24–50LWG–R–EDU–GLR	W/UNIT 5000K	GRID MOUNT	8'–0"	120V OPERATION	1,2
N	EXTERIOR 16' POLE MOUNTED LED FIXTURE	FIXTURE: BEACON/CURRENT LIGHTING #VP–ST–1–36L–55–5K7–4W–UNV–A3–BLS / POLE: BEACON/CURRENT LIGHTING #RSA–B–S–16–40–B–1–B3–BLS	W/UNIT 5000K	16' POLE MOUNT	19'–0"	208V OPERATION	1,2
P	EXTERIOR 16' POLE MOUNTED LED FIXTURE	FIXTURE: BEACON/CURRENT LIGHTING #VP–1–160L–50–5K7–5QW–UNV–A3–BLS / POLE: BEACON/CURRENT LIGHTING #RSA–B–S–16–40–B–1–B3–BLS	W/UNIT 5000K	16' POLE MOUNT	19'–0"	208V OPERATION	1,2
R	EXTERIOR 16' POLE MOUNTED LED FIXTURE	FIXTURE: BEACON/CURRENT LIGHTING #VP–ST–1–36L–55–5K7–5QW–UNV–A3–BLS / POLE: BEACON/CURRENT LIGHTING #RSA–B–S–16–40–B–1–B3–BLS	W/UNIT 5000K	16' POLE MOUNT	19'–0"	208V OPERATION	1,2
S	INTERIOR HI–BAY LED FIXTURE W/OCC SENSOR	ORION/HARRIS LIGHTING "STARTLINE GEN 2" #HHSL2–436L–UNV–850–LAFG–LD40–6BDTL201	W/UNIT 5000K	CHAIN OR PENDENT MOUNT	18'–0" TO BOTTOM	120V OPERATION, ORDER WITH NEW CORD	1,2,4
X	LED EXIT LIGHT, GREEN LETTERS WITH EMERGENCY BATTERY PACK & TWO EMERGENCY LIGHTS	DUAL–LITE #EVCU–GW–I	LED W/UNIT	SURFACE MOUNT		120V OPERATION, BATTERY BACK–UP, WITH REMOTE CAPABILITY	
X2	LED EXIT LIGHT, GREEN LETTERS WITH EMERGENCY BATTERY WITH TWO LIGHT HEADS & DAMP RATED	DUAL–LITE #EVCU–GW–D4–I	LED W/UNIT	SURFACE MOUNT		120V OPERATION, BATTERY BACK–UP, WITH REMOTE CAPABILITY	
X3	LED REMOTE INTERIOR EMERGENCY LIGHT UNIT, TWO HEAD UNIT	DUAL–LITE #EVR2	LED W/UNIT	SURFACE MOUNT		CONNECT TO ASSOCIATED TYPE X EXIT LIGHT UNIT	

LIGHTING FIXTURE SCHEDULE NOTES:
1. CONTRACTOR MAY SUBSTITUTE LIGHTING FIXTURES BY OTHER MANUFACTURERS IF EQUAL IN ALL RESPECTS. SUBMIT SHOP DRAWING FOR ALL SUBSTITUTIONS.
2. PROVIDE INTERNAL SLOW BLOW FUSING IN EACH FIXTURE.
3. SET INTERNAL SWITCHES TO 3000K & 28W.
4. COORDINATE BOTTOM OF LIGHTING FIXTURE WITH THE OVERHEAD CRANE'S NEED FOR CLEARANCE (CLEAR AREA FOR CROSS BUILDING MOVEMENT).

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RENOVATE ARMORY– OLYMPIA
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DESIGNED	M.E.M.
DRAWN	B.A.B.
CHECKED	M.E.M.
APPROVED	K.S.H.

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SHEET E1

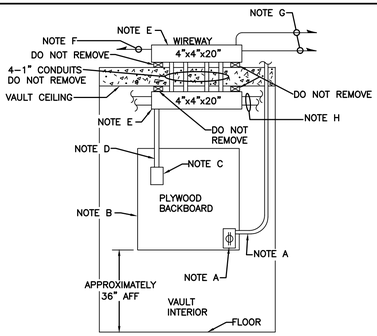
ELECTRICAL DEMOLITION PLAN NOTES

1. REMOVE THE EXISTING LIGHTING FIXTURES FROM THIS ROOM. REMOVE THE EXISTING CONDUIT AS NEEDED. REMOVE EXISTING OCCUPANCY SENSORS.
2. INSTALL TEMPORARY LIGHTING FOR THIS AREA DURING THE CONSTRUCTION PHASE. REMOVE TEMPORARY LIGHTING ONCE THE NEW LIGHTING SYSTEM IS INSTALLED AND WORKING.
3. REMOVE EXISTING LIGHTING SWITCH AND COVER PLATE IN THIS ROOM. RE-WIRE NEW LIGHTING FIXTURE(S) TO NEW ROOM DIGITAL TIMER OR OCCUPANCY SENSOR. PROVIDE AND INSTALL A BLANK STAINLESS STEEL COVER PLATE OVER THE EXISTING SWITCH DEVICE BOX.
4. REMOVE EXISTING LIGHTING SWITCH, LIGHTING FIXTURE, RECEPTACLES, AND WIRE/CONDUIT BACK TO ITS SOURCE AS THIS OFFICE IS BEING DEMOLISHED.
5. REMOVE THIS RECEPTACLE, ITS CONDUIT AND WIRE BACK TO ITS SOURCE KEEPING ALL EXISTING-TO-REMAIN RECEPTACLES & LOADS SERVED BY ITS CIRCUIT CONNECTED TO THE CIRCUIT.
6. EXISTING-TO-REMAIN RECEPTACLE. REWORK ITS CONDUIT AND WIRING IF REQUIRED TO KEEP WORKING.
7. EXISTING DATA DROP IN SURFACE MOUNTED CONDUIT. REMOVE CABLE, INSTALL CONCEALED CONDUIT DOWN THE WALL AND CUT-IN A DEVICE BOX TO HOUSE THE DATA CABLE IN THE SAME LOCATION. REINSTALL THE DATA FACEPLATE ONCE WALLS ARE REMOVED, PATCHED, AND PAINTED IN THIS AREA.
8. EXISTING SURFACE MOUNTED RECEPTACLE FED WITH SURFACE MOUNTED MC CABLE. REMOVE BOTH RECEPTACLE AND CABLE BACK TO THE JUNCTION BOX OVER NEXT TO THE DOORWAY, APPROXIMATELY 10 FOOT AFF BY DOORWAY.
9. EXISTING EXHAUST FAN, DISCONNECT.
10. CONTRACTOR SHALL REMOVE THE ITEMS INDICATED IN THE "VAULT EQUIPMENT DEMOLITION ELEVATION", THIS SHEET. COORDINATE WITH THE OWNERS ESS PERSONNEL BEFORE COMMENCING REMOVAL.
11. DISCONNECT THESE UNIT HEATERS, UH-1 THROUGH UH-10, FROM THEIR ELECTRICAL CIRCUIT AS THEY WILL BE REPLACED. REMOVE THEIR ELECTRICAL FEEDS & RACEWAY BACK TO IT'S SOURCE.
12. DISCONNECT THESE CABINET UNIT HEATERS AS THEY ARE BEING REPLACED. SAVE THEIR ELECTRICAL FEEDS AND EXTEND THEM TO THE NEW CABINET UNIT HEATERS WITHIN THE SAME ROOM.
13. EXISTING CABINET UNIT HEATER, DISCONNECT AND REMOVE IT'S FEEDER AND CONDUIT BACK TO ITS SOURCE.

ARMORY BUILDING - DEMOLITION SHEET LOAD REMOVAL SUMMARY

	VOLT-AMPS
EXISTING LIGHTING LOAD REMOVED	13,063 VA
EXISTING HVAC LOAD REMOVED	10,566 VA
EXISTING RECEPTACLE LOAD REMOVE	720 VA
NET LIGHTING LOAD REMOVED	-24,349 VA

FOR THIS SHEET'S WORK AREA, THERE ARE NO KITCHEN OR OTHER LOADS REMOVED.



VAULT EQUIPMENT DEMOLITION ELEVATION

NOT TO SCALE

VAULT EQUIPMENT DEMOLITION ELEVATION NOTES:

A. REMOVE THE RECEPTACLE (OR 120VAC CIRCUIT), BOX, CONDUIT AND WIRING FROM EXISTING VAULT CONTROL PANEL BACK TO IT'S SOURCE.
B. REMOVE EXISTING PLYWOOD BACKBOARD AND THE CONTROL PANEL ENCLOSURE ONCE THE OWNERS ELECTRONIC SECURITY SYSTEM (ESS) PERSONNEL HAVE REMOVED THE CONTROL PANEL INTERIOR EQUIPMENT & MATERIALS.
C. REMOVE THE CAT-6 CABLE FROM THE CONTROL PANEL ENCLOSURE BACK TO ITS SOURCE (MAIN ELECTRICAL ROOM DATA RACK).
D. REMOVE THIS CONDUIT AND ASSOCIATED J-BOX (IF IT'S THERE).
E. DO NOT REMOVE THE TWO 4x4x20" WIREWAYS NOR THE CONDUIT BETWEEN THEM (THE CONDUITS PENETRATING THE VAULT CEILING).
F. REMOVE THE CONDUIT AND CABLE TO THE TELCO DEMARK IN THE COMMUNICATIONS RACK IN THE MAIN ELECTRICAL ROOM.
G. REMOVE THE 1" CONDUITS TO VAULT EXTERIOR J-BOX LOCATIONS ALONG WITH THE J-BOX AND FIELD DEVICE. TURN FIELD DEVICES OVER TO THE OWNERS INSPECTOR.
H. REMOVE CONDUITS TO ADD'L VAULT INTERIOR DEVICES UNLESS DIRECTED OTHERWISE IN THE NEW WORK SHEETS. TURN FIELD DEVICES OVER TO THE OWNERS INSPECTOR.

ELECTRICAL DEMOLITION PLAN

SCALE 1/8" = 1'-0"

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DRAWN	MZM
CHECKED	BAB
APPROVED	KZM

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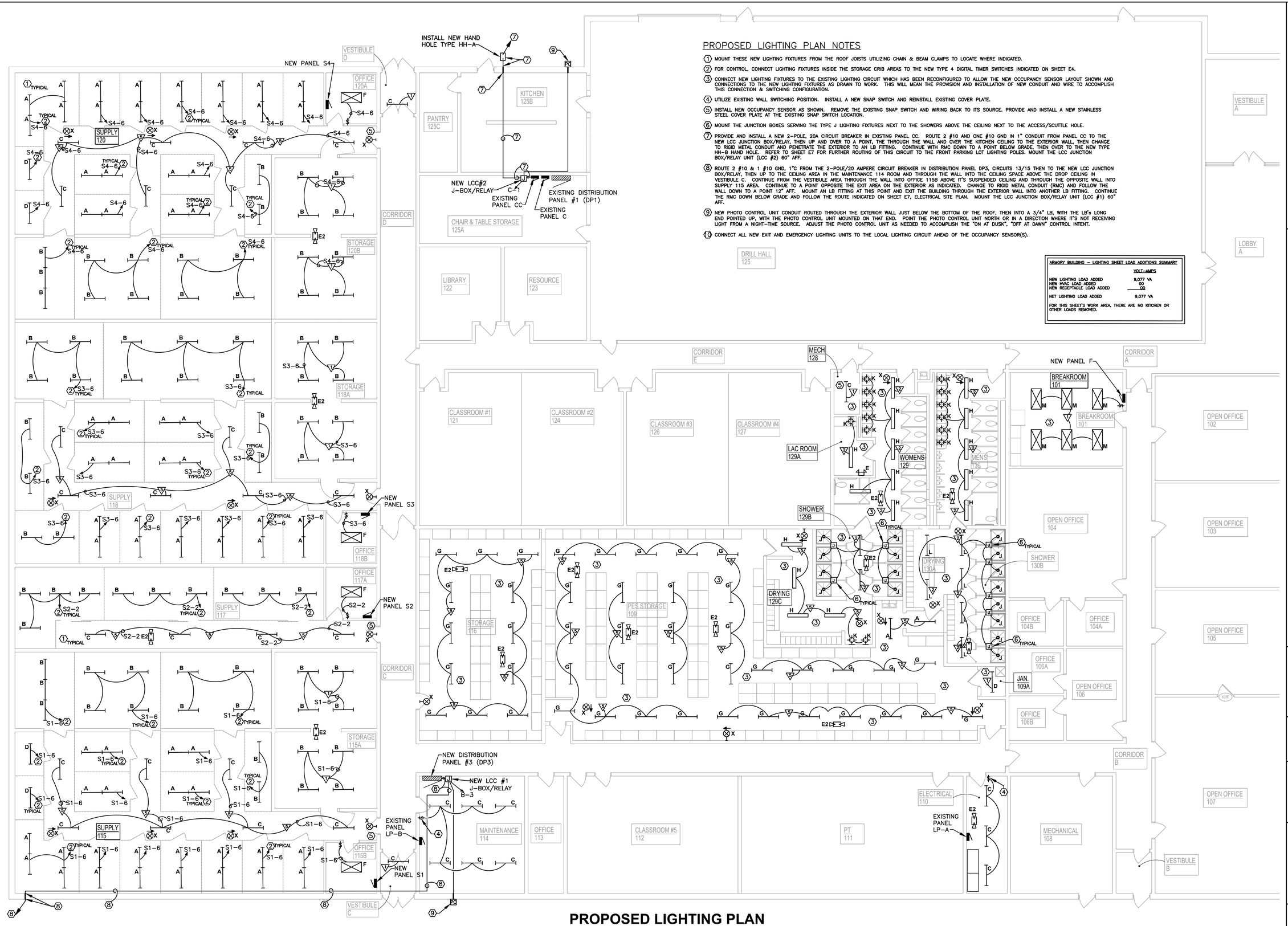
SHEET E2



PROPOSED LIGHTING PLAN NOTES

1. MOUNT THESE NEW LIGHTING FIXTURES FROM THE ROOF JOISTS UTILIZING CHAIN & BEAM CLAMPS TO LOCATE WHERE INDICATED.
2. FOR CONTROL, CONNECT LIGHTING FIXTURES INSIDE THE STORAGE CRIB AREAS TO THE NEW TYPE 4 DIGITAL TIMER SWITCHES INDICATED ON SHEET E4.
3. CONNECT NEW LIGHTING FIXTURES TO THE EXISTING LIGHTING CIRCUIT WHICH HAS BEEN RECONFIGURED TO ALLOW THE NEW OCCUPANCY SENSOR LAYOUT SHOWN AND CONNECTIONS TO THE NEW LIGHTING FIXTURES AS DRAWN TO WORK. THIS WILL MEAN THE PROVISION AND INSTALLATION OF NEW CONDUIT AND WIRE TO ACCOMPLISH THIS CONNECTION & SWITCHING CONFIGURATION.
4. UTILIZE EXISTING WALL SWITCHING POSITION. INSTALL A NEW SNAP SWITCH AND REINSTALL EXISTING COVER PLATE.
5. INSTALL NEW OCCUPANCY SENSOR AS SHOWN. REMOVE THE EXISTING SNAP SWITCH AND WIRING BACK TO ITS SOURCE. PROVIDE AND INSTALL A NEW STAINLESS STEEL COVER PLATE AT THE EXISTING SNAP SWITCH LOCATION.
6. MOUNT THE JUNCTION BOXES SERVING THE TYPE J LIGHTING FIXTURES NEXT TO THE SHOWERS ABOVE THE CEILING NEXT TO THE ACCESS/SCUTTLE HOLE.
7. PROVIDE AND INSTALL A NEW 2-POLE, 20A CIRCUIT BREAKER IN EXISTING PANEL CC. ROUTE 2 #10 AND ONE #10 GND IN 1" CONDUIT FROM PANEL CC TO THE NEW LCC JUNCTION BOX/RELAY, THEN UP AND OVER TO A POINT, THE THROUGH THE WALL AND OVER THE KITCHEN CEILING TO THE EXTERIOR WALL, THEN CHANGE TO RIGID METAL CONDUIT AND PENETRATE THE EXTERIOR TO AN LB FITTING. CONTINUE WITH RMC DOWN TO A POINT BELOW GRADE, THEN OVER TO THE NEW TYPE HH-B HAND HOLE. REFER TO SHEET E7 FOR FURTHER ROUTING OF THIS CIRCUIT TO THE FRONT PARKING LOT LIGHTING POLES. MOUNT THE LCC JUNCTION BOX/RELAY UNIT (LCC #2) 60" AFF.
8. ROUTE 2 #10 & 1 #10 GND, 1"C FROM THE 2-POLE/20 AMPERE CIRCUIT BREAKER IN DISTRIBUTION PANEL DP3, CIRCUITS 13/15 THEN TO THE NEW LCC JUNCTION BOX/RELAY, THEN UP TO THE CEILING AREA IN THE MAINTENANCE 114 ROOM AND THROUGH THE WALL INTO THE CEILING SPACE ABOVE THE DROP CEILING IN VESTIBULE C. CONTINUE FROM THE VESTIBULE AREA THROUGH THE WALL INTO OFFICE 115B ABOVE IT'S SUSPENDED CEILING AND THROUGH THE OPPOSITE WALL INTO SUPPLY 115 AREA. CONTINUE TO A POINT OPPOSITE THE EXIT AREA ON THE EXTERIOR AS INDICATED. CHANGE TO RIGID METAL CONDUIT (RMC) AND FOLLOW THE WALL DOWN TO A POINT 12" AFF. MOUNT AN LB FITTING AT THIS POINT AND EXIT THE BUILDING THROUGH THE EXTERIOR WALL INTO ANOTHER LB FITTING. CONTINUE THE RMC DOWN BELOW GRADE AND FOLLOW THE ROUTE INDICATED ON SHEET E7, ELECTRICAL SITE PLAN. MOUNT THE LCC JUNCTION BOX/RELAY UNIT (LCC #1) 60" AFF.
9. NEW PHOTO CONTROL UNIT CONDUIT ROUTED THROUGH THE EXTERIOR WALL JUST BELOW THE BOTTOM OF THE ROOF, THEN INTO A 3/4" LB, WITH THE LB'S LONG END POINTED UP, WITH THE PHOTO CONTROL UNIT MOUNTED ON THAT END. POINT THE PHOTO CONTROL UNIT NORTH OR IN A DIRECTION WHERE IT'S NOT RECEIVING LIGHT FROM A NIGHT-TIME SOURCE. ADJUST THE PHOTO CONTROL UNIT AS NEEDED TO ACCOMPLISH THE "ON AT DUSK", "OFF AT DAWN" CONTROL INTENT.
10. CONNECT ALL NEW EXIT AND EMERGENCY LIGHTING UNITS TO THE LOCAL LIGHTING CIRCUIT AHEAD OF THE OCCUPANCY SENSOR(S).

ARMORY BUILDING - LIGHTING SHEET LOAD ADDITIONS SUMMARY

	VOLT-AMPS
NEW LIGHTING LOAD ADDED	9,077 VA
NEW HVAC LOAD ADDED	00
NEW RECEPTACLE LOAD ADDED	00
NET LIGHTING LOAD ADDED	9,077 VA

FOR THIS SHEET'S WORK AREA, THERE ARE NO KITCHEN OR OTHER LOADS REMOVED.

PROPOSED LIGHTING PLAN

SCALE 1/8 = 1'-0"

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DESIGNED	ALM	
DRAWN	ALM	
CHECKED	RAB	
APPROVED	ICAL	

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PRELIMINARY	10 OCT 2021
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SHEET E3

PROPOSED POWER PLAN NOTES

1. THE CONTRACTOR SHALL INSTALL THESE FOUR (4) PANELBOARDS (S1 THROUGH S4) IN THE LOCATIONS SHOWN. COORDINATE WITH BUILDING USERS FOR EXACT LOCATION ALONG THE WALL INDICATED.
2. MOUNT DIGITAL TIMER & RECEPTACLE IN THE SAME DOUBLE GANG DEVICE BOX AT 48" AFF. THESE TYPE 4 DIGITAL TIMERS ARE TO BE CONNECTED TO THE INDIVIDUAL CAGE LIGHT FIXTURE(S) FOR THIS CAGE'S LIGHTING CONTROL. SET THESE DIGITAL TIMERS TO STAY IN THE "ON" POSITION FOR FOUR (4) HOURS. THIS IS TYPICAL FOR ALL CAGES.
3. ALL RECEPTACLES IN THE CAGES SHALL BE MOUNTED AT 48" AFF.
4. CHANGE THE CIRCUIT SERVING THE VAULT SECURITY PANEL FROM THE EXISTING CIRCUIT POWERING IT TO THE NEW CIRCUIT INDICATED. THE SECURITY PANEL SHALL BE THE ONLY ITEM ON THIS CIRCUIT AND THE CIRCUIT BREAKER SHALL HAVE A CIRCUIT BREAKER HANDLE LOCK INSTALLED. LOCK IT IN THE "ON" POSITION.
5. FLUSH MOUNT A NEW 42-SPACE PANELBOARD IN THIS ROOM. CONNECT TO THE PANEL SHOWN IN THE PROPOSED ONE-LINE DIAGRAM.
6. NEW TANKLESS WATER HEATER. CONNECT TO CIRCUIT INDICATED AND COORDINATE LOCATION OF 120VAC CONNECTION WITH THE MECHANICAL TRADES.
7. NEW EXHAUST FAN. COORDINATE THE CONNECTION OF LOW-VOLTAGE WIRING WITH THE MECHANICAL TRADES, TO THE LOCAL LIGHTING OCCUPANCY SENSOR AUXILIARY CONTACT SET. CONNECT EF TO CIRCUIT INDICATED.
8. WITHIN EACH VAULT THERE IS AN EXISTING SURFACE MOUNTED VAULT SECURITY SYSTEM. PART OF THIS SECURITY SYSTEM CONSISTS OF CONDUIT BETWEEN THE SECURITY CONTROL PANEL AND A VIBRATION SENSOR ON AN WALL OPPOSITE THE CONTROL PANEL. WITH THESE VAULTS BEING RECONFIGURED (WALKWAYS CUT BETWEEN EXISTING VAULTS), THE VIBRATION SENSORS NEED TO BE MOVED AND THEIR CONDUITS EXTENDED. REMOVE THE EXISTING VIBRATION SENSOR WITHOUT DAMAGING IT AND EXTEND THIS CONDUIT FROM THE EXISTING VIBRATION SENSOR'S LOCATION TO THE NEW LOCATION INDICATED, SURFACE MOUNTED, UTILIZE 3/4" EMT RACEWAY AND COMPRESSION FITTINGS FOR THIS EXTENSION. INSTALL A NEW 4-SQUARE JUNCTION BOX. SAVE THE EXISTING/REMOVED VIBRATION SENSOR AND TURN OVER TO THE OWNER'S PROJECT INSPECTOR, THIS EXTENSION WILL HAPPEN IN EACH COMBINED VAULT ON THIS PROJECT.
9. CONNECT THESE NEW UNIT HEATERS, UH-1 THROUGH UH-10, TO THE NEW ELECTRICAL CIRCUIT INDICATED. THESE UNIT HEATERS COME WITH A FACTORY INSTALLED MANUAL MOTOR STARTER.
10. CONNECT THESE DEHUMIDIFIERS TO THE NEW CIRCUIT INDICATED. THESE UNITS ARE TO BE HUNG (BY OTHERS) APPROXIMATELY 12" FROM THE CEILING. INSTALL THE RECEPTACLE 12" FROM THE VAULT CEILING AND COORDINATE THE EXACT LOCATION WITH THE MECHANICAL TRADES.
11. CONNECT THESE NEW CABINET UNIT HEATERS TO THE CIRCUIT INDICATED. COORDINATE HEIGHT ABOVE FLOOR OR PLACEMENT IN THE CEILING WITH THE MECHANICAL TRADES.

ARMORY BUILDING - POWER SHEET LOAD ADDED SUMMARY

	VOLT-AMPS
NEW HVAC LOAD ADDED	2,440 VA
NEW RECEPTACLE LOAD ADDED	22,680 VA
NET LOADED ADDED	+24,580 VA
HVAC LOAD DELETED	81 VA
RECEPTACLE LOAD DELETED	540 VA
NET LOAD REMOVED	-621 VA
NET POWER LOAD ADDED	+23,959 VA

FOR THIS SHEET'S WORK AREA, THERE ARE NO KITCHEN OR OTHER LOADS ADDED OR REMOVED.

PROPOSED POWER PLAN

SCALE 1/8" = 1'-0"

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DRAWN	MJM
CHECKED	BAB
APPROVED	KLM

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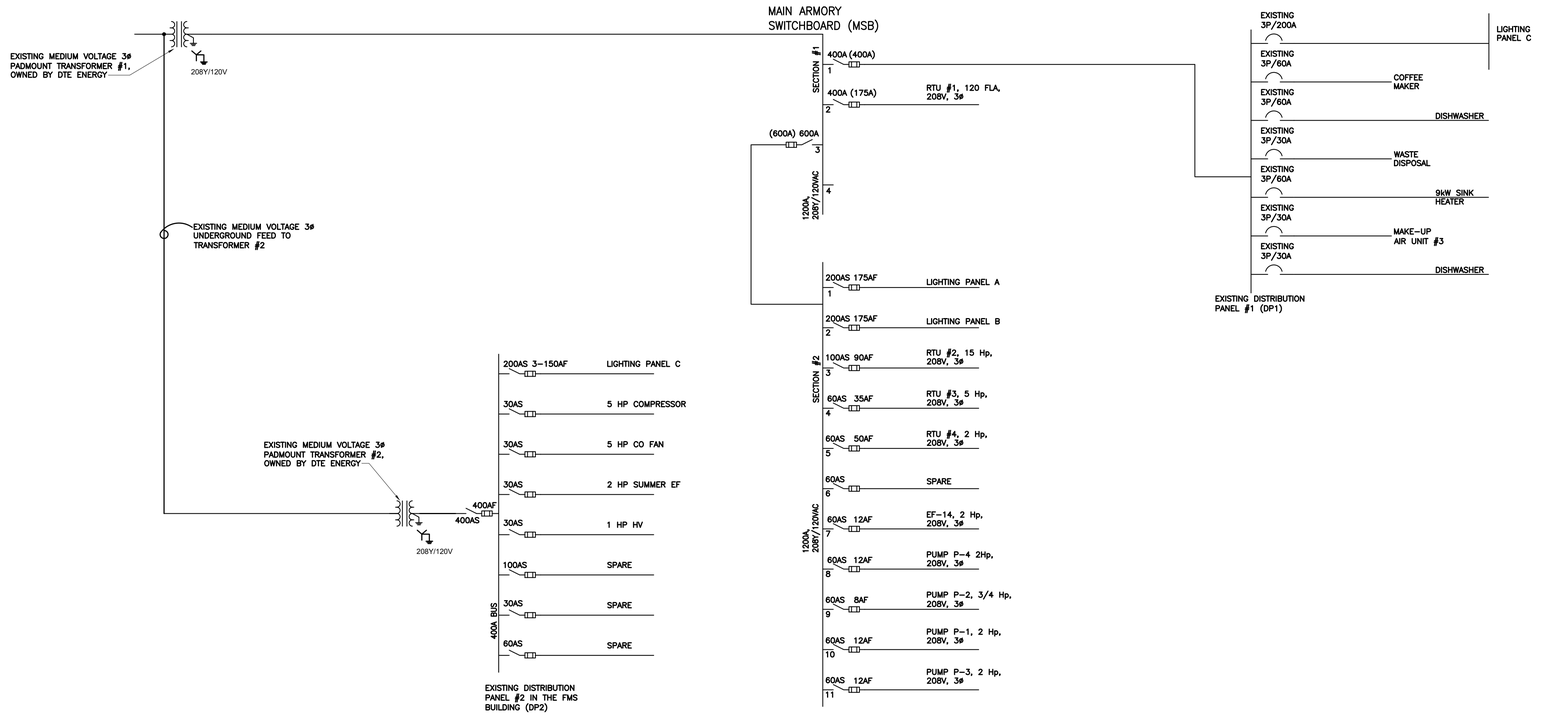
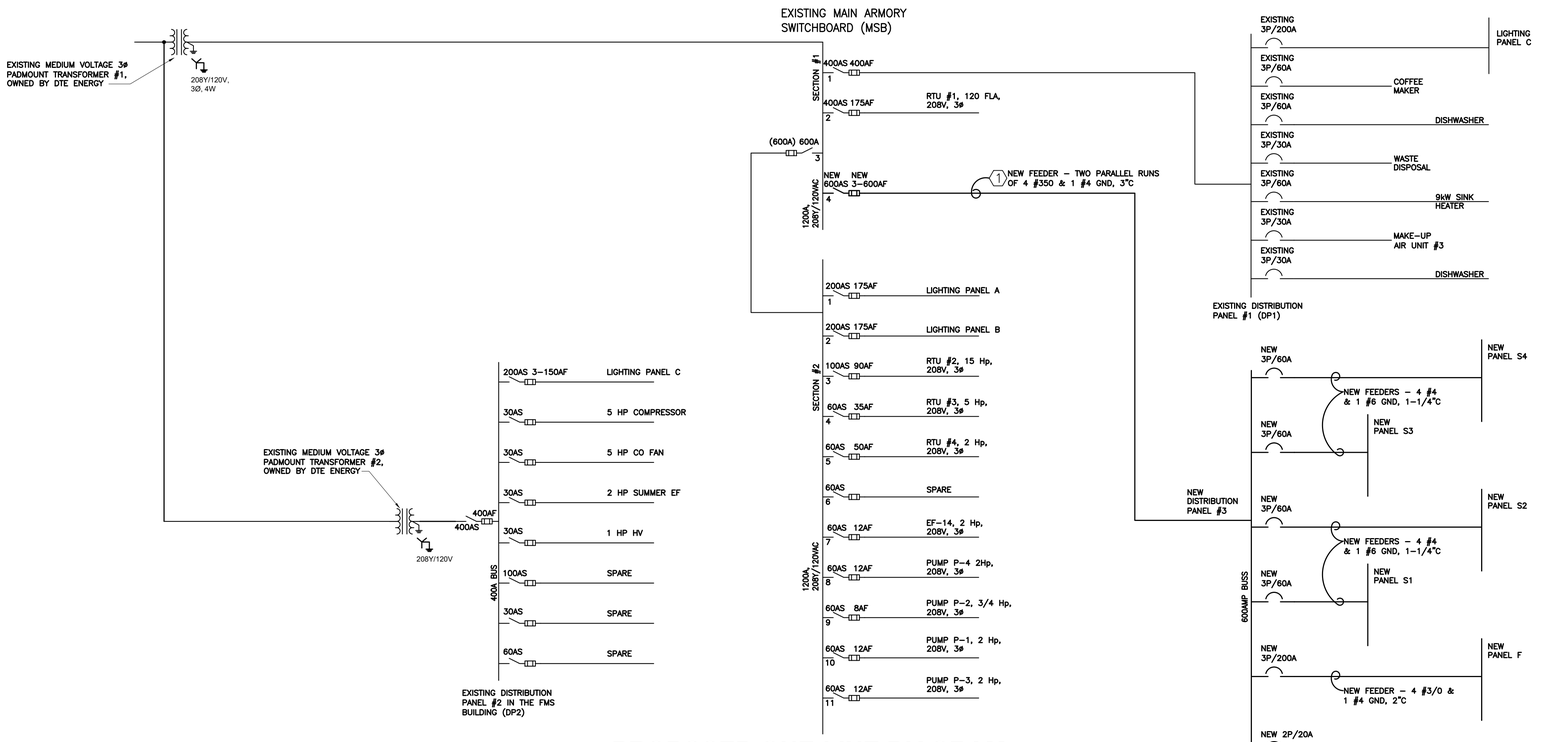
SHEET E4



EXISTING ONE-LINE DIAGRAM

208Y/120VAC, 3Ø, 4W



PROPOSED ONE-LINE DIAGRAM

208Y/120VAC, 3Ø, 4W

PROPOSED ONE-LINE DIAGRAM NOTES:

1. INSTALL NEW CONDUIT & CONDUCTORS BETWEEN THE EXISTING MAIN DISTRIBUTION PANELBOARD AND THE NEW DISTRIBUTION PANEL #3.

ARMORY BUILDING - BUILDING LOAD REMOVAL & ADDITION SUMMARY

	VOLT-AMPS
DEMO SHEET E2 LOADS REMOVED	-24,349 VA
LIGHTING SHEET E3 NEW LOAD ADDED	9,077
POWER SHEET E4 NEW LOAD ADDED	23,959
NET LOAD ADDED	8,323 VA
NET AMPS ADDED @ 208V, 3ø	23.1 Amps

OLYMPIA ARMORY - BUILDING LOADS & ELECTRICAL SYSTEM SIZE

BUILDING MAIN SERVICE GEAR SIZE:	1200 AMPERE BUS 3ø
MAXIMUM (DEMAND) LOAD MEASURED:	64kW ON 5/4/2023
DEMAND LOAD IN AMPS:	177.7 @ 208V, 3ø

ADDITION OF 23.1 AMPERES TO THE MAIN ELECTRICAL GEAR SHOULD NOT HINDER THE OPERATION OF THE BUILDING'S ELECTRICAL SYSTEM.

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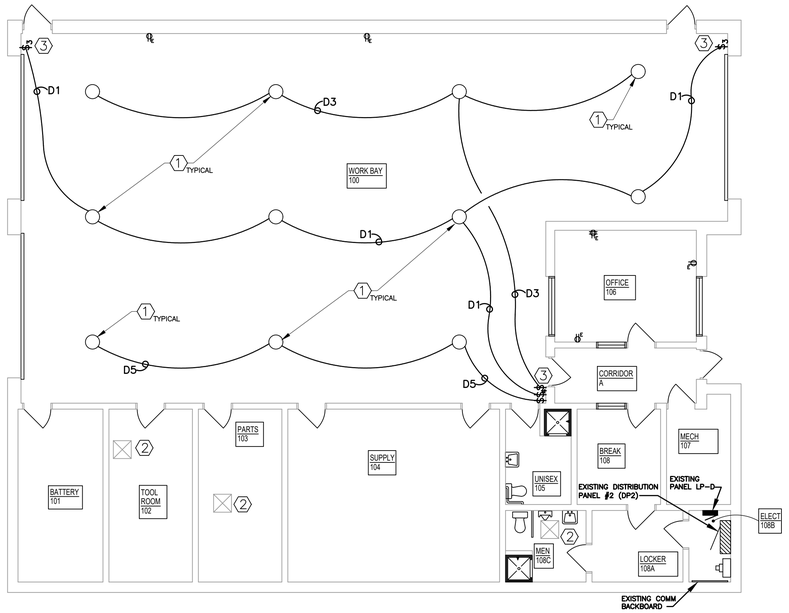
SHEET E5

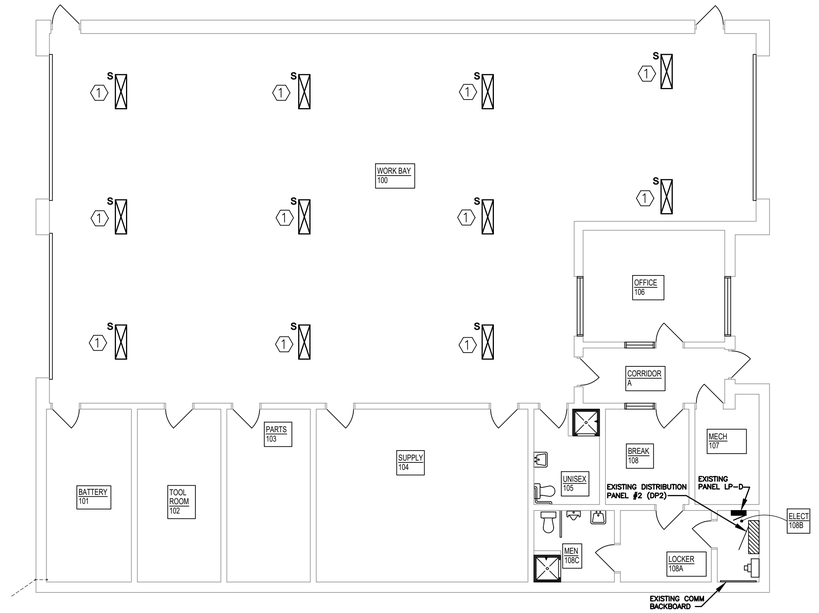


FMS LIGHTING DEMOLITION PLAN

SCALE 1/8" = 1'-0"

FMS DEMOLITION PLAN NOTES:

1. DISCONNECT AND REMOVE THESE ELEVEN 250W HID LOW-BAY LIGHTING FIXTURES. READY THE HANGING DEVICES TO ACCEPT THE NEW LED LIGHTING FIXTURES.
2. EXISTING CEILING SCUTTLE (ENTRY) DOOR.
3. REMOVE EXISTING SINGLE POLE, THREE-WAY, AND 4-WAY SWITCHES THAT ARE CONTROLLING THE LOW-BAY LIGHTING FIXTURES. RECONNECT THE CIRCUITS (ORIGINAL BUILD PRINTS INDICATE THEY ARE CIRCUITS D1, D3, AND D5 WHICH MAY BE DIFFERENT NOW) TO THE NEW LED LIGHTING FIXTURES WITHOUT SWITCHES. PROVIDE AND INSTALL BLANK STAINLESS STEEL COVER PLATES WHERE THE REMOVED SWITCHES ARE LOCATED.

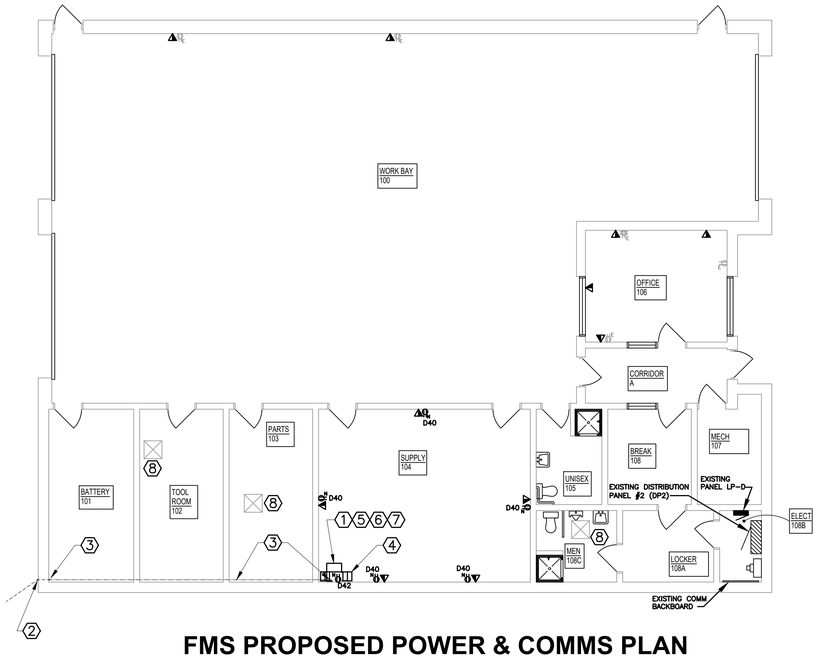


FMS PROPOSED LIGHTING PLAN

SCALE 1/8" = 1'-0"

FMS PROPOSED LIGHTING PLAN NOTES:

1. INSTALL THE QUANTITY OF NEW LIGHTING FIXTURES AS INDICATED. INSTALL THE 20' OCCUPANCY SENSOR LENS (WHICH IS INCLUDED) ON THE "PART OF FIXTURE" OCCUPANCY SENSOR. CONTRACTOR MUST INSTALL LIGHTING FIXTURE SUPPORT CHAIN AND SAFETY CHAIN AND MAY UTILIZE THE EXISTING CHAIN IF IN GOOD REPAIR; ADD TO THE CHAIN AMOUNT IF REQUIRED BY MANUFACTURERS INSTALLATION INSTRUCTIONS.



FMS PROPOSED POWER & COMMS PLAN

SCALE 1/8" = 1'-0"

FMS PROPOSED POWER & COMMS PLAN NOTES:

1. INSTALL ONE NEW DATA RACK PER SPECIFICATION IN THE LOCATION INDICATED. MOUNT DATA RACK WITH TOP OF RACK NO HIGHER THAN 66" AFF.
2. SWITCH UNDERGROUND FROM HDPE TO A RMC NINETY, THEN UP TO A LB FITTING. ENTER THE BUILDING'S SIDEWALL, INTO THE BATTERY ROOM, THEN INTO ANOTHER LB FITTING. CONTINUE THE RMC RACEWAY UP THE WALL TO A POINT 12 FOOT AFF THEN TRANSITION TO PLASTIC INNERDUCT.
3. INSTALL ONE 2" DIAMETER PLASTIC INNERDUCT STARTING AT 12' AFF THEN ACROSS THE UNDERSIDE OF THE ROOF STRUCTURE WITH J-HOOKS TO A POINT ABOVE THE NEW DATA RACK. ROUTE THE NEW FIBER OPTIC CABLE FROM THAT POINT DOWN TO THE NEW CABLE TRAY LEAVING A 25 FOOT COIL OF CABLE, THEN DOWN TO THE NEW FIBER OPTIC CABLE INNERCONNECT TRAY. TERMINATE FOUR (4) FIBERS AND TEST PER SPECIFICATION.
4. PROVIDE AND INSTALL 3'-6" OF BASKET CABLE TRAY 12" ABOVE THE NEW DATA RACK. SUPPORT IT WITH U-CHANNEL STEEL BOLTED TO THE WALL WITH ANGLED U-CHANNEL STEEL HOLDING THE STEEL COMING OUT AWAY FROM THE WALL.
5. SPLIT OUT FOUR (4) FIBERS FROM THE CABLE, TERMINATE WITH SC CONNECTORS AND TEST PER SPECIFICATION.
6. PROVIDE AND INSTALL A NEW FIBER OPTIC INTERCONNECT TRAY IN THE NEW DATA RACK.
7. PROVIDE AND INSTALL A 24-PORT PATCH PANEL WITHIN THE NEW DATA RACK. ROUTE ALL NEW CAT-6 CABLES IN EMT TO THE POINT 12" ABOVE THE NEW BASKET CABLE TRAY. INSTALL A SERVICE LOOP OF CAT-6 CABLE PER SPECIFICATION IN THE CABLE TRAY. TERMINATE THE NEW CAT-6 CABLES TO THIS PATCH PANEL AND TEST PER SPECIFICATION.
8. EXISTING CEILING SCUTTLE (ENTRY) DOOR.

FMS BUILDING - LOAD SUMMARY

	VOLT-AMPS
SHEET E6 LOADS REMOVED:	
LIGHTING REMOVED	3,410 VA
HVAC LOAD REMOVED	000 VA
RECEPTACLE LOAD REMOVED	000 VA
NET SHEET E6 LOADS REMOVED	-3,410 VA
SHEET E6 NEW LIGHTING LOAD ADDED	2,299
SHEET E6 NEW POWER LOAD ADDED	900
NET LOAD REMOVED	-211 VA
NET AMPS SAVED @ 208V, 3ø	0.6 Amps

GENERAL ELECTRICAL CONSTRUCTION NOTES (APPLIES TO ALL ELECTRICAL DRAWINGS & DETAILS):

1. SEAL ALL FIRE RATED WALL & CEILING PENETRATIONS.
2. COORDINATE LOCATIONS OF LIGHT FIXTURES WITH ALL PIPING, DUCTWORK, AND EQUIPMENT. MOUNT LIGHT FIXTURES TO ALLOW THE GREATEST POSSIBLE HEADROOM.
3. UNLESS OTHERWISE NOTED OR DETAILED, INSTALL ALL CONDUCTORS IN CONDUIT.
4. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST ACCEPTED EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES.
5. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN EVERY POWER AND LIGHTING CONDUIT, ONE GROUNDING CONDUCTOR FOR EACH CIRCUIT.
6. ALL LIGHTING AND POWER CONDUCTORS SHALL BE 12 AWG MINIMUM.
7. MINIMUM CONDUIT SIZE SHALL BE 3/4" INTERNAL DIAMETER.
8. MC (METAL CLAD) CABLE SHALL NOT BE USED ON THIS PROJECT.
9. CONTRACTOR SHALL TRANSITION FROM PVC CONDUIT TO GALVANIZED RIGID METALLIC CONDUIT WHEN TURNING UP FROM BELOW A CONCRETE SLAB OR FROM BELOW GRADE TO ABOVE GRADE, WEATHER INDOORS OR OUTDOORS, BY INSTALLING A GALVANIZED METALLIC NINETY DEGREE ELBOW AND THEN CONTINUING ABOVE SLAB OR GRADE UTILIZING GALVANIZED RIGID METAL CONDUIT. THIS APPLIES TO ALL RACEWAYS FOR ALL SYSTEMS INCLUDING VOICE/DATA, UTILITY POWER AND/OR EMERGENCY POWER, LIGHTING, & COMMUNICATIONS SYSTEMS.
10. CONNECT ALL NEW EXIT LIGHTS AND EMERGENCY LIGHT UNITS TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHES OR OCCUPANCY SENSORS.

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FACILITIES AND BUSINESS SERVICES ADMINISTRATION
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ADAM LACH, RA, DIRECTOR

RENOVATE
DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
STATE ARMORY - OLYMPIA
DETROIT, MICHIGAN

DESIGNED	M.E.M.
DRAWN	B.A.B.
CHECKED	K.S.M.
APPROVED	

ISSUED FOR	DATE
PRELIMINARY ■	10 OCT 2021
CONSTRUCTION ■	05 JUL 2023
FINAL RECORD □	

IDENTIFICATION NO.
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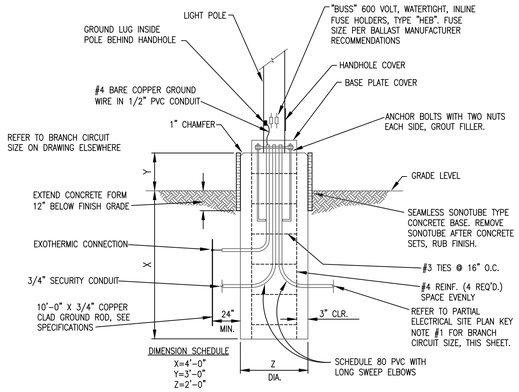
INDEX CODE 1390

SHEET E6



SITE LIGHTING FOUNDATION DETAIL

NO SCALE

PROPOSED ELECTRICAL SITE PLAN NOTES:

1. INSTALL ONE NEW FIBER OPTIC CABLE PER SPECIFICATION STARTING IN A 2" PLASTIC INNERDUCT ABOVE THE EXISTING DATA RACK IN THE ELECTRICAL & COMMUNICATION ROOM AND ROUTE THE FIBER INNERDUCT INTO THE CORRIDOR ABOVE THE SUSPENDED CEILING. MOUNT TO THE ROOF JOISTS OR WALL WITH J-HOOKS. FOLLOW THE CORRIDOR TO THE EXTERIOR WALL AS INDICATED.
2. JUST BEFORE THE EXTERIOR WALL, NINETY DOWN WITHIN THE FOYER UTILIZING 2" RIGID METAL CONDUIT (RMC) TO A SERVICE LB FITTING MOUNTED 12" AFF. ROUTE THE RMC THROUGH THE WALL TO THE EXTERIOR, THEN INTO ANOTHER SERVICE LB FITTING. ROUTE BELOW GRADE WHILE STILL IN 2" RMC, THROUGH A RMC NINETY AND ON IN RMC INTO A NEW HAND HOLE TYPE HH-A.
3. EXIT THE NEW HAND HOLE IN CLOTH-STYLE INNERDUCT WITHIN 3" DIAMETER HDPE RACEWAY AND ROUTE TO THE NEXT NEW HAND HOLE TYPE HH-A. CONTINUE UNDERGROUND TO THE THIRD NEW TYPE HH-A HAND HOLE. AFTER THAT HAND HOLE CONTINUE THE HDPE THEN CHANGE TO A RMC NINETY, THEN UP TO A LB FITTING NEXT TO THE FMS BUILDING WALL. ENTER THE BUILDING'S SIDEWALL, INTO THE BATTERY ROOM, THEN INTO ANOTHER LB FITTING. CONTINUE THE RMC RACEWAY UP THE WALL TO A POINT 12' AFF THEN TRANSISTION TO PLASTIC INNERDUCT.
4. INSTALL ONE 2" DIAMETER PLASTIC INNERDUCT STARTING AT 12' AFF THEN ACROSS THE UNDERSIDE OF THE ROOF STRUCTURE WITH J-HOOKS TO A POINT ABOVE THE NEW DATA RACK. ROUTE THE NEW FIBER OPTIC CABLE FROM THAT POINT DOWN TO THE NEW CABLE TRAY LEAVING A 25 FOOT COIL OF CABLE, THEN DOWN TO THE NEW FIBER OPTIC CABLE INNERCONNECT TRAY. TERMINATE FOUR (4) FIBERS AND TEST PER SPECIFICATION.
5. PROVIDE AND INSTALL 4' OF BASKET CABLE TRAY 12" ABOVE THE EXSITING DATA RACK. SUPPORT IT WITH U-CHANNEL STEEL BOLTED TO THE WALL WITH ANGLED U-CHANNEL STEEL HOLDING THE STEEL COMING OUT AWAY FROM THE WALL.
6. SPLIT OUT THE SAME FOUR (4) FIBERS FROM THE CABLE THAT WERE TERMINATED IN THE FMS BUILDING, TERMINATE WITH LC CONNECTORS AND TEST PER SPECIFICATION.
7. PROVIDE AND INSTALL A NEW FIBER OPTIC INTERCONNECT TRAY PER SPECIFICATION IN THE EXISTING DATA RACK.
8. PROVIDE AND INSTALL A NEW 24-PORT PATCH PANEL PER SPECIFICATION WITHIN THE EXISTING DATA RACK.
9. REFER TO NOTE #7, SHEET E3 FOR CONTINUATION OF THIS CIRCUIT WITHIN THE ARMORY BUILDING.
10. REFER TO NOTE #8. SHEET E3 FOR CONTINUATION OF THIS CIRCUIT WITHIN THE ARMORY BUILDING.

HAND HOLE SCHEDULE

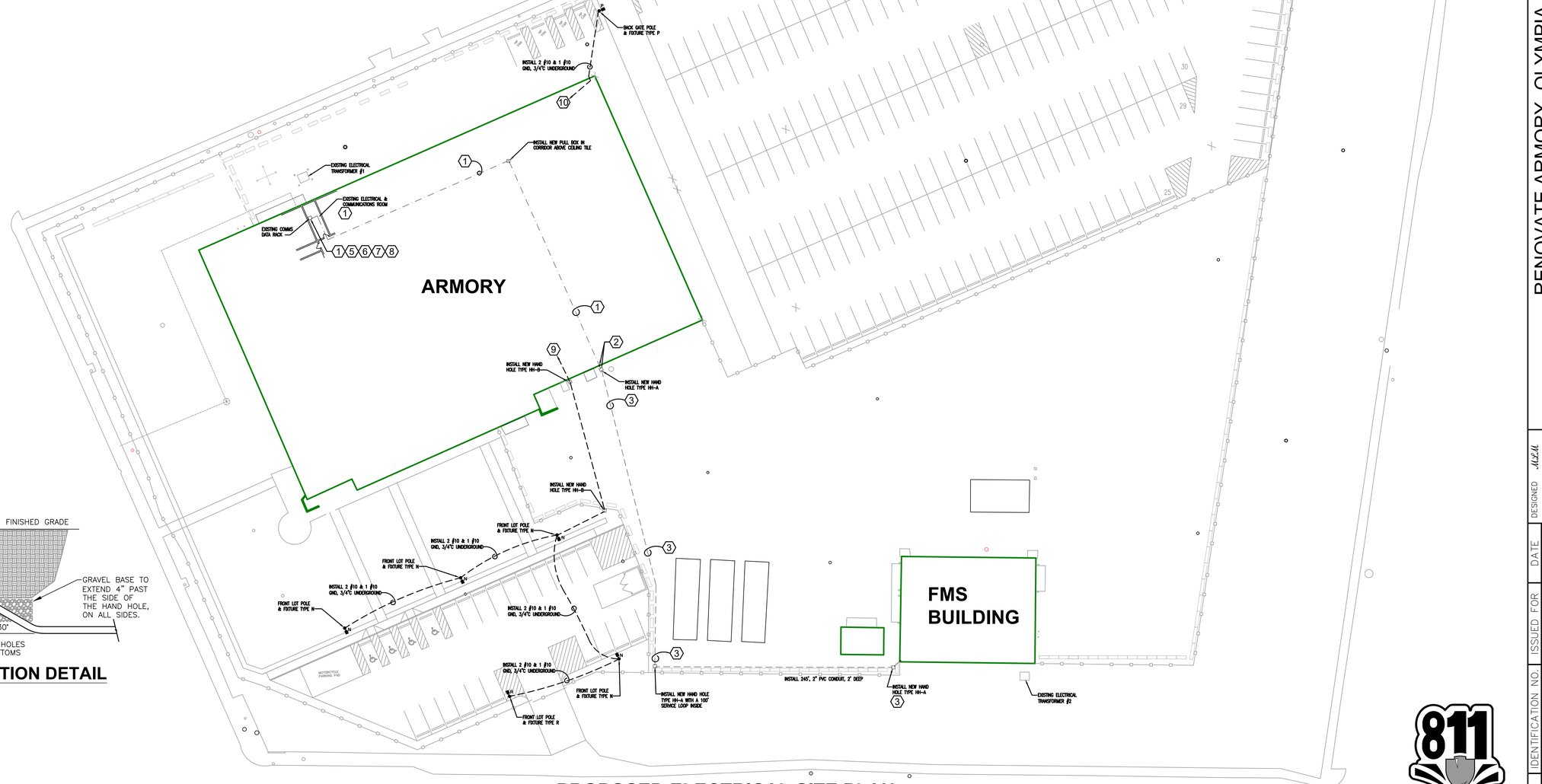
MARK	DESCRIPTION	BOX MANUFACTURER & CATALOG NUMBER	COVER MANUFACTURER & CATALOG NUMBER	REMARKS	NOTES
HH-A	PRECAST POLYMER CONCRETE ENCLOSURE NOMINAL INTERIOR DIMENSIONS: 30"W x 48"L x 48" DEEP	QUAZITE #PG3048BA48 ANSI TIER: 22	QUAZITE #PG3048HH21 ANSI TIER: 22	COVER SHALL HAVE "FIBER OPTICS" LOGO	1
HH-B	PRECAST POLYMER CONCRETE ENCLOSURE NOMINAL INTERIOR DIMENSIONS: 11"W x 18"L x 18" DEEP	QUAZITE #PG1118BA18 ANSI TIER: 22	QUAZITE #PG1118HH29 ANSI TIER: 22	COVER SHALL HAVE "LIGHTING" LOGO	1

HAND HOLE SCHEDULE NOTES:
1. CONTRACTOR MAY SUBSTITUTE HANDHOLES BY OTHER MANUFACTURERS IF EQUAL IN ALL RESPECTS. SUBMIT SHOP DRAWING FOR ALL SUBSTITUTIONS.

MINIMUM BURIAL DEPTHS BELOW GRADE*

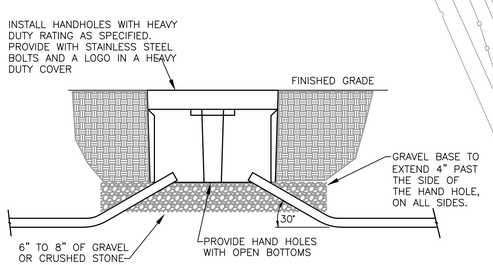
PRIMARY ELECTRICAL	SECONDARY ELECTRICAL (INCLUDING GROUNDING)	TELEPHONE	VIDEO OR SECURITY	FIBER OPTIC
40"	36"	30"	30"	30"

*FOR ALL ELECTRICAL & COMMUNICATIONS SYSTEMS, THESE MEASUREMENTS ARE BELOW FINISHED GRADE.



PROPOSED ELECTRICAL SITE PLAN

SCALE 1" = 400'-0"



HAND HOLE INSTALLATION DETAIL

NO SCALE

KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

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DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY- OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	MLM
DRAWN	MLM
CHECKED	BAB
APPROVED	ADL

ISSUED FOR	DATE
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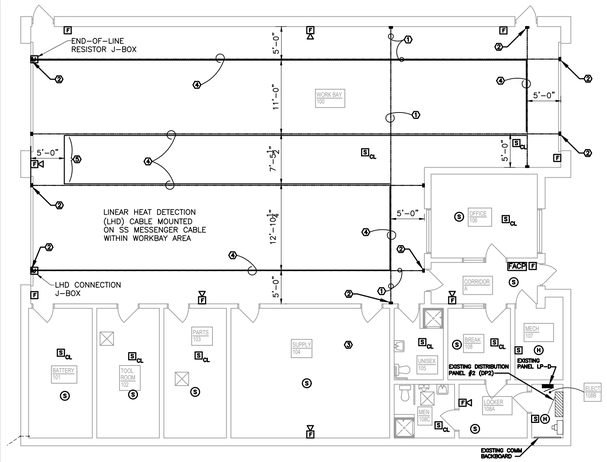
SHEET E7



FMS PROPOSED FIRE ALARM PLAN

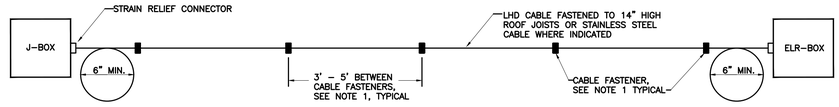
SCALE 3/32" = 1'-0"

FMS PROPOSED FIRE ALARM PLAN NOTES:

1. INSTALL LHD CABLE ONTO THE STAINLESS STEEL MESSENGER CABLE WHERE INDICATED. THE STAINLESS STEEL CABLE, IT'S MOUNTS AND TURNBUCKLE MATERIALS ARE PART OF THIS FIRE ALARM CONTRACT.
2. PROVIDE AND INSTALL 1/4" DIAMETER STAINLESS STEEL MESSENGER CABLE, TURN BUCKLES, CABLE TENSION DEVICES, AND MOUNTING MATERIALS TO SUPPORT THE LINEAR HEAT DETECTION (LHD) CABLE. MOUNT AT THE SAME HEIGHT AS THE LHD CABLE CONNECTION POINT ON THE STRUCTURAL STEEL.
3. ALL FIRE ALARM EQUIPMENT SHOWN ON THE BASE BID & DEDUCTIVE ALTERNATE ARE NEW AND TO BE INSTALLED AT LOCATIONS AND HEIGHTS ABOVE FINISHED FLOOR ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS, ACCEPTED INDUSTRY STANDARDS, AND NFPA CODES.
4. LINEAR HEAT DETECTION (LHD) CABLE MOUNTED ON STAINLESS STEEL MESSENGER CABLE.
5. LINEAR HEAT DETECTION (LHD) CABLE STRUNG BETWEEN THE TWO STAINLESS STEEL MESSENGER CABLES WITH OUT MESSENGER CABLE. ONLY RUN LHD WITHOUT MESSENGER CABLE AT LOCATIONS INDICATED.
6. PROVIDE A SEPARATE FIRE ALARM SYSTEM FOR THE FMS. THIS SYSTEM SHALL BE A STAND-ALONE SYSTEM FROM THE FIRE ALARM SYSTEM INSTALLED WITHIN THE ARMORY. BOTH SYSTEMS SHALL BE MANUFACTURED BY THE SAME FIRE ALARM MANUFACTURER.

PROPOSED ARMORY FIRE ALARM PLAN NOTES:

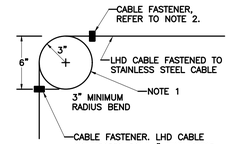
1. PROVIDE A SEPARATE FIRE ALARM SYSTEM FOR THE ARMORY. THIS SYSTEM SHALL BE A STAND-ALONE SYSTEM FROM THE FIRE ALARM SYSTEM INSTALLED WITHIN THE FMS. BOTH SYSTEMS SHALL BE MANUFACTURED BY THE SAME FIRE ALARM MANUFACTURER.
2. EXISTING ROOF TOP HVAC UNIT WITH FACTORY INSTALLED DUCT SMOKE DETECTOR. CONNECT THE NEW FIRE ALARM SYSTEM TO THIS EXISTING DUCT SMOKE DETECTOR.



1/E8 LINEAR HEAT DETECTION CABLE DETAIL

NO SCALE

LINEAR HEAT DETECTION (LHD) CABLE DETAIL NOTES:
1. PROVIDE AND INSTALL CABLE FASTENERS RECOMMENDED BY THE LHD CABLE MANUFACTURER.



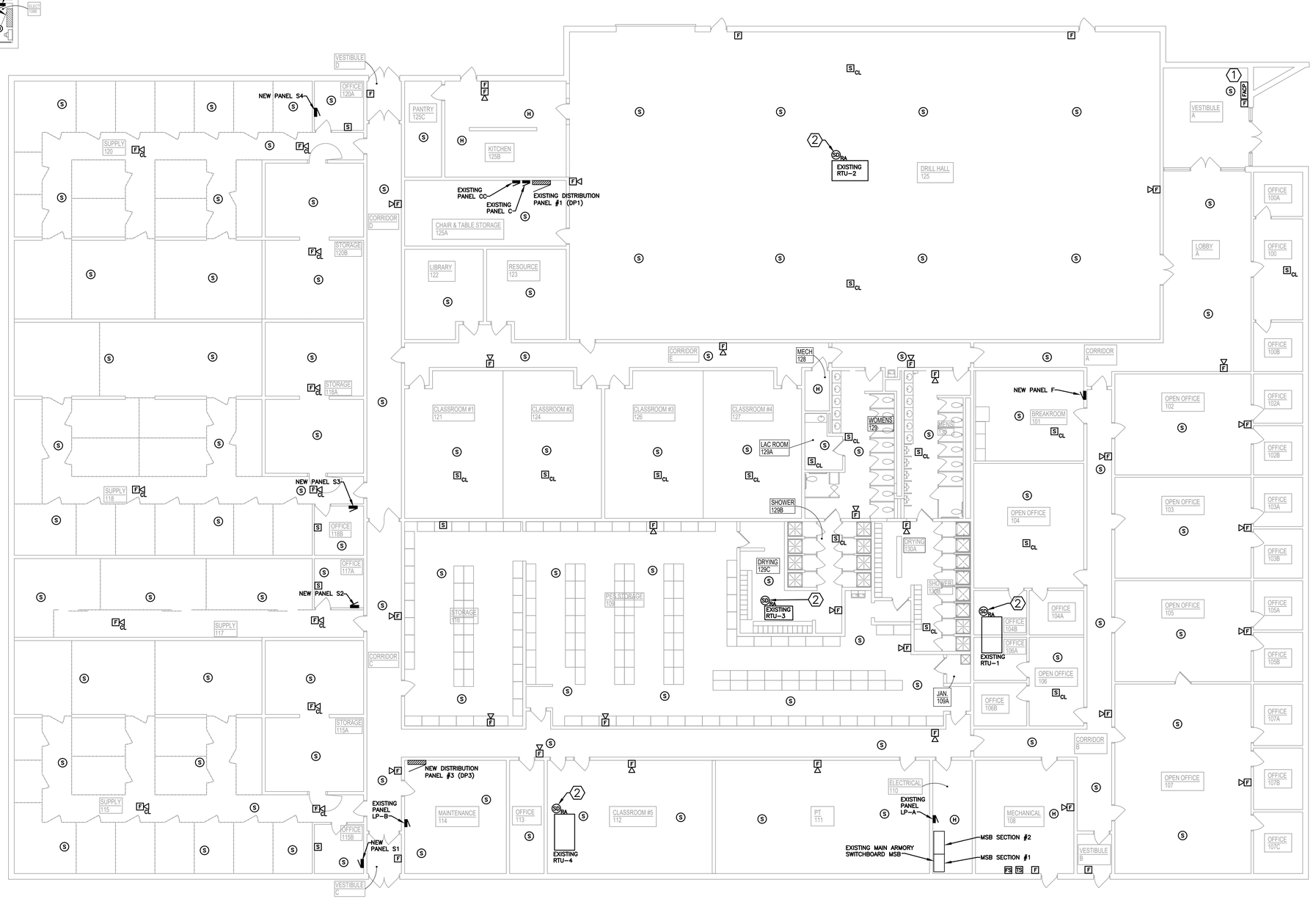
2/E8 LINEAR HEAT DETECTION CABLE DETAIL

NO SCALE

LINEAR HEAT DETECTION (LHD) CABLE BENDING DETAIL NOTES:
1. UTILIZE 6" DIAMETER PVC PIPE, CUT TO 4" LENGTHS, AND SUPPORTED BY STEEL ANGLE BRACKETS TO PROVIDE THE PROPER CORNER BENDING RADIUS. UTILIZE CAST METALLIC BEAM CLAMPS TO SUPPORT THESE CORNER LHD CABLE SUPPORTS.
2. PROVIDE AND INSTALL CABLE FASTENERS RECOMMENDED BY THE LHD CABLE MANUFACTURER.

FIRE ALARM LEGEND

S	SMOKE DETECTOR, CEILING MOUNTED
S_DA	DUCT TYPE SMOKE DETECTOR, RETURN DUCT
D	HEAT DETECTOR, CEILING MOUNTED
F	FIRE ALARM (FA) HORN/STROBE – WALL MOUNT
F	FA MANUAL PULL STATION W/FIRE HORN/STROBE ABOVE
F_CL	FIRE ALARM HORN/STROBE – CEILING MOUNT
F	FIRE ALARM MANUAL PULL STATION
S	FIRE ALARM STROBE ONLY – WALL MOUNT
S_CL	FIRE ALARM STROBE ONLY – CEILING MOUNT
H	FIRE ALARM HORN ONLY
FACP	FIRE ALARM CONTROL PANEL
FARP	FIRE ALARM REMOTE ANNUNCIATOR PANEL
TS	FIRE ALARM/WATER RISER TAMPER SWITCH
FS	FIRE ALARM/WATER RISER FLOW SWITCH



PROPOSED ARMORY FIRE ALARM PLAN

SCALE 3/32" = 1'-0"

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DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, PA, DIRECTOR

RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	ALM
DRAWN	ALM
CHECKED	BAB
APPROVED	KCH
DATE	10 OCT 2021 05 JUL 2023
ISSUED FOR	■ PRELIMINARY ■ CONSTRUCTION □ FINAL RECORD
IDENTIFICATION NO.	PROJECT 264772012 INDEX CODE 1390
SHEET	E8

NEW PANEL S1

VOLTAGE RATING - 120/208V, 3-PH, 4 WIRE — BUSS AMPS - 100A
LOCATION - OFFICE 115B — MOUNTING - SURFACE
MAIN LUG ONLY — 20" WIDE ENCLOSURE
SQUARE D NQ STYLE PANELBOARD

CKT. NO.	BRKR A	BRKR P	DESCRIPTION	LOAD VA	AØ VA	BØ VA	CØ VA
1	20	1	RECEPTACLES	1440	1440		
3	20	1	RECEPTACLES	1080		1080	
5	20	1	RECEPTACLES	1080			1080
7	20	1	UNIT HEATERS UH-1, 2, & UH-3	1656	1656		
9	20	1	VAULT PANEL CKT NOTE 5	200		200	
11	20	1	DEHUMIDIFIER DHU-1	680			680
13	20	1	SPARE				
15	20	1	SPARE				
17			SPACE				
2	20	1	RECEPTACLES	1260	1260		
4	20	1	RECEPTACLES	1260		1260	
6	20	1	LIGHTING	1684			1684
8	20	1	EF-5	677	677		
10	20	1	SPARE				
12	20	1	SPARE				
14			SPACE				
16			SPACE				
18			SPACE				
			PER PHASE VA SUBTOTALS	11017	5033	2540	3444
			PER PHASE DEMAND AMPS	31	42	21	29

PANEL NOTES:
1. PROVIDE WITH INSULATED GROUNDING BAR.
2. PROVIDE WITH SOLID NEUTRAL BAR.
3. ALL CIRCUIT BREAKER SHALL BE RATED 10,000 AIC.
4. PROVIDE PANEL ENCLOSURE WITH A DOOR WITHIN DOOR TRIM COVER OPTION.
5. PROVIDE AND INSTALL CIRCUIT BREAKER HANDLE LOCK. LOCK IN "ON" POSITION.

ARMORY BUILDING PANEL S1 LOADS

Noncontinuous Loads

Receptacle Load:	6,120 VA Total		
	FIRST 10,000 VA at 100% =	6,120 VA	
	REMAINDER OF VA at 50% =	00 VA	
	Subtotal		6,120 VA
Motor Load:	0 VA at 65% =	0 VA	
Kitchen Load:	0 VA at 65% =	0 VA	
HVAC Load:	3013 VA at 65% =	1959 VA	
Other Loads:	200 VA at 50% =	100 VA	
			2,059 VA
Continuous Loads			
General Lighting	1,684 VA at 125% =	2,105 VA	
			2,105 VA
		Total:	10,284 VA
			28.6 Amps at 208v, 3Ø

NEW PANEL S2

VOLTAGE RATING - 120/208V, 3-PH, 4 WIRE — BUSS AMPS - 100A
LOCATION - OFFICE 115B — MOUNTING - SURFACE
MAIN LUG ONLY — 20" WIDE ENCLOSURE
SQUARE D NQ STYLE PANELBOARD

CKT. NO.	BRKR A	BRKR P	DESCRIPTION	LOAD VA	AØ VA	BØ VA	CØ VA
1	20	1	RECEPTACLES	1080	1080		
3	20	1	LIGHTING	559		559	
5	20	1	RECEPTACLES	540			540
7	20	1	SPARE				
9	20	1	SPARE				
11	20	1	SPARE				
13	20	1	SPARE				
15			SPACE				
17			SPACE				
2	20	1	SPARE				
4	20	1	UH-4	552		552	
6	20	1	EF-6	400			400
8	20	1	SPARE				
10			SPACE				
12			SPACE				
14			SPACE				
16			SPACE				
18			SPACE				
			PER PHASE VA SUBTOTALS	3131	1080	1111	940
			PER PHASE DEMAND AMPS	9	9	9	8

PANEL NOTES:
1. PROVIDE WITH INSULATED GROUNDING BAR.
2. PROVIDE WITH SOLID NEUTRAL BAR.
3. ALL CIRCUIT BREAKER SHALL BE RATED 10,000 AIC.
4. PROVIDE PANEL ENCLOSURE WITH A DOOR WITHIN DOOR TRIM COVER OPTION.

ARMORY BUILDING PANEL S2 LOADS

Noncontinuous Loads

Receptacle Load:	1,620 VA Total		
	FIRST 10,000 VA at 100% =	1,620 VA	
	REMAINDER OF VA at 50% =	00 VA	
	Subtotal		1,620 VA
Motor Load:	0 VA at 65% =	0 VA	
Kitchen Load:	0 VA at 65% =	0 VA	
HVAC Load:	952 VA at 65% =	619 VA	
Other Loads:	0 VA at 50% =	0 VA	
			619 VA
Continuous Loads			
General Lighting	559 VA at 125% =	699 VA	
			699 VA
		Total:	3,557 VA
			9.9 Amps at 208v, 3Ø

NEW PANEL S3

VOLTAGE RATING - 120/208V, 3-PH, 4 WIRE — BUSS AMPS - 100A
LOCATION - OFFICE 115B — MOUNTING - SURFACE
MAIN LUG ONLY — 20" WIDE ENCLOSURE
SQUARE D NQ STYLE PANELBOARD

CKT. NO.	BRKR A	BRKR P	DESCRIPTION	LOAD VA	AØ VA	BØ VA	CØ VA
1	20	1	RECEPTACLES	1440	1440		
3	20	1	RECEPTACLES	1440		1440	
5	20	1	RECEPTACLES	1440			1440
7	20	1	DEHUMIDIFIER DHU-2	680	680		
9	20	1	UNIT HEATERS UH-5, 6, & UH-7	1656		1656	
11	20	1	EF-7	677			677
13	20	1	SPARE				
15			SPACE				
17			SPACE				
2	20	1	RECEPTACLES	1080	1080		
4	20	1	VAULT PANEL CKT NOTE 5	200		200	
6	20	1	LIGHTING	1617			1617
8	20	1	SPARE				
10	20	1	SPARE				
12	20	1	SPARE				
14			SPACE				
16			SPACE				
18			SPACE				
			PER PHASE VA SUBTOTALS	10230	3200	3296	3734
			PER PHASE DEMAND AMPS	28	27	27	31

PANEL NOTES:
1. PROVIDE WITH INSULATED GROUNDING BAR.
2. PROVIDE WITH SOLID NEUTRAL BAR.
3. ALL CIRCUIT BREAKER SHALL BE RATED 10,000 AIC.
4. PROVIDE PANEL ENCLOSURE WITH A DOOR WITHIN DOOR TRIM COVER OPTION.
5. PROVIDE AND INSTALL CIRCUIT BREAKER HANDLE LOCK. LOCK IN "ON" POSITION.

ARMORY BUILDING PANEL S3 LOADS

Noncontinuous Loads

Receptacle Load:	5,400 VA Total		
	FIRST 10,000 VA at 100% =	5,400	
	REMAINDER OF VA at 50% =	00 VA	
	Subtotal		5,400 VA
Motor Load:	0 VA at 65% =	0 VA	
Kitchen Load:	0 VA at 65% =	0 VA	
HVAC Load:	3013 VA at 65% =	1959 VA	
Other Loads:	200 VA at 50% =	100 VA	
			2,059 VA
Continuous Loads			
General Lighting	1,617 VA at 125% =	2,121 VA	
	Subtotal		2,121 VA
		Total:	9,580 VA
			26.6 Amps at 208v, 3Ø

NEW PANEL S4

VOLTAGE RATING - 120/208V, 3-PH, 4 WIRE — BUSS AMPS - 100A
LOCATION - OFFICE 115B — MOUNTING - SURFACE
MAIN LUG ONLY — 20" WIDE ENCLOSURE
SQUARE D NQ STYLE PANELBOARD

CKT. NO.	BRKR A	BRKR P	DESCRIPTION	LOAD VA	AØ VA	BØ VA	CØ VA
1	20	1	RECEPTACLES	1260	1260		
3	20	1	RECEPTACLES	1260		1260	
5	20	1	RECEPTACLES	1080			1080
7	20	1	EF-8	677	677		
9	20	1	SPARE				
11	20	1	SPARE				
13	20	1	SPARE				
15			SPACE				
17			SPACE				
2	20	1	RECEPTACLES	1260	1260		
4	20	1	RECEPTACLES	1260		1260	
6	20	1	LIGHTING	1750			1750
8	20	1	VAULT PANEL CKT NOTE 5	200	200		
10	20	1	UNIT HEATERS UH-8, 9, & UH-10	1656		1656	
12	20	1	DEHUMIDIFIER DHU-3	680			680
14			SPACE				
16			SPACE				
18			SPACE				
			PER PHASE VA SUBTOTALS	11083	3397	4176	3510
			PER PHASE DEMAND AMPS	31	28	35	29

PANEL NOTES:
1. PROVIDE WITH INSULATED GROUNDING BAR.
2. PROVIDE WITH SOLID NEUTRAL BAR.
3. ALL CIRCUIT BREAKER SHALL BE RATED 10,000 AIC.
4. PROVIDE PANEL ENCLOSURE WITH A DOOR WITHIN DOOR TRIM COVER OPTION.
5. PROVIDE AND INSTALL CIRCUIT BREAKER HANDLE LOCK. LOCK IN "ON" POSITION.

ARMORY BUILDING PANEL S4 LOADS

Noncontinuous Loads

Receptacle Load:	6,120 VA Total		
	FIRST 10,000 VA at 100% =	6,120 VA	
	REMAINDER OF VA at 50% =	00 VA	
	Subtotal		6,120 VA
Motor Load:	0 VA at 65% =	0 VA	
Kitchen Load:	0 VA at 65% =	0 VA	
HVAC Load:	3013 VA at 65% =	1959 VA	
Other Loads:	200 VA at 50% =	100 VA	
			2,059 VA
Continuous Loads			
General Lighting	1,750 VA at 125% =	2,188 VA	
			2,188 VA
		Total:	10,367 VA
			28.8 Amps at 208v, 3Ø

NEW PANEL F

VOLTAGE RATING - 120/208V, 3-PH, 4 WIRE — BUSS AMPS - 200A
LOCATION - BREAK ROOM — MOUNTING - FLUSH
MAIN CIRCUIT BREAKER - 200A — 20" WIDE ENCLOSURE
SQUARE D NQ STYLE PANELBOARD

CKT. NO.	BRKR A	BRKR P	DESCRIPTION	LOAD VA	AØ VA	BØ VA	CØ VA
1	20	1	REFRIGERATOR	850	850		
3	20	1	MICROWAVE	1000		1000	
5	20	1	RECEPTACLES	360			360
7	15	1	HAND DRYER	950	950		
9	20	1	RECEPTACLES	540		540	
11	15	1	HAND DRYER	950			950
13	20	1	SPARE				
15	20	1	SPARE				
17	20	1	SPARE				
19	20	1	SPARE				
21	20	1	SPARE				
23	20	1	SPARE				
25	20	1	SPARE				
27	20	1	SPARE				
29	20	1	SPARE				
31	20	1	SPARE				
33	20	1	SPARE				
35	20	1	SPARE				
37			SPACE				
39			SPACE				
41			SPACE				
2	20	1	RECEPTACLES	1080	1080		
4	20	1	RECEPTACLES	540		540	
6	20	1	RECEPTACLES & BOTTLE FILLER	1090			1090
8	20	1	EXHAUST FANS EF-2 & EF-3	956	956		
10	20	1	EXHAUST FANS EF-1 & EF-4	1012		1012	
12	20	1	TWH-4 & TWH-5	400			400
14	20	1	SPARE				
16	20	1	SPARE				
18	20	1	CUH-4, 6, 7, AND CUH-8	404			404
20	20	1	SPARE				
22	20	1	SPARE				
24	20	1	SPARE				
26	20	1	SPARE				
28	20	1	SPARE				
30	20	1	SPARE				
32	20	1	SPARE				
34	20	1	SPARE				
36			SPACE				
38			SPACE				
40			SPACE				
42			SPACE				
			PER PHASE VA SUBTOTALS	10132	3836	3092	3204
			PER PHASE DEMAND AMPS	28	32	26	27

PANEL NOTES:
1. PROVIDE WITH INSULATED GROUNDING BAR.
2. PROVIDE WITH SOLID NEUTRAL BAR.
3. ALL CIRCUIT BREAKER SHALL BE RATED 10,000 AIC.
4. PROVIDE PANEL ENCLOSURE WITH A DOOR WITHIN DOOR TRIM COVER OPTION.

ARMORY BUILDING PANEL F LOADS

Noncontinuous Loads

Receptacle Load:	3,610 VA Total		
	FIRST 10,000 VA at 100% =	3,610	
	REMAINDER OF VA at 50% =	00 VA	
	Subtotal		3,610 VA
Motor Load:	0 VA at 65% =	0 VA	
Kitchen Load:	0 VA at 65% =	0 VA	
HVAC Load:	2,772 VA at 65% =	1,802 VA	
Other Loads:	3,750 VA at 50% =	1,875 VA	
			3,677 VA
Continuous Loads			
General Lighting	00 VA at 125% =	0 VA	
	Subtotal		0 VA
		Total:	7,287 VA
			20.2 Amps at 208v, 3Ø

NEW DISTRIBUTION PANEL DP3

VOLTAGE RATING - 120/208V, 3-PH, 4 WIRE — BUSS AMPS - 600A
LOCATION - MECHANICAL ROOM — MOUNTING - SURFACE
MAIN CIRCUIT BREAKER - 600A — 20" WIDE ENCLOSURE
SQUARE D NQ STYLE PANELBOARD

CKT. NO.	BRKR A	BRKR P	DESCRIPTION	LOAD VA	AØ VA	BØ VA	CØ VA
1	60	3	PANEL S1	11017	5033	2540	3444
3							
5							
7	60	3	PANEL S2	3131	1080	1111	940
9							
11							
13	20	2	EXTERIOR GATE POLE LIGHT	51	25	26	
15							
17							
19							
21							
23							
25							
27							
29							
31							
33							
35							
37							
39							
41							
2	60	3	PANEL S3	10230	3200	3296	3734
4							
6							
8	60	3	PANEL S4	11083	3397	4176	3510
10							
12							
14	200	3	PANEL F	10132	3836	3092	3204
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
			PER PHASE VA SUBTOTALS	45644	16571	14241	14832
			PER PHASE DEMAND AMPS	127	138	119	124

PANEL NOTES:
1. PROVIDE WITH INSULATED GROUNDING BAR.
2. PROVIDE WITH SOLID NEUTRAL BAR.
3. ALL CIRCUIT BREAKER SHALL BE RATED 10,000 AIC.
4. PROVIDE PANEL ENCLOSURE WITH A DOOR WITHIN DOOR TRIM COVER OPTION.

ARMORY BUILDING DISTRIBUTION PANEL DP3 LOADS

Noncontinuous Loads

Receptacle Load:	22,870 VA Total		
	FIRST 10,000 VA at 100% =	10,000 VA	
	REMAINDER OF VA at 50% =	6,435 VA	
	Subtotal		16,435 VA
Motor Load:	0 VA at 65% =	0 VA	
Kitchen Load:	0 VA at 65% =	0 VA	
HVAC Load:	12763 VA at 65% =	8296 VA	
Other Loads:	4350 VA at 50% =	2175 VA	
			10,471 VA
Continuous Loads			
General Lighting	5,661 VA at 125% =	7,076 VA	
			7,075 VA
		Total:	33,981 VA
			94.3 Amps at 208v, 3Ø

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT, AND BUDGET
FACILITIES ADMINISTRATION, BUSINESS SERVICES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM LACH, RA, DIRECTOR

RENOVATE ARMORY– OLYMPIA

DEPARTMENT OF MILITARY AND VETERANS AFFAIRS
DETROIT, MICHIGAN

DESIGNED	ALM
DRAWN	ALM
CHECKED	BAB
APPROVED	ALM

ISSUED FOR	DATE
PRELIMINARY	10 OCT 2021
CONSTRUCTION	05 JUL 2023
FINAL RECORD	

IDENTIFICATION NO.
PROJECT 26A7722012
INDEX CODE 1390

SHEET E9