

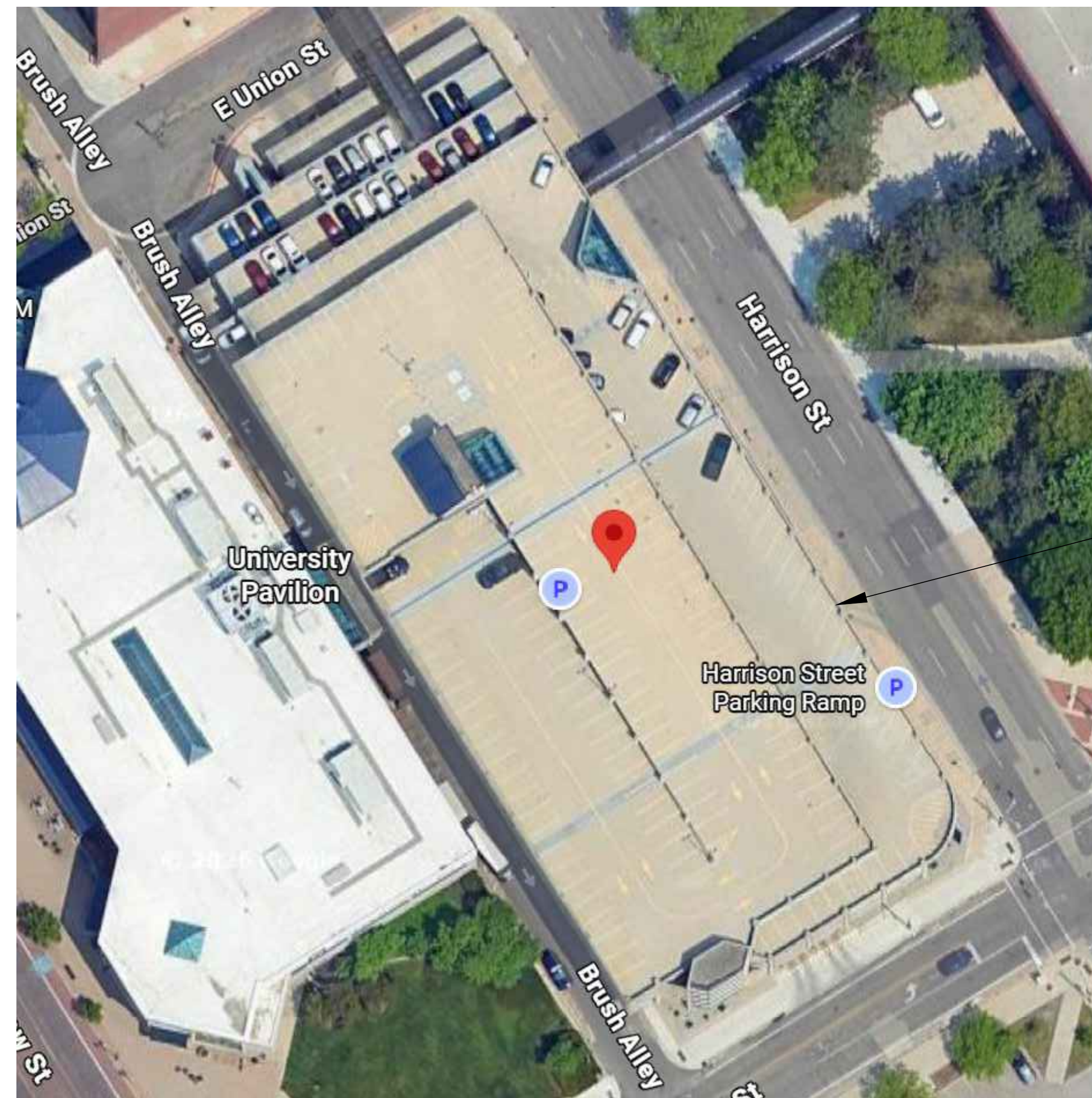
STATE OF MICHIGAN

DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET FLINT PARKING RAMP- UPGRADE FIRE SUPPRESSION SYSTEM

300 HARRISON STREET
FLINT, MI 48502
FILE NUMBER: 171/26076.GSA

MECHANICAL/ELECTRICAL ENGINEER
MATRIX CONSULTING ENGINEERS, INC.
544 CHERBOURG DRIVE
LANSING, MI 48917
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MATRIX PROJECT NUMBER: 260205.00



FLINT PARKING RAMP

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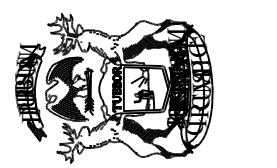
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STATE OF MICHIGAN - DTMB
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DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
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FP-000

TITLE SHEET

GENERAL NOTES FOR FIRE PROTECTION

- FIRE PROTECTION DESIGN, PIPING, CALCULATIONS, AND DRAWINGS SHALL BE COMPLETED BY CERTIFIED FIRE PROTECTION CONTRACTOR.
- PROVIDE LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL FIRE PROTECTION WORK. WORK SHALL CONFORM WITH THE BUILDING AND FIRE CODES AND NFPA CRITERIA.
- WORK SHALL BE COORDINATED WITH OWNER AND WITH OTHER TRADES TO AVOID INTERFERENCES.

GENERAL CONDITIONS

- FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY FOR REQUIRED PERMITS AND APPROVAL FEES ASSOCIATED WITH THIS PROJECT FOR HIS PORTION OF THE WORK.

FIRE PROTECTION DESIGN DATA

DESIGN:
BASE HYDRAULIC CALCULATIONS ON NFPA 13 AND COMPLY WITH LOCAL FIRE MARSHALL, CODES AND AUTHORITY HAVING JURISDICTION.

AUTOMATIC SPRINKLERS:
SYSTEM: DRY COMPRESSED AIR FIRE SUPPRESSION SYSTEM
A DRY PIPE COMPRESSED AIR FILLED SYSTEM FOR AN ORDINARY HAZARD, GROUP 2 OCCUPANCY

INSPECTION:
PLANS OF THE SPRINKLER SYSTEMS SHALL BE SUBMITTED TO THE LOCAL FIRE MARSHALL AND AUTHORITY HAVING JURISDICTION FOR PLAN REVIEW.

- NOTES:**
- UNLESS OTHERWISE NOTED, COORDINATE HEAD LOCATIONS WITH EXISTING STRUCTURE AND UTILITIES THROUGHOUT THE BUILDING FOR INSTALLATION TO AVOID ANY CONFLICTS. CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING AND PATCHING OF CEILINGS AND WALLS AS NEEDED TO REMOVE AND INSTALL NEW FIRE PROTECTION PIPING. ALL CEILINGS AND WALLS ARE TO BE PATCHED TO MATCH EXISTING.
 - NEW FIRE PROTECTION SPRINKLER SYSTEM SHALL MAINTAIN ALL MINIMUM CLEARANCES OF THE EXISTING SYSTEM.
 - ALL FIRE SUPPRESSION PIPING TO BE PRIMED AND PAINTED WITH (2) COATS OF RED PAINT.

PHASING PLAN

ENTIRE PROJECT SCOPE OF WORK IS TO BE COMPLETED IN 1 PHASE. CONTRACTOR IS TO COORDINATE WITH DTMB FOR WHEN ONSITE CONSTRUCTION WILL BEGIN AND THE LENGTH OF THE PROJECT DURATION. DTMB WILL WORK WITH THE CONTRACTOR TO RELOCATE STATE OF MICHIGAN VEHICLES AS NEEDED FOR THE CONTRACTOR TO COMPLETE THEIR WORK AND NOTIFY TENANTS OF THE CLOSING OF PORTIONS OF THE PARKING RAMP. CONTRACTOR IS TO PROVIDE DTMB WITH A DETAILED SCHEDULE AND COORDINATE DAILY FOR AREAS OF WORK TO ALLOW DTMB TO RELOCATE STATE OF MICHIGAN VEHICLES ACCORDINGLY. THE CONTRACTOR IS TO PROVIDE AND INSTALL ALL REQUIRED TEMPORARY BARRICADES, SIGNAGE, AND OTHER EQUIPMENT NEEDED TO SECURE THE AREA OF THE PARKING RAMP WHERE WORK IS BEING COMPLETED FROM THE PUBLIC.

DESIGN DATA

- PARKING GARAGE, ORDINARY HAZARD OCCUPANCY (GROUP 2), 0.2 GPM PER 1,950 SQ. FT. (DRY SYSTEM).
- FLOW TEST: CONTRACTOR TO PROVIDE HYDRAULIC SPRINKLER DESIGN BASED ON HYDRANT FLOW TEST. CONTRACTOR TO CONDUCT FLOW TEST FOR SPRINKLER DESIGN.
- HOSE STREAM ALLOWANCE: 250 GPM.

PLUMBING ABBREVIATIONS

AD	AREA DRAIN	NTS	NOT TO SCALE
ASR	AUTOMATIC SPRINKLER RISER	ORD	OVERFLOW ROOF DRAIN OXYGEN
BFS	BELOW FLOOR SLAB BACK WATER VALVE	P	PUMP
CB	CATCH BASIN	PD	PRESSURE DROP
CI	CAST IRON CLEAN OUT	PVC	POLY-VINYL-CHLORIDE
CV	CONTROL VALVE	RC	RAIN CONDUCTOR
DF	DRINKING FOUNTAIN	RD	ROOF DRAIN
DIA	DIAMETER	RI	ROUGH-IN REQUIRED
DN	DOWN	REQ'D	REQUIRED
DWH	DOMESTIC WATER HEATER	SAN	SANITARY SHOWER
E.T.C.	ELECTRICAL TRADES CONTRACTOR	SK	SINK
EWC	ELECTRIC WATER COOLER	SP	STAND PIPE
EXIST	EXISTING	SQ. FT.	SQUARE FEET
FD	FLOOR DRAIN	SS	SERVICE SINK
FC	FINAL CONNECTIONS	ST	STORM
FDC	FIRE DEPT. CONNECTION	SSW	STOP & WASTE
FF	FINISH FLOOR	STR	STRAINER
FHV	FIRE HOSE VALVE	SV	STACKED VENT
FT	FEET	TYP.	TYPICAL
GAL	GALLON	UR	URINAL
GD	GARBAGE DISPOSAL	VB	VACUUM BREAKER
GI	GREASE INTERCEPTOR	VS	VENT STACK
GPH	GALLONS PER HOUR	V.F.D	VARIABLE FREQUENCY DRIVE
GPM	GALLONS PER MINUTE	VTR	VENT THRU ROOF
HB	HOSE BIB	W	WASTE
HD	HEAD (FT)	WB	WET BULB
HP	HORSE POWER	WC	WATER CLOSET
ID	INSIDE DIAMETER	WH	WALL HYDRANT
I.E.	INVERT ELEVATION	WS	WASTE STACK
LAV	LAVATORY	W&V	WASTE AND VENT
LT	LAUNDRY TRAY	X-CW	EXIST. CW PIPING ITEM
MA	MEDICAL AIR		EXISTING
MAX	MAXIMUM		
MGC	MEDICAL GAS CONSOLE		
MH	MAN HOLE		
MIN	MINIMUM		
MS	MOP SINK		
M.T.C.	MECHANICAL TRADES CONTRACTOR		

GENERAL FIRE SUPPRESSION NOTES

- FIRE PROTECTION SYSTEM SHALL BE DESIGNED IN COMPLIANCE WITH THE LATEST EDITION OF NFPA 13 AND LOCAL FIRE CODE REQUIREMENTS.
- PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITIONS, REVISIONS, AMENDMENTS, OR SUPPLEMENTS OF APPLICABLE STATUTES, ORDINANCES, CODES OF REGULATIONS OF FEDERAL, STATE, AND LOCAL AUTHORITIES HAVING JURISDICTION IN EFFECT ON THE DATE BIDS ARE RECEIVED.
- WHERE APPROVED STANDARDS HAVE BEEN ESTABLISHED BY OSHA, UNDERWRITERS LABORATORIES, AMERICAN CODES, ASA, ASHRAE, ARI, NEC, STATE FIRE INSURANCE REGULATION BODY, NFPA, OR OTHERS, THESE STANDARDS SHALL BE FOLLOWED WHETHER OR NOT INDICATED ON THE DRAWING AND SPECIFICATIONS.
- INSTALL ALL EQUIPMENT, MATERIALS, AND ACCESSORIES PER MANUFACTURERS WRITTEN INSTRUCTIONS.
- ALL PIPE SIZES SHOWN ARE SERVICE SIZE. SIZE SLEEVES FOR 1" CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLATION OF MECHANICAL SEAL.
- FIRE SUPPRESSION DESIGN & PIPING SHALL BE COMPLETED BY CERTIFIED FIRE SUPPRESSION CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EQUIPMENT AND MATERIALS IN A "NEW" CONDITION DURING CONSTRUCTION.
- ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND SUBCONTRACTORS AS REQUIRED BY LAW.
- DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CODES AND REGULATIONS ENFORCED BY LOCAL BUILDING OFFICIALS.
- DRAWINGS INDICATE REQUIRED SIZES AND POINTS OF TERMINATION OF PIPES AND SUGGESTED ROUTES. IT IS NOT INTENTION OF DRAWINGS TO INDICATE ALL NECESSARY OFFSETS. INSTALL WORK IN MANNER TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. DO NOT SCALE FROM DRAWINGS.
- SPRINKLER AND PIPING LAYOUT SHOWN FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHALL CONFIRM STRUCTURAL AND WATER SUPPLY HYDRAULIC INFORMATION PRIOR TO SYSTEM FABRICATION AND INSTALLATION.
- FIRE SUPPRESSION PLANS ARE BASED ON A PERFORMANCE SPECIFICATION AND IDENTIFY AREAS FOR FIRE SUPPRESSION. DETAILED PLANS FOR THE FIRE SUPPRESSION LAYOUT AND FLOW CALCULATIONS TO BE SUBMITTED SEPARATELY BY THE CONTRACTOR TO PLAN REVIEW FOR APPROVAL WITH THEIR HYDRAULIC CALCULATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FLOW TEST DATA AND PREPARING ALL REQUIRED HYDRAULIC CALCULATIONS.
- FLOW TEST RESULTS TO BE CALCULATED FROM TEST LOCATION NEAREST TO THE FIRE RISER.
- DRY PIPE AUTOMATIC SPRINKLER RISER SHALL BE COMPLETE WITH THE FOLLOWING: ALARM CHECK VALVE, 2" MAIN DRAIN, PRESSURE GAUGE WITH SHUTOFF VALVE, PADDLE TYPE WATER FLOW SWITCH AND 1" INSPECTOR'S TEST CONNECTION, AS WELL AS ANY ADDITIONAL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- PROVIDE AND INSTALL ADDITIONAL AUTOMATIC SPRINKLERS UNDER ALL OBSTRUCTIONS IN EXPOSED AREAS PER NFPA 13. THIS SHOULD INCLUDE ADDITIONAL SPRINKLERS BELOW DUCTS AND MEZZANINES WHICH ARE 48 INCHES WIDE OR WIDER. ALL SPRINKLERS UNDER OBSTRUCTIONS SHALL BE EQUIPPED WITH CAGE GUARDS.
- AUTOMATIC SPRINKLERS SHALL BE DESIGNED PER THE APPROPRIATE SEISMIC PER NFPA 13, CURRENT EDITION.
- WHERE REQUIRED BY CODE OR DIRECTED BY LOCAL AUTHORITIES, CONTRACTOR SHALL PROVIDE SEISMIC HANGING & CONSTRAINTS ON ALL PIPING IN COMPLETE ACCORDANCE WITH THE LATEST ISSUE OF THE STATE MECHANICAL BUILDING CODE, LOCAL CODES, AND NFPA.
- AUTOMATIC SPRINKLERS SHALL BE HYDRAULICALLY CALCULATED BASED UPON A FLOW TEST USING CITY HYDRANTS CLOSEST TO THE PROPOSED TIE IN POINT. STATIC AND RESIDUAL PRESSURE SHALL BE RECORDED ALONG WITH ACTUAL FLOW (GPM) DATA.
- FIRE PROTECTION CONTRACTOR OR ANY OF HIS SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR DAMAGE TO OWNERS PROPERTY AND SHALL REPAIR EQUIPMENT OR UTILITIES DAMAGED BY HIS EMPLOYEES WHILE PERFORMING WORK. REPAIRS SHALL BE PERFORMED ONLY BY CERTIFIED TRADE PERSONNEL. COSTS INVOLVED WITH THIS REPAIR SHALL BE THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR AS ASSESSED BY THE PROJECT MANAGER.
- ALL EQUIPMENT AND MATERIAL BEING UTILIZED SHALL BE UNDERWRITERS LABORATORIES LISTED (UL) APPROVED AND LISTED IN THE CURRENT EDITION OF APPROVAL GUIDES.
- ALL FIRE PROTECTION PIPING SHALL BE INSTALLED TO ALLOW DRAINAGE BACK TO SYSTEM RISERS WHENEVER POSSIBLE. WHERE THIS IS IMPRACTICAL AUXILIARY DRAINS SHALL BE INSTALLED AND DRAINED WHERE INDICATED ON THE CONSTRUCTION DOCUMENTS.
- ANY PENETRATION THROUGH THE EXTERIOR WALLS OR FLOORS SHALL BE SEALED TO MAKE WATER TIGHT AND MAINTAIN CURRENT FIRE RATINGS.
- ALL PIPE, FITTINGS, AND HANGERS SHALL BE AS PERMITTED BY NFPA 13, CURRENT EDITION AND ATTACHED TO STRUCTURAL MEMBERS.
- MATERIALS AND WORKMANSHIP FOR FIRE PROTECTION CONTRACTORS WORK SHALL HAVE A MINIMUM OF A ONE-(1) YEAR GUARANTEE FROM THE TIME THE SYSTEM IS ACCEPTED AND APPROVED BY THE OWNER.
- FIRE PROTECTION CONTRACTOR SHALL BE CERTIFIED BY THE STATE OF MICHIGAN, TO PERFORM THIS WORK.
- AUTOMATIC WET PIPE SPRINKLER SYSTEMS SHALL BE PRESSURE TESTED AT 200-PSI OR 150% THE WORKING PRESSURE, WHICHEVER IS GREATER, FOR TWO (2) HOURS WITH NO VISIBLE LEAKAGE. LEAKS SHALL BE REPAIRED BY TIGHTENING OR REPLACEMENT OF FITTINGS. WRAPPING, CAULKING, OR OTHER MEANS SHALL NOT BE ALLOWED.
- AT THE COMPLETION OF THE PROJECT THE FIRE PROTECTION CONTRACTOR SHALL FURNISH TO THE OWNER AN OPERATION AND MAINTENANCE MANUAL COMPLETE WITH CATALOG CUTS ON ALL MAJOR PIECES FOR EQUIPMENT, COPY OF HYDRAULIC CALCULATIONS, COPY OF DRAWINGS IN AUTO-CAD FORMAT, COPY OF NFPA 25, CURRENT EDITION, RECOMMENDED SPARE PARTS LIST, WIRING DIAGRAMS, AND OWNERS MANUAL.
- FIRE PROTECTION CONTRACTOR SHALL FURNISH THE OWNER WITH THREE (3) COPIES OF THE MATERIAL AND TEST CERTIFICATES AT THE COMPLETION OF THE PROJECT.
- AUTOMATIC SPRINKLERS SHALL UTILIZE HIGHER TEMPERATURE SPRINKLERS WHERE REQUIRED BY NFPA 13.
- PROVIDE A SPARE SPRINKLER HEAD CABINET WITH A MINIMUM OF THREE-(3) SPRINKLERS OF EACH TYPE UTILIZED.
- ALL WATER FLOW SWITCHES, VALVE SUPERVISORY SWITCHES, SMOKE DETECTORS, SHALL BE TIED INTO THE MAIN FIRE ALARM PANEL. OWNER WILL COMPLETE ALL FIRE ALARM MODIFICATIONS AND REQUIRED TIE-INS. CONTRACTOR TO COORDINATE WITH OWNER WHEN FIRE ALARM MODIFICATIONS/TIE-INS ARE READY TO BE COMPLETED.
- ALL SPRINKLERS SHALL BE INSTALLED WITH A 1" VARIANCE IN EITHER DIRECTION.

FIRE PROTECTION SYMBOLS LEGEND

	FIRE PROTECTION		FLOW DIRECTION
			PIPE DROP
			PIPE RISE
			INLINE PIPING DROP
			INLINE PIPING RISE
			PIPING TEE
			PIPING ELBOW
			INLINE CLEANOUT
			CONNECTION
			PUMP
			UNION
			PIPE ANCHOR
			PIPE GUIDE
			FLOOR DRAIN & FLOOR SINK
			BACK FLOW PREVENTER
			FLANGE END CONNECTION
			PIPE CAP
			PIPE BREAK
			WATER METER
			PRESSURE GAUGE
			FIRE HYDRANT
			SPRINKLER HEAD (PENDANT)
			SPRINKLER HEAD (UPRIGHT)
			SPRINKLER HEAD (SIDEWALL)
			FIRE DEPARTMENT CONNECTION
			FLOW SWITCH
			PRESSURE SWITCH
			SUPERVISORY SWITCH INVERTED

AIR DRYER SCHEDULE (DEDUCTIVE ALTERNATE #1)							
TAG	LOCATION	MODEL NUMBER	PRESSURE RANGE (PSIG)	DIMENSIONS LxWxH (INCHES)	ELECTRICAL POWER (VOLTS/PHASE)	WEIGHT (LBS)	COMMENTS
AD-1	PARKING GARAGE RISER ROOM	HDD015	60-230	11x3.6x32	120 / 1 PHASE	43	1,2,3,4,5

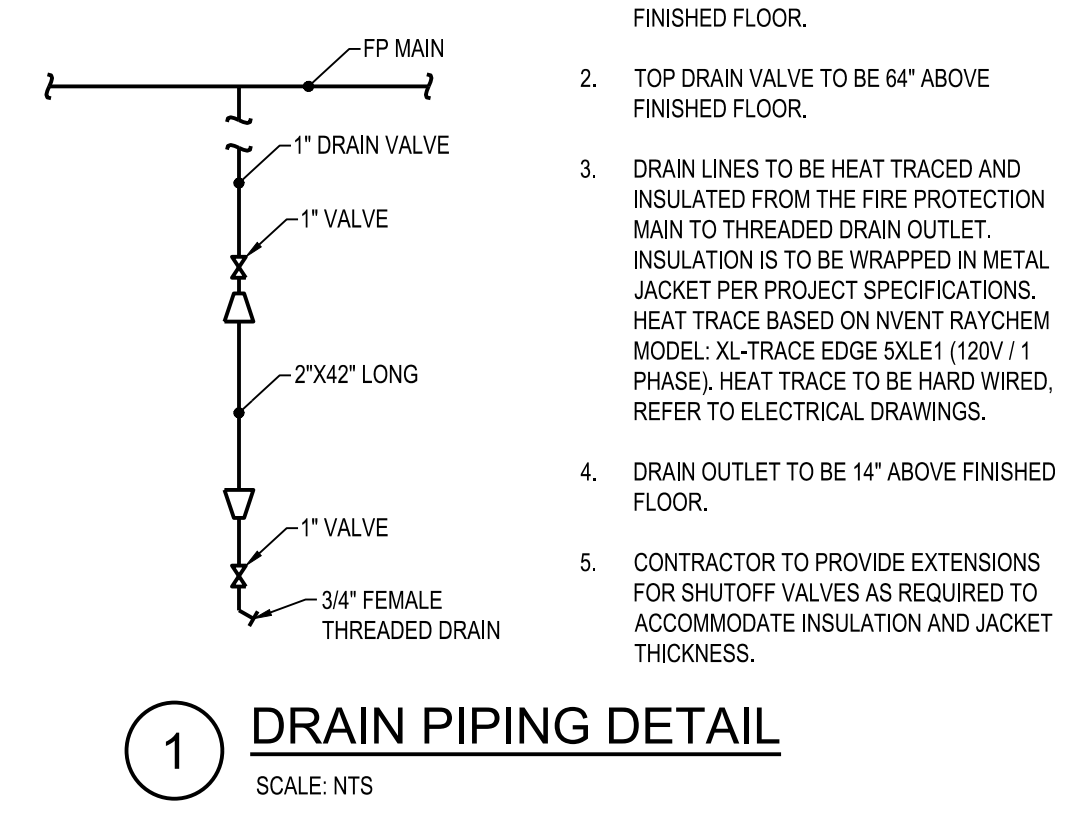
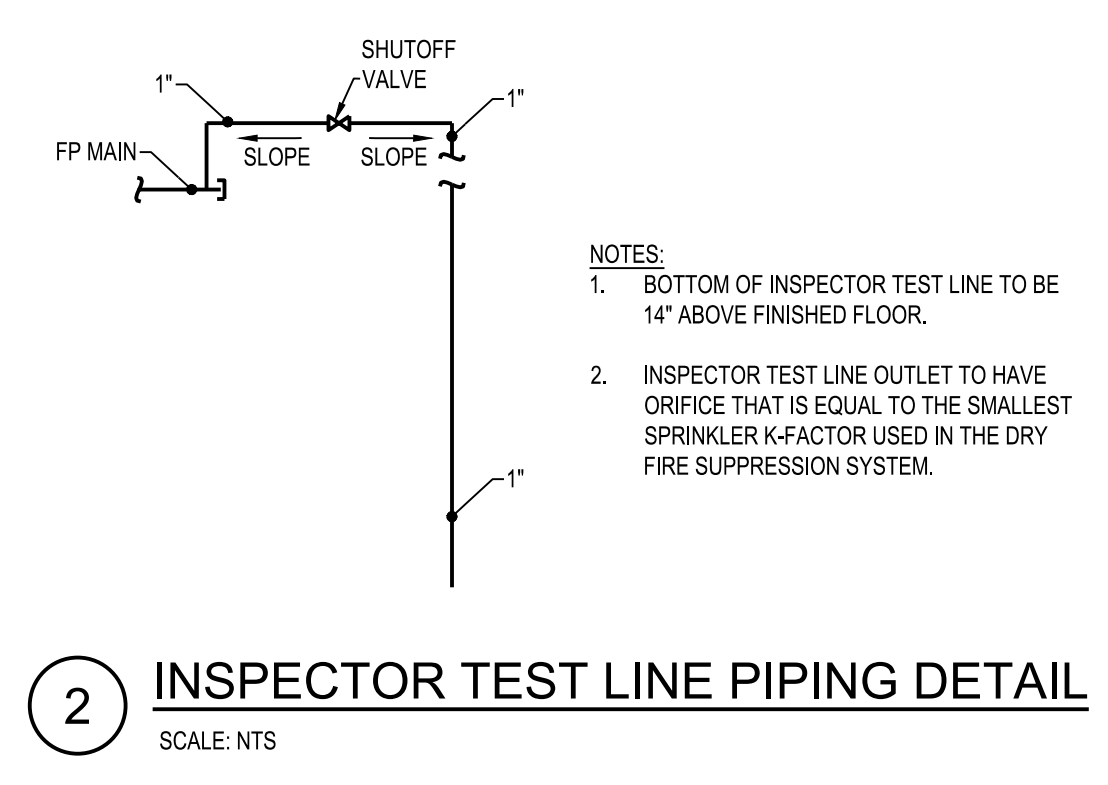
NOTES:

- GENERAL AIR PRODUCTS
- WALL MOUNTED
- ALUMINUM CONSTRUCTION
- HEATLESS DESICCANT COMPRESSED AIR DRYER
- RATED FOR FIRE SUPPRESSION SYSTEMS

AIR COMPRESSOR SCHEDULE									
TAG	LOCATION	MODEL NUMBER	PRESSURE (PSIG)	VOLUME FLOW RATE @ PRESSURE (PSI)	MOTOR (HP)	DIMENSIONS LxWxH (INCHES)	ELECTRICAL POWER (VOLTS/PHASE)	WEIGHT (LBS)	COMMENTS
AC-1	PARKING GARAGE RISER ROOM	LTV900100A	80 / 100	7.91 CFM @ 10 PSI	1.5	33x14.25x29.5	208 / 1PHASE	170	1,2,3,4,5,6,7,8,9

NOTES:

- GENERAL AIR PRODUCTS
- FIRE PROTECTION RATED
- LUBRICATED
- MANU. PROVIDED VIBRATION PADS
- MANU. PROVIDED AIR MAINTENANCE DEVICE (AMD-1, PRESSURE REGULATING DEVICE PER NFPA 13)
- INTEGRAL AIR FILTER
- ASME RATED SAFTEY VALVE
- DIGITAL PRESSURE SWITCH
- 20 GALLON TANK



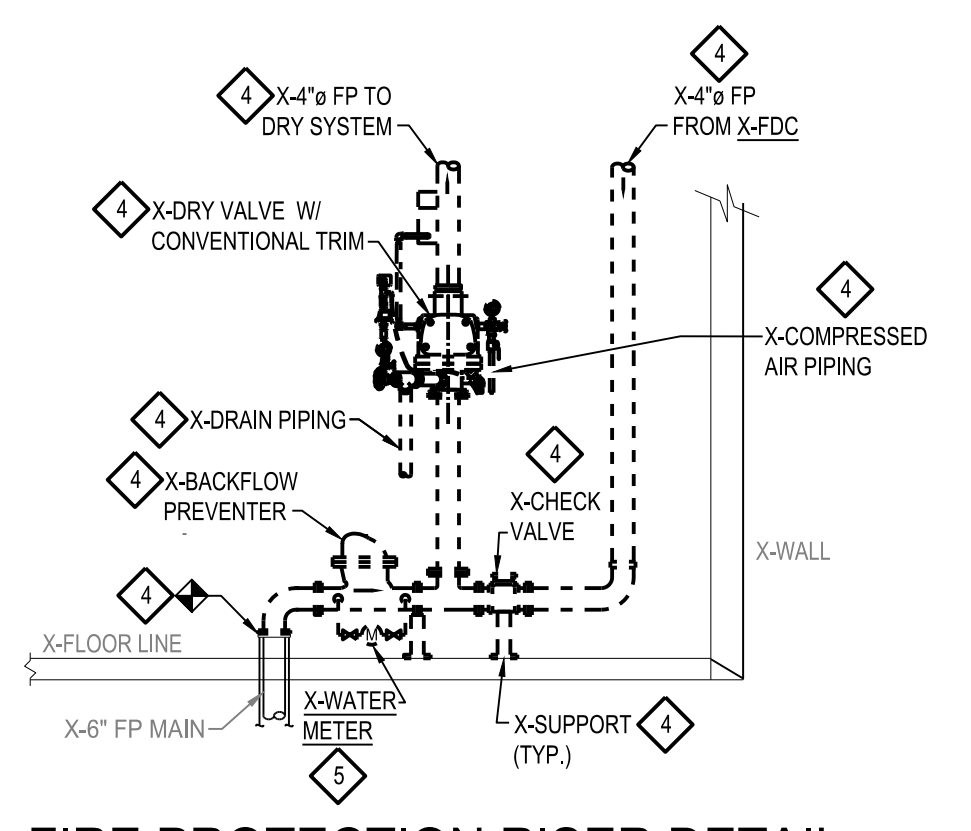
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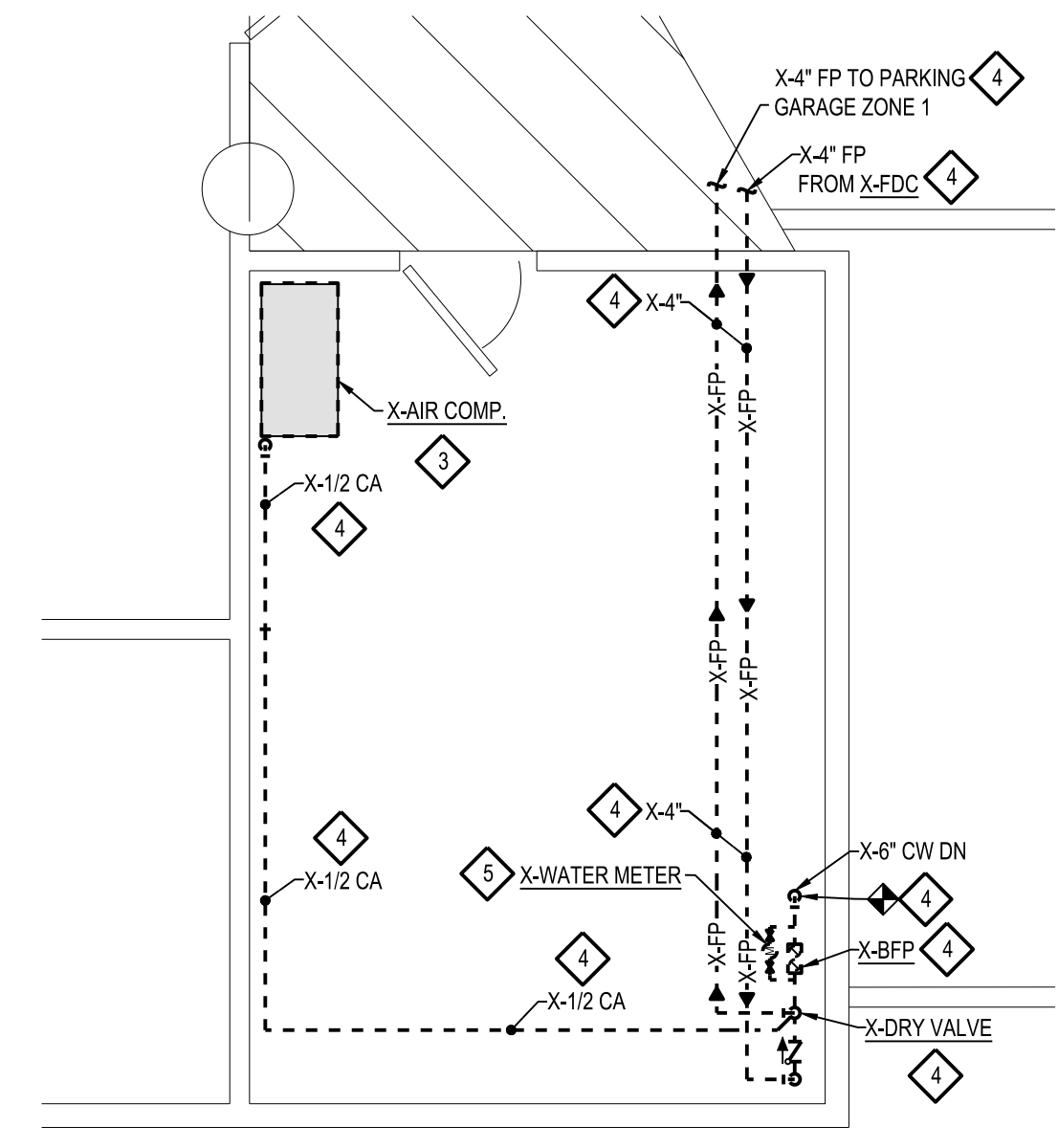
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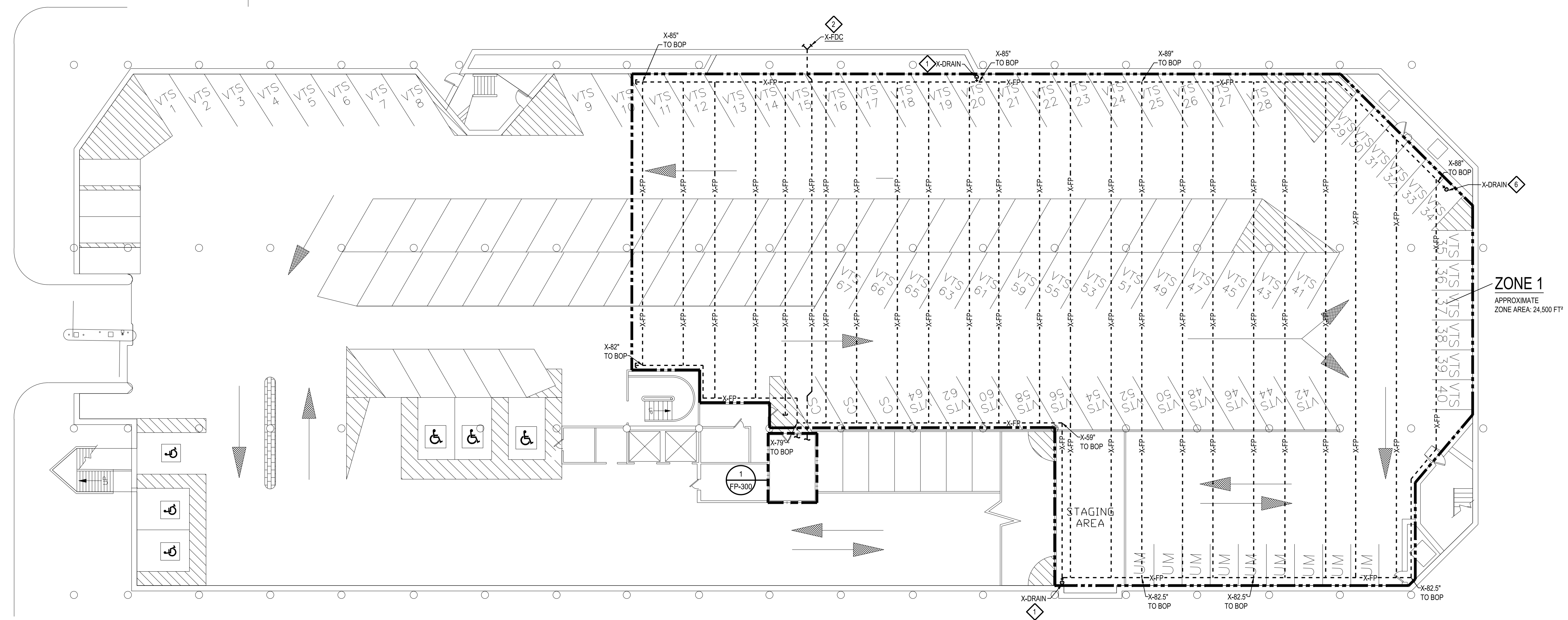
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2 FIRE PROTECTION RISER DETAIL - DEMOLITION
SCALE: NTS



1 ENLARGED RISER ROOM PLAN - FIRE PROTECTION DEMOLITION
SCALE: 1/4" = 1'-0"



PARKING GARAGE - BASEMENT FLOOR PLAN - FIRE PROTECTION DEMOLITION
SCALE: 1/16" = 1'-0"

GENERAL DEMOLITION NOTES

1. DISCONNECT, REMOVE, AND DEMO EXISTING DRY FIRE PROTECTION SYSTEM SERVING THE PARKING GARAGE IN ITS ENTIRETY. DISCONNECT REMOVE, AND DEMO THE EXISTING FIRE PROTECTION PIPING, DRAIN PIPING, ANCHORS, PIPING SUPPORTS, HANGERS, VALVES, FITTINGS, SPRINKLER HEADS, AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY.
2. CONTRACTOR TO FIELD VERIFY ELEVATIONS OF EXISTING FIRE PROTECTION PIPING AND MAINTAIN MINIMUM CLEARANCES WITH THE INSTALLATION OF THE NEW FIRE PROTECTION PIPING.
3. DIMENSIONS SHOWN ON PLANS ARE EXISTING HEIGHTS OF SPRINKLER PIPING FROM FLOOR TO BOTTOM OF PIPE (BOP).

DEMOLITION NOTES

- 1 DISCONNECT, REMOVE, AND DEMO EXISTING DRAIN, FIRE PROTECTION PIPING, HEAT TRACE, AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY.
- 2 DISCONNECT, REMOVE, AND DEMO EXISTING FIRE DEPARTMENT CONNECTION, FIRE PROTECTION PIPING, AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY. EXISTING WALL PENETRATIONS TO REMAIN AND BE REUSED FOR NEW FIRE DEPARTMENT CONNECTION AND FIRE PROTECTION PIPING SHOWN ON NEW DRAWINGS.
- 3 DISCONNECT, REMOVE, AND DEMO EXISTING AIR COMPRESSOR AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY. DISCONNECT, REMOVE AND DEMO EXISTING COMPRESSED AIR PIPING, VALVES, FITTINGS, HANGERS, SUPPORTS, AND ALL ASSOCIATED ACCESSORIES TO THE EXTENTS SHOWN.
- 4 DISCONNECT, REMOVE, AND DEMO EXISTING FIRE SUPPRESSION PIPING, DRY VALVE, DRAIN PIPING, COMPRESSED AIR PIPING, VALVES, FITTINGS, HANGERS, SUPPORTS, CONTROLS, AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY.
- 5 DISCONNECT, REMOVE, AND SALVAGE EXISTING WATER METER, CONTROLS, AND ALL ASSOCIATED ACCESSORIES. CONTRACTOR TO RE-INSTALL SALVAGED WATER METER AND CONTROLS AS SHOWN ON NEW DRAWINGS.
- 6 DISCONNECT, REMOVE, AND DEMO EXISTING INSPECTION DRAIN, FIRE PROTECTION PIPING, AND ALL ASSOCIATED ACCESSORIES IN THEIR ENTIRETY.

PARKING GARAGE - BASEMENT FLOOR PLAN - FIRE PROTECTION DEMOLITION

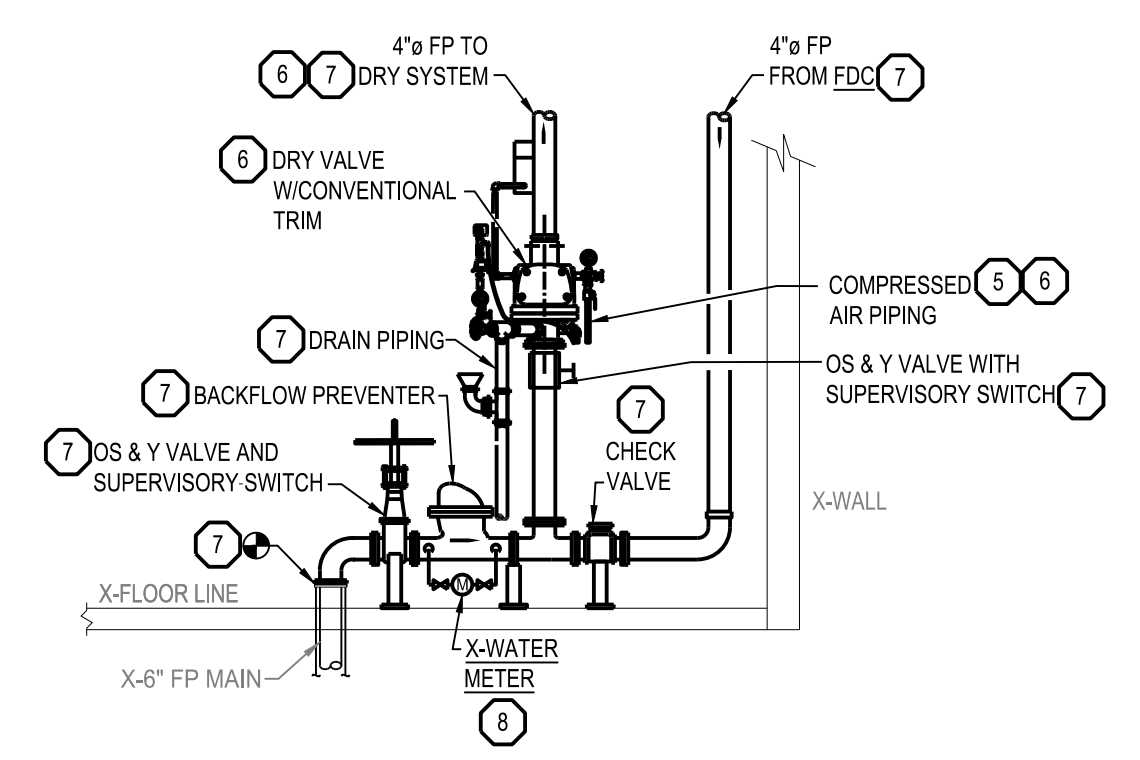
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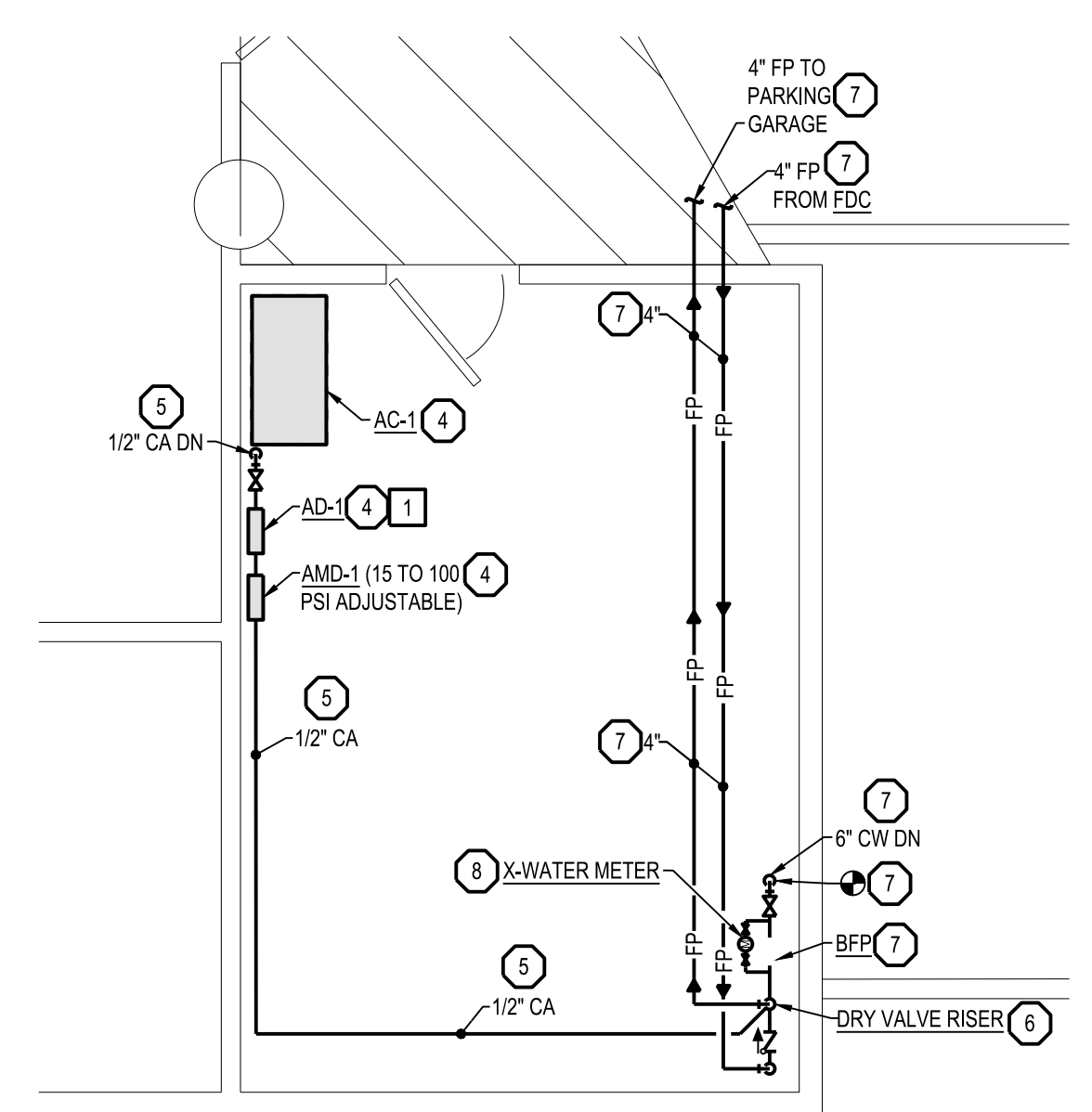


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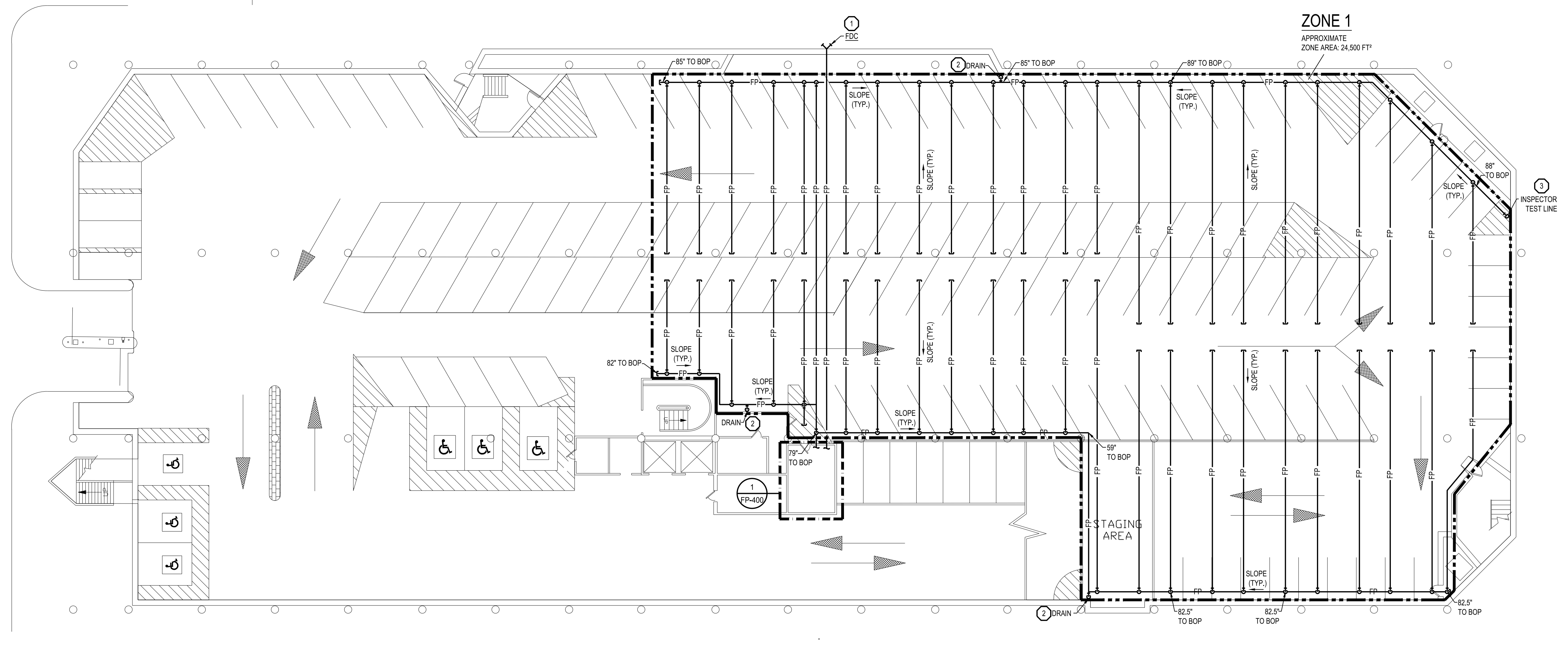
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2 FIRE PROTECTION RISER DETAIL - NEW
SCALE: NTS



1 ENLARGED RISER ROOM PLAN - FIRE PROTECTION NEW
SCALE: 1/4" = 1'-0"



PARKING GARAGE - BASEMENT FLOOR PLAN - FIRE PROTECTION NEW
SCALE: 1/16" = 1'-0"

GENERAL FIRE SUPPRESSION NOTES

1. SPRINKLE THE ZONE 1 AREA WITHIN THE PARKING GARAGE SHOWN ON DRAWING PER NFPA 13. ORDINARY HAZARD, GROUP 2 OCCUPANCY WITH A DRY PIPE COMPRESSED AIR FILLED FIRE SUPPRESSION SYSTEM. ALL EXISTING HEIGHT CLEARANCES SHALL BE MAINTAINED OR INCREASED. CONTRACTOR TO PROVIDE NEW AIR COMPRESSOR AND DRY VALVE WITH ALL CONVENTIONAL TRIM/ACCESSORIES.
2. NEW FIRE SUPPRESSION DRAINS SHALL BE INSTALLED IN THE LOCATIONS SHOWN AT A MINIMUM. CONTRACTOR TO INSTALL ALL NEW FIRE SUPPRESSION PIPING SLOPED TO THE DESIGNATED DRAIN LOCATIONS. ENTIRE DRAIN PIPING CONFIGURATION TO BE HEAT TRACED AND INSULATED. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADDITIONAL DRAINS NEEDED FOR THEIR SUPPRESSION PIPING LAYOUT WITH OTHER TRADES DURING BIDDING.
3. ALL PIPING TO BE INSTALLED AS HIGH AS POSSIBLE WHILE MAINTAINING PROPER SLOPES AND ALSO MAINTAINING EXISTING MINIMUM CLEARANCES.
4. ALL NEW FIRE SUPPRESSION PIPING IS TO BE PRIMED AND PAINTED WITH (2) COATS OF RED PAINT.
5. CONTRACTOR TO COMPLETE THE INSTALLATION OF THE NEW DRY FIRE SUPPRESSION SYSTEM IN ACCORDANCE WITH THE PHASING SCHEDULE INCLUDED ON THE FP-100 DRAWING.
6. DIMENSIONS SHOWN ON PLANS ARE MINIMUM CLEARANCES FROM FLOOR TO BOTTOM OF PIPE (BOP) TO MATCH THE EXISTING SPRINKLER HEIGHT AT A MINIMUM. PIPING TO BE INSTALLED AS HIGH AS POSSIBLE WHILE ALSO MAINTAINING PROPER SLOPES TO DRAINS.
7. THE BOTTOM OF THE NEW BRANCH PIPING THAT IS TO BE INSTALLED BETWEEN THE EXISTING CONCRETE BEAMS IS TO BE INSTALLED AT A HIGHER ELEVATION THAN THE EXISTING CONCRETE BEAMS TO PREVENT ANY CONFLICTS WITH CLEARANCES.
8. NEW FIRE SUPPRESSION PIPING IS TO BE INSTALLED WITH NEW ANCHORS, THREADED ROD, SUPPORTS, HANGERS, AND ALL ASSOCIATED ACCESSORIES. NO EXISTING ANCHORS, HANGERS, OR SUPPORTS ARE TO BE RE-USED.

FIRE SUPPRESSION KEY NOTES

1. INSTALL NEW FIRE DEPARTMENT CONNECTION, FIRE SUPPRESSION PIPING, FITTINGS, ANCHORS, SUPPORTS, HANGERS, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN. CONTRACTOR TO INSTALL NEW FIRE DEPARTMENT CONNECTION IN THE LOCATION OF THE DEMOLISHED FIRE DEPARTMENT CONNECTION. CONTRACTOR TO REUSE EXISTING WALL PENETRATION. CONTRACTOR TO PATCH EXISTING PENETRATION TO MATCH THE EXISTING WALL AND SEAL WATER TIGHT AFTER NEW FIRE SUPPRESSION PIPING AND FIRE DEPARTMENT CONNECTION ARE INSTALLED.
2. INSTALL NEW FIRE SUPPRESSION DRAIN PIPING, VALVES, FITTINGS, HEAT TRACE INSULATION, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN. CONTRACTOR TO REFER TO FP-100 DRAWING FOR FIRE SUPPRESSION DRAIN CONFIGURATION DETAIL.
3. INSTALL NEW INSPECTOR TEST LINE, VALVES, FITTINGS, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN PER NFPA 13 AND LOCAL CODE REQUIREMENTS. CONTRACTOR TO REFER TO FP-100 DRAWING FOR FIRE SUPPRESSION INSPECTOR TEST LINE CONFIGURATION DETAIL.
4. INSTALL NEW AIR COMPRESSOR, AIR DRYER, AIR MANAGEMENT DEVICE (MANU. PROVIDED PRESSURE REGULATOR), COMPRESSED AIR PIPING, VALVES, FITTINGS, HANGER, SUPPORTS, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONTRACTOR TO SET AIR COMPRESSOR PRESSURE BASED ON DRY FIRE SUPPRESSION SYSTEM DESIGN.
5. INSTALL NEW COMPRESSED AIR PIPING, VALVES, FITTINGS, HANGERS, SUPPORTS, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN. CONNECT NEW COMPRESSED AIR PIPING TO NEW DRY PIPE RISER PER NFPA 13.
6. INSTALL NEW COMPRESSED AIR DRY PIPE RISER PER NFPA 13 TO SERVE THE NEW DRY FIRE SUPPRESSION PIPING. INSTALL NEW DRY VALVE WITH TRIM KIT, DRAIN PIPING, COMPRESSED AIR PIPING, AND ALL OTHER ASSOCIATED ACCESSORIES FOR A COMPLETE AND OPERABLE SYSTEM PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONTRACTOR TO COORDINATE THE CONNECTION OF THE NEW DRY VALVE TO THE EXISTING FIRE ALARM SYSTEM WITH THE FIRE ALARM CONTRACTOR. CONTRACTOR TO COORDINATE THE TESTING OF THE FIRE SUPPRESSION SYSTEM AND FIRE ALARM SYSTEM TO ENSURE EVERYTHING FUNCTIONS PROPERLY.
7. INSTALL FIRE SUPPRESSION PIPING, FITTINGS, VALVES, ANCHORS, SUPPORTS, HANGERS, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN. CONTRACTOR TO REUSE EXISTING WALL PENETRATIONS TO ROUTE NEW FIRE SUPPRESSION PIPING OUT OF THE RISER ROOM INTO THE PARKING GARAGE. CONTRACTOR TO PATCH EXISTING PENETRATIONS TO MATCH THE EXISTING WALL AND SEAL WATER TIGHT AFTER NEW FIRE SUPPRESSION PIPING IS INSTALLED.
8. INSTALL SALVAGED WATER METER, CONTROLS, PIPING, VALVES, FITTINGS, AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. CONTRACTOR TO ENSURE THE SALVAGED WATER METER IS FUNCTIONING PROPERLY AFTER INSTALLATION.

DEDUCTIVE ALTERNATE NOTES

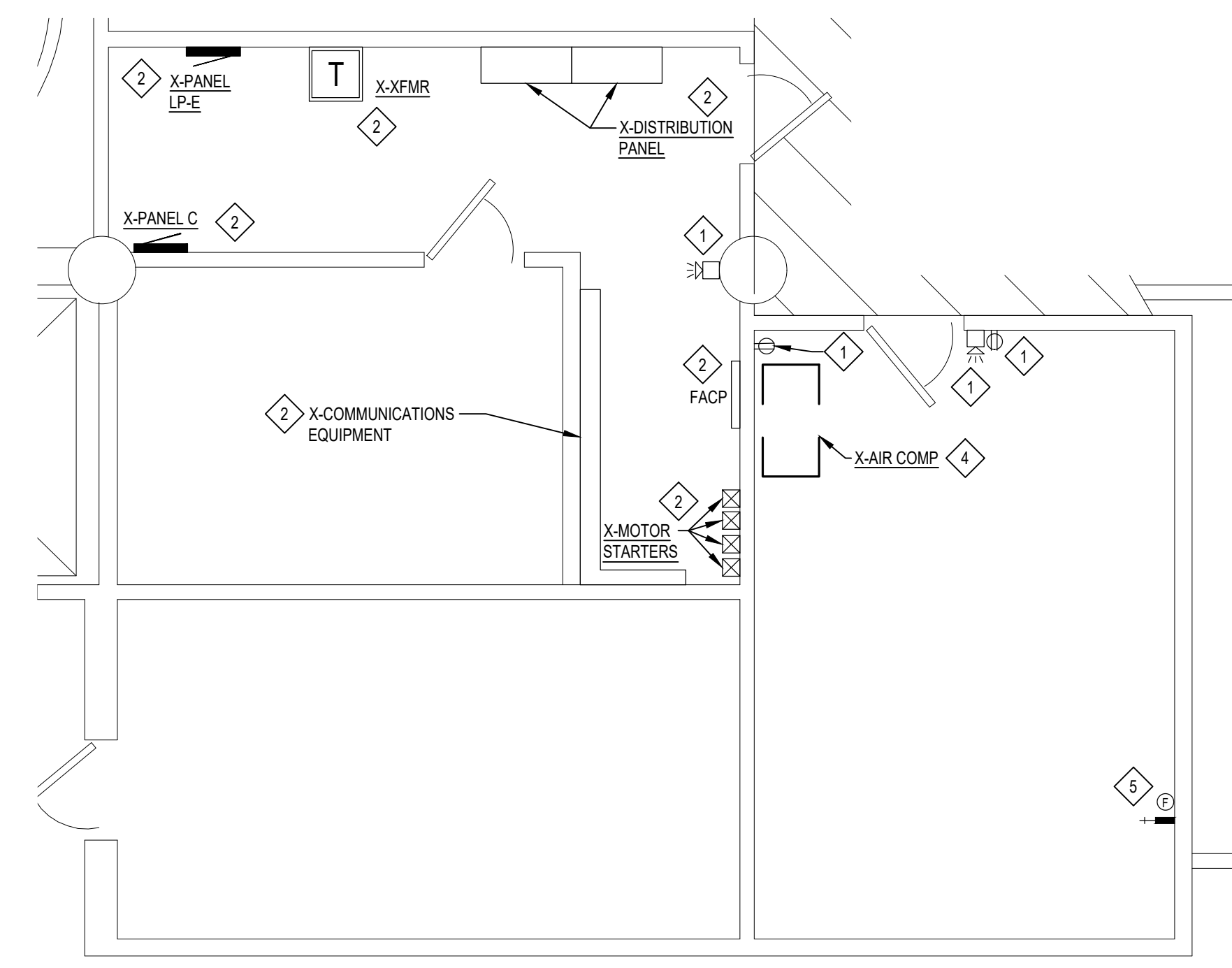
1. DEDUCTIVE ALTERNATE #1: CONTRACTOR TO NOT PROVIDE AND INSTALL NEW AIR DRYER AND ALL ASSOCIATED ACCESSORIES IN THE LOCATION SHOWN.

DEMOLITION NOTES

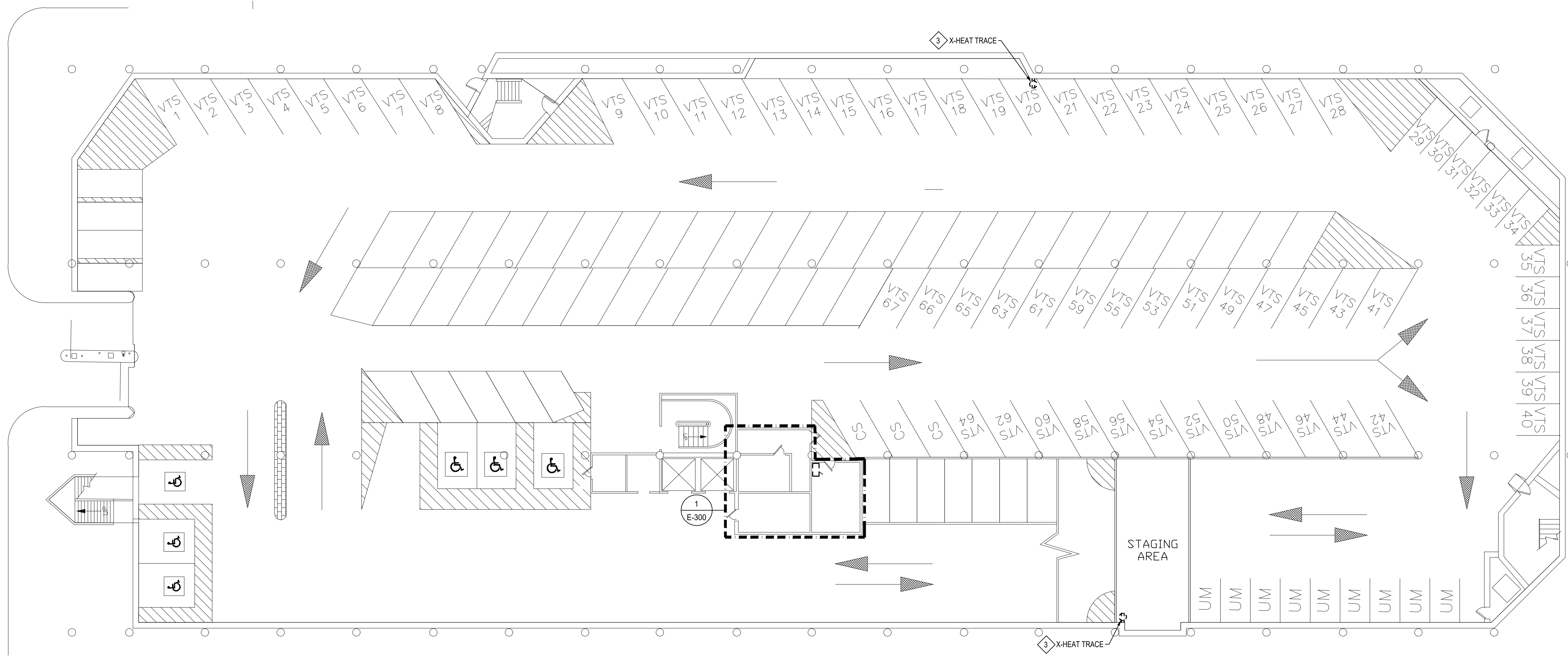
- 1 EXISTING DEVICE TO REMAIN.
- 2 EXISTING EQUIPMENT TO REMAIN.
- 3 DISCONNECT AND REMOVE EXISTING HEAT TRACE AND RECEPTACLE. ASSOCIATED CONDUIT AND WIRE TO REMAIN FOR RECONNECTION TO NEW HEAT TRACE. HEAT TRACE IS PLUG-IN, CONNECTED TO SHOWN RECEPTACLE.
- 4 DISCONNECT EXISTING AIR COMPRESSOR FOR REMOVAL BY OTHERS. REMOVE ASSOCIATED CONDUIT AND WIRE BACK TO SOURCE.
- 5 DISCONNECT EXISTING TAMPER AND FLOW SWITCHES. TO BE RECONNECTED UPON COMPLETION OF WORK.

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1 ENLARGED RISER ROOM PLAN - ELECTRICAL DEMOLITION
SCALE: 1/4" = 1'-0"



PARKING GARAGE - BASEMENT FLOOR PLAN - ELECTRICAL DEMOLITION
SCALE: 1/16" = 1'-0"

STATE OF MICHIGAN - DTMB
FLINT PARKING RAMP
UPGRADE FIRE SUPPRESSION SYSTEM
300 HARRISON STREET
FLINT, MI 48502

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
STATE FACILITIES ADMINISTRATION
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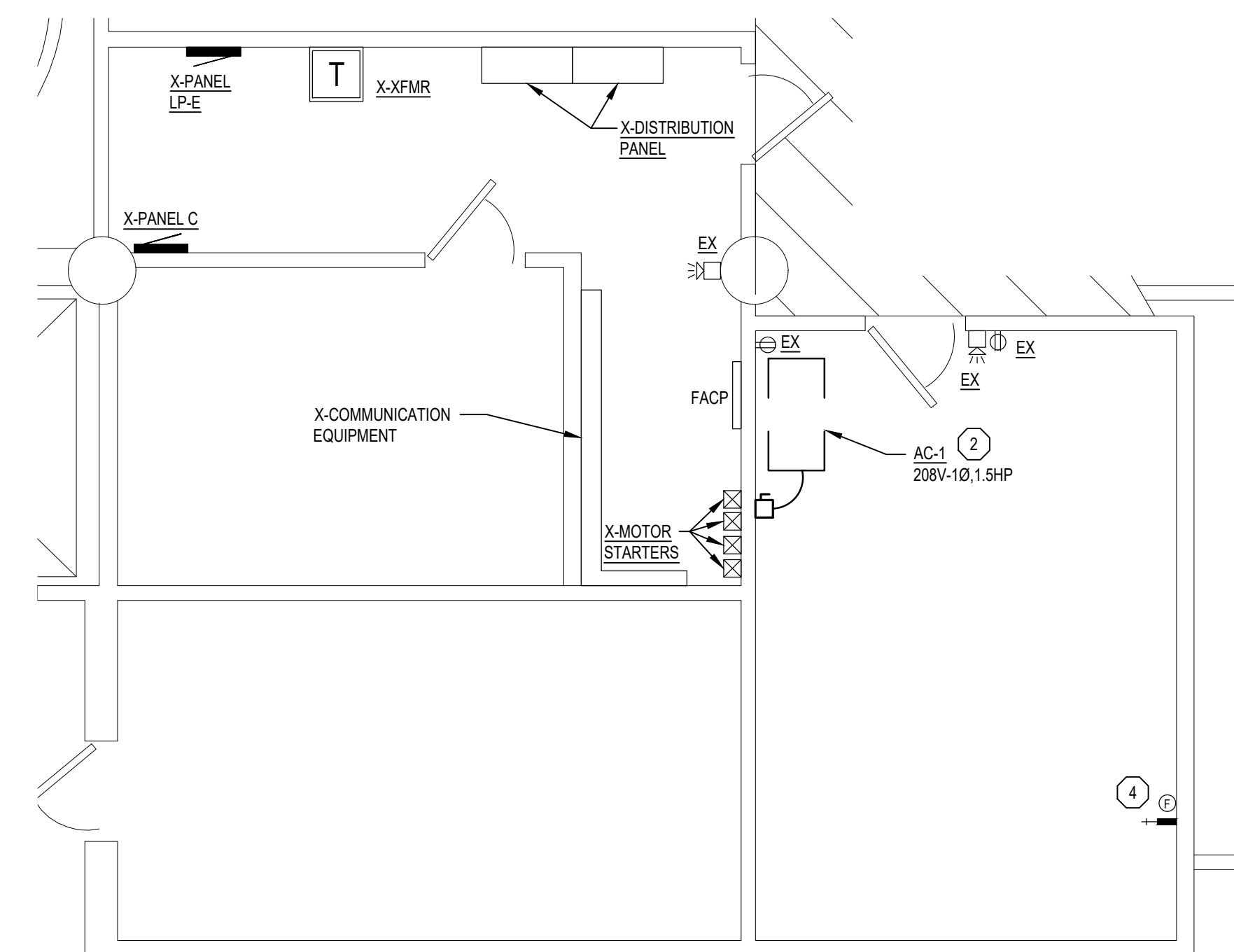
E-300

ELECTRICAL KEY NOTES

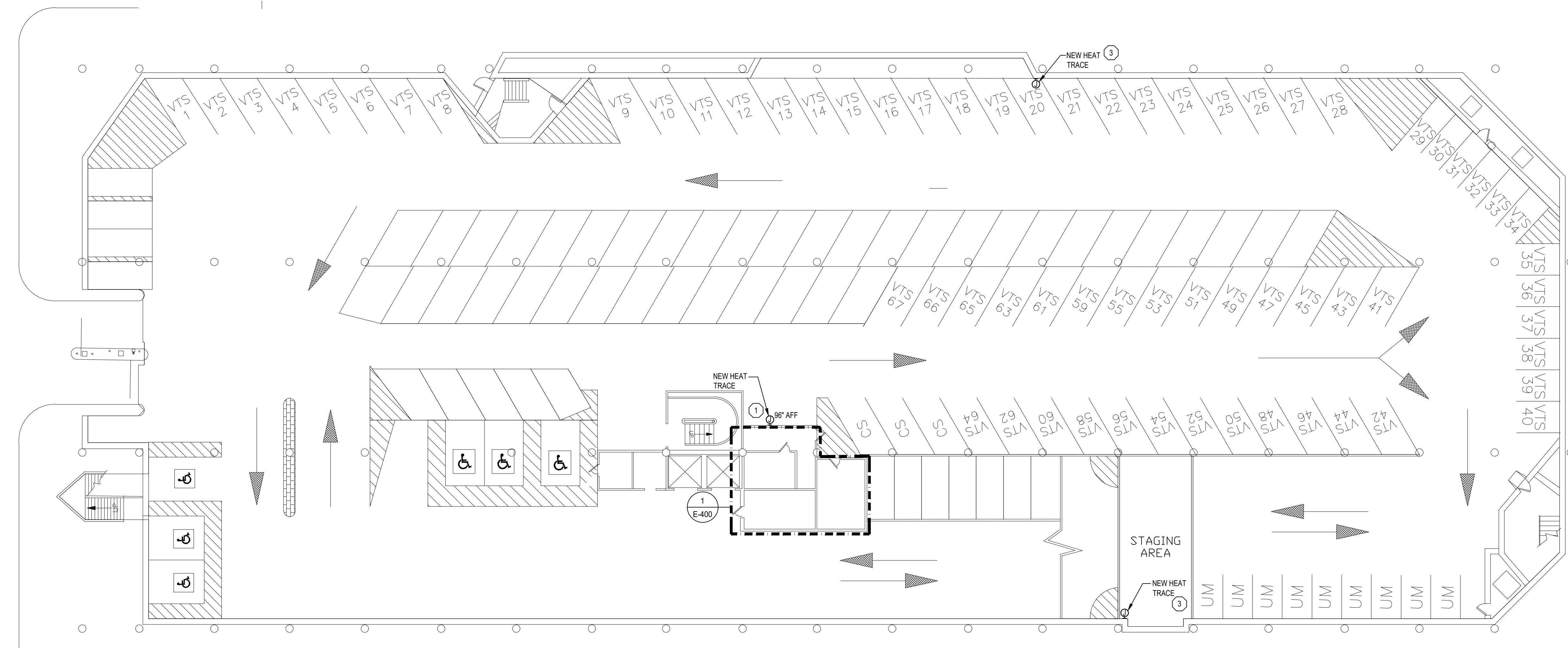
- 1 CONTRACTOR SHALL CONNECT NEW RECEPTACLE TO NEW 20A-1P CIRCUIT ON BREAKER 56 IN EXISTING PANEL "LP-E".
- 2 CONTRACTOR SHALL CONNECT AIR COMPRESSOR TO NEW 20A-2P CIRCUIT ON BREAKERS 58, 60 IN EXISTING PANEL "LP-E".
- 3 CONNECT NEW HEAT TRACE TO EXISTING HEAT TRACE CIRCUIT.
- 4 RECONNECT EXISTING TAMPER AND FLOW SWITCHES. FIRE ALARM SYSTEM SHALL BE RECERTIFIED UPON COMPLETION OF WORK.

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1 ENLARGED RISER ROOM PLAN - ELECTRICAL NEW
SCALE: 1/4" = 1'-0"



PARKING GARAGE - BASEMENT FLOOR PLAN - ELECTRICAL NEW
SCALE: 1/16" = 1'-0"

STATE OF MICHIGAN - DTMB
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