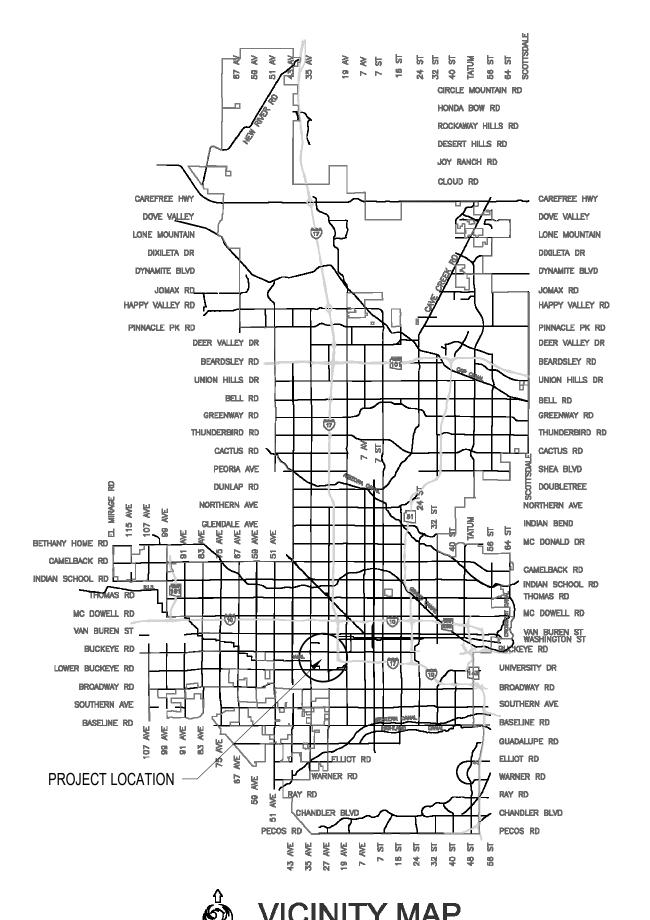


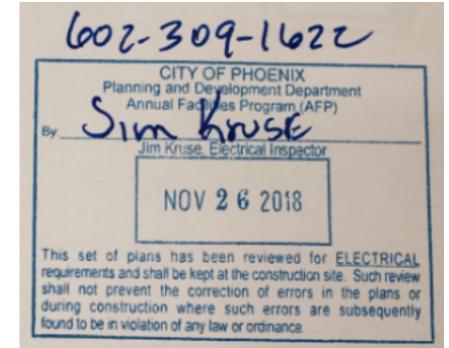
## CITY OF PHOENIX

STREET TRANSPORTATION DEPARTMENT DCM DIVISION, VERTICAL PROJECT MANAGEMENT SECTION

CITY OF PHOENIX COMPOST FACILITY SELF HAUL EXPANSION 3063 SOUTH 27TH AVENUE **PHOENIX, AZ 85009** PW16700021-8







City of Phoenix Planning and Development the site. Such review shall not where such errors are subsequently found to be in violation of any law or ordinance.





### MAYOR

THELDA WILLIAMS

## CITY COUNCIL

DISTRICT NO. 1 - THELDA WILLIAMS

DISTRICT NO. 2 - JIM WARING

DISTRICT NO. 3 - DEBRA STARK

DISTRICT NO. 4 - LAURA PASTOR

DISTRICT NO. 5 - DANIEL VALENZUELA

DISTRICT NO. 6 - SAL DICICCIO

DISTRICT NO. 7 - MICHAEL NOWAKOWSKI

DISTRICT NO. 8 - KATE GALLEGO

CITY MANAGER

ED ZUERCHER

CITY NGINEER

KINI L.E. KNUDSON, PE

**APPROVALS** 

**ENGINEERING SUPERVISOR** 

(CLIENT DEPARTMENT)

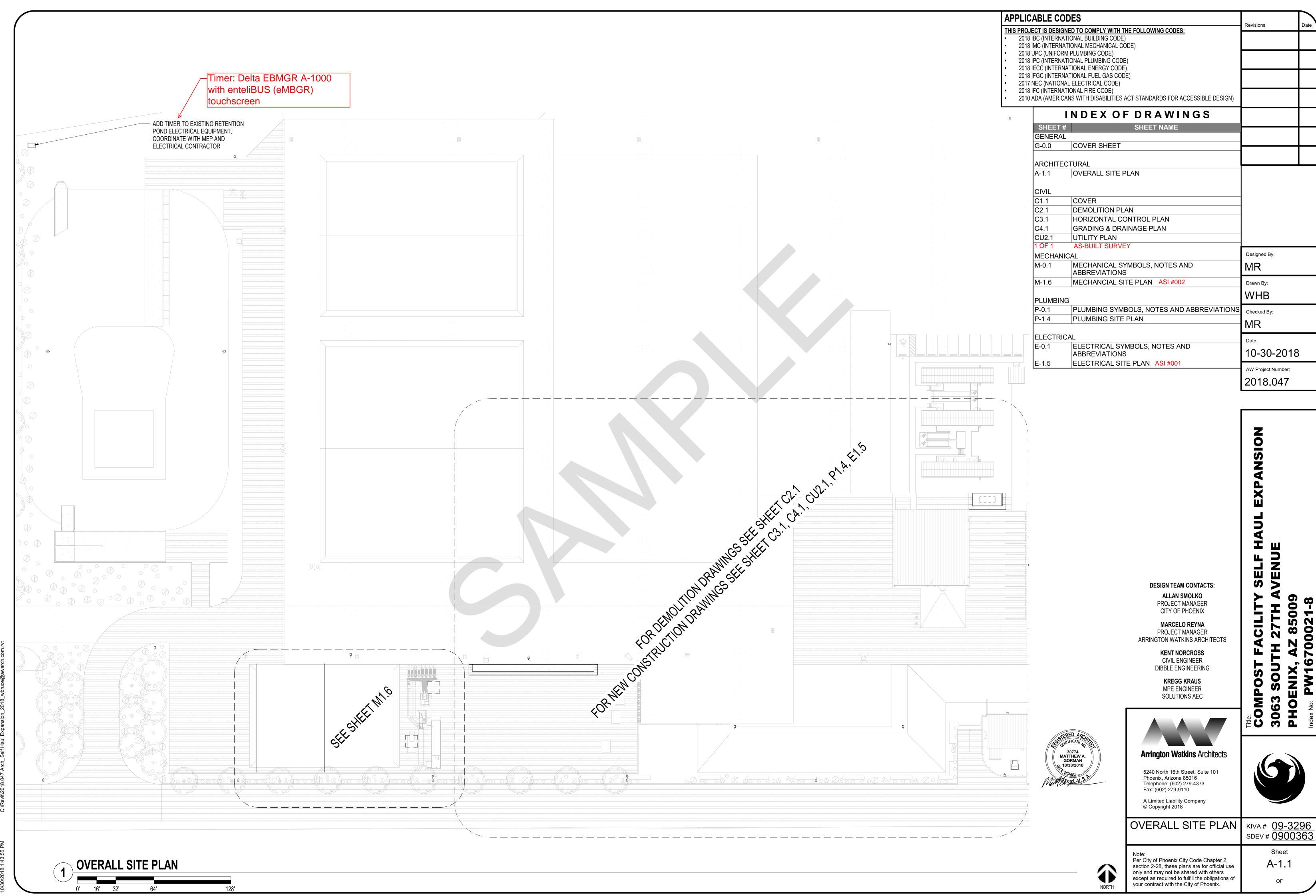
KIVA # 09-3296 SDEV # 0900363

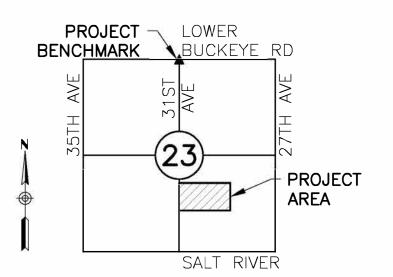
Per City of Phoenix City Code Chapter 2, section 2-28, these plans are for official use only and may not be shared with others except as required to fulfill the obligations of your contract with the City of Phoenix.

100% CONSTRUCTION DOCUMENTS

AS-BUILT / RECORD DRAWING

DATE: **08-23-19** 





## LOCATION MAP

T1N, R2E, SEC 23, SE 1/4 COP 1/4 SECTION 06-22

## PROJECT BENCHMARK

▲ FOUND CITY OF PHOENIX PUBLISHED BENCHMARK **DESCRIBED AS:** 31ST AVENUE & LOWER BUCKEYE ROAD SRP BCF ON IRRIGATION BOX, NORTH SIDE OF ROAD CITY OF PHOENIX PUBLISHED ELEVATION = 1048.34 (CITY OF PHOENIX DATUM - NGVD 29)

## PROJECT DESCRIPTION

THIS PROJECT INCLUDES MINOR SITE IMPROVEMENTS TO THE EXISTING 27TH AVENUE TRANSFER STATION COMPOST FACILITY. NEW IMPROVEMENTS INCLUDE THE CONSTRUCTION OF A FUEL CONTAINMENT PAD, AND VALLEY GUTTERS. RETENTION HAS BEEN PREVIOUSLY DESIGNED DURING PHASE OF THIS PROJECT FOR 125% OF THE 100 YEAR 2 HOUR STORM EVENT IN AN HDPE LINED CHANNEL TO PREVENT PERCOLATION OF THE RUNOFF FROM THE SITE.

**LEGEND** 

0330

**EXST** 

MONUMENT IN HANDHOLE

FIRE DEPT CONNECTION

MANHOLE (TYPE NOTED)

PEDESTAL (TYPE NOTED)

PULLBOX (TYPE NOTED)

SIGN

STREET LIGHT

UTILITY POLE

EASEMENT

----- RIGHT-OF-WAY

VALVE (TYPE NOTED)

BUILDING SETBACK

PROPERTY LINE

FENCE WOOD

FENCE CHAIN LINK

MAJOR CONTOUR

MINOR CONTOUR

EXST BUILDING

EXST ASPHALT

**EXST CONCRETE** 

MASONRY WALL/RETAINING WALL

UTILITY LINE (TYPE NOTED)

FENCE WIRE

FLOWLINE

METER (TYPE NOTED)

BACKFLOW PREVENTION DEVICE

MONUMENT FLUSH

BENCHMARK

FIRE HYDRANT

## DRAINAGE STATEMENT

SITE IS NOT IN A SPECIAL FLOOD HAZARD AREA. OFFSITE FLOWS DO NOT AFFECT THIS SITE. RETENTION IS PROVIDED FOR 125% OF THE 100 YEAR STORM DUE TO THE SITE BEING IN A SUMP AND NOT HAVING AN OUTFALL INTO PUBLIC RIGHT OF WAY OR WATERWAY. EXTREME STORM OUTFALLS THE SITE AT THE SOUTHWEST CORNER OF THE SITE AT ELEVATION 1033.82.

### AC DIVIT OFFICION AS-BUILL CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER/LAND SURVEYOR

REGISTRATION NUMBER

**TYPICAL** 

WATER

CITY OF PHOENIX

**COMPOST FACILITY SELF-HAUL EXPANSION** 

**CIVIL IMPROVEMENT PLANS** 

3063 S 27TH AVENUE PHOENIX, ARIZONA 85009

NEW

FIRE DEPT CONNECTION

FIRE HYDRANT

FLAG POLE

HEADWALL

MANHOLE

PIPE PLUG

STREET LIGHT

UTILITY POLE

---- BUILDING SETBACK

----- RIGHT-OF-WAY

MAJOR CONTOUR

STORM DRAIN

—····<del>◆</del> FLOWLINE

EASEMENT

FENCE CHAIN LINE

MASONRY WALL/RETAINING WALL

MINOR CONTOUR

—2"W— UTILITY LINE (TYPE NOTED)

NEW BUILDING

**NEW ASPHALT** 

**NEW CONCRETE** 

SEWER CLEANOUT

PHASING SEPARATION LINE

----- CENTERLINE

**PULLBOX** 

RIPRAP

ROCK

**METER** 

GATE

\$ \$ B

BACKFLOW PREVENTION DEVICE

ABB	REVIATIONS	_
ABC AC ADA ADAAG	AGGREGATE BASE COURSE ASPHALT CONCRETE AMERICANS WITH DISABILITIES ACT AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES	W/ WM
BC BCF BCHH BLDG	BRASS CAP BRASS CAP FLUSH BRASS CAP IN HANDHOLE BUILDING	
BM C CATV COMM	BENCHMARK CONCRETE ELEVATION CABLE TELEVISION COMMUNICATION	
CONC DET DG DIP	CONCRETE DETAIL DECOMPOSED GRANITE DUCTILE IRON PIPE	
EB EL ESMT EXST FF	ELECTRIC PULLBOX ELEVATION EASEMENT EXISTING FINISH FLOOR ELEVATION	
FG FL FND FO	FINISH GRADE ELEVATION FIRE LINE, FLOWLINE FOUND FIBER OPTIC	
G G GB HDPE	GUTTER ELEVATION GAS GRADE BREAK HIGH DENSITY POLYETHYLENE	
INV IRR MAG MAX	INVERT IRRIGATION MARICOPA ASSOCIATION OF GOVERNMENTS MAXIMUM	
MIN MOD OHE OTR	MINIMUM MODIFIED OVERHEAD ELECTRIC OUTER	
P PCCP PRMTR PUE	PAVEMENT ELEVATION PORTLAND CEMENT CONCRETE PAVEMENT PERIMETER PUBLIC UTILITY EASEMENT	
PVC PVMT R RCP S	POLY VINYL CHLORIDE PAVEMENT RADIUS REINFORCED CONCRETE PIPE SLOPE	
SD SEC SPEC SS	STORM DRAIN SECTION SPECIFICATIONS SANITARY SEWER	
STD TC TEL	STANDARD TOP OF CURB TELEPHONE	

## PROJECT INFORMATION

OWNER CITY OF PHOENIX 200 WEST WASHINGTON STREET 6TH FLOOR PHOENIX, ARIZONA 85003-1611 PHONE: 602.256.4337 CONTACT: ALLAN SMOLKO

ARCHITECT ARRINGTON WATKINS ARCHITECTS 5240 NORTH 16TH STREET SUITE 101 PHOENIX, ARIZONA 85016 PHONE: 602.279.4373 CONTACT: MARCELO REYNA

**ENGINEER** DIBBLE ENGINEERING 7878 NORTH 16TH STREET SUITE 300 PHOENIX, ARIZONA 85020 PHONE: 602.957.1155

CONTACT: KENT NORCROSS

## SHEET INDEX

C2.1 DEMOLITION PLAN HORIZONTAL CONTROL PLAN GRADING & DRAINAGE PLAN C4.1 CU2.1

SITE ACREAGE TOTAL = 27.393 AC

DISTURBED = 0.363 AC

**EARTHWORK** 4 CY CUT 558 CY FILL

553 CY NET (FILL)

RETAINING WALLS

VOLUME REQ = C\*(P/12)\*A

C = 0.90 (INDUSTRÍAL)

VOLUME REQ = 0.90\*(2.26/12)\*95,232

A = 95,232 SQ-FT

TOTAL LENGTH = 184 LF @ 7' HEIGHT

VOLUME PROPOSED = 173,373 CUBIC FEET

ZONE C SELF RETAINING FUTURE ANAEROBIC DIGESTER

WATER SURFACE ELEVATION = 1027.00

P = 2.26 (PER NOAA 100-YR, 2-HR STORM)

## \*\*STORM WATER RETENTION VOLUME CALCULATIONS:

TOTALS - ZONE A & ZONE B ZONE AVOLUME REQ = C\*(P/12)\*A 100-YR VOLUME REQ = 173,225 CUBIC FEET

A = 511,660 SQ-FTVOLUME REQ = 0.87\*(2.26/12)\*511,660

C = 0.87 (COMPOSITE) P = 2.26 (PER NOAA 100-YR, 2-HR STORM)

= 83,836 CUBIC FEET ZONEB VOLUMEREQ = C\*(P/12)\*A

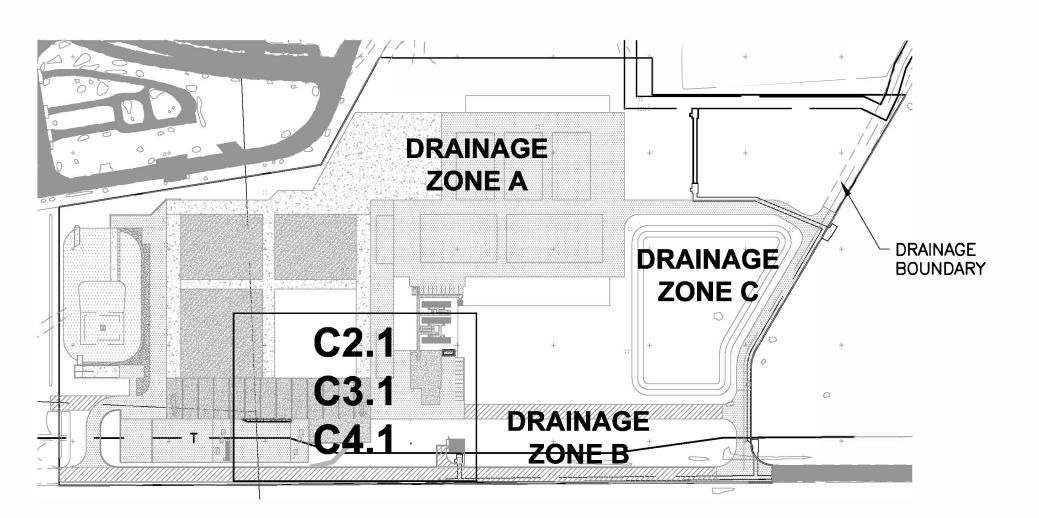
C = 0.88 (COMPOSITE) P = 2.26 (PER NOAA 100-YR, 2-HR STORM) A = 539,355 SQ-FT

VOLUME REQ = 0.88\*(2.26/12)\*539,355

= 16,142 CUBIC FEET VOLUME PROPOSED = 49,086 CUBIC FEET = 89,389 CUBIC FEET WATER SURFACE ELEVATION = 1038.17

\*\*ALL RETENTION CALCULATIONS ARE BASED ON EXISTING DRAINAGE FACILITIES CONSTRUCTED DURING PREVIOUS PHASE VOLUME OF PROJECT. NO NEW RETENTION FACILITIES WERE CONSTRUCTED ON THIS PROJECT. EXISTING CONDITIONS ACCOUNT FOR NEW CONSTRUCTION. 100-YR STORM 173,225

STORM WATER RETENTION TABLE VOLUME AS-BUILT EQUIRED (CF) PROVIDED (CF) VOLUME (CF) 173,373



KEY MAP SCALE: 1"=200

PAPP: KIVA: 09-3296 0900363 SDEV: Q/S: 06-22 DSAP: CCPR:



# **Engineering**





**COVER SHEET** 

KIVA# 09-3296 SDEV# 0900363

Per City of Phoenix City Code Chapter 2, section 2-28, these plans are for official use only and may not be shared with others except as required to fulfill the obligations of your contract with the City of Phoenix.

Sheet

OF

306 PH

000

ADRIAN A.

CARVAJAL

Drawn By:

AN/TCW

Checked By:

10/30/18

1018104

Dibble Project Number

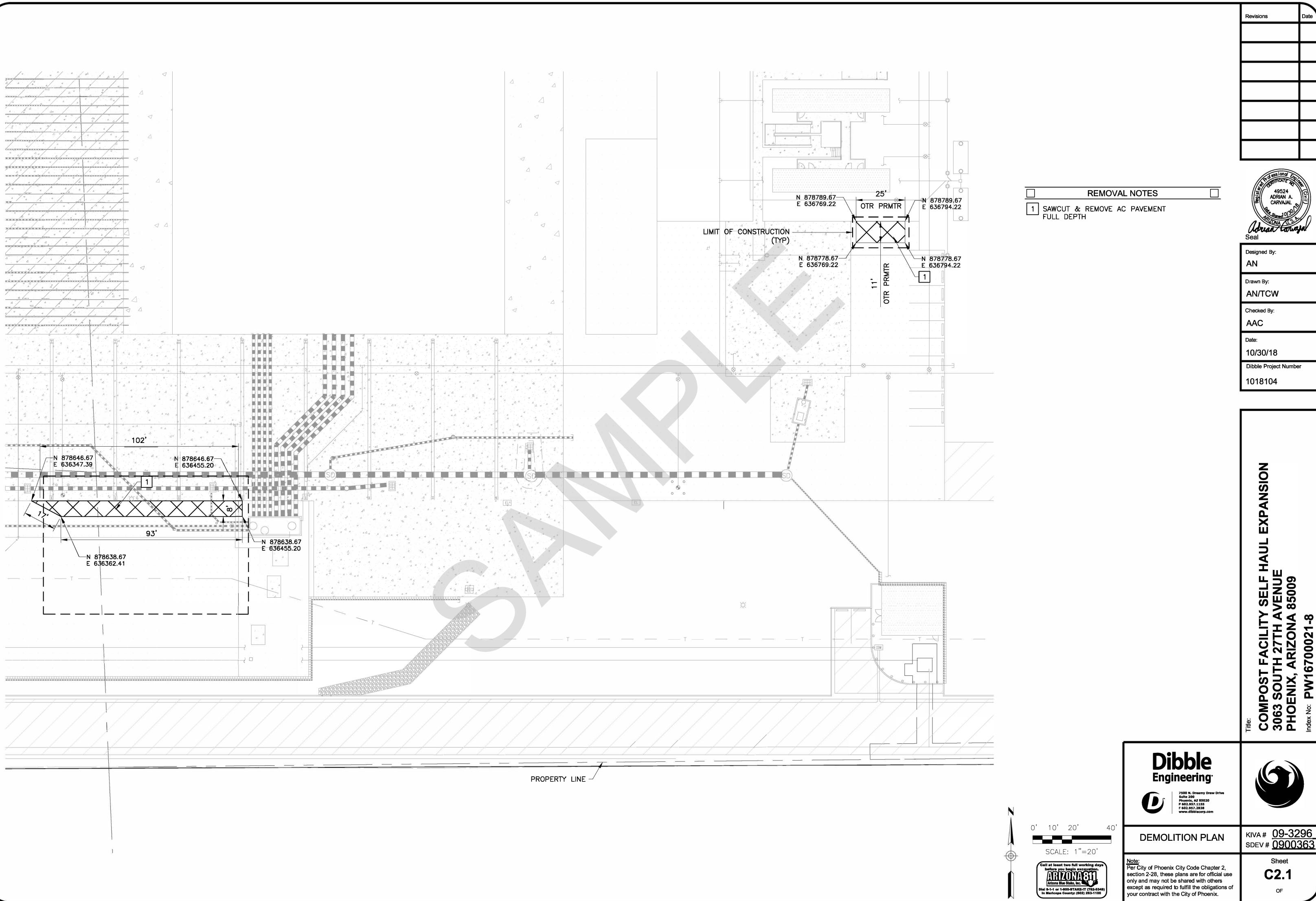
**AAC** 

## CITY OF PHOENIX GRADING & DRAINAGE NOTES, 2015

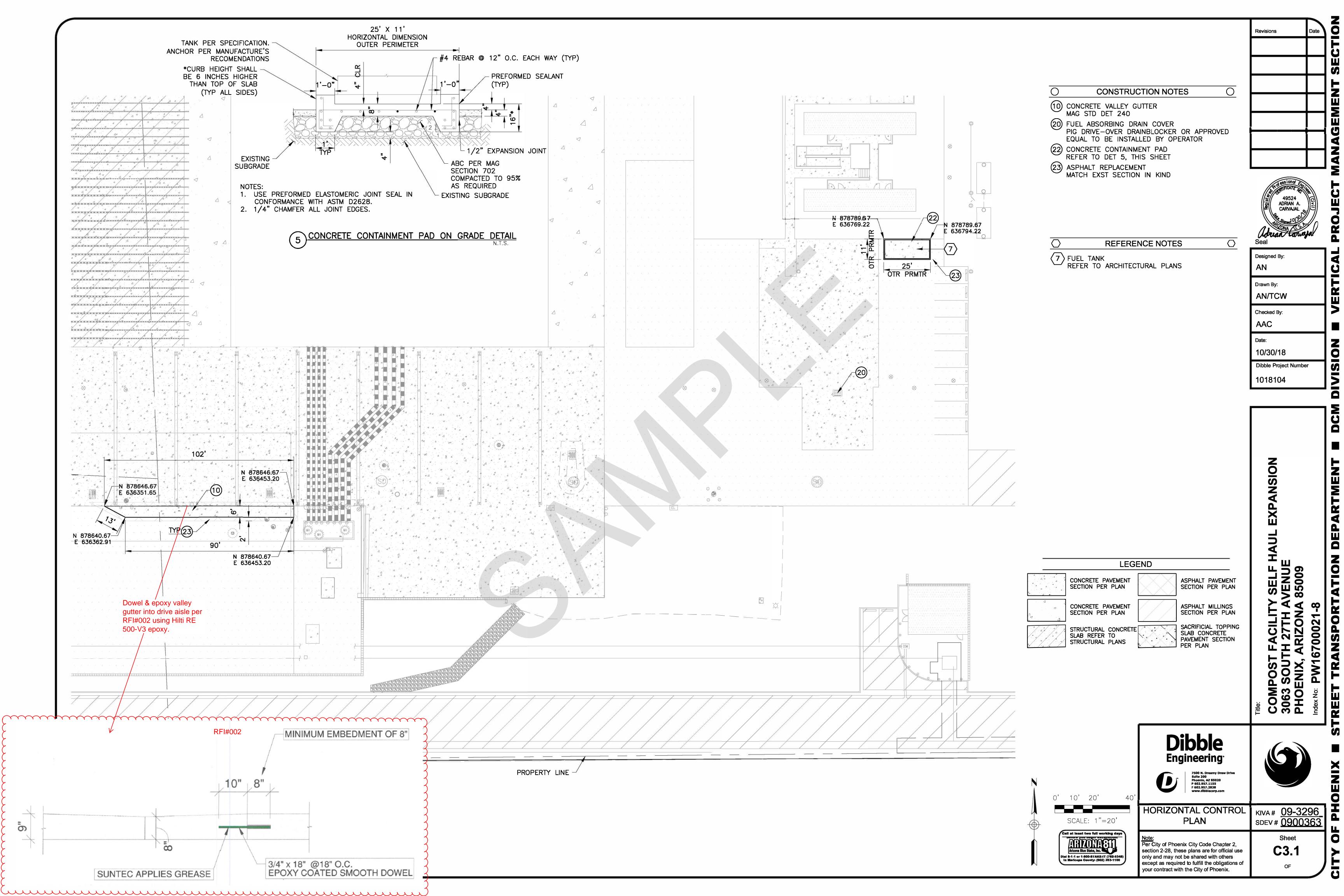
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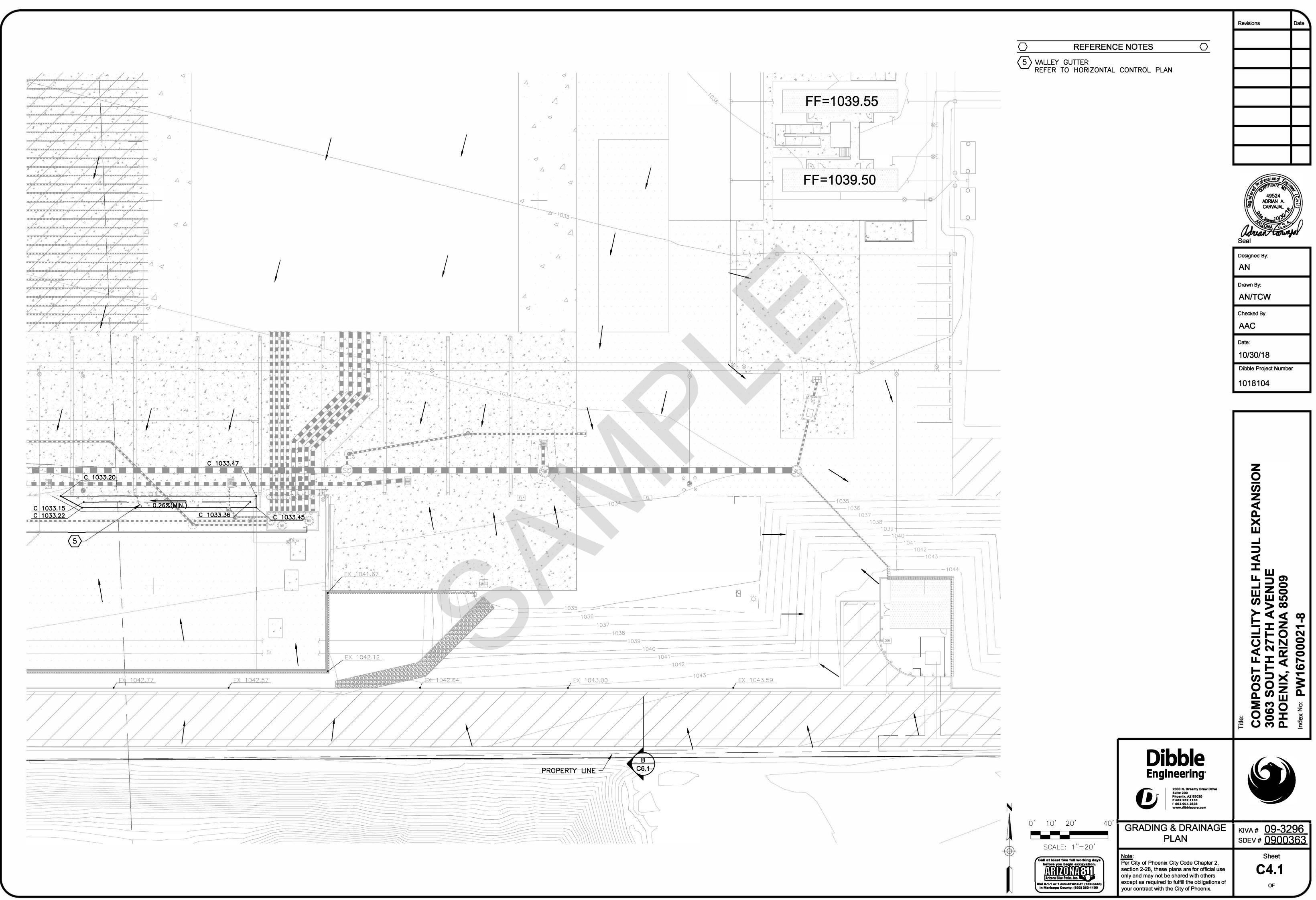
- 1. A GRADING PERMIT IS REQUIRED UNDER CHAPTER 32A OF THE PHOENIX CITY CODE. 2. WHEN HAUL PERMITS ARE REQUIRED, THEY MUST BE OBTAINED PRIOR TO OR CONCURRENTLY WITH THE GRADING AND DRAINAGE PERMIT 3. EXCAVATING CONTRACTOR MUST GIVE LOCATION FOR WASTING EXCESS EXCAVATION AND A
- LETTER FROM OWNER GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ON-SITE CONSTRUCTION. IF EXCESS EXCAVATION EXCEEDS 100 CUBIC YARDS, THE DISPOSAL SITE WILL ALSO REQUIRE A GRADING AND DRAINAGE PERMIT.
- 4. PLANNING AND DEVELOPMENT DEPARTMENT FIELD INSPECTION GROUP SHALL BE NOTIFIED 48 HOURS BEFORE ANY ON-SITE AND/OR OFF-SITE CONSTRUCTION BEGINS, TELEPHONE (602) 262-7811.
- 5. A SEPARATE PERMIT IS NECESSARY FOR ANY OFFSITE CONSTRUCTION. 6. AN APPROVED GRADING AND DRAINAGE PLAN SHALL BE ON THE JOB SITE AT ALL TIMES. DEVIATIONS FROM THE PLAN MUST BE PRECEDED BY AN APPROVED PLAN REVISION.
- 7. GRADING AND DRAINAGE PLAN APPROVAL INCLUDES THE CONSTRUCTION OF ALL SURFACE IMPROVEMENTS SHOWN ON THE APPROVED PLAN, INCLUDING, BUT NOT LIMITED TO, RETENTION AREAS, SEDIMENTATION BASINS, AND/OR OTHER DRAINAGE FACILITIES, DRAINAGE PATTERNS, WALLS, CURBS, ASPHALT PAVEMENT, AND BUILDING FLOOR ELEVATION.
- 8. ALL DRAINAGE PROTECTIVE DEVICES SUCH AS SWALES, INTERCEPTOR DITCHES, PIPES, PROTECTIVE BERMS, BARRIER WALLS, CONCRETE CHANNELS, OR OTHER MEASURES DESIGNED TO PROTECT ADJACENT BUILDINGS OR PROPERTY FROM STORM RUNOFF MUST BE COMPLETED PRIOR TO BUILDING CONSTRUCTION.
- 9. PER SECTION 6.8.7 OF THE STORM WATER POLICIES AND STANDARDS, SIDE SLOPES OF STORM WATER STORAGE FACILITIES SHALL BE NO STEEPER THAN 5:1 FOR IRRIGATED GRASS AREAS AND 3:1 FOR LANDSCAPE AREAS. SLOPE STABILIZATION MEASURES ARE REQUIRED FOR ALL SLOPES GREATER THAN 5:1. THE SLOPE STABILIZATION MEASURES MUST BE READILY MAINTAINABLE USING COMMON MAINTENANCE EQUIPMENT AND BE DESIGNED WITH CONSIDERATION TO AESTHETICS. THE SLOPE STABILIZATION MEASURES SHALL BE CONSISTENT WITH COMMONLY USED ENGINEERING PRACTICES. UN-STABILIZED DECOMPOSED GRANITE IS NOT ALLOWED ON SLOPES GREATER THAN 5:1.
- 10. ALL RETAINING WALLS ARE TO BE REVIEWED. PERMITTED. AND INSPECTED BY THE BUILDING SAFETY BRANCH OF THE PLANNING & DEVELOPMENT DEPARTMENT. ALL RETAINING WALLS ARE TO BE IN ACCORDANCE WITH SECTION 703 OF THE ZONING ORDINANCE AND SECTION 32-32 OF THE SUBDIVISION ORDINANCE FOR SPECIFIC WALL HEIGHT REQUIREMENTS. USE PERMIT FOR IS REQUIRED FOR ALL OVER-HEIGHT RETAINING WALLS
- 11. EXISTING OR NEWLY DAMAGED AND/OR DISPLACED CONCRETE CURB, GUTTER, SIDEWALK, OR DRIVEWAY SLAB THAT IS WITHIN THE RIGHT-OF-WAY SHALL BE REPAIRED OR REPLACED, AS NOTED BY CITY INSPECTORS, BEFORE FINAL ACCEPTANCE OF THE WORK.
- 12. THE ENGINEERING DESIGN ON THESE PLANS IS ONLY APPROVED BY THE CITY IN SCOPE AND NOT IN DETAIL. CONSTRUCTION QUANTITIES ON THESE PLANS ARE NOT VERIFIED BY

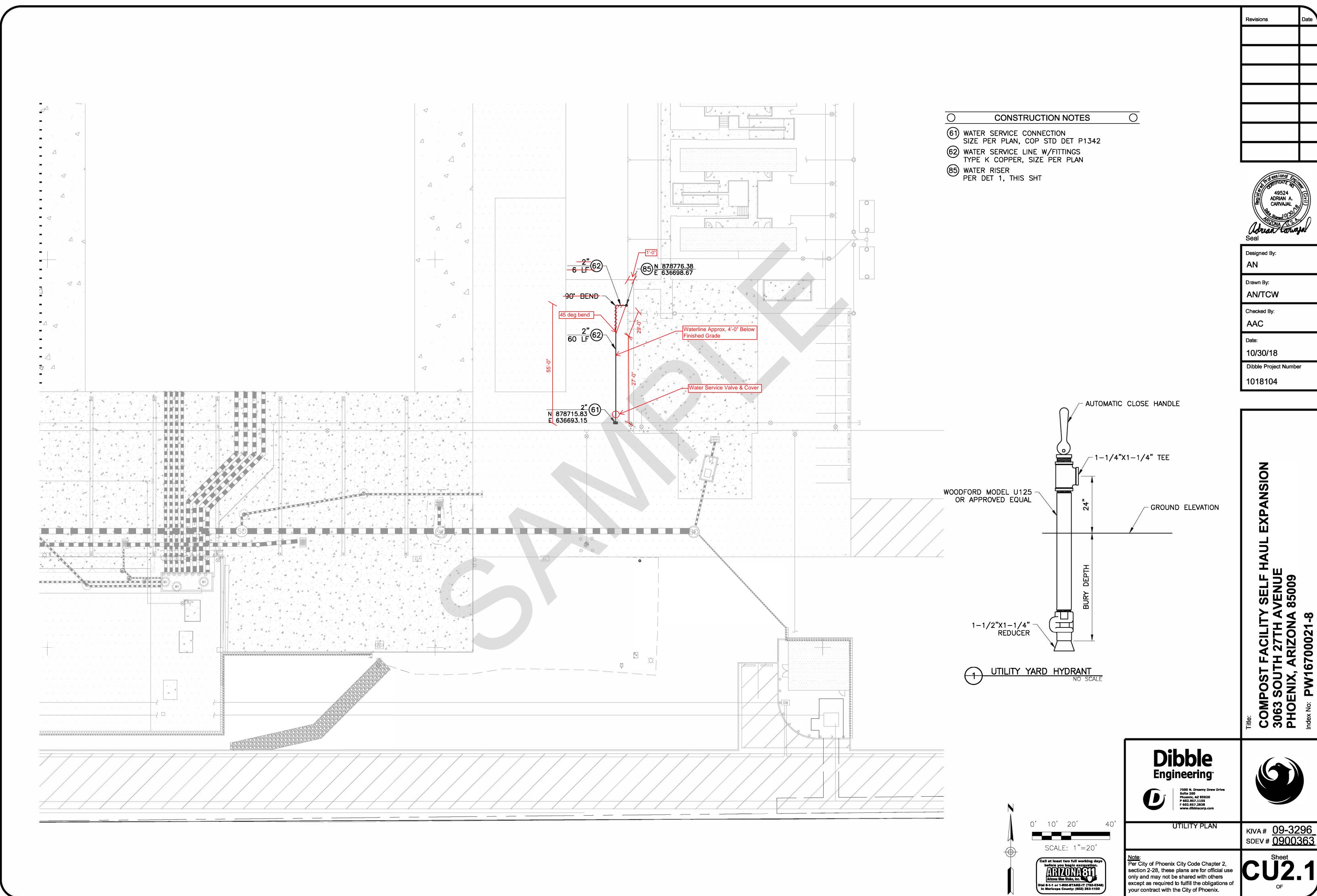
- THE CITY. APPROVAL OF THESE PLANS ARE FOR PERMIT PURPOSES ONLY AND SHALL NOT PREVENT THE CITY FROM REQUIRING CORRECTION OF ERRORS IN THE PLANS WHERE SUCH ERRORS ARE SUBSEQUENTLY FOUND TO BE IN VIOLATION OF ANY LAW, ORDINANCE, HEALTH, SAFETY, OR OTHER DESIGN ISSUES.
- 13. THE CITY OF PHOENIX POLICE DEPARTMENT ENFORCES LAWS REGULATING THE OPERATION OF COMMERCIAL VEHICLES. THIS INCLUDES ENFORCEMENT OF FEDERAL, STATE, COUNTY AND LOCAL LAWS AND ORDINANCES. QUESTIONS REGARDING COMMERCIAL VEHICLE ENFORCEMENT MAY BE DIRECTED TO THE COMMERCIAL VEHICLE ENFORCEMENT SUPERVISOR AT (602) 495-7813 (TRAFFIC BUREAU SOUTH) OR (602) 495-6784 (TRAFFIC BUREAU NORTH)
- 14. PLAN APPROVAL IS VALID FOR 180 DAYS. PRIOR TO PLAN APPROVAL EXPIRATION, ALL ASSOCIATED PERMITS SHALL BE PURCHASED OR THE PLANS SHALL BE RESUBMITTED FOR EXTENSION OF PLAN APPROVAL. THE EXPIRATION, EXTENSION, AND REINSTATEMENT OF CIVIL ENGINEERING PLANS AND PERMITS SHALL FOLLOW THE SAME GUIDELINES AS THOSE INDICATED IN THE PHOENIX BUILDING CONSTRUCTION CODE ADMINISTRATIVE PROVISIONS SECTION 105.3 FOR BUILDING PERMITS.
- 15. CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL CONFORM TO THE LATEST APPLICABLE MARICOPA ASSOCIATED GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND DETAILS AND THE LATEST CITY OF PHOENIX SUPPLEMENT TO THE MAG UNIFORM STANDARD SPECIFICATIONS AND DETAILS.
- 16. COMPACTION SHALL COMPLY WITH M.A.G. SECTION 601. 17. ALL HDPE STORM DRAIN PIPE SHALL BE MANUFACTURED, DESIGNED AND INSTALLED IN ACCORDANCE WITH AASHTO M252, AASHTO M294, MAG AND CITY OF PHOENIX SUPPLEMENTS TO MAG AND THESE SPECIAL PROVISIONS.
- 18. ALL HDPE STORM DRAIN PIPE SHALL BE TYPE 'S' CORRUGATED, WITH WATERTIGHT JOINTS. HDPE PIPE SHALL NOT BE ALLOWED WITHIN A MINIMUM OF TWENTY-FOUR (24) LINEAR FEET OF AN OPEN OUTFALL. THE OUTFALL SECTION OF STORM DRAIN PIPE SHALL BE CONCRETE OR CONCRETE-LINED AS SHOWN ON THE PLANS.
- 19. AT A MINIMUM, ALL HDPE STORM DRAIN PIPE JOINTS SHALL MEET THE ASTM D-3212 WATERTIGHT REQUIREMENT OF 10.8 PSI (25 COLUMN FEET OF WATER HEAD).
- 20. THE CONTRACTOR SHALL PROVIDE A COPY OF AN ACCEPTED INDEPENDENT 3RD PARTY LAB CERTIFICATION THAT ALL THE PIPE AND JOINTS TO BE USED ON THE PROJECT MEET THE ASTM D-3212 WATERTIGHT STANDARD.
- 21. ALL HDPE PIPE CONNECTIONS TO MANHOLES SHALL MEET ASTM C-923 REQUIREMENTS.

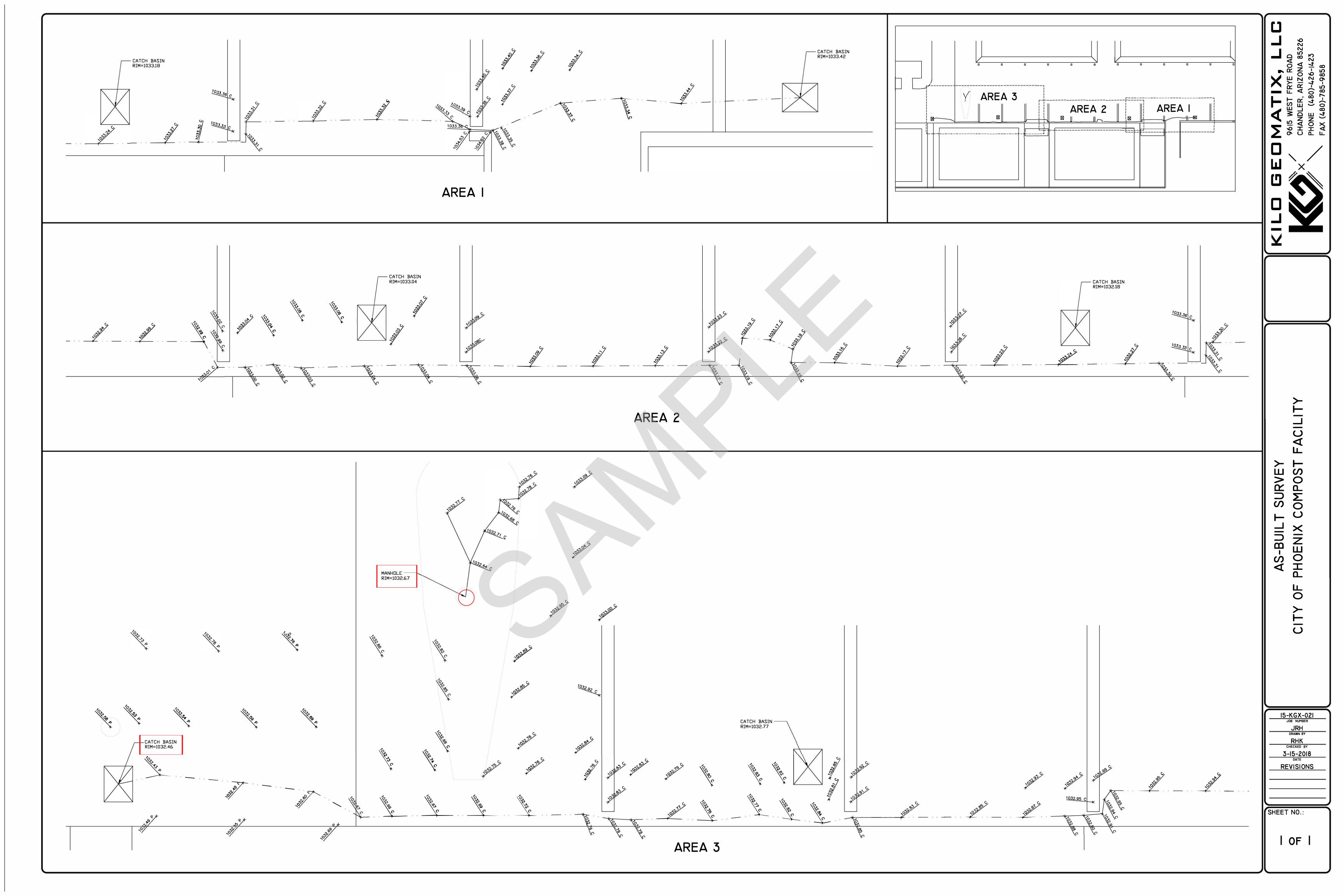


OF









	•	T-
ABBREVIATIONS	GENERAL NOTES	SYMBOLS
CONTROLS  AHU - AIR HANDLING UNIT AI - ANALOG INPUT AO - ANALOG OUTPUT CC - COOLING COIL CUH - CABINET UNIT HEATER DI - DISCRETE INPUT DO - DISCRETE OUTPUT EF - EXHAUST FAN FCD - FLOW CONTROL DAMPER FE - FLOW ELEMENT FR - FIRING RATE FS - FLOW SWITCH	<ul> <li>A. THESE DOCUMENTS ARE NOT INTENDED TO DEPICT THE COMPLETE AND ENTIRE SYSTEM, BUT ARE TO DESIGN AND DETAIL THE INTENT OF THE REQUIRED SYSTEMS, EQUIPMENT AND SCOPE OF WORK FOR THIS PROJECT. THE PRECISE MEANS, METHODS AND EXECUTION OF THESE DOCUMENTS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR(S).</li> <li>B. COORDINATE INSTALLATION OF EQUIPMENT AND MATERIALS WITH ALL TRADES.</li> <li>C. ALL LINTELS, FRAMING, FURRING, PATCHING, AND PAINTING REQUIRED SHALL BE PROVIDED BY G.C.</li> <li>D. ALL MATERIALS INSTALLED IN PLENUMS SHALL BE RATED AND</li> </ul>	□    □    □    □    □    □    □
HE - HUMIDITY ELEMENT HOA - HAND-OFF-AUTO SWITCH HT - HUMIDITY TRANSMITTER IH - INTAKE HOOD MC - MOTOR CONTROLLER MS - MOTOR STATUS PDT - DIFFERENTIAL PRESSURE TRANSMITTER PE - PRESSURE ELEMENT PH - PREHEAT PT - PRESSURE TRANSMITTER	E. PROVIDE ACCESS TO ALL EQUIPMENT, VALVES, DAMPERS, ETC. CONCEALED WITHIN INACCESSIBLE CEILING OR WALLS. COORDINATE ALL ACCESS DOOR LOCATIONS WITH ARCHITECTURAL PLANS AND G.C. ALL LOCATIONS MUST BE APPROVED BY ARCHITECT AND OWNER.  F. ALL PIPING, DUCTWORK, AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE 2012 INTERNATIONAL MECHANICAL	GAS COCK GAS PRESSURE REGULATOR  III - UNION TO - F&T TRAP  TO - BUCKET TRAP
SD - SMOKE DETECTOR TCV - TEMPERATURE CONTROL VALVE TE - TEMPERATURE ELEMENT TSL - TEMPERATURE SWITCH LOW TT - TEMPERATURE TRANSMITTER UH - UNIT HEATER VAV - VARIABLE AIR VOLUME UNIT WLS - WALL LOUVER	G. ALL EQUIPMENT PROVIDED MUST COMPLY WITH THE 2012 INTERNATIONAL ENERGY CONSERVATION CODE.  H. ALL CONSTRUCTION SHALL CONFORM TO NFPA 90A FOR FIRE AND SMOKE RATINGS.  I. FACTORY MADE FLEXIBLE DUCTWORK SHALL BE CLASS 1 LISTED	₹ - PRESSURE/TEMPERATURE TEST PLUG   1 - CONTROL VALVE   1 - THREE-WAY CONTROL VALVE   1 - PRESSURE GAUGE   1 - CARBON DIOXIDE
PIPING  BOP - BOTTOM OF PIPE CD - CONDENSATE DRAIN CHWR - CHILLED WATER RETURN CHWS - CHILLED WATER SUPPLY ET - EXPANSION TANK HWR - HEATING HOT WATER RETURN HWS - HEATING HOT WATER SUPPLY RL - REFRIGERANT LIQUID	AND HAVE MOISTURE BARRIER AND R-6 INSULATION. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK IS 5'-0". SHEET METAL DUCT WITH R-6 WRAP INSULATION SHALL BE PROVIDED FOR LONGER DISTANCES.  J. PROVIDE SPIN-IN FITTINGS WITH MANUAL VOLUME DAMPERS (MVD) AT ALL RUNOUT DUCTS TO DIFFUSERS FROM RECTANGULAR DUCTS. PROVIDE IN-LINE MVDs WHERE A SPIN-IN FITTING WITH MVD IS NOT POSSIBLE.	SD - SMOKE DETECTOR SP - STATIC PRESSURE SENSOR DP - SPACE DIFFERENTIAL PRESSURE SENSOR THERMOMETER A - MANUAL AIR VENT
RS - REFRIGERANT SUCTION  SHEETMETAL  AFF - ABOVE FINISH FLOOR AP - ACCESS PANEL BD - COUNTERWEIGHTED BACKDRAFT DAMPER BOD - BOTTOM OF DUCT	<ul> <li>K. PROVIDE DUCT ACCESS DOORS AT ALL FIRE AND COMBINATION FIRE/SMOKE DAMPERS. PROVIDE MULTIPLE DOORS AS REQUIRED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE WALL/CEILING ACCESS DOORS TO G.C. FOR INSTALLATION.</li> <li>L. G.C. SHALL PROVIDE A UNIFORM LEVEL SUPPORT INCLUDING FRAMING FOR ALL ROOF MOUNTED EQUIPMENT.</li> </ul>	PRESSURE REDUCING VALVE  PRESSURE RELIEF VALVE  CONTROL OF THE PRESSURE RELIEF VALVE  PRESSURE RELIEF VALVE  SECTION DETAIL
EA - EXHAUST AIR  EC - ELECTRICAL CONTRACTOR  FAC - FIRE ALARM CONTRACTOR  FD - FIRE DAMPER  F/SD - FIRE / SMOKE DAMPER  GC - GENERAL CONTRACTOR  MA - MIXED AIR  MC - MECHANICAL CONTRACTOR  MVD - MANUAL VOLUME DAMPER  NIC - NOT IN CONTRACT  NTS - NOT TO SCALE	<ul> <li>M. ALL POWER WIRING, DISCONNECT SWITCHES, AND MOTOR STARTERS SHALL BE FURNISHED AND INSTALLED BY DIVISION 26, UNLESS NOTED OTHERWISE. ALL AUXILIARY ELECTRIC HEATING EQUIPMENT (I.E. ELECTRIC WALL HEATERS, ELECTRIC BASEBOARD HEATERS, ETC.) SHALL BE FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.</li> <li>N. SLEEVE AND FIRESTOP ALL PIPING PENETRATIONS THROUGH RATED WALLS.</li> </ul>	<ul> <li>FIRE DAMPER (FD) MOUNTED IN VERTICAL POSITION (WALL)</li> <li>FIRE DAMPER (FD) MOUNTED IN HORIZONTAL POSITION (FLOOR)</li> <li>FIRE/SMOKE DAMPER (F/SD) COMBINATION</li> <li>PROGRAMMABLE THERMOSTAT</li> </ul>
OA - OUTDOOR AIR PC - PLUMBING CONTRACTOR RA - RETURN AIR SA - SUPPLY AIR SD - SMOKE DAMPER TCC - TEMPERATURE CONTROLS CONTRACTOR	O. ALL NEW RECTANGULAR SUPPLY AIR DUCTWORK SHALL HAVE INSULATION IN COMPLIANCE WITH NFPA 90A AND AS DEFINED WITHIN THE CONSTRUCTION DOCUMENTS.  P. DIVISION 23 TO COORDINATE DUCT-MOUNTED SMOKE DETECTOR INSTALLATION PER MANUFACTURER'S REQUIREMENTS AND WITH DIVISION 26. DETECTOR TO BE INSTALLED BY DIVISION 26.	* - UNDERCUT DOOR (MINIMUM 1")  DRAWING INDEX
A. ALL SHEETMETAL DUCTWORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADDITION OF	SIGNAL CIRCUIT AND POWER BY DIVISION 26. INTERLOCK WIRING BETWEEN DETECTOR AND EQUIPMENT BY DIVISION 27.  Q. PROVIDE LISTED, FIRE-RATED ASSEMBLIES IN ALL PENETRATIONS THROUGH FIRE-RATED MEMBRANES. RATING OF	M-0.1 MECHANICAL SYMBOLS, NOTES AND ABBREVIATIONS  M-1.6 MECHANICAL SITE PLAN
SMACNA, ASHRAE, AND 2012 INTERNATIONAL MECHANICAL CODE.  SHEETMETAL DUCTWORK DIMENSIONS ARE INSIDE CLEAR DIAMETER.	R. WRAP ALL MEDIUM PRESSURE DUCT TO INLET OF VAV's WITH 1-1/2" DUCTWRAP PER SPECIFICATIONS.	
C. FIRE DAMPERS SHALL BE INSTALLED PER SMACNA "15D" FIRE DAMPER GUIDE OR APPROVED "U.L." INSTALLATION INSTRUCTIONS AND 2012 INTERNATIONAL MECHANICAL CODE. FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS UL555 AND SHALL BE LABELED FOR INSTALLATION IN DYNAMIC SYSTEMS AS REQUIRED IN ACCORDANCE WITH UL555.  D. ALL GRAVITY BACKDRAFT DAMPERS (NOT FURNISHED WITH EQUIPMENT) SHALL BE EQUAL TO RUSKIN "BD6" WITH BLADE SEALS AND JAMB SEALS.	S. DIVISION 27 TO PROVIDE ALL INTERLOCK WIRING, EXCLUDING SMOKE DETECTOR.  T. TESTING AND BALANCING OF SYSTEM SHALL BE PERFORMED BY A CERTIFIED AABC OR NEBB TESTING AND BALANCING TECHNICIAN. BALANCE AIR HANDLING SYSTEMS TO WITHIN PLUS OR MINUS 5% OF DESIGN FOR SUPPLY SYSTEMS AND PLUS OR MINUS 10% OF DESIGN FOR RETURN AND EXHAUST SYSTEMS. BALANCE AIR OUTLETS AND INLETS TO PLUS 10% AND MINUS 5% OF DESIGN TO SPACE, ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN BLUS OR MINUS 10% OF DESIGN.	

INLETS IN SPACE TO WITHIN PLUS OR MINUS 10% OF DESIGN.

FINAL EQUIPMENT SUBMITTALS PRIOR TO INSTALLATION.

MECHANICAL CODE (2012 IMC) AND ALL CITY OF PHOENIX

CONDITIONING SYSTEM WILL OPERATE CONTINUOUSLY WHEN

OCCUPIED TO MAINTAIN CURRENT VENTILATION REQUIREMENTS,

CALL FOR INSPECTION OF ALL MECHANICAL SYSTEMS PRIOR TO

ALL NEW AIR CONDITIONING UNITS TO HAVE A MINIMUM EER

RATING PER 2012 IECC, TABLE C403.2.3. SUBMIT AIR CONDITIONING UNITS TO ENGINEER FOR REVIEW AND

U. COORDINATE ALL ROUGH-IN LOCATIONS AND SIZES WITH

W. ALL WORK TO COMPLY WITH THE 2012 INTERNATIONAL

MECHANICAL DESIGN IS INTENDED SO THAT THE AIR

V. SEE THE ELECTRICAL DRAWINGS FOR P&ID.

ADOPTED CODES AND AMENDMENTS.

BACKFILL AND CONCEALMENT, IMC 107.2.

APPROVAL PRIOR TO ORDERING.

IMC 403.2, 403.3.

WATER TIGHT.

BOTTOM OF DECK.

DIAMETER RATIO OF 1.5.

"MD25" WITH LOCKING QUADRANTS.

ALL MOTORIZED DAMPERS SHALL BE EQUAL TO RUSKIN "CD36"

WITH BLADE SEALS AND STAINLESS STEEL JAMB WITH JAMB

ALL MANUAL VOLUME DAMPERS SHALL BE EQUAL TO RUSKIN

G. ALL OPENINGS IN EXTERIOR WALLS, FLOORS, AND FOUNDATIONS

H. AFTER INSTALLATION OF PIPE OR DUCT THROUGH FLOORS AND

CHASE FOAM SEALANT AS MANUFACTURED BY CHASE FOAM

FLOORS AND FIRE WALLS IN WHICH IT IS USED.

FIRE RATED WALLS, FILL SPACE AROUND PIPES OR DUCT WITH

TECHNOLOGY CORPORATION OR EQUAL. ASSEMBLY SHALL BE

INSTRUCTIONS AND IN ACCORDANCE WITH U.L. LISTING. RATING OF FIRE STOPPING SHALL MEET OR EXCEED THE RATING OF THE

ALL DUCTWORK SHALL BE SUPPORTED FROM BOTTOM CHORD OF

STRUCTURAL STEEL. NO HANGING WILL BE ALLOWED FROM

PROVIDE FLEXIBLE CANVAS CONNECTIONS AT ALL SUPPLY AIR, RETURN AIR, FRESH AIR AND EXHAUST AIR DUCT CONNECTIONS

PROVIDE FIRE CAULKING AT ALL 1-HR RATED WALL PARTITIONS.

REFER TO ARCHITECTURAL DRAWINGS FOR WALL RATINGS.

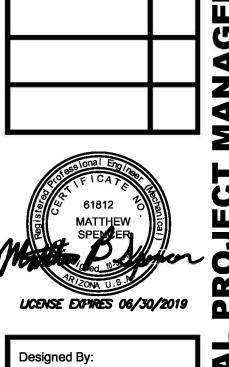
M. BENDS IN RIGID DUCTWORK SHALL BE AT A MINIMUM RADIUS TO

AT ALL VIBRATING EQUIPMENT (I.E. RTU, EF, TEF, ETC).

PROVIDE TURNING VANES IN ALL 90'S AND TEES.

INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN

SHALL BE SLEEVED WITH STEEL SCHEDULE 40 PIPE AND SEALED



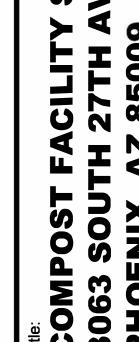
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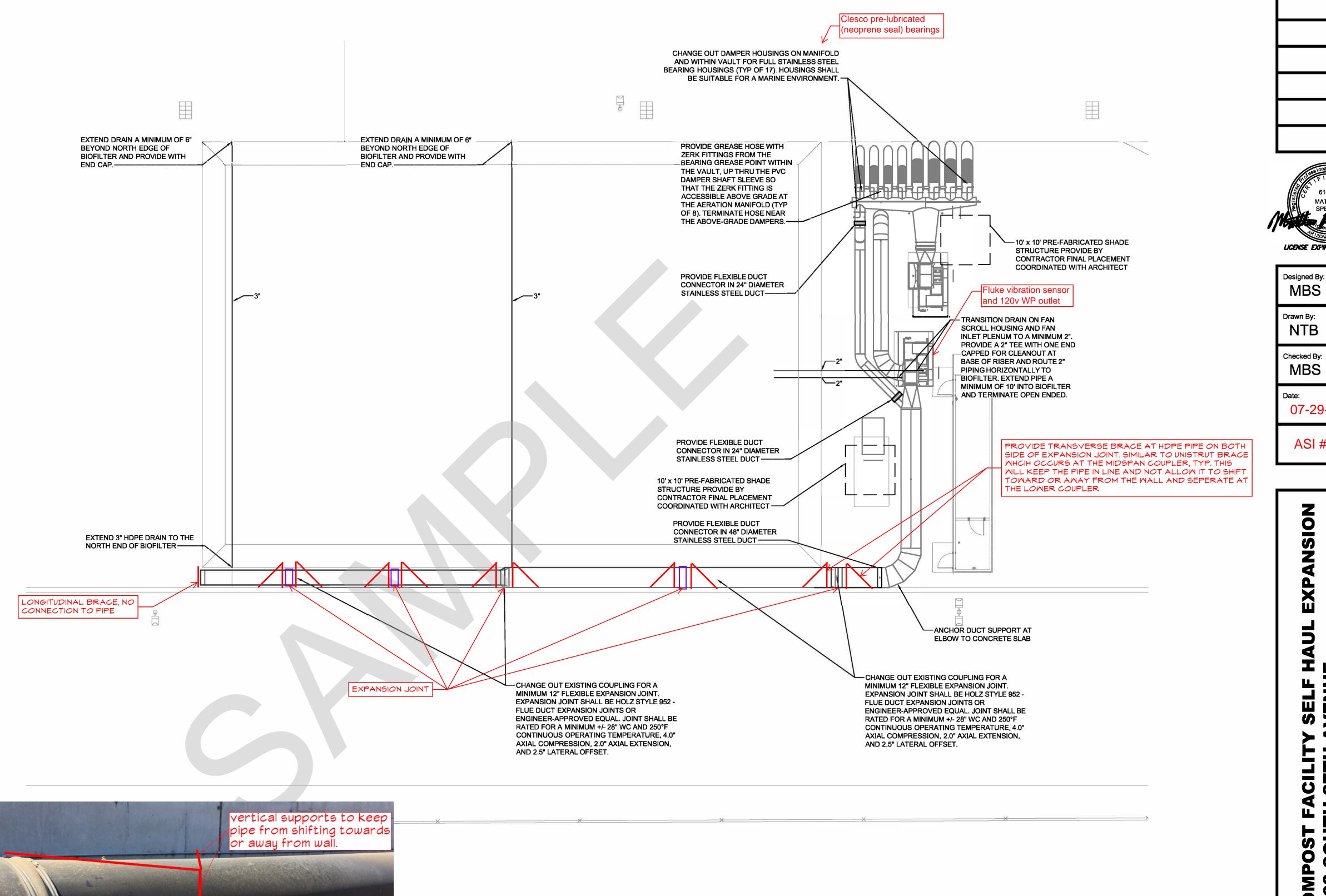
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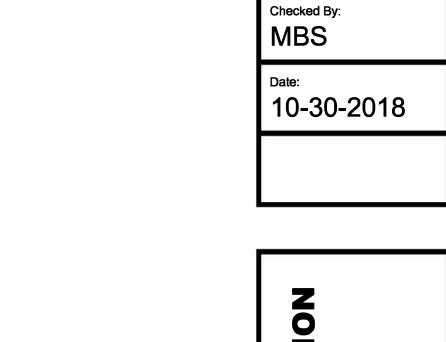
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M-1.6

	PLUMBING PIPING NOTES	PLUMBING SYMBOLS & ABBREVIATIONS		DRAWING INDEX
Α.	INSTALL ALL BURIED PIPING 12" BELOW ESTABLISHED FROST LINE		P-0.1	PLUMBING SYMBOLS, NOTES AND ABBREVIATIONS
	OF THE AREA THIS PROJECT IS LOCATED. COORDINATE INVERT ELEVATIONS OF ALL BUILDING SERVICE PIPING WITH ELECTRICAL, CIVIL, AND STRUCTURAL WORK.		P-1.4	PLUMBING SITE PLAN
	CIVIL, AND STRUCTURAL WORK.			
B.	PROVIDE WATER TEST FOR DRAINAGE SYSTEM WITH ALL APPROPRIATE PERSONS IN ATTENDANCE. THE SYSTEM SHALL BE	——————————————————————————————————————		
	WATER TIGHT AT ALL POINTS.	—— — — — — HOT WATER		
C.	ALLOW FOR EXPANSION AND CONTRACTION DURING INSTALLATION OF PIPING. INSTALL HANGERS AND SUPPORTS PER APPLICABLE	——————————————————————————————————————		
	CODE (MINIMUM) AND MANUFACTURER'S RECOMMENDATIONS, WHICHEVER IS MORE STRINGENT. COORDINATE WITH APPROPRIATE	CA — CA — COMPRESSED AIR		







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P-0.1

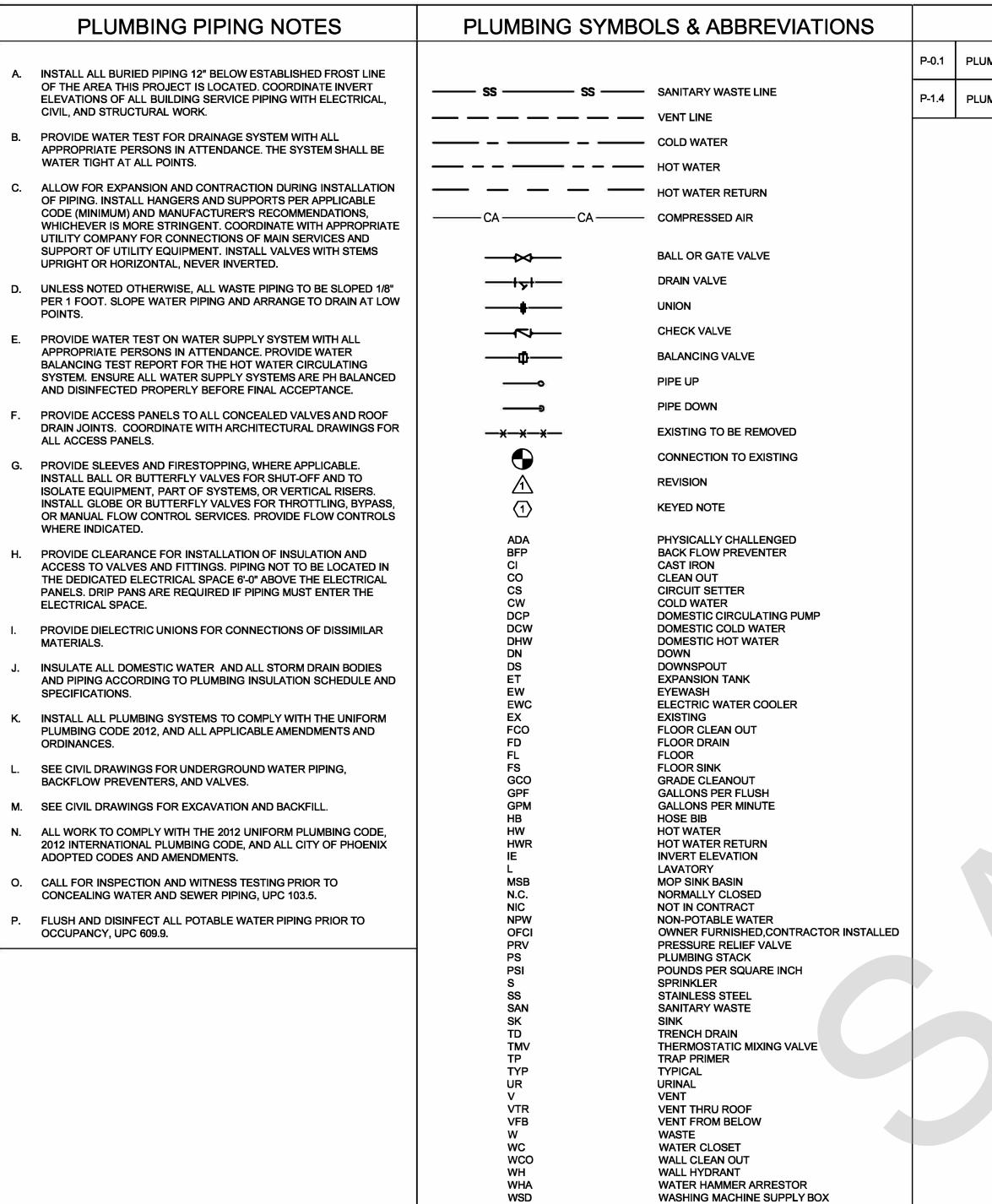
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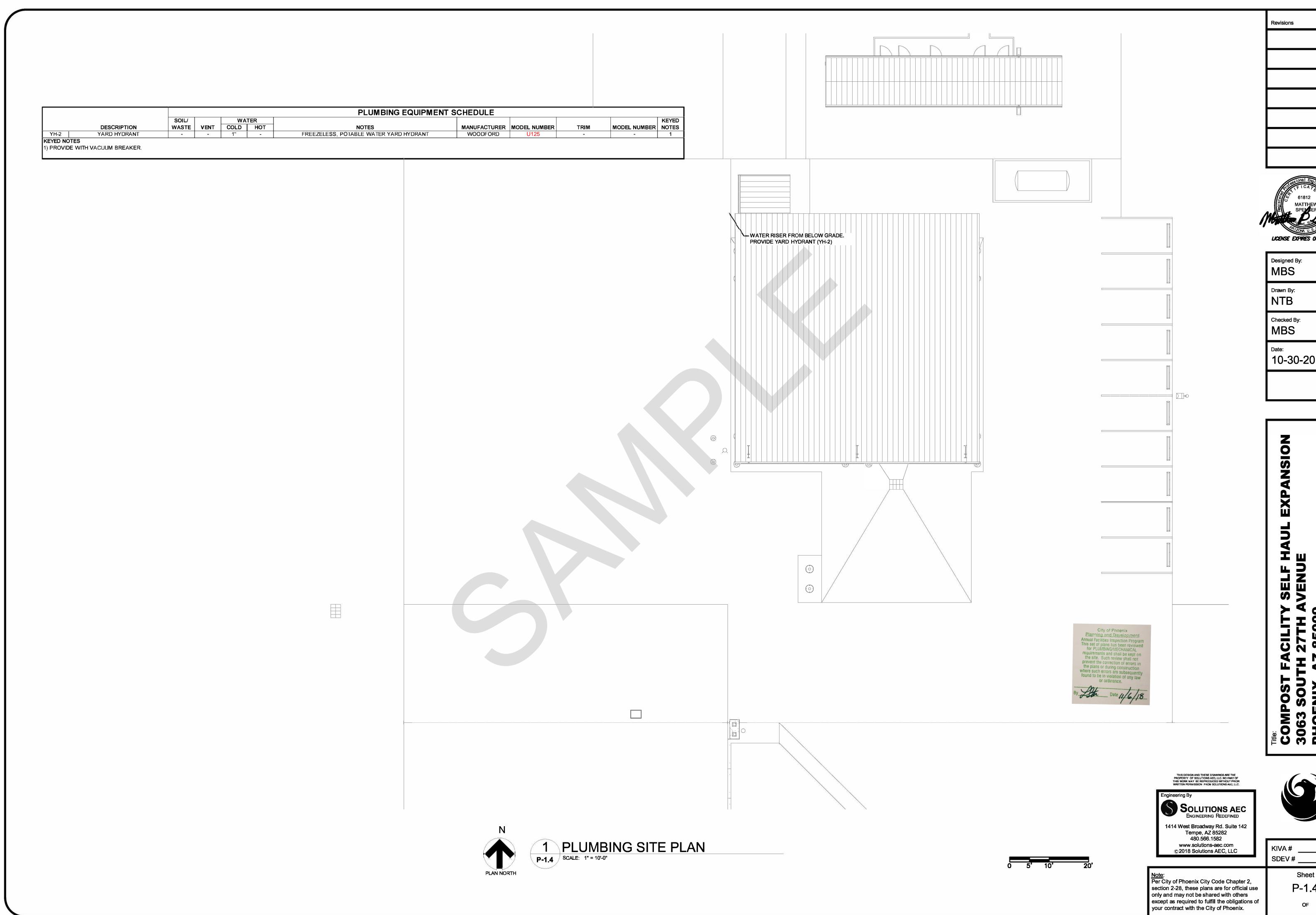
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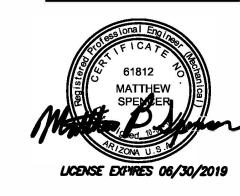
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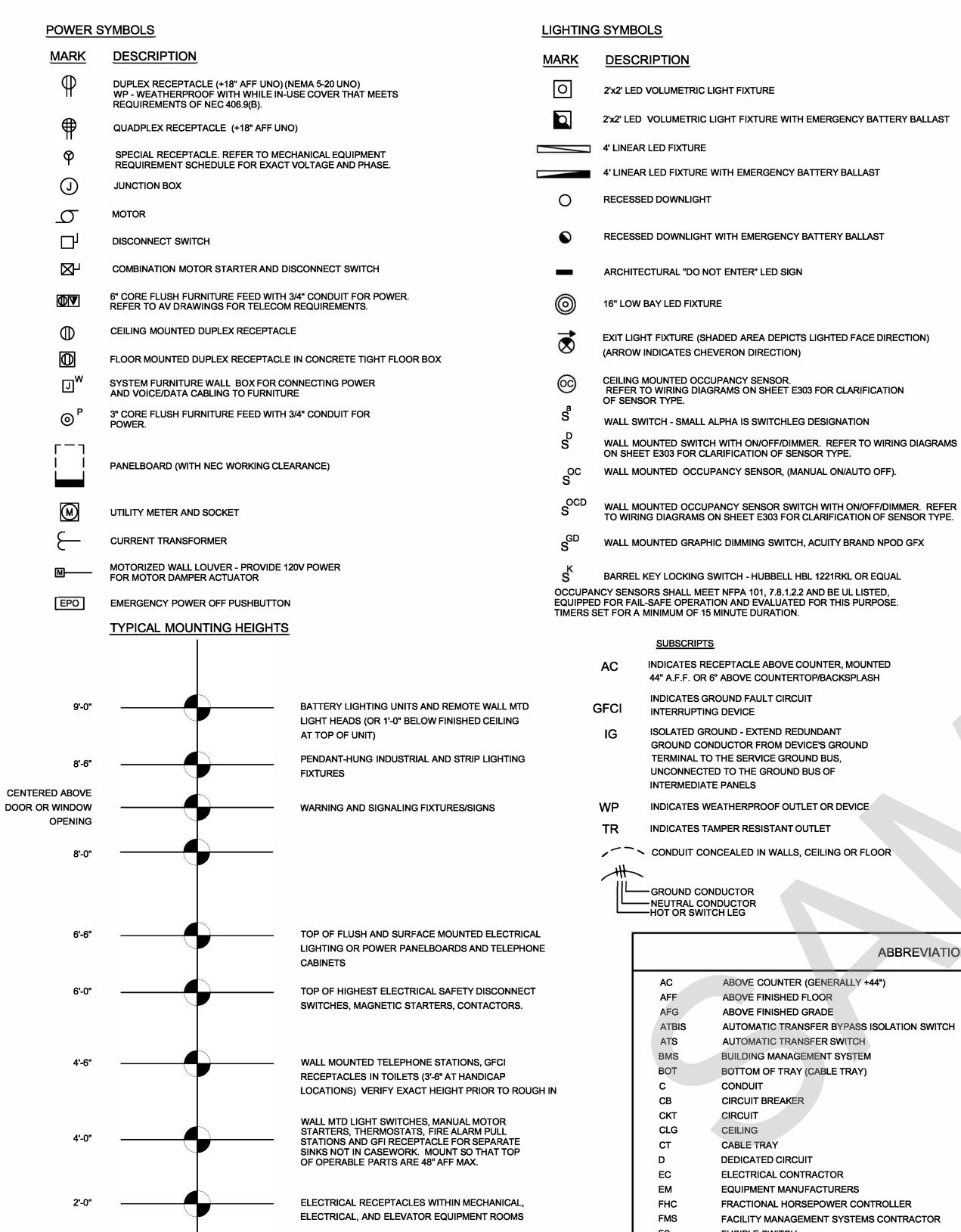
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**ELECTRICAL RECEPTACLES** 

COMMUNICATIONS OUTLETS

FINISHED FLOOR (RAISED FLOOR)

TELEPHONE OUTLETS

MOUNTING HEIGHT NOTES

CASEWORK.

FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.

1. MOUNTING HEIGHT IS TO CENTER OF DEVICE UNLESS NOTED OTHERWISE. IN

2. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY

3. A '+XX' BESIDE A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE A

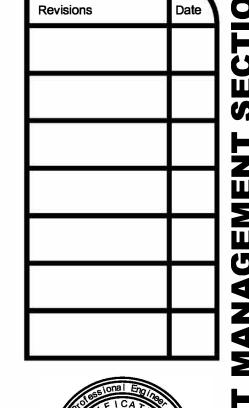
FINISHED FLOOR. COORDINATE WITH ARCHITECTURAL DETAILS AND

MASONRY CONSTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED

NOTED OR DETAILED OTHERWISE ON THE DRAWINGS OR IN SPECIFICATIONS.

	ABBREVIATIONS		
AC	ABOVE COUNTER (GENERALLY +44")	M/O	MAGNETIC ONLY CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MTD	MOUNTED
AFG	ABOVE FINISHED GRADE	N1	NEMA 1 ENCLOSURE
ATBIS	AUTOMATIC TRANSFER BYPASS ISOLATION SWITCH	NF	NON FUSED
ATS	AUTOMATIC TRANSFER SWITCH	NIC	NOT IN CONTRACT
BMS	BUILDING MANAGEMENT SYSTEM	NL	NIGHT LIGHT
вот	BOTTOM OF TRAY (CABLE TRAY)	NTS	NOT TO SCALE
С	CONDUIT	OC	ON CENTER
СВ	CIRCUIT BREAKER	OFE	OWNER FURNISHED EQUIPMENT
СКТ	CIRCUIT	OHE	OVERHEAD ELECTRICAL
CLG	CEILING	PDWB	PLASMA DISPLAY WALL BOX
СТ	CABLE TRAY	PNL	PANEL
D	DEDICATED CIRCUIT	RSC	RIGID STEEL CONDUIT
EC	ELECTRICAL CONTRACTOR	SER	SERVICE ENTRANCE RATED
EM	EQUIPMENT MANUFACTURERS	S/N	SOLID NEUTRAL BAR
FHC	FRACTIONAL HORSEPOWER CONTROLLER	TC	TIME CLOCK
FMS	FACILITY MANAGEMENT SYSTEMS CONTRACTOR	TEL	TELEPHONE
FS	FUSIBLE SWITCH	T/M	THERMAL MAGNETIC CIRCUIT BREAKER
GCC	GENERATOR CONNECTION CABINET	TR	TAMPER RESISTANT
GFE	GOVERNMENT FURNISHED EQUIPMENT	TYP	TYPICAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UG	UNDERGROUND (TYPICALLY POWER, UNO)
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED	UGE	UNDERGROUND ELECTRIC
GND	GROUND	UGF	UNDERGROUND FIBER (TYP. ON CONDUIT)
HOA	HAND-OFF-AUTOMATIC	UGS	UNDERGROUND SPARE CONDUIT
IG	ISOLATED GROUND	UGT	UNDERGROUND TELECOMMUNICATIONS
ΙΤ	INFORMATION TECHNOLOGY	U.N.O.	UNLESS NOTED OTHERWISE
JB	JUNCTION BOX	UPC	UNITIZED POWER CENTER (PANEL AND XFMR)
ΚV	KILOVOLT(S)	V	VOLT(S)
KVA	KILOVOLT AMPERE(S)	VFD	VARIABLE FREQUENCY DRIVE
KVAR	KILOVOLT AMPERE(S) REACTIVE	W	WASHER
KW	KILOWATTS	W/	WITH
MC	MECHANICAL CONTRACTOR	W/O	WITHOUT
MCC	MOTOR CONTROL CENTER	WP	WEATHERPROOF
MCP	MOTOR CONTROL PROTECTOR	XFMR	TRANSFORMER
MLO	MAIN LUGS ONLY	XP	EXPLOSION PROOF
MNS	MASS NOTIFICATION SYSTEM	+_"	HEIGHT ABOVE FINISHED FLOOR

	DRAWING INDEX
E-0.1	ELECTRICAL SYMBOLS, NOTES AND ABBREVIATIONS
E-1.5	ELECTRICAL SITE PLAN





Checked By:

10-30-2018

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This set of plans has been reviewed for ELECTRICAL requirements and shall be kept at the construction site. Such review

shall not prevent the correction of errors in the plans or during construction where such errors are subsequently

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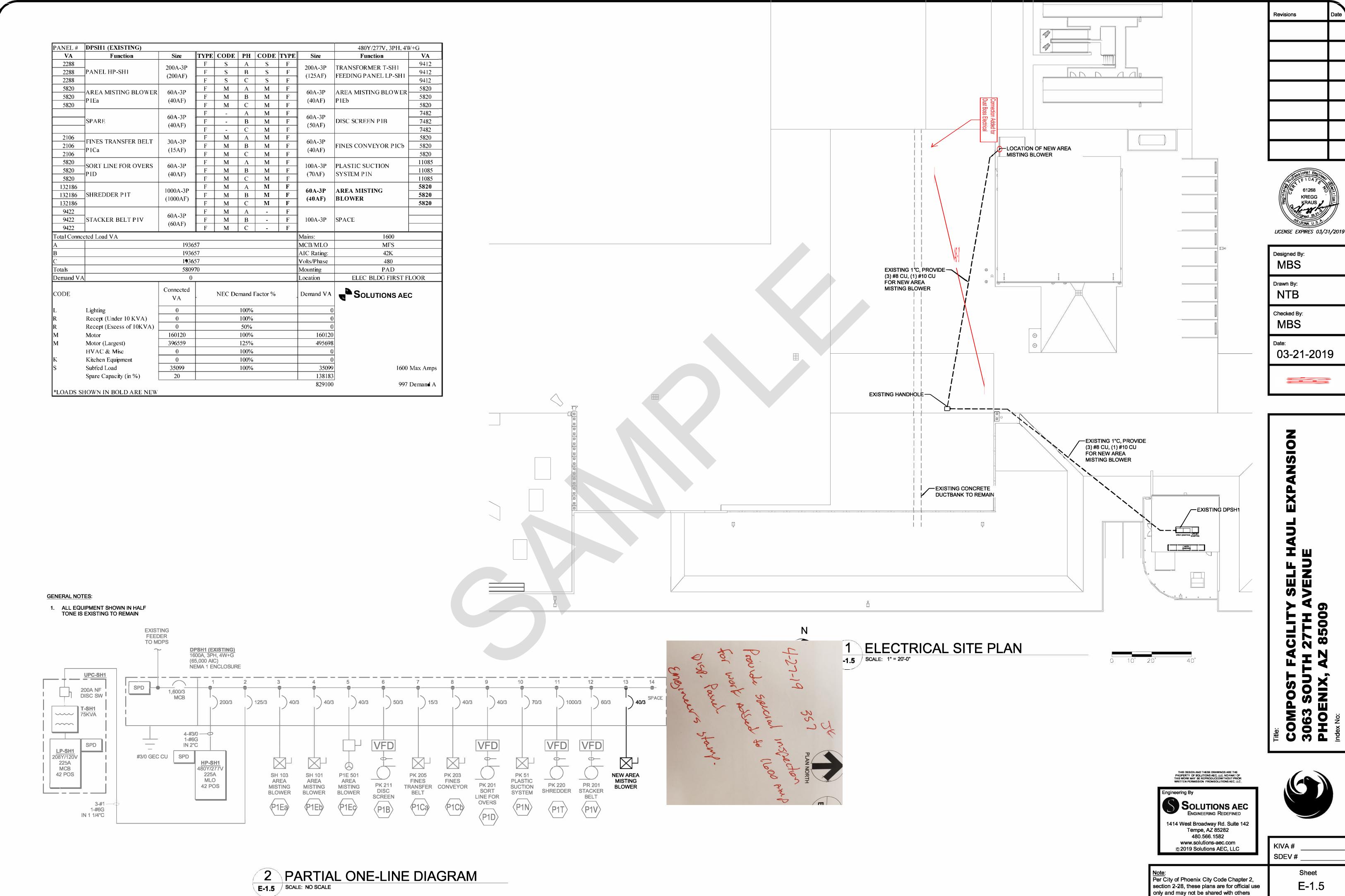




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