DIABETES PREVENTION PROGRAM FITNESS

TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA, 86045

100% DESIGN DEVELOPMENT DOCUMENTS

(100% CONSTRUCTION DOCUMENTS PER JOC CONTRACTOR.)

DESIGN TEAM

ARCHITECTURAL
SPS+ ARCHITECTS, LLP
8681 E VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
(480) 991- 0800
CONTACT: BOB PIAN

STRUCTURAL
CARUSO TURLEY SCOTT INC.
1215 W RIO SALADO PARKWAY, SUITE 200
TEMPE, AZ 85281
(480) 774 - 1700
CONTACT: CHRIS ATKINSON

MECHANICAL / PLUMBING
APPLIED ENGINEERING
2800 S RURAL ROAD, SUITE 101
TEMPE, AZ 85282
(480) 968-3070
CONTACT: GREG PIRAINO

ELECTRICAL
ELECTRICAL DESIGN CONSULTANTS, INC.
1855 E SOUTHERN, SUITE 203
MESA, AZ 85204
(602) 279-7010
CONTACT: HENRY VALENCIA

CIVIL
SHEPHARD WESNITZER, INC.
110 W DALE AVENUE
FLAGSTAFF, AZ 86001
(928) 773-0354
CONTACT: DAVID MONIHAN

ABBREVIATION SCHEDULE

A		**G**		**R**	
AB	ANCHOR BOLT	GA	GAUGE	RAD	RADIUS
ABC	AGGREGATE BASE COURSE	GALV	GALVANIZED	RA	RETURN AIR (REGISTER)
AC	ACOUSTIC (AL)	GI	GALVANIZED IRON	RB	RUBBER TILE
A/C	AIR CONDITIONING	GL	GLASS	RCP	RUBBERFLECTIED CEILING PLAN
ACP	ACOUSTICAL CEILING PANEL (LAY-IN)	GLB	GLUE LAMINATED BEAM	RD	ROOF DRAIN
		GYP	GYPSUM	REF	REFERENCE
ACT	ACOUSTICAL TILE (APPLIED)			REG	REGISTER
ADA(AG)	AMERICAN W/ DISABILITIES ACT (ACCESSIBILITY GUIDELINES)	**H**		RM	ROOM
		HARD	HARDENER	RO	ROUGH OPENING
ADD	ADDITIVE	HB	HOSE BIBB	REFR	REFRIGERATOR
AFF	ABOVE FINISHED FLOOR	HC	HOLLOW CORE	REINF	REINFORCE (D) (ING)
ALT	ALTERNATE (IVE)	HD	HEAVY DUTY	REQD	REQUIRED
AL	ALUMINUM	HDCP	HANDICAPPED	RES	RESILIENT
AP	ACCESS PANEL	HDW	HARDWARE	REV	REVISE (D) (S) (SION)
ARCH	ARCHITECT (URAL)	HDWD	HARDWOOD	ROW	RIGHT-OF-WAY
		HM	HOLLOW METAL	RTG	RATING
B		HORIZ	HORIZONTAL		
BB	BOND BEAM, BASE BID	HT	HEIGHT	**S**	
BLDG	BUILDING	HTR	HEATER	SB	SMART BOARD
BLK (G)	BLOCK (ING)	HVAC	HEATING/VENTILATING/ AIR CONDITIONING	SC	SOLID CORE
BM	BENCHMARK	HW	HOT WATER	SCHED	SCHEDULE
BOT	BOTTOM			SD	STORM DRAIN
BRG	BEARING	**I**		SEC	SECTION
BUR	BUILT-UP ROOF	ID	INSIDE DIAMETER	SF	SQUARE FOOT
		INCL	INCLUDE (D) (ING)	SG	SAFETY GLASS
C		INSUL	INSULATION	SHT	SHEET
CAB	CABINET	INT	INTERIOR	SIM	SIMILAR
CB	CHALKBOARD	INV	INVERT	SPEC	SPECIFICATION
CBB	CEMENTITIOUS BACKING BOARD			SPKR	SPEAKER
CEM	CEMENT	**J**		SQ	SQUARE
CF	CUBIC FOOT	JAN	JANITOR	SS	STAINLESS STEEL
CI	CAST IRON	JST	JOIST	STC	SOUND TRANSMISSION COEFFICIENT
CIP	CAST-IN-PLACE	JT	JOINT		
CJ	CONTROL JOINT			STL	STEEL
CLG	CEILING	**K**		STOR	STORAGE
CLR	CLEAR (ANCE)	KO	KNOCKOUT PANEL	STRUCT	STRUCTURE (AL)
CM	CENTIMETER			SUB	SUBSTRATE
CMU	CONCRETE MASONRY UNIT	**M**		SUSP	SUSPENDED
CO	CLEANOUT	M	METER	SYM	SYMMETRICAL
COL	COLUMN	MAS	MASONRY	SYS	SYSTEM
CONC	CONCRETE	MAX	MAXIMUM		
CONST	CONSTRUCTION	MB	MACHINE BOLT	**T**	
CONT	CONTINUOUS	MC	MINERAL CORE	T&G	TONGUE & GROOVE
CONTR	CONTRACT (OR)	MDF	MEDIUM DENSITY FIBERBOARD	TB	TACKBOARD
CP	CEMENT PLASTER	MECH	MECHANICAL	TELE	TELEPHONE
CPT	CARPET	MED	MEDIUM	TEMP (T)	TEMPERATURE/TEMPERED
CR	CLASSROOM	MTL	METAL	TER	TERRAZZO
CRC	COLD ROLLED CHANNEL	MFR	MANUFACTURER	THK	THICK (NESS)
CT	CERAMIC TILE	MH	MANHOLE	TJ	TOOLED JOINT
CTR	CENTER	MIN	MINIMUM	TOC	TOP OF CURB
CTSK	COUNTERSINK	MISC	MISCELLANEOUS	TOF	TOP OF FOOTING
CU	COPPER	ML	MASONRY LINTEL	TOM	TOP OF MASONRY
CW	COLD WATER	MM	MILLIMETER	TOP	TOP OF PAVEMENT
CY	CUBIC YARD	MRP	MOST REMOTE POINT	TOW	TOP OF WALL
		MO	MASONRY OPENING	TS	TUBE STEEL
D		MOD	MODULAR	TV	TELEVISION
DBL	DOUBLE	MTG	MOUNTING	TYP	TYPICAL
DET	DETAIL	MULL	MULLION		
DF	DRINKING FOUNTAIN (NOT REFRIGERATED)			**U**	
		N		UNF	UNFINISHED
DIA	DIAMETER	N/A	NOT APPLICABLE	UNO	UNLESS NOTED OTHERWISE
DIAG	DIAGONAL	NAT	NATURAL		
DIM	DIMENSION	NIC	NOT IN CONTRACT	**V**	
DISP	DISPENSER/DISPOSAL	NOM	NOMINAL		VARIES
DL	DEAD LOAD	NRC	NOISE REDUCTION COEFFICIENT	VB	VAPOR BARRIER
DN	DOWN	NTS	NOT TO SCALE	VCT	VINYL COMPOSITION TILE
DS	DOWNSPOUT			VERT	VERTICAL
DW	DRYWALL	**O**		VEST	VESTIBULE
DWG	DRAWING	OA	OVERALL	VG	VERTICAL GRAIN
DWR	DRAWER	OC	ON CENTER	VGB	VINYL GYPSUM BOARD
		OD	OUTSIDE DIAMETER	VJ	V-JOINT (ED)
E		OH	OVERHEAD/OVERHANG		
EA	EACH	OJ	OPEN-WEB JOIST	**W**	
EDF	ELECTRIC DRINKING FOUNTAIN (REFRIGERATED)	OPG	OPENING	W/	WITH
		OPP	OPPOSITE	W/O	WITHOUT
EJ	EXPANSION JOINT			WC	WATER CLOSET
EL	ELEVATION	**P**		WD	WOOD
ELEC	ELECTRIC (AL)	PT	PAINT	WDW	WINDOW
ELEV	ELEVATOR	PB	PARTICLEBOARD	WH	WATER HEATER
EMER	EMERGENCY	PCC	PRECAST CONCRETE	WP	WATERPROOFING
ENG	ENGINEER	PERF	PERFORATE (D)	WR	WATER RESISTANT
EQ	EQUAL	PREFAB	PREFABRICATE (D)	WSCT	WAINSCOT
EQUIP	EQUIPMENT	PL	PLATE	WT	WEIGHT
EW	EACH WAY	PLAM	PLASTIC LAMINATE	WWF	WELDED WIRE FABRIC
EXH	EXHAUST	PLAS	PLASTER		
EXIST	EXIST (ING)	PLUMB	PLUMBING		
EXP	EXPOSED	PLYWD	PLYWOOD		
EXT	EXTERIOR	PNL	PANEL		
		PR	PAIR		
F		PROP	PROPERTY		
FA	FIRE ALARM	PSC	PRESTRESSED CONCRETE		
FAC	FACTORY FINISH	PSF	POUNDS PER SQUARE INCH		
FD	FLOOR DRAIN	PSI	POUNDS PER SQUARE INCH		
FE	FIRE EXTINGUISHER	PTN	PARTITION		
FEC	FIRE EXTINGUISHER CABINET	PVC	POLY-VINYL CHLORIDE		
FF	FINISH FLOOR	PVMT	PAVEMENT		
FGB	FIRE RATED GYPSUM BOARD				
FGL	FIBERGLASS	**Q**			
FH	FIRE HYDRANT	QT	QUARRY TILE		
FHC	FIRE HOSE CABINET				
FIN	FINISH				
FLR	FLOOR (ING)				
FRP	FIBERGLASS REINFORCED PANEL				
FTG	FOOTING				
FUR (G)	FURRED (ING)				
FUT	FUTURE				

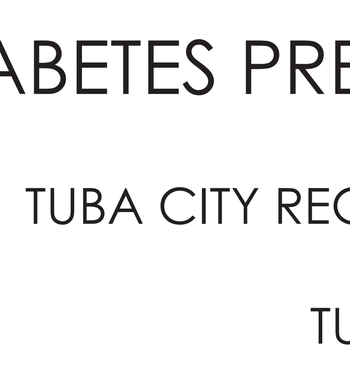
GENERAL LEGEND

- NORTH ARROW
- LEVEL LINE
- WALL TYPE (A)
- DOOR NUMBER (01)
- WINDOW TYPE (A)
- EQUIPMENT DESIGNATION (1)
- REVISIONS (1)
- COLUMN REFERENCE GRIDS (1 / A)
- DEMOLITION KEYED NOTES (1)
- KEYED NOTES (1)
- 0'-0" A.F.F. CEILING HEIGHT
- ROOM NAME / ROOM NUMBER / 100 SF AREA
- TYP. / 1 / A1 DETAIL NUMBER / SHEET ON WHICH DETAIL IS DRAWN
- TYP. / 1 / A1 BUILDING SECTION
- TYP. / 1 / A1 WALL SECTION
- TYP. / 1 / A1 EXTERIOR BUILDING ELEVATION
- A17/A900 INTERIOR ELEVATION / DETAIL
- 5'-0" HANDICAPPED TURNING RADIUS
- 1/8" PER FT SLOPE INDICATOR
- EXIT SIGN (CEILING)
- EXIT SIGN (WALL)
- SPRINKLER HEAD

NOTE: REFER TO CODE SHEET FOR OCCUPANCY AND EGRESS SYMBOLS

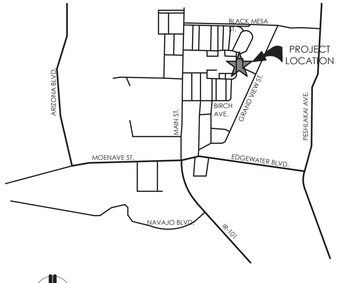
LOCATION MAP

NTS



VICINITY MAP

NTS



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7	RS01	TOPOGRAPHIC SURVEY	
8	IP01	CIVIL IMPROVEMENT PLAN	3
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10	SW01	STORMWATER POLLUTION PREVENTION PLAN	
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PROJECT DATA

PROJECT INFORMATION
DIABETES PREVENTION PROGRAM FITNESS
TAMARAX STREET
TUBA CITY, ARIZONA 86045

OWNER
TUBA CITY REGIONAL HEALTH CARE CORPORATION
167 NORTH MAIN ST.
PO BOX 600
TUBA CITY, ARIZONA 86045

PARCEL NUMBER: N/A (NAVAJO NATION)

ZONING: N/A

FLOOD ZONE: N/A

SITE AREA: APPROXIMATELY 0.4375 ACRES

CODES AND STANDARDS

2012 INTERNATIONAL BUILDING CODE
2012 INTERNATIONAL PLUMBING CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL FUEL GAS CODE
2011 NATIONAL ELECTRIC CODE
2009 ICC/ANSI A117.1 WITH 2010 ADA STANDARDS AS ADOPTED BY THE STATE OF ARIZONA (MOST RESTRICTIVE GOVERNS)
2012 INTERNATIONAL FIRE CODE AS ADOPTED BY ARIZONA STATE FIRE MARSHAL

PARKING PROVIDED: TOTAL: 14
ACCESSIBLE: 1
STANDARD: 13

FROST LINE DEPTH: 2'-6"

SCOPE OF WORK

NEW 8,000 SF MODULAR BUILDING TO INCLUDE LOBBY, RECEPTION, SCREENING ROOM, WORKOUT ROOMS, OFFICE AREAS, KITCHEN TRAINING, RESTROOMS AND SUPPORT SERVICES. GENERAL SITE WILL INCLUDE UTILITIES, PARKING AND HARDSCAPING TO SUPPORT BUILDING FUNCTION.

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ALTERNATES

REFER TO THE PROJECT MANUAL.

DEFERRED SUBMITTALS

DEFERRED SUBMITTALS ARE THE RESPONSIBILITY OF THE JOC.

EXISTING UTILITIES

JOC TO VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
COVER SHEET

REVISIONS		
MARK	DATE	DESCRIPTION
3	11-07-17	OWNER REVISIONS

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 11/07/17
Not Valid Unless Signed
EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

JOB No: 1641B

SHEET: G101

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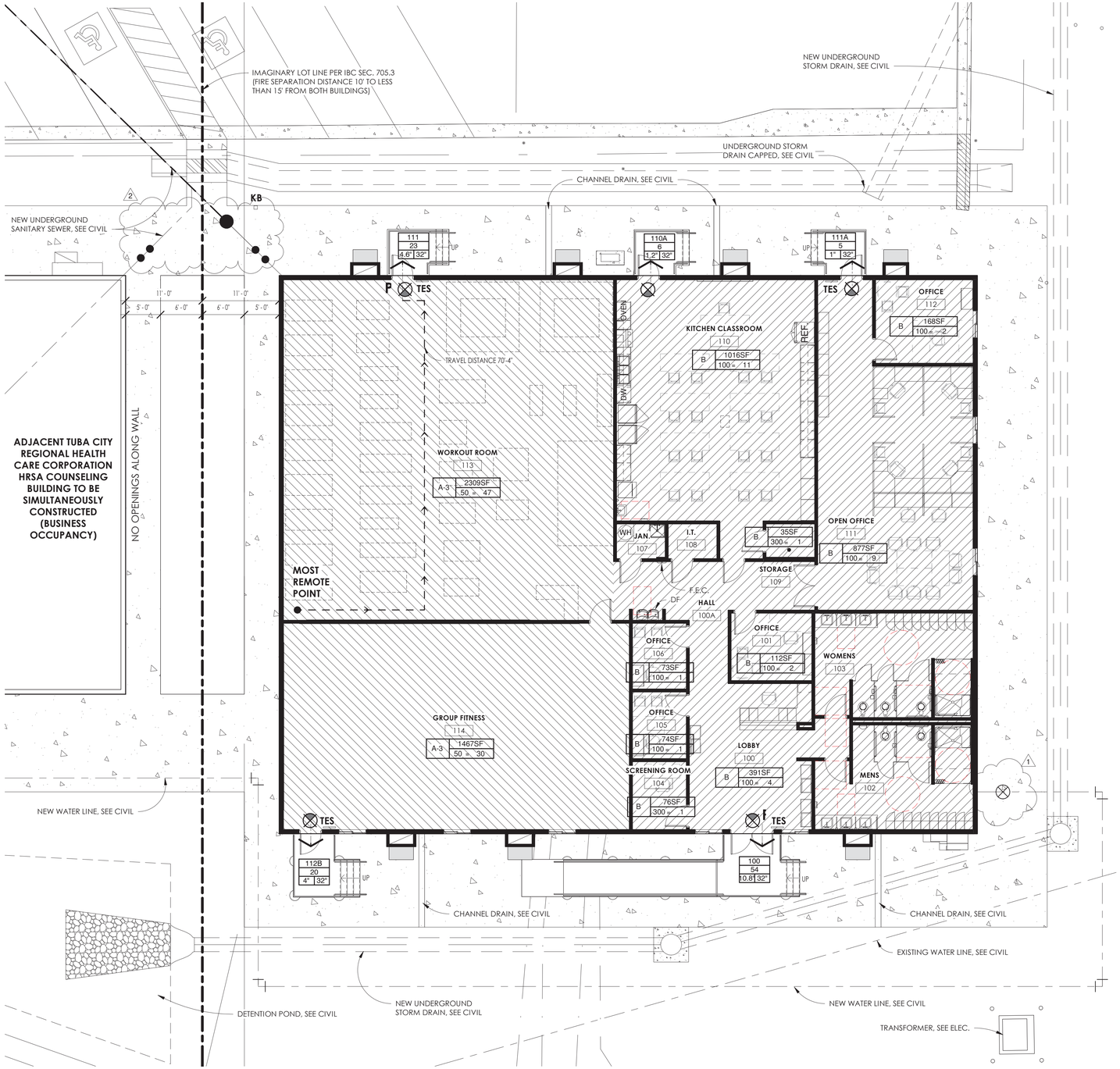


1 CODE PLAN
1/8" = 1'-0"

PLAN NORTH

OCCUPANT LOAD TABLE

ROOM NO.	ROOM NAME	AREA	OCC. FUNCTION PER 1004.1.2	OCC. FACTOR	OCC. TOTAL
100	LOBBY	391	BUSINESS AREAS	100	4
100A	HALL	274	CIRCULATION	0	
101	OFFICE	112	BUSINESS AREAS	100	2
102	MENS	305	N/A (RESTROOM)	0	
103	WOMENS	331	N/A (RESTROOM)	0	
104	SCREENING ROOM	76	BUSINESS AREAS	100	1
105	OFFICE	74	BUSINESS AREAS	100	1
106	OFFICE	73	BUSINESS AREAS	100	1
107	JAN.	35	N/A (ACCESSORY)	0	
108	I.T.	35	N/A (ACCESSORY)	0	
109	STORAGE	34	ACCESSORY STORAGE AREAS	300	1
110	KITCHEN CLASSROOM	1016	BUSINESS AREAS	100	11
111	OPEN OFFICE	877	BUSINESS AREAS	100	9
112	OFFICE	168	BUSINESS AREAS	100	2
113	WORKOUT ROOM	2309	EXERCISE ROOMS	50	47
114	GROUP FITNESS	1467	EXERCISE ROOMS	50	30
Grand total		7577			109

LEGEND OF SYMBOLS:

- EXIT
- EXIT ACCESS TRAVEL DISTANCE
- NOTE: TRAVEL DISTANCES INDICATED ARE FROM MOST REMOTE POINT TO EXIT DOOR THRU PATH INDICATED.
- EXIT DISCHARGE
- P — PANIC HARDWARE
- Room name / 101 — ROOM NAME & NUMBER
- OCCUPANCY GROUP / OCCUPANT LOAD FACTOR — B | 600SF | 100 @ 6 — ROOM AREA / # OCCUPANTS
- DOOR NO. / REQUIRED CLEAR WIDTH — 100 | 10 | 24" 32" — OCCUPANT LOAD / CLEAR WIDTH PROVIDED
- T.E.S. — TACTILE EXIT SIGN LOCATED AT 60" ABOVE THE FINISH FLOOR TO THE CENTER OF THE SIGN.
- 60" — MANEUVERING SPACE REQUIREMENTS AT EACH DOOR PER ICC/ANSI A117.1
- F.E.C. — PARTIALLY RECESSED FIRE EXTINGUISHER AND CABINET.
- EXIT SIGN. SEE ELECTRICAL
- KB — KNOX BOX
- DF — ADA (HI-LO) DRINKING FOUNTAIN
- SF — SQUARE FOOT
- A-3 OCCUPANCY (3,900 SF)
- B OCCUPANCY (4,100 SF)

PROJECT INFORMATION:

ADDRESS: DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045

PARCEL NUMBER: N/A (NAVAJO NATION)

ZONING: N/A

PROJECT DESCRIPTION:

CONSTRUCTION OF A NEW APPROXIMATELY 8,000 SF MODULAR BUILDING, INCLUDING PARKING, LANDSCAPING AND DRIVEWAYS. JOC TO PROVIDE CONSTRUCTION DOCUMENTS WITH CURRENT REGISTERED ARCHITECT/ENGINEER SEALS FOR BUILDING PLAN REVIEW AND PERMITS.

APPLICABLE CODES & STANDARDS:

2012 INTERNATIONAL BUILDING CODE
2012 INTERNATIONAL PLUMBING CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL FUEL GAS CODE
2011 NATIONAL ELECTRIC CODE
2009 ICC ANSI A117.1 WITH 2010 ADA STANDARDS AS ADOPTED BY THE STATE OF ARIZONA (MOST RESTRICTIVE GOVERNS)
2012 INTERNATIONAL FIRE CODE AS ADOPTED BY ARIZONA STATE FIRE MARSHAL
2012 INTERNATIONAL ENERGY CONSERVATION CODE

GENERAL BUILDING INFORMATION:

OCCUPANCY GROUP: A-3/B, NON-SEPARATED MIXED USE

CONSTRUCTION TYPE: V-B

FIRE PROTECTION: NONE, NON-SPRINKLERED
12,000SF, < 300 OCCUPANT SPRINKLER THRESHOLD FOR GROUP A-3 PER IBC SECTION 903.2.1.3

BUILDING HEIGHT AND AREA:

ALLOWABLE PER TABLE 503 (*USE MORE RESTRICTIVE A-3 OCCUPANCY)
TABULAR AREA PER STORY (AT): 6,000SF
STORIES PERMITTED: 1
HEIGHT: 40'

PROVIDED:
BUILDING AREA: 8,000 SF
STORIES: 1
MAXIMUM HEIGHT: 15'-0"

SQUARE FOOTAGE INCREASE PER IBC SECTION 506.2: 9,618 SF MAX. > 8,000 SF ACTUAL

BUILDING DATA:

2 BUILDINGS ON SAME LOT PER IBC SEC. 705.3

OPENINGS IN EXTERIOR WALLS:

FIRE SEPARATION DISTANCE 10' TO 15', UNPROTECTED, NON-SPRINKLERED = 15%
THERE ARE NO OPENINGS ON THE WALLS BETWEEN BUILDINGS

PANIC HARDWARE:

PER SECTION 1008.1.10: DOORS SERVING ROOMS OR SPACES WITH AN OCCUPANT LOAD OF 50 OR MORE IN A GROUP A OR E OCCUPANCY SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE OF FIRE EXIT HARDWARE.

EXIT AND EXIT ACCESS DOORWAYS:

PER SECTION 1015.1: MIN. 2 EXITS SHALL BE PROVIDED WHERE OCCUPANT LOAD EXCEEDS 49 IN GROUP A, B AND E OCCUPANCIES OR WHERE COMMON PATH OF TRAVEL EXCEEDS THE LIMITATIONS OF SECTION 1014.3.

TRAVEL DISTANCE:

EXIT ACCESS TRAVEL DISTANCE (IBC TABLE 1016.2, WITHOUT SPRINKLER SYSTEM):
A OR B OCCUPANCY: MAX. 200'

COMMON PATH OF EGRESS TRAVEL (IBC TABLE 1014.3, WITHOUT SPRINKLER SYSTEM):
A-3 OCCUPANCY: MAX. 75'

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS):

PER TABLE 601:
TYPE VB CONSTRUCTION = ZERO (0) HOURS - NO BUILDING ELEMENTS REQUIRED TO BE RATED

PER TABLE 602:
TYPE VB CONSTRUCTION, OCCUPANCY GROUP A-3 & B
FIRE SEPARATION (FSD) 10' ≤ X > 30' = ZERO (0) HOURS
FIRE SEPARATION (FSD) > 30' = ZERO (0) HOURS
NO EXTERIOR WALLS REQUIRED TO BE RATED

DESIGN OCCUPANT LOAD:

REFER TO ADJACENT OCCUPANT LOAD TABLE

3 ENTIRE SHEET

PLUMBING FIXTURE CALCULATIONS:

CALCULATIONS PER IBC TABLE 2902.1 AND PER DESIGN OCCUPANT LOAD PER 1004.1

OCCUPANCY	WATER CLOSET (M/F)	LAVATORY (M/F)	DRINKING FOUNTAINS	SERVICE SINK
'A-3'	REQUIRED 1 PER 125 MALE REQUIRED 1 PER 65 WOMEN 77/2 = 39M, 39F 39 x 1/125 = .31 MALE 39 x 1/65 = .06 FEMALE	REQUIRED 1 PER 200 77/2 = 39M, 39F 39 X 1/200 = .20 MALE 39 X 1/200 = .20 FEMALE	REQUIRED 1 PER 500 OCCUPANTS 77 x 1/500 = .154	REQUIRED: 1
'B'	REQUIRED 1 PER 25 FOR FIRST 50 AND 1 PER 50 FOR REMAINDER OVER 50 32/2 = 16M, 16F 16 x 1/25 = .64 MALE 16 x 1/25 = .64 FEMALE	REQUIRED 1 PER 40 FOR FIRST 80 AND 1 PER 80 FOR REMAINDER OVER 80 32/2 = 16M, 16F 16X 1/40 = .4 MALE 16X 1/40 = .4 FEMALE	REQUIRED 1 PER 100 OCCUPANTS 32 x 1/100 = .32	REQUIRED: 1
TOTAL REQUIRED	1 W.C. MALE 1 W.C. FEMALE	1 LAV MALE 1 LAV FEMALE	1 REQUIRED	1 REQUIRED
TOTAL PROVIDED	MALE: 2 W.C., 1 URINAL FEMALE: 3 W.C.	3 MALE 3 FEMALE	1 HI-LO	1

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
CODE SHEET

REVISIONS

MARK	DATE	DESCRIPTION
1	09-25-17	NTUA COMMENTS
2	10-09-17	NTUA COMMENTS
3	11-07-17	OWNER REVISIONS

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 1/07/17
STATE OF ARIZONA
EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

JOB No: 1641B

SHEET: G102

PLOTTED: Nov 14, 2017-10:24am

GENERAL NOTES

MATERIALS AND WORKMANSHIP

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS AND SPECIFICATIONS, AND ANY SPECIAL PROVISIONS PREPARED FOR THE PROJECT. THE TERM "CURRENT" MEANS THE DATE OF THE SPECIFICATIONS IN EFFECT AS OF THE DATE OF THE ENGINEERS SEAL ON THESE PLANS.

MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION
AMERICAN WATER WORKS ASSOCIATION STANDARDS
ARIZONA ADMINISTRATIVE CODE
INTERNATIONAL PLUMBING CODE (IBC)
INTERNATIONAL BUILDING CODE (IBC)
NAVAJO TRIBAL UTILITY AUTHORITY (NTUA)

IF TWO OR MORE GIVEN SPECIFICATIONS DIFFER IN CONTENT, THE MORE RESTRICTIVE OR STRINGENT STANDARD OR SPECIFICATION, IN THE OPINION OF THE ENGINEER, WILL GOVERN.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF THE ABOVE STANDARDS, SPECIFICATIONS AND DETAILS, AS WELL AS ALL OTHER STANDARDS AND SPECIFICATIONS WHICH MAY BE NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THESE PLANS. THIS REQUIREMENT EXTENDS TO ANY STANDARDS, DETAILS OR SPECIFICATIONS REFERENCED BY THE CONSTRUCTION DOCUMENTS AND NOT INCLUDED IN THE LIST ABOVE.

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MAY REQUIRE THE SUBMITTAL OF A "CERTIFICATE OF COMPLIANCE" AND/OR "MANUFACTURER'S GUIDELINES" FOR ANY MATERIALS USED IN THE WORK. MANUFACTURER'S GUIDELINES SHALL CONSIST OF WRITTEN INSTRUCTIONS FOR SHIPPING, HANDLING, UNLOADING, CUTTING, JOINING, INSTALLATION, STORAGE, AND/OR ANY OTHER FACETS OF WORKING.

SHOP DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR PER SPECIFICATIONS.

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MAY ORDER ANY OR ALL MATERIALS USED IN THE WORK TO BE TESTED ACCORDING TO THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AND THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS. THE CONTRACTOR SHALL, AT HIS EXPENSE, SUPPLY ALL SAMPLES FOR THE TESTING AND CERTIFICATES OR RESULTS OF TESTING.

ALTERNATE MANUFACTURER AND MODEL

THE CONTRACTOR SHALL SUBMIT CAREFULLY DOCUMENTED AND CONSIDERED WRITTEN PROPOSALS FOR ALTERNATE MATERIALS AND CONSTRUCTION METHODS. THOSE PROPOSALS THAT ARE FOUND TO BE IN CONFORMITY WITH GOOD ENGINEERING DESIGN AND CAN BE EASILY MAINTAINED BY JURISDICTIONAL FORCES MAY BE GIVEN WRITTEN APPROVAL FOR INCORPORATION IN THE CONSTRUCTION PLANS IF THEY ARE FOUND TO BE IN THE OWNER'S BEST INTEREST.

UNAUTHORIZED WORK

ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL OF THE OWNER OR HIS AUTHORIZED REPRESENTATIVE IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

SUSPENSION OF WORK

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN HIS JUDGMENT, PROGRESS IS UNSATISFACTORY, IMPROPER WORKMANSHIP IS BEING PERFORMED, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS DANGER TO THE PUBLIC HEALTH OR SAFETY.

QUALIFICATIONS OF CONTRACTOR

ALL IMPROVEMENTS SHALL BE CONSTRUCTED BY CONTRACTORS LICENSED BY THE ARIZONA STATE REGISTRAR OF CONTRACTORS, WITH A CLASS OF LICENSE(S) FOR THE SPECIFIC WORK BEING PERFORMED.

CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION METHODS, SEQUENCING, AND SAFETY DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS APPLICABLE TO THE CONSTRUCTION OF THIS PROJECT.

WATER SUPPLY DURING CONSTRUCTION

ALL WEATHER ACCESS, FIRE HYDRANTS AND WATER MAINS, SHALL BE IN PLACE, APPROVED AND OPERATIONAL AT ALL TIMES DURING CONSTRUCTION OF ON-SITE COMBUSTIBLE CONSTRUCTION. UTILITY OWNER APPROVAL IS REQUIRED FOR OBSTRUCTION OF ACCESS OR WATER SYSTEM SHUT DOWN.

THE LOCATION OF ALL WATER VALVES AND FIRE HYDRANTS MUST AT ALL TIMES DURING CONSTRUCTION BE REFERENCED AND MADE ACCESSIBLE TO THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND PROVIDE ALL NECESSARY WATER FOR HIS CONSTRUCTION OPERATION AT HIS OWN EXPENSE.

ESTIMATED QUANTITIES

ALL QUANTITIES SHOWN ARE APPROXIMATE AND ARE FURNISHED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACTUAL QUANTITIES OF WORK REQUIRED AND BASE HIS BID ON HIS OWN INDEPENDENT ESTIMATE OF THE WORK SCOPE AND QUANTITIES OF MATERIALS REQUIRED. THEY DO NOT NECESSARILY CORRESPOND TO BID SCHEDULE ITEMS. PAYMENT WILL BE BASED ON BID SCHEDULE ITEMS. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR INDEPENDENTLY ESTIMATING QUANTITIES PRIOR TO BIDDING. THE CONTRACTOR REPRESENTS THAT THE TOTAL CONTRACT SUM IS ADEQUATE COMPENSATION FOR COMPLETING THE ENTIRE PROJECT AS SHOWN ON THE PLANS.

THE LOCATION OF EXISTING FEATURES INDICATED ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR MAKING COMPLETE AND ACCURATE ON-SITE DETERMINATIONS OF THE LOCATIONS OF ALL UTILITIES, STRUCTURES AND FIELD CONDITIONS, WHICH MAY AFFECT THE PROGRESS OF THE WORK.

CONSTRUCTION OBSERVATIONS

AN OBSERVATION OF CONSTRUCTED IMPROVEMENTS WILL BE CONDUCTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. SPECIAL OBSERVATION AND TESTING SERVICES SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE, AS REQUIRED BY THE PERMITTING AGENCY.

NO BASE COURSE CONSTRUCTION SHALL BE STARTED UNTIL ALL UTILITY LINES ARE COMPLETED AND TESTED UNDER PROPOSED AREAS AND THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

NO PAVEMENT SHALL BE PLACED UNTIL BASE COURSE CONSTRUCTION IS INSPECTED AND APPROVED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO BEGINNING DIFFERENT PHASES OF CONSTRUCTION SO THAT OBSERVATIONS MAY BE SCHEDULED.

AN ENGINEER SHALL CERTIFY THE OF COMPLETION FOR ALL WATER AND SEWER SYSTEM CONSTRUCTION. ANY REQUIRED OBSERVATION AND/OR TESTING SHALL BE PROVIDED BY THE CONTRACTOR AT THEIR EXPENSE.

MAINTENANCE OF FACILITIES AND WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE STREETS AND OF PARTIALLY COMPLETED PORTIONS OF THE WORK UNTIL FINAL ACCEPTANCE OF THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE QUALITY OF EXISTING STREETS LEADING TO THE PROJECT SITE. EXISTING STREETS FOUND TO BE DAMAGED BY CONSTRUCTION TRAFFIC SHALL BE REPAIRED TO THE SATISFACTION OF THE FACILITIES MANAGEMENT DEPARTMENT BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

THE CONTRACTOR SHALL KEEP THE WORK AREA, ADJACENT PROPERTIES AND STREETS CLEAN AND FREE FROM RUBBISH, EXCESS MATERIALS, DUST AND DEBRIS GENERATED BY THE CONSTRUCTION ACTIVITY.

DAILY CLEANUP OF THE CONSTRUCTION SITE, INCLUDING SWEEPING STREETS, MAINTAINING TRENCHES, PROVIDING PROPER TRAFFIC CONTROL DEVICES, ETC., IS REQUIRED.

FINAL ACCEPTANCE

FINAL ACCEPTANCE OF THE CONSTRUCTION, BY THE PERMITTING AGENCY, IS REQUIRED BEFORE RELEASING PERMITS AND/OR TRANSFERRING OWNERSHIP OF THE IMPROVEMENTS TO THE OWNER.

APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL WRITTEN FINAL ACCEPTANCE OF A COMPLETE WORKABLE UNIT. ACCEPTANCE OF COMPLETED IMPROVEMENTS WILL NOT BE GIVEN UNTIL DEFECTIVE OR UNAUTHORIZED WORK IS REMOVED AND FINAL CLEAN-UP IS COMPLETE.

THE OWNER RESERVES THE RIGHT TO REQUEST MODIFICATIONS TO THESE PLANS DURING CONSTRUCTION IF FIELD CONDITIONS WARRANT AND THE DESIGN ENGINEER CONCURS.

NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURB, PAVEMENT AND SIDEWALKS HAVE BEEN SWEPT CLEAN OF DIRT AND DEBRIS TO THE SATISFACTION OF THE OWNER OR HIS AUTHORIZED REPRESENTATIVE AND ALL SURVEY MONUMENTS ARE INSTALLED.

WARRANTY

ANY DEFECTS WHICH APPEAR IN THE WORK WITHIN TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE AND WHICH ARE DUE TO IMPROPER WORKMANSHIP OR INFERIOR MATERIALS SUPPLIED SHALL BE CORRECTED BY, AND AT THE EXPENSE OF, THE CONTRACTOR.

UTILITIES

THESE PLANS REPRESENT A REASONABLE EFFORT TO SHOW LOCATIONS OF EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES CAUSED DURING CONSTRUCTION. THE CONTRACTOR IS TO VERIFY THE LOCATION AND THE ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION OR CONSTRUCTION. WHERE PROPOSED UTILITIES ARE TO TIE INTO EXISTING STUBOUTS, MANHOLES, ETC., THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION BY POTHOLING, IF NECESSARY, TWO WEEKS PRIOR TO CONSTRUCTION. SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON PLANS, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE PROPER UTILITY OWNER'S AGENT.

UTILITIES MUST BE LOCATED TO MINIMIZE INTERFERENCE WITH ONE ANOTHER, TO PROVIDE REQUIRED HORIZONTAL AND VERTICAL SEPARATIONS, AND TO PROVIDE MAINTENANCE ACCESS WITHOUT VIOLATING EASEMENT BOUNDARIES.

UTILITY FACILITIES IN CONFLICT WITH THIS WORK WILL BE RELOCATED BY THE PERMITTEE OR THE UTILITY OWNER. THIS ACTIVITY SHALL BE COORDINATED WITH THE OWNER OF THE UTILITY TO PREVENT ANY UNNECESSARY INTERRUPTION OF SERVICE TO EXISTING CUSTOMERS.

IT IS NOT WITHIN THE SCOPE OF THE PLANS FOR THE ENGINEER TO LOCATE, IDENTIFY OR FORESEE EVERY UTILITY CONFLICT WHICH MAY ARISE DURING THE CONSTRUCTION PHASE OF THE PROJECT BUT IT IS THE INTENT OF THE OWNER TO REASONABLY COMPENSATE THE CONTRACTOR FOR THE WORK REQUIRED TO RELOCATE OR ADJUST UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROJECT. TO THAT END, UTILITIES WHICH ARE ENCOUNTERED WILL BE ADDRESSED AS FOLLOWS:

1) UTILITY RELOCATION'S OR ADJUSTMENTS NOTED ON THE PLANS SHALL BE PAID FOR PER THE BID SCHEDULE.

2) UTILITY RELOCATION'S OR ADJUSTMENTS NOT NOTED ON THE PLANS SHALL BE ADDRESSED ON A CASE BY CASE BASIS. THE ENGINEER SHALL DETERMINE WHAT WORK IS REQUIRED TO PRODUCE THE DESIRED FINAL PRODUCT. IF A UNIT BID PRICE DOES NOT EXIST THEN COMPENSATION MUTUALLY ACCEPTABLE TO THE OWNER, CONTRACTOR, AND ENGINEER SHALL BE MADE.

IN EITHER SITUATION, WORK ON THE SPECIFIC CASE SHALL NOT PROCEED UNTIL THE AMOUNT OF COMPENSATION IS AGREED UPON. COMPENSATION FOR UTILITY RELOCATIONS AND ADJUSTMENTS SHALL NOT INCLUDE COSTS FOR REPAIR TO THE UTILITY DAMAGED BY THE CONTRACTOR OR HIS SUBCONTRACTOR(S). THE CONTRACTOR IS NOT RELIEVED OF THE RESPONSIBILITY FOR DETERMINING THE LOCATION OF ALL UTILITIES AFFECTING THE WORK. THE APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. CERTAIN UTILITIES ARE TO REMAIN IN SERVICE DURING THE CONSTRUCTION OF THE FILL AND UPON COMPLETION OF THE CONTRACT. THESE UTILITIES SHALL BE PROTECTED DURING THE CONSTRUCTION AND CUT OR FILL PLACEMENT SHALL NOT PROHIBIT MAINTENANCE ACCESS TO THESE UTILITIES.

A UTILITY COORDINATION MEETING SHALL BE COORDINATED BY THE CONTRACTOR PRIOR TO THE START OF ANY WORK. ALL UTILITY ISSUES SHALL BE ADDRESSED IN ACCORDANCE WITH MAG SECTION 105.6.

BLUE STAKE

LOCATION OF UNDERGROUND UTILITIES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ARS 40-360.22 PRIOR TO ANY EXCAVATION. BLUE STAKE SHALL BE CALLED AT 1-800-321-ALERT FOR ACCURATE LOCATION OF UTILITIES AS NECESSARY AND PRIOR TO ANY EXCAVATION.

STREET CLOSURE

STREETS CLOSED BECAUSE OF CONSTRUCTION, SHALL BE PROVIDED WITH BARRICADES AND/OR HAZARD SIGNS AS REQUIRED BY THE ENGINEER AND APPROVED BY THE OWNER.

AS-BUILT PLANS

THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF ALL APPROVED SHOP DRAWINGS AND AN ACCURATE, CURRENT, AS-BUILT SET OF PLANS ON SITE FOR REFERENCE AT ALL TIMES. THE AS-BUILT PLANS WILL BE FURNISHED BY THE CONTRACTOR TO THE OWNER AT THE COMPLETION OF THE PROJECT FOR RECORD. THE AS-BUILT PLANS MUST BE UPDATED DAILY BY THE CONTRACTOR AND INCLUDE, IN ADDITION TO THE PLANNED CONSTRUCTION, ANY CHANGES AUTHORIZED BY THE OWNER AND ANY UTILITIES DISCOVERED DURING THE TRENCHING OPERATIONS BY SIZE, LOCATION, AND TYPE REDLINED ONTO THE PLANS BY STATION/DISTANCE/DEPTH.

PRIOR TO APPROVAL OF AN IMPROVEMENT PROJECT, AN "AS-BUILT" PLAN MUST BE SUBMITTED TO THE PERMITTING AGENCY. THE AS-BUILT PLAN SHALL INDICATE THE ACTUAL LOCATION OF WATER MAINS, SEWER MAINS, UNDERGROUND DRAINAGE STRUCTURES, ALL SEWER AND WATER SERVICES, ALL FITTINGS, VALVES AND MANHOLES RELATIVE TO RIGHT-OF-WAY BOUNDARIES, LOT LINE, OR OTHER POINTS OF SURVEY.

THE ENGINEER SHALL PLACE ALL INFORMATION ON REPRODUCIBLE CONSTRUCTION PLANS. THE AS-BUILT REPRODUCIBLE PLANS WILL THEN BE PLACED IN THE PERMITTING AGENCY'S RECORDS. APPROPRIATE SUBMITTALS SHALL BE MADE AS REQUIRED TO ALL AGENCIES BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

CONSTRUCTION STAKING

THE ACCURACY OF ALL CONSTRUCTION WORK SHALL BE MAINTAINED AND VERIFIED BY THE CONTRACTOR'S SURVEYOR AT THEIR EXPENSE BY PROVIDING CONSTRUCTION STAKING SUITABLE TO THE OWNER OR HIS AUTHORIZED REPRESENTATIVE. STAKES WILL BE SET ESTABLISHING LINES AND GRADES (FINISH OR FLOWLINE) FOR ALL CONSTRUCTION INCLUDING ROADS, CURB AND GUTTER, SIDEWALKS, UTILITIES, STRUCTURES, AND OTHER WORK AS CONSIDERED NECESSARY BY THE ENGINEER. ALL SURVEY CONTROL SHALL BE SET BY THE CONTRACTOR'S SURVEYOR FROM MONUMENTS ACCEPTABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR RESTAKING EXPENSES.

INTERPRETATION OF PLANS

THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE DIRECTED TO THE ENGINEER. ANY INTERPRETATION OF THE PLANS BY ANYONE OTHER THAN THE ENGINEER SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES THEREOF.

COORDINATION WITH OTHER PROJECTS

CONTRACTOR SHALL COORDINATE WORK WITH ON-GOING AND PROPOSED WORK ADJACENT TO OR NEAR THE PROJECT SITE.

PERMITS AND APPROVALS

THE PERMITTING AGENCY REQUIRES THE ISSUANCE OF A GRADING PERMIT FOR ANY EXCAVATION OR GRADING (INCLUDING PLACEMENT OF FILL). CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (NOI) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER AN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT. REFER TO THE CURRENT U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) CONSTRUCTION GENERAL PERMIT FOR REQUIREMENTS. THE U.S. BUREAU OF INDIAN AFFAIRS REQUIRES THE ISSUANCE OF A DRIVEWAY PERMIT PRIOR TO COMMENCING ANY WORK WITHIN ANY INDIAN ROUTE ROADWAYS. CONTACT MR. ROLAND BECENTI WITH THE WESTERN NAVAJO AGENCY, DIVISION OF TRANSPORTATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND EASEMENTS FROM ALL APPLICABLE JURISDICTIONS PRIOR TO CONSTRUCTION.

PERMITS SHALL BE ISSUED PRIOR TO NEW CONSTRUCTION, EXTENSION TO, OR MODIFICATION OF A WATER DISTRIBUTION SYSTEM, SEWAGE COLLECTION OR INDIVIDUAL SEWAGE TREATMENT SYSTEM

EARTHWORK

THE ENGINEER HAS USED HIS BEST JUDGMENT IN THE ESTIMATION OF THE EARTHWORK FOR THIS PROJECT. THE ENGINEER HAS NO CONTROL OVER VARYING FIELD CONDITIONS AND CONSTRUCTION METHODS INVOLVED IN THE SITE GRADING. CONSEQUENTLY, ACTUAL QUANTITIES, COST AND TIME REQUIRED FOR THIS PROJECT MAY BE AFFECTED BY MANY FACTORS BEYOND THE ENGINEER'S CONTROL, AND THE ENGINEER SHALL NOT BE HELD LIABLE FOR ANY DEVIATION FROM ITS ESTIMATED QUANTITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EARTHWORK QUANTITIES. NO ADJUSTMENT FOR SHRINK OR SWELL WAS MADE AND, THEREFORE, ESTIMATES SHOWN INDICATE INDICATE "IN PLACE" QUANTITIES.

ALL FILL AREAS WILL HAVE COMPACTION TESTING REQUIREMENTS PER M.A.G. SPECIFICATION 211. EARTHWORK QUANTITIES DO NOT INCLUDE TRENCHING FOR UTILITIES OR ANY MISCELLANEOUS ARCHITECTURAL LANDSCAPING TREATMENT. FILL CONSTRUCTION IS INTENDED TO INCLUDE FULL PAYMENT FOR ALL MATERIAL REQUIRED TO BUILD THE PROJECT AND THE DISPOSAL OF ANY EXCESS MATERIAL FROM THE SITE.

PAVING NOTES

THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION AND GENERAL CONDITION OF ALL EXISTING TIE-IN AND MATCHING POINTS OF PAVEMENT PRIOR TO ANY STREET CONSTRUCTION. SHOULD ANY LOCATIONS, ELEVATIONS, CROSS SLOPES, OR CONDITIONS DIFFER FROM WHAT IS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE OWNERS AGENT IMMEDIATELY FOR APPROPRIATE CORRECTIVE ACTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY COSTS INCURRED IF THIS PROCEDURE IS NOT FOLLOWED.

ALL VALVE BOXES, MANHOLE FRAMES AND COVERS, OR OTHER UTILITY APPURTENANCES WITHIN THE CONSTRUCTION LIMITS SHALL BE ADJUSTED TO FINAL FINISH GRADE, WHETHER SPECIFICALLY SHOWN ON THE PLANS OR NOT, AS NECESSARY FOR A COMPLETE JOB, OR AS DESIGNATED BY THE ENGINEER. WHERE NEW WATER METERS ARE INSTALLED IN THE SIDEWALKS, THE NEW BOXES AND COVERS SHALL BE SET FLUSH WITH THE SIDEWALK GRADE. FIRE HYDRANT SIDEWALK FLANGES SHALL BE SET 0.1' ABOVE ADJACENT FINISH GRADES.

POSITIVE DRAINAGE SHALL BE PROVIDED DURING CONSTRUCTION OF THE PROPOSED PAVEMENT STRUCTURE. THE CONSTRUCTED GRADIENT OF PAVED SURFACES SHALL ENSURE POSITIVE DRAINAGE AND WATER IS NOT ALLOWED TO POND IN AREAS DIRECTLY ADJOINING PAVED SECTIONS.

EXACT POINT OF MATCHING TERMINATION AND PAVING, IF NECESSARY, SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

EXISTING STREET AND TRAFFIC SIGNS WILL BE MAINTAINED DURING CONSTRUCTION AND RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE OWNER'S ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

AN ACCEPTABLE PAVEMENT SURFACE SHALL NOT VARY MORE THAN ¼ INCH FROM THE LOWER EDGE OF A 25-FOOT STRAIGHTEDGE WHEN THE STRAIGHTEDGE IS PLACED PARALLEL TO THE CENTER LINE OF THE ROADWAY. THE STRAIGHTEDGE SHALL BE FURNISHED BY THE CONTRACTOR AND BE ACCEPTABLE TO THE OWNER'S ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

RELOCATIONS AND REMOVALS

REMOVAL OF EXISTING IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH M.A.G. SPECIFICATIONS.

SIGNS, TREES SHRUBS, MAILBOXES AND OTHER INCIDENTALS REQUIRING RELOCATION SHALL BE MOVED ONLY FAR ENOUGH TO ALLOW CONSTRUCTION OF THE PROJECT AND CAUSE THE LEAST DISRUPTION TO PRIVATE PROPERTY, AND LANDSCAPE. FINAL POSITIONS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO RELOCATION. ALL RELOCATED ITEMS SHALL CONTINUE TO WORK IN THEIR INTENDED CAPACITY AFTER THE RELOCATION HAS BEEN ACCOMPLISHED. NO SIGNS SHALL BE RELOCATED TO POSITIONS OUTSIDE DESIGNATED RIGHTS-OF-WAY. SAFETY SHALL BE A PRIMARY CONSIDERATION IN THE PLACEMENT OF SHRUBBERY AND SIGNS WHICH COULD POSSIBLY DISRUPT THE SIGHT DISTANCE OF MOTORISTS.

MISCELLANEOUS REMOVALS AND OTHER WORK NECESSITATED BY THE WORK AS IT PROGRESSES AND NOT SPECIFICALLY CALLED OUT ON THE PLANS WILL BE CONSIDERED INCIDENTAL WORK.

DRAINAGE

VERTICAL SEPARATION TO DRAINAGE PIPES

WHERE CULVERTS OR DRAINAGE PIPES CROSS GRAVITY SEWERS, PRESSURE SEWERS, OR WATER MAINS, A MINIMUM OF ONE FOOT OF VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE TWO PIPES.

DRAINAGE CHANNELS AND DITCHES

CHANNELS AND DITCHES SHOWN ON PLANS SHALL DAYLIGHT TO THE APPROPRIATE DESIGN LOCATIONS SO THAT POSITIVE DRAINAGE IS ACHIEVED.

DRAINAGE MAINTENANCE DURING CONSTRUCTION

ADEQUATE DRAINAGE OF THE CONSTRUCTION AREA SHALL BE PROVIDED AT ALL TIMES. CONSTRUCTION DRAINS SHALL BE PROVIDED AS NEEDED TO ENABLE WATER TO DRAIN FROM THE CONSTRUCTION AREA RAPIDLY AND WITHOUT DAMAGING THE WORK IN PROGRESS. TO FURTHER PROMOTE GOOD DRAINAGE OF THE SITE, DRAINAGE CHANNELS, CULVERTS, AND STRUCTURES, SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM IN SUCH A WAY THAT, DURING CONSTRUCTION, THEY DO NOT IMPEDE THE FLOW OF WATER FROM THE CONSTRUCTION AREA.

DAMAGE TO ADJACENT PROPERTIES OR TO ANY PORTION OF THE WORK CAUSED BY THE CONTRACTOR'S FAILURE TO PROVIDE ADEQUATE DRAINAGE OF THE CONSTRUCTION SITE OR TO ORDER THE WORK SO AS TO MINIMIZE THE POSSIBLE EXTENT OF SUCH DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE

TRAFFIC CONTROL, STRIPING AND SIGNING

THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TRAFFIC CONTROL DEVICES REQUIRED FOR THE CONTROL OF VEHICLE AND PEDESTRIAN TRAFFIC AFFECTED BY THE CONSTRUCTION. ALL TRAFFIC CONTROL PLANS MUST CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," LATEST EDITION, WITH ADOT MODIFICATIONS AND REVISIONS AND BE APPROVED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE PRIOR TO IMPLEMENTATION.

REGULATORY AND WARNING SIGNS SHALL BE THIRTY (30) INCHES IN HEIGHT, UNLESS OTHERWISE SPECIFIED BY THE MUTCD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS ON FINAL SURFACE COURSE, USING A STRING LINE, FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 10 FEET APART ALONG LINES TO BE STRIPED.

ALL STRIPING SHALL BE A MINIMUM OF 4 INCHES EXCEPT WHERE NOTED ON PLANS.

THE STRIPING AND SIGNING DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT STRIPES, MARKINGS, AND MARKERS.

THE CONTRACTOR SHALL REFER ANY QUESTIONS CONCERNING TRAFFIC MARKINGS TO THE ENGINEER. AN INSPECTION OF THE LAYOUT IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE WILL BE REQUIRED PRIOR TO ANY PERMANENT STRIPING APPLICATIONS. THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE THAT THE ROAD IS READY FOR INSPECTION AFTER THE LAYOUT AND SPOTTING OF THE ENTIRE PROJECT IS COMPLETE.

SHOULD FIELD CONDITIONS CHANGE DUE TO THE CONSTRUCTION OF AN ADJACENT PIECE OF ROADWAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER'S AUTHORIZED REPRESENTATIVE AND FOR SUBMITTING AN UPDATED STRIPING PLAN TWENTY-ONE DAYS PRIOR TO PAVING.

THE CONTRACTOR IS REQUIRED TO APPLY A SECOND COAT OF PAINT BETWEEN 30 AND 45 DAYS AFTER FIRST APPLICATION FOR ALL PAVEMENT MARKINGS AND STRIPES.

SIGN LOCATIONS ARE APPROXIMATE. FINAL SIGN LOCATIONS SHALL BE PLACED IN AREAS FREE OF VISUAL OBSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE AT LEAST 48 HOURS IN ADVANCE PRIOR TO INSTALLING SIGNS. THE OWNER'S AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO MODIFY THE SHOWN SIGN LOCATIONS DEPICTED ON THE PLANS PRIOR TO FINAL INSTALLATION.

FIRE HYDRANTS

FIRE HYDRANTS SHALL BE MARKED IN ACCORDANCE WITH NFPA 291, RECOMMENDED PRACTICE FOR FIRE FLOW TESTING AND MARKING OF HYDRANTS, AND SHALL BE MADE VISIBLE FROM THE ROAD BY REFLECTIVE MARKING OR SIGNAGE AS DESIGNATED BY THE AUTHORITY HAVING JURISDICTION.

WATER AND SEWER:

WATER AND SEWER CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF NTUA INCLUDING:

△1
- TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTE WATER FACILITIES MOST RECENT EDITION.
- STANDARD DETAILS FOR WATER
- STANDARD DETAILS FOR WASTE WATER

THERE ARE NO WATER MAINS ON THIS PROJECT, ALL WATER SERVICE.

ALL FIRE LINE CONSTRUCTION SHALL MEET ALL NTUA REQUIREMENTS FOR WATER LINES EXCEPT THAT DISINFECTION IS NOT REQUIRED NOR BACTERIOLOGICAL TESTING.

WATER MAINS CARRYING POTABLE WATER UNDER PRESSURE SHALL BE PVC PRESSURE PIPE (AWWA C900) PER SPECIFICATIONS.

WATER LINE TESTING (PRESSURE & LEAKAGE), DISINFECTION AND BACTERIOLOGICAL TESTING SHALL CONFORM TO THE REQUIREMENTS OF NAVAJO TRIBAL UTILITY AUTHORITY (NTUA) TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP OF WATER AND WASTEWATER FACILITIES (LATEST EDITION), SECTION TP 3.09 AND TP 3.10.

WATER LINE BLOCKING SHALL BE PROVIDED AS PER NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP OF WATER AND WASTEWATER FACILITIES (LATEST EDITION) SECTION TP 3.05 AND NTUA DETAILS WS-19 AND WS-19A.

THERE ARE NO SEWER MAINS ON THE PROJECT. ALL SEWER SERVICE LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH NTUA AND APPLICABLE BUILDING CODE REQUIREMENTS AND PROJECT SPECIFICATIONS.

△1 CONTRACTOR SHALL OBTAIN APPROVED PERMISSION TO TAP (PTT) FORM PRIOR TO TAPPING EXISTING WATER AND SEWER MAIN.

△1 CONTRACTOR SHALL OBTAIN APPROVED CONSTRUCTION PERMIT FOR WATER AND WASTEWATER FROM NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY (NNEPA) PRIOR TO TAPPING EXISTING WATER AND SEWER MAIN.

△1 CONTRACTOR TO COORDINATE WITH NTUA REGARDING WATER SHUT OFF WITH AT LEAST THREE (3) DAYS ADVANCE NOTICE TO ISOLATE LINE(S), TO NOTIFY AFFECTED CUSTOMERS AND TO MINIMIZE OUTAGE TIME PRIOR TO CONNECTION OF NEW WATER SERVICE.

△1 CONTRACTOR SHALL COORDINATE WITH NTUA PRESENT AT THE SITE TO VERIFY LOCATION, DEPTH, SIZE AND TYPE OF UNDERGROUND UTILITIES.

△1 UNLESS OTHERWISE DIRECTED, ONLY AUTHORIZED NTUA STAFF WILL BE ALLOWED TO CLOSE/OPEN WATER VALVES FOR ANY CONNECTIONS TO EXISTING LINES AND FOR THE USAGE OF WATER.

△1 SEWER SERVICE SHALL BE PVC, ASTM D3034 PER N.T.U.A. TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTE WATER FACILITIES MOST RECENT EDITION

SWI PROJECT # 17095

Shephard Wesnitzer, Inc.

110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax
www.swiaz.com

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, AZ 86045

CIVIL NOTE SHEET

REVISIONS

MARK	DATE	DESCRIPTION
△1	9/28/17	NTUA COMMENTS

REVIEWED BY: OKB
DRAWN BY: KMB

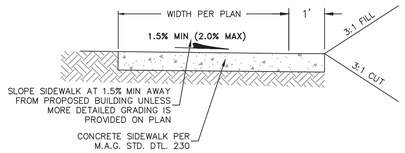
13494
DAVID M. MONIHAN, JR.
11/14/17
Expires 9/30/18

David M. Monihan Jr.

ORIGINAL ISSUE DATE: **7/21/2017**
JOB No: **1641B**
SHEET:
GN01
SEQUENCE #: ______

FILE: P:\2017\17095\DRAWINGS\CONSTRUCTION PLANS\1641B\17095 - GENERAL NOTES B.DWG ETAGUE

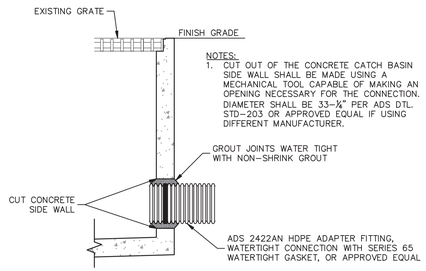
PLOTTED: Nov 14, 2017–10:25am



*SEE GEOTECHNICAL REPORT PREPARED BY RAMM & ASSOCIATES INC., REPORT DATED 6-19-2017 FOR COMPACTION AND EARTHWORK RECOMMENDATIONS.

C SIDEWALK

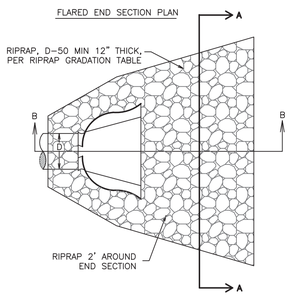
N.T.S.

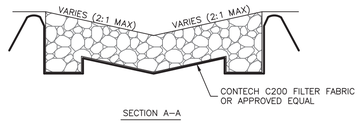


NOTES:
1. CUT OUT OF THE CONCRETE CATCH BASIN SIDE WALL SHALL BE MADE USING A MECHANICAL TOOL CAPABLE OF MAKING AN OPENING NECESSARY FOR THE CONNECTION. DIAMETER SHALL BE 33-¾" PER ADS DTL. STD-203 OR APPROVED EQUAL IF USING DIFFERENT MANUFACTURER.

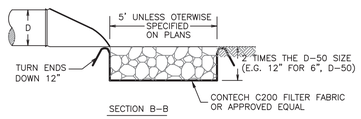
D CATCH BASIN CONNECTION DETAIL

N.T.S.





SECTION A–A



SECTION B–B

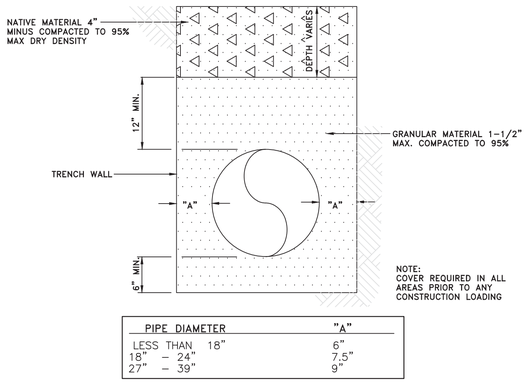
RIPRAP GRADATION TABLE

PERCENT PASSING	SIZE	D-50 CLASS RIPRAP, INCHES						
		6	9	12	18	24	36	30
100 to 90	2.0 D-50	12	18	24	36	48	72	60
85 to 70	1.5 D-50	9	14	18	27	36	54	45
50 to 30	1.0 D-50	6	9	12	18	24	36	30
15 to 5	0.67 D-50	4	6	8	12	16	24	20
5 to 0	0.33 D-50	2	3	4	6	8	12	10

RIPRAP
–RIPRAP SHALL HAVE A BULK SPECIFIC GRAVITY OF 2.4 OR GREATER (PER ASTM C127) AND ALL ROCK SHALL BE ANGULAR
–RIPRAP SHALL BE BETWEEN 3–INCHES AND 12–INCHES IN DIAMETER, WITH 50% (BY WEIGHT) LARGER THAN 6–INCHES IN DIAMETER UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER
–SEE PLAN FOR RIPRAP SIZE

F RIPRAP INSTALLATION DETAIL

N.T.S.

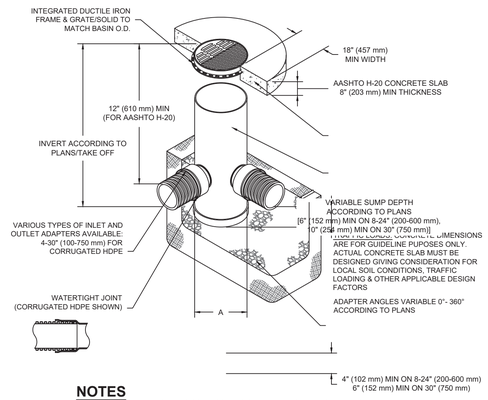


NOTE: COVER REQUIRED IN ALL AREAS PRIOR TO ANY CONSTRUCTION LOADING

PIPE DIAMETER	"A"
LESS THAN 18"	6"
18" – 24"	7.5"
27" – 39"	9"

G STORMDRAIN TRENCH DETAIL

N.T.S.



THESE EXPRESS GEOMETRIC DIMENSIONS ARE FOR GUIDELINE PUPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED GIVING CONSIDERATION FOR LOCAL SOIL CONDITIONS, TRAFFIC LOADING & OTHER APPLICABLE DESIGN FACTORS

ADAPTER ANGLES VARIABLE 0°- 360° ACCORDING TO PLANS

NOTES

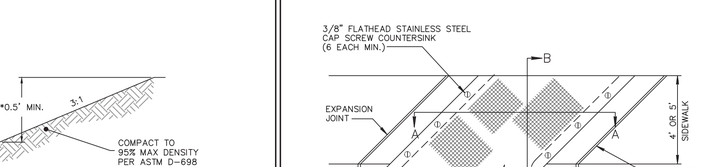
1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC PIPE
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

BEDDING MATERIAL BELOW AND TO SIDES OF STRUCTURE SHALL BE ASTM D2321 CLASS 1 OR 2 CRUSHED STONE OR GRAVEL UNIFORMLY IN 12" (305 mm) LIFTS AND COMPACTED TO MIN OF 90%

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

H ADS NYLOPLAST DRAIN BASIN

N.T.S.

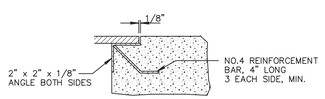


*DEPTH OF CHANNEL IS MEASURED FROM THE LOWER ELEVATION OF THE TOP OF CHANNEL BANK.

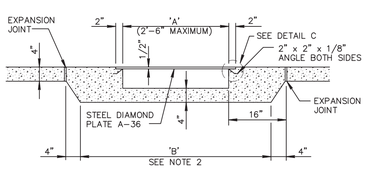
J UNLINED CHANNEL SECTION

N.T.S.

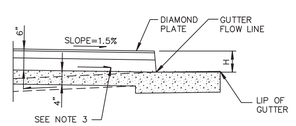
NOTES:
1. ANGLE EQUALS 45° UNLESS SPECIFIED ON PLAN.
2. DIMENSION 'B' EQUALS 'A' + 2'
3. (——►) INDICATES DIRECTION OF FLOW.
4. PAINT STEEL ACCORDING TO SECTION 790. PAINT NUMBER 1–A OR 1–B.
5. R EQUALS 1" UNLESS OTHERWISE DIRECTED.
6. H EQUALS CURB FACE HEIGHT.
7. FOR ROLL CURB AND GUTTER, USE 2' TRANSITIONS TO VERTICAL CURB.
8. CONCRETE SHALL BE CLASS B PER SECT. 725 AND INSTALLED PER SECT. 505.



DETAIL C



SECTION 'A–A'



SECTION 'B–B'

DETAIL NO.		REVISED	DETAIL NO.
203	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH — SCUPPERS	3	203

FILE: P:\2017\17095\DRAWINGS\CONSTRUCTION PLANS\1641B\17095 - DETAILS B.DWG ETAGUE

SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER

TUBA CITY REGIONAL HEALTH CARE CORPORATION

TAMARAX STREET
TUBA CITY, AZ 86045

CIVIL DETAILS

REVISIONS		
MARK	DATE	DESCRIPTION
3	11/13/17	NTUA COMMENTS

REVIEWED BY: OKB
DRAWN BY: KMB

Registered Professional Engineer — CERTIFICATE NO. 13494 — DAVID M. MONIHAN, JR. — Date 11/14/17 — Expires 9/30/18

SWI PROJECT # 17095

Shephard Wesnitzer, Inc. www.swiaz.com
110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax

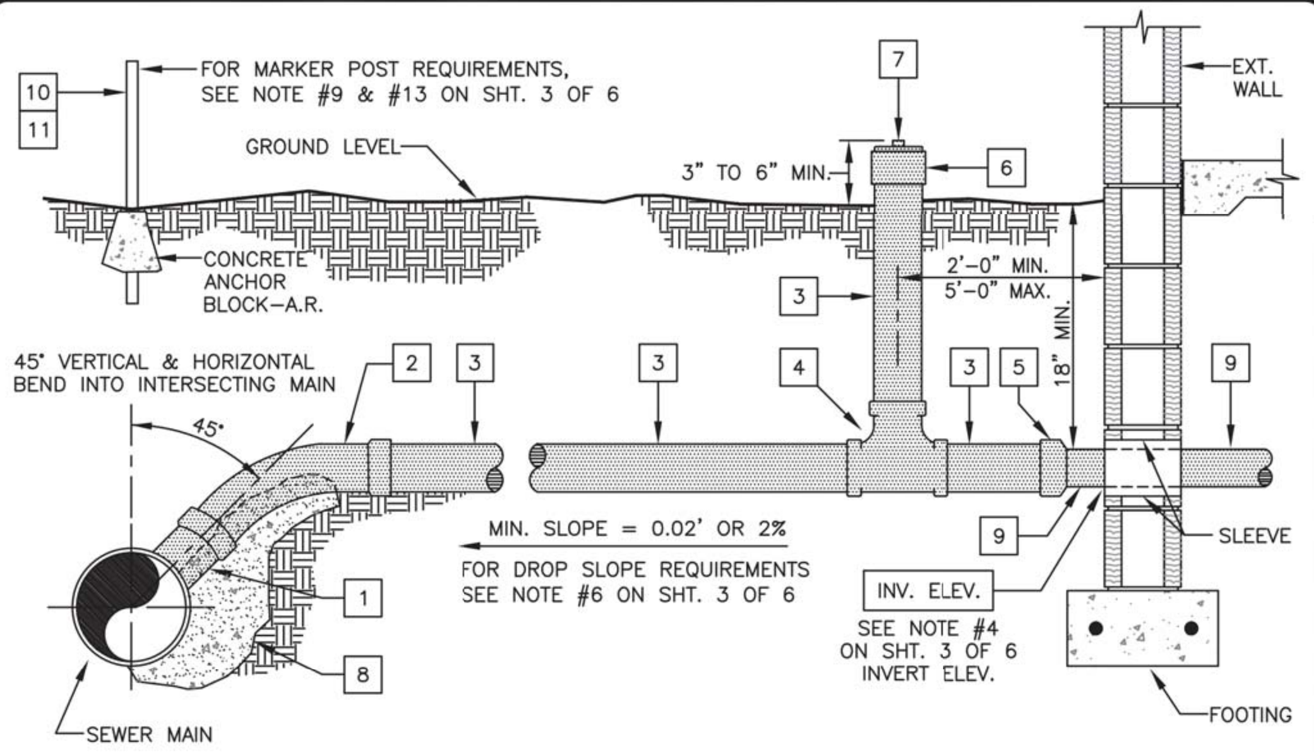
ORIGINAL ISSUE DATE: 7/21/2017

JOB No: **1641B**

SHEET:

DT01

SEQUENCE #:



NOTE: NTUA DOES NOT MAINTAIN SEWER SERVICE LINES. MAINTENANCE WILL BE THE CUSTOMER'S RESPONSIBILITY.

AS-BUILT LOCATION OF TAP	
PROJECT NAME	
PROJECT NO.	
SHEET NO.	
LINE NO.	
STATION NO.	
INV. ELEVATION	
RELATED W.O. NO'S.	

DETAIL INDEX	SHEET
4" STANDARD SEWER SERVICE LINE	1 of 6
MATERIAL LIST	2 of 6
GENERAL NOTES FOR SEWER SERVICE	3 of 6
PROPOSED INDIVIDUAL INSTALLATION	4 of 6
INDIVIDUAL AS-BUILT	5 of 6
VICINITY LOCATION OF NEW SERVICE	6 of 6

TESTED IN ACCORDANCE WITH THE NTUA TECHNICAL SPECIFICATIONS TP-4.08 THRU 4.10; DATED MARCH 2003.

BY:______________________

NAME/TITLE:______________________

DATE:____________

SHEET 1 OF 6

NAVAJO TRIBAL UTILITY AUTHORITY — CIVIL ENGINEERING DEPARTMENT — 4" STANDARD SEWER SERVICE LINE — DETAIL NO. WWS-1

4" STANDARD SEWER SERVICE LINE

MATERIAL LIST

ITEM	QTY	DESCRIPTION
1	1	45° WYE OR SADDLE, 4" SDR-35, PVC x APPROPRIATE PIPE TYPE & O.D.
2	1	4" x 45° ELBOW, SDR-35, PVC, GASKET x GASKET
3	A.R.	4" PIPE, SDR-35, PVC, INTEGRAL BELL W/ ELASTOMERIC GASKET (FT.)
4	1	4" TEE, PVC-DWV, HUB x HUB, ASTM D-2665 W/ SINGLE RISER
5	1	ADAPTER, REDUCING, 4" SDR-35, PVC, ASTM D-3034 x 3" PVC-DWV, ASTM D-2665
6	1	4" ADAPTER, HUB x FIPT, PVC-DWV, ASTM D-2665
7	1	4" PLUG, CLEAN OUT, MIPT, PVC-DWV, ASTM D-2665
8	A.R.	CONCRETE, PRE-MIX, (FIELD DETERMINE AS REQUIRED FOR PIPE SUPPORT)
9	1	HOUSE STUB-OUT, APPROPRIATE PIPE TYPE & O.D. (INSTALLED BY OTHERS)
10	A.R.	GREEN CARSONITE MARKER POST
11	A.R.	"NTUA SEWERLINE WARNING" DECAL (FOR ITEM #13)
12	1	CEMENT, SOLVENT, PVC (QUART CAN)
13	1	CLEANER, PVC PIPE (QUART CAN)

GENERAL NOTES:

1. A.R. = AS REQUIRED
2. ITEM #9 IS DONE BY THE HOME OWNER.
3. DECAL TO BE AFFIXED TO ITEM #10.
4. FOR ITEM #10 SEE GENERAL NOTES FOR SEWER SERVICE #9 & #13 ON SHEET 3 OF 6.
5. USE ITEMS #12 & #13 WHEN THE CLEANOUT RISER CONNECTION IS A SOLVENT WELD.

SHEET 2 OF 6

NAVAJO TRIBAL UTILITY AUTHORITY — CIVIL ENGINEERING DEPARTMENT — MATERIAL LIST: 4" STANDARD SEWER SERVICE LINE — DETAIL NO. WWS-1a

GENERAL NOTES:

1. PROVIDE 10 FT. MINIMUM HORIZONTAL SEPARATION IN SEPARATE TRENCHES BETWEEN THE WATER AND SEWER SERVICES. PROVIDE 5 FT. MIN. HORIZONTAL SEPARATION BETWEEN THE SEWER SERVICE AND OTHER UTILITIES. IF SEWER SERVICE CROSSES OTHER SERVICES, SEE N.T.U.A CROSSING POLICY OR CONTACT N.T.U.A. HEADQUARTERS ENGINEERING.
2. SEWER CLEANOUTS ARE REQUIRED ON ALL BENDS IN EXCESS OF 45° AS PER PLUMBING CODE ADOPTED BY THE NAVAJO NATION. MODIFY MATERIAL LIST ACCORDINGLY AFTER CONSULTING WITH N.T.U.A. HEADQUARTERS ENGINEERING.
3. ADDITIONAL SEWER CLEANOUTS ARE REQUIRED ON SEWER SERVICES LONGER THAN 50 FT. AS PER UNIFORM PLUMBING CODE ADOPTED BY THE NAVAJO NATION. MODIFY MATERIAL LIST ACCORDINGLY AFTER CONSULTING WITH N.T.U.A. HEADQUARTERS ENGINEERING. EACH ADDITIONAL CLEANOUT IS AT THE CUSTOMERS EXPENSE INSTALL AT LEAST ONE CLEANOUT AS REQUIRED BY NOTE 2. IF CUSTOMER REQUEST FEWER AND REALIZES THIS VIOLATES NAVAJO TRIBAL CODE, THEN INSTALL PER THE CUSTOMER'S REQUEST AND SO NOTE ON THE INDIVIDUAL AS-BUILT, N.T.U.A. RECOMMENDS THAT CLEANOUTS BE SPACED NO MORE THAN 100'.
4. PROVIDE PROPOSED ELEVATION AT WALL. PROVIDE 6 IN. DIAMETER SLEEVE IF PIPING PENETRATES WALL OR 4 IN. DEPTH OF SAND BETWEEN FOOTING AND TOP OF PIPING IS BELOW THE FOOTING. ORDER ASTM D-1785 SCH. 40 PIPE WITH LENGTH AS NEEDED FOR THE SLEEVE. CONTACT N.T.U.A. HEADQUARTERS ENGINEERING ON PIPING SMALLER THAN 2 IN. IN SIZE.
5. STATE THE EXISTING PIPE TYPE AND O.D. (e.g. ASTM D-3034, SDR 35, PVC, 8. 40"). SADDLE IS TO HAVE A GASKET SEAL OR O-RING AND NON-CORRODIBLE STRAP SECURING SYSTEM.
6. MINIMUM SLOPE OF 1/4 INCH PER FOOT (2%) OR CONTACT N.T.U.A. HEADQUARTERS ENGINEERING.
7. BACKFILL IS TO BE HAND TAMPED (NO-MECHANICAL) AND COMPACTED IN 6 INCH LAYERS FOR AT LEAST 12 IN. ABOVE PVC PIPE. INSTALL PER ASTM D-2321 AND UNIFORM PLUMBING CODE ADOPTED BY THE NAVAJO NATION.
8. PROVIDE THE AS-BUILT AND SWING TIES FOR THE TAP POINT.
9. THE MATERIAL LIST SHALL BE MODIFIED IF A FIELD MARKER OF THE TAP POINT IS TO BE INSTALLED. UNDER THE AS-BUILT TIE INFORMATION. PROVIDE THE SURFACE DESCRIPTION OF THE TAP POINT (e.g. OPEN FIELD, PAVED ROAD, etc)
10. ITEM 12 IS USUALLY DONE BY THE HOME OWNER. ITEM 7 MUST BE COMPATIBLE WITH ITEM 12. ITEM 7 AS LISTED IS FOR A CONNECTION BETWEEN TWO LENGTHS OF 3 IN. PVC-DWV ASTM D-2665. IN THE MATERIALS LIST, ITEM 12 NEEDS TO BE COMPLETED AND ITEM 7 MODIFIED AS REQUIRED.
11. ORDER CONCRETE AS NEEDED. THE CONCRETE MAY BE ELIMINATED IF N.T.U.A. DISTRICT WATER FOREMAN AND ENGINEER DETERMINE FIELD CONDITIONS DO NOT REQUIRE THIS FOR ADEQUATE COMPACTION AND 4 IN. PIPE STRUCTURAL SUPPORT. MARK THE AS-BUILT DRAWING TO SHOW WHEN THE CONCRETE IS NOT USED.
12. FOR MULTIPLE BENDS, A CLEANOUT IS REQUIRED UPSTREAM FROM THE FIRST BEND THAT CAUSED THE CUMULATIVE ANGLE TO EXCEED 45°.

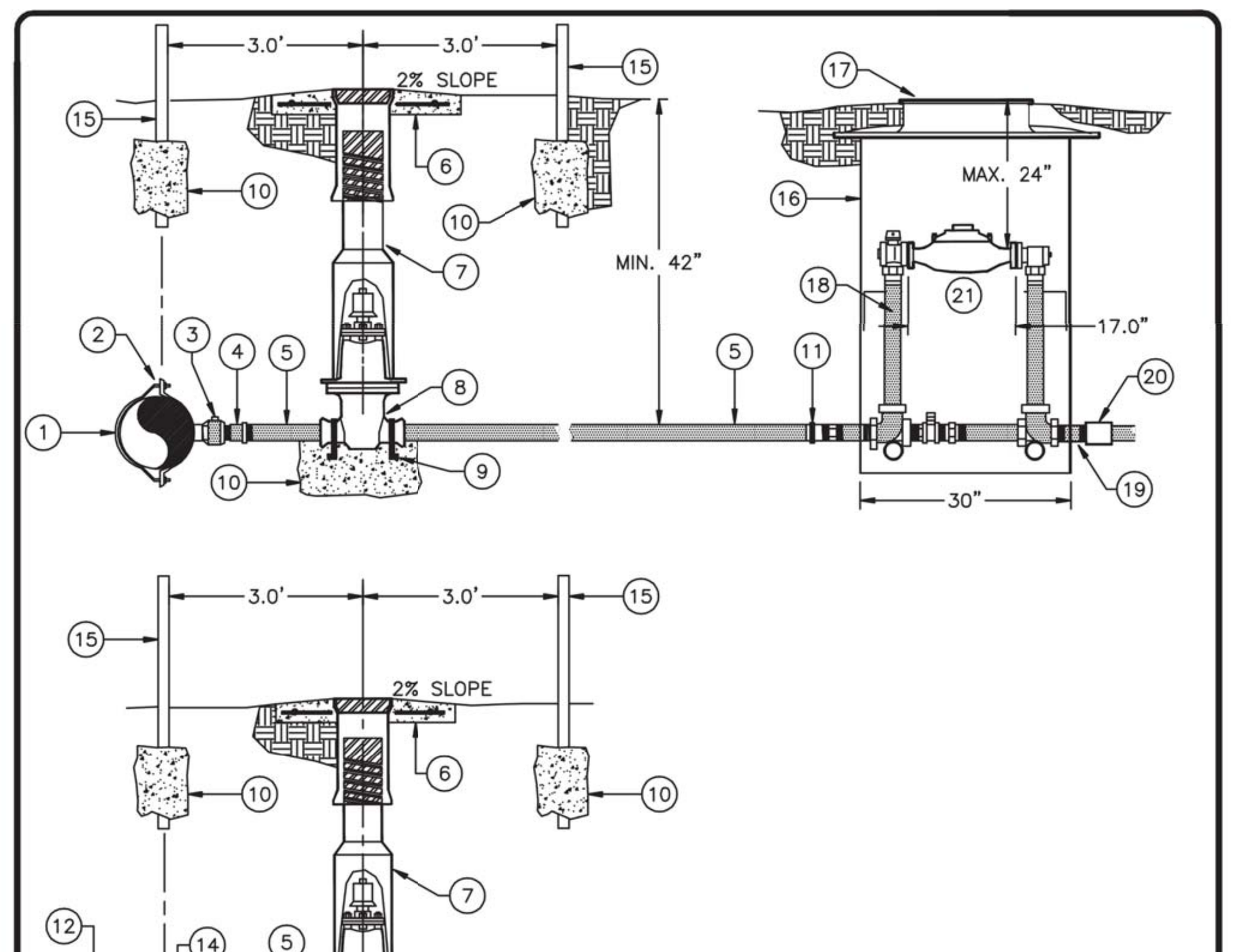
SHEET 3 OF 6

NAVAJO TRIBAL UTILITY AUTHORITY — GENERAL NOTES SEWER SERVICE — DWG. NO. WWS-1b

1. PROVIDE 10' MINIMUM HORIZONTAL SEPARATION IN SEPARATE TRENCHES BETWEEN WATER AND SEWER SERVICES, PAST THE BUILDING PLUMBING. PROVIDE 5' MINIMUM HORIZONTAL SEPARATION BETWEEN WATER SERVICE AND OTHER UTILITIES. FOR WATER AND SEWER CROSSING. PROVIDE A MINIMUM OF 12" VERTICAL CLEARANCE, PIPE O.D. TO PIPE O.D. IF WATER SERVICE CROSSES OTHER UTILITIES, ALL STIPULATIONS FOR THE OTHER UTILITY MUST BE MET.
2. BUILDING PLUMBING, WATER AND SEWER SERVICES TO BE INSTALLED IN ACCORDANCE WITH THE NATIONAL PLUMBING CODE ADOPTED BY THE NAVAJO NATION.
3. WATER SERVICES SHALL HAVE A MINIMUM COVER OF 36" AND SHALL BE INSTALLED IN CONFORMANCE WITH NTUA STANDARDS.
4. SADDLES SHALL BE SINGLE STRAP/BAND TYPE, FOR STEEL PIPE O.D. PVC. SADDLES SHALL BE DOUBLE STRAP/BAND TYPE, FOR D.I., A.C., OR C-900 PIPE. ON EXISTING 2" PIPING, A 2" x 1" PVC TEE SHALL BE USED. CONTACT NTUA HEADQUARTERS ENGINEERING ON PIPING SMALLER THAN 2".
5. PROVIDE THE AS-BUILT SWING TIE INFORMATION FOR THE TAP POINT AND OTHER APPURTENANCES INSTALLED, ON SHEET 5 of 5.
6. THE WATER METER SHALL BE CENTERED AND SET A MAX. OF 24" BELOW THE TOP OF THE METER BOX COVER.
7. THE METER CAN SHALL BE LOCATED JUST BEYOND THE SIDEWALK AT THE PROPERTY LINE OR WITH OWNER'S PERMISSION A MINIMUM OF 10' FROM THE BUILDING.
8. WATER SERVICE LINES ARE LIMITED TO A MAXIMUM OF 200'. IF THE PRESSURE AT THE HOME SITE IS ABOVE 70 PSI, INSTALL THE APPROPRIATE TANDEM COPPERSETTER WITH AN INDIVIDUAL PRV (ITEM 8A).
9. USE FIELD MARKERS WHERE APPROPRIATE.
10. SUBMIT CONSTRUCTION COST OF NEW INSTALLATION UP TO AND INCLUDING THE METER. INDICATE AS FOLLOWS: A. MATERIAL COST, B. LABOR COST, C. EQUIPMENT COST, D. TOTAL CONSTRUCTION COST. THE COST SHALL BE SHOWN ON SHEET 5 of 5 AND THE TRANSFER AGREEMENT.
11. SHEETS 4 OF 5 AND 5 OF 5 ARE FOR RESIDENTIAL INSTALLATIONS ONLY. ALL OTHER PROJECTS, SUBMIT 4 SETS OF COMPLETE DRAWINGS.

SHEET 4 OF 7

NAVAJO TRIBAL UTILITY AUTHORITY — GENERAL NOTES FOR WATER SERVICE — DWG. NO. WS-1c.DWG



AS-BUILT LOCATION OF TAP	
SYSTEM NAME	
PROJECT NO.	
SHEET NO.	
LINE NO.	
STATION NO.	

NOTES:

1. TEST DURATION SHALL BE FOR 2 HOURS.

DATE PERFORMED: __________. LAB SAMPLE NO.: ______. INITIALED (NTUA): ______.

SHEET 1 OF 2

NAVAJO TRIBAL UTILITY AUTHORITY — 2" WATER SERVICE W/2" METER, NORMAL FLOW RATE = 8-160 GPM — DWG. NO. WS-2.DWG

MATERIAL LIST

ITEM	QUAN	DESCRIPTION
1	-	PIPE, 6" OR LARGER, EXISTING
2	1	SADDLE, BRASS, PIPE SIZE & TYPE x 2" FIPT TAP, 6" AND LARGER
3	1	CORPORATION STOP, 2" MIPT x 2" FIPT, MUELLER B-20046
4	1	ADAPTER, PVC, CL 200, SDR-21, 2" GASKET x 2" MIPT
5	A.R.	PIPE, 2" PVC, SDR-21, BELL & SPIGOT
6	A.R.	CONCRETE COLLAR, 24" SQUARE x 4" THICK, W/ #4 REBARS, E.W.O.C., INSCRIBED W/ LINE
		SIZE AND FLOW DIRECTION
7	1	VALVE BOX, C.I., 2-PIECE, 5.25" SHAFT, SCREW TYPE, TYLER 6850 SERIES W/ LID
8	1	GATE VALVE, 2", RESILIENT SEAT WEDGE, S x S, NRS, RHT, 2" OPERATING NUT-MUELLER A2360-37
9	A.R.	REBAR, #4, CUT & SHAPE AS NEEDED
10	A.R.	CONCRETE ANCHOR BLOCK, 1.5 C.F. MIN. (DO NOT COVER JOINTS OR BOLTS)
11	1	ADAPTER, PVC, CL 200, SDR 21, 2" GASKET x 2" FIPT
12	A.R.	CONCRETE THRUST BLOCK, 1.5 C.F. MIN. (DO NOT COVER JOINTS OR BOLTS)
13	-	PIPE, 4" OR LESS, EXISTING
14	1	TEE, 4" MJ x 2" FIPT TAP W/ 2" BRASS CORP. STOP (FIG. 2-1) OR 2" TEE, PVC, CL 200
15	A.R.	BLUE CARSONITE MARKER POST W/ "WATERLINE WARNING" DECAL
16	1	METER CAN, 30" O.D. x 36" HT., DFW PLASTIC, DFW 3036 B SERIES "T" TOP
17	1	MONITOR RING & COVER, FORD MC-30-MB
18	1	COPPERSETTER, 2", FORD VBHH77-18B-11-77, OAE
19	2	NIPPLE, BRASS, 2" x 8"
20	1	ADAPTER, 2" FIPT x PIPE SIZE & TYPE
21	1	METER, 2", W-160 DRS SENSUS, W/ 2-BOLT FLANGE, GALLONS

NOTES:

1. A.R. = AS REQUIRED
2. DECAL TO BE AFFIXED TO ITEM NO. 15
3. ASSEMBLE AND INSTALL AS ONE UNIT
4. WATER METER SERIAL NUMBER:__________

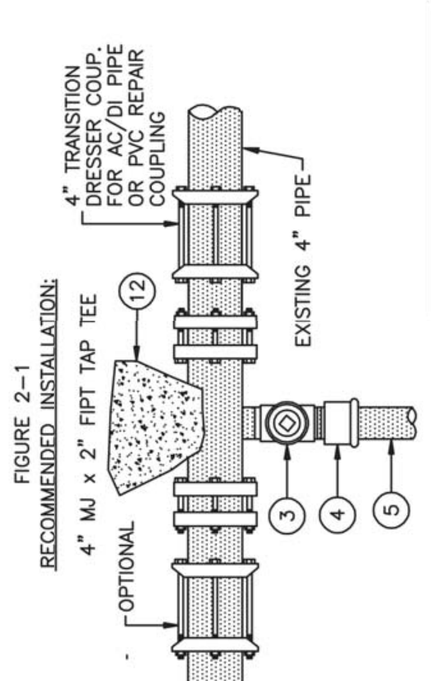
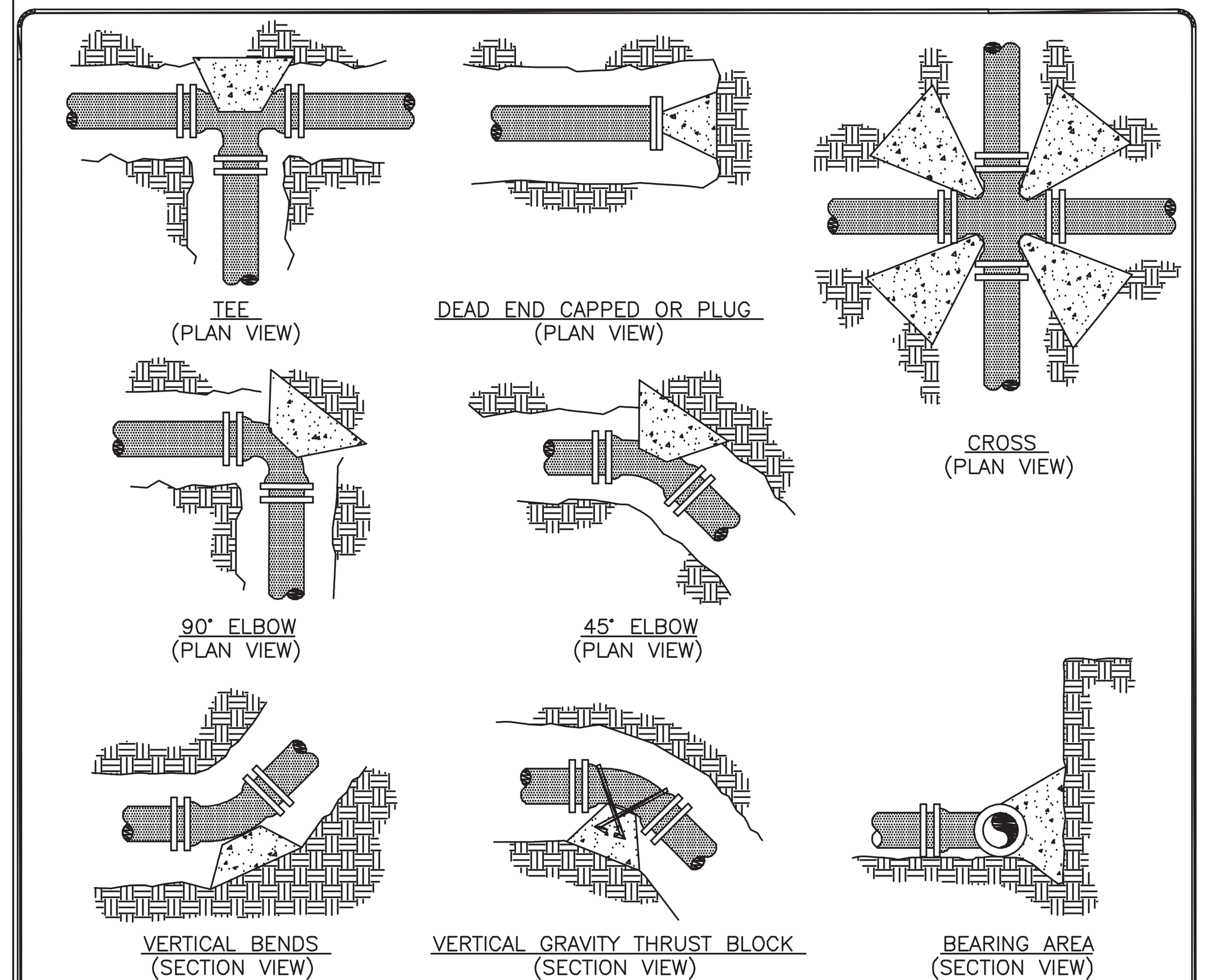


FIGURE 2-1
RECOMMENDED INSTALLATION:

SHEET 2 OF 2

NAVAJO TRIBAL UTILITY AUTHORITY — MATERIAL LIST: 2" WATER SERVICE W/ 2" METER — DWG. NO. WS-2a.DWG



NOTES:

1. DO NOT COVER GASKETED JOINTS AND NUTS/BOLTS.

MINIMUM BEARING AREAS IN SQUARE FEET				
PIPE SIZE	TEE & PLUG	90° ELBOW	45° OR 22 1/2° ELBOW	CROSS
2"	0.5	0.5	0.5	0.5
4"	1.5	2.0	1.5	1.0
6"	3.0	4.5	2.5	2.0
8"	5.0	7.5	4.0	4.0
10"	8.0	11.0	6.5	5.5
12"	11.0	15.5	9.0	8.0
14"	15.0	21.0	12.0	10.5
16"	19.0	27.0	15.5	13.5
18"	24.0	34.0	19.0	17.0

SHEET 1 OF 2

NAVAJO TRIBAL UTILITY AUTHORITY — GRAVITY/THRUST BLOCK DETAILS — DWG. NO. WS-19.DWG

GRAVITY THRUST BLOCK

(ALSO TO BE USED IN UNSTABLE TRENCH CONDITIONS)
RESULTANT THRUST IN POUNDS OF FITTINGS AT 100 PSI WATER PRESSURE

TOTAL POUNDS					
PIPE SIZE	DEAD END	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW
3"	1,232	1,742	943	481	241
4"	1,810	2,559	1,385	706	355
6"	3,739	5,288	2,862	1,459	733
8"	6,433	9,097	4,923	2,510	1,261
10"	9,677	13,685	7,406	3,776	1,897
12"	13,685	19,353	10,474	5,340	2,683
14"	18,385	26,001	14,072	7,174	3,604
16"	23,799	33,628	18,199	9,278	4,661
18"	29,865	42,235	22,858	11,653	5,855
20"	36,644	51,822	28,046	14,298	7,183
24"	52,279	73,934	40,013	20,398	10,249
30"	80,425	113,738	61,554	31,380	15,766
36"	115,209	162,931	88,177	44,952	22,585
42"	155,528	219,950	119,036	60,684	30,489
48"	202,683	286,637	155,127	79,083	39,733
54"	260,214	367,999	199,160	101,531	51,011
60"	298,121	421,606	228,172	116,321	58,442
64"	338,707	479,004	259,235	132,157	66,398

NOTES:

1. THE THRUST (IN TOTAL POUNDS) IN THE CHART IS BASED ON DUCTILE IRON OUTSIDE DIAMETER PIPE DIMENSION. SURGES SHOULD BE CONSIDERED AT TWICE THE NORMAL OPERATING PRESSURE. THE VOLUME OF THE GRAVITY THRUST BLOCK IS BASED ON CONCRETE AT 150 LBS./FT3.
2. TO OBTAIN VOLUME OF CONCRETE REQUIRED, USE:
   VOLUME OF CONRETE(FT3)= THRUST(LBS.) x SYSTEM PRESSURE(PSI)/100 PSI // 150 LBS./FT3.

   E.G.: CALCULATE THE VOLUME OF THE GRAVITY THRUST BLOCK FOR AN 8" x 45° BEND AT AN OPERATING PRESSURE OF 80 PSI.

   ANSWER: 4923 LBS. x 160 PSI/100 PSI DIVIDED BY 150 LBS./CUBIC FT. = 52.5 CUBIC FEET OR 2 CUBIC YARDS.

SHEET 2 OF 2

NAVAJO TRIBAL UTILITY AUTHORITY — GRAVITY/THRUST BLOCK CHART — DWG. NO. WS-19a.DWG

SWI PROJECT # 17095

Shephard Wesnitzer, Inc.
110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax
www.swiaz.com

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, AZ 86045
NTUA DETAILS (1)

REVISIONS		
MARK	DATE	DESCRIPTION
1	9/28/17	NTUA COMMENTS

REVIEWED BY: OKB
DRAWN BY: KMB

13494 DAVID M. MONIHAN, JR. 11/14/17

ORIGINAL ISSUE DATE: 7/21/2017
JOB No: 1641B
SHEET: DT02
SEQUENCE #: ______

TOPOGRAPHIC SURVEY

LOCATED IN PORTIONS OF SECTION 20,
TOWNSHIP 32 NORTH, RANGE 11 EAST
GILA AND SALT RIVER BASELINE AND MERIDIAN
COCONINO COUNTY, ARIZONA

COORDINATE SYSTEM DETAILS

LINEAR UNIT: INTERNATIONAL FEET
GEODETIC DATUM: NAD 83 (CONUS)
VERTICAL DATUM: NAVD 88, REFERENCED FROM NGS CONTROL POINT "TUBA CITY"
SYSTEM: U.S. STATE PLANE 1983
ZONE: ARIZONA CENTRAL

PROJECTION:
TRANSVERSE MERCATOR
LATITUDE OF GRID ORIGIN: 31° 00' 00" N
LONGITUDE OF CENTRAL MERIDIAN: 111° 55' 00" W
NORTHING AT GRID ORIGIN: 0 FT
EASTING AT CENTRAL MERIDIAN: 700,000 FT
CENTRAL MERIDIAN SCALE FACTOR: 0.9999000000 (EXACT)
GROUND SCALE FACTOR: 1.0002891546
PROJECT LOCATION: LATITUDE – 36°08'00"
LONGITUDE – 111°13'25.5"
HEIGHT – 4966.15

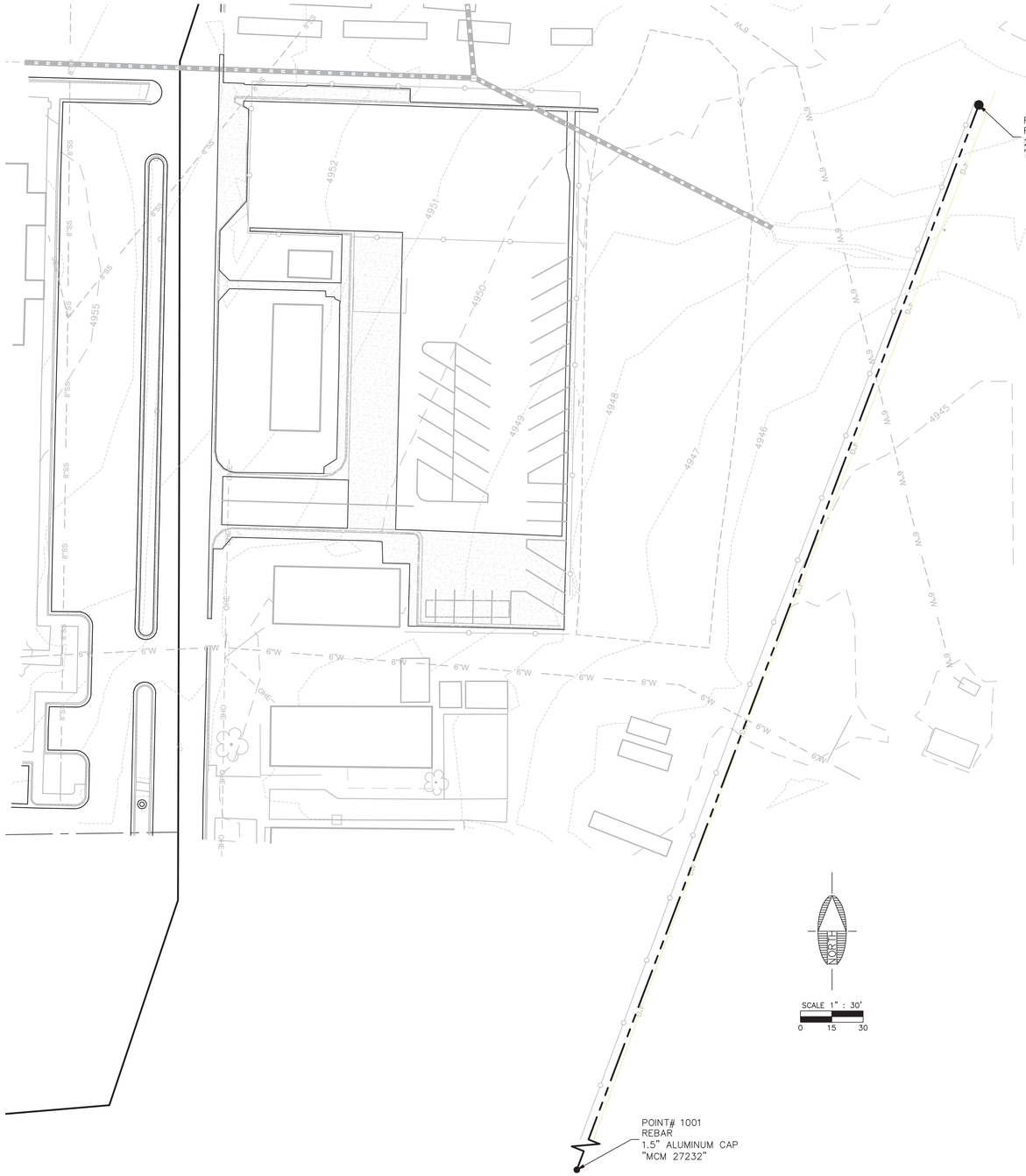
ALL MEASURED DISTANCES AND BEARINGS SHOWN HEREON ARE GRID VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT GRID DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.

THE BASIS OF BEARINGS IS TRUE GEODEDIC NORTH; NOTE THAT THE MEASURED GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE TRANSFERRED TO THE SITE FROM NGS CONTROL POINT "TUBA CITY" USING GPS WITH NGS GEOID MODEL "GEOID12A". ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE PUBLISHED ELEVATION OF THIS STATION.

THE SURVEY WAS CONDUCTED USING GPS REFERENCED TO THE NATIONAL SPATIAL REFERENCE SYSTEM. A PARTIAL LIST OF POINT COORDINATES FOR THIS SURVEY IS GIVEN BELOW (ADDITIONAL COORDINATES ARE AVAILABLE UPON REQUEST). LOCAL NETWORK ESTIMATES ARE GIVEN AT THE 95% CONFIDENCE LEVEL AND ARE BASED ON AN APPROPRIATELY CONSTRAINED LEAST-SQUARES ADJUSTMENT OF OVER-DETERMINED AND STATISTICALLY INDEPENDENT OBSERVATIONS.

POINT "TUBA CITY" (OFF SITE) = 3" BRASS DISK, USCGS 1951		
LATITUDE = 36°08'00.00678"N	NORTHING = 1868532.437 FT	ESTIMATED ACCURACY
LONGITUDE =111°13'25.53611"W	EASTING = 904606.009 FT	HORIZONTAL = FIXED
ELLIPSOID HEIGHT = 4966.141 FT	ELEVATION = 5042.896 FT	VERTICAL = FIXED
POINT #1000 = 2" ALUMINUM CAP "COCONINO ENG LS 23372"		
LATITUDE = 36°08'10.46973"N	NORTHING = 1869568.489 FT	ESTIMATED ACCURACY
LONGITUDE =111°14'03.81714"W	EASTING = 901457.659 FT	HORIZONTAL = +/- 0.013'
ELLIPSOID HEIGHT = 4871.793 FT	ELEVATION = 4948.539 FT	VERTICAL = +/- 0.031'
POINT #1001 = 1.5" ALUMINUM CAP "MCM LS 27232"		
LATITUDE = 36°08'01.07134"N	NORTHING = 1868615.405 FT	ESTIMATED ACCURACY
LONGITUDE =111°14'08.12484"W	EASTING = 901110.894 FT	HORIZONTAL = +/- 0.029'
ELLIPSOID HEIGHT = 4863.860 FT	ELEVATION = 4940.636 FT	VERTICAL = +/- 0.043'



LEGEND

- PROPERTY BOUNDARY
- EXISTING INTERMEDIATE CONTOUR
- 4950 EXISTING INDEX CONTOUR
- LOT LINE
- EXISTING UNPAVED ROAD
- EXISTING PAVED ROAD
- EXISTING CULVERT
- EXISTING WOOD FENCE
- EXISTING CHAIN LINK FENCE
- OHE EXISTING OVERHEAD POWER
- UGE EXISTING UNDERGROUND ELECTRIC
- EXISTING SEWER MANHOLE
- EXISTING WATER METER
- PROPOSED SIGN
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING STREET OR PARKING LOT LIGHT
- EXISTING POWER POLE
- EXISTING DOWN GUY
- EXISTING TRAFFIC CONTROL SIGN
- EXISTING ELECTRICAL RISER

CERTIFICATE OF LAND SURVEYOR

I HEREBY STATE THAT THE SURVEY SHOWN HEREON WAS DONE UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

AARON D. BORLING, RLS 48756

NOTES:
1. TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SHEPHARD-WESNITZER, INC.
2. BOUNDARY INFORMATION PER BOUNDARY SURVEY PLAT OF PARCEL A-1, TUBA CITY HOSPITAL SITE DATED BY AUGUST 2010 BY SURVEYING CONTROL INC. (SCI JOB NO. 2010-060).
3. THE INFORMATION ON THESE CONSTRUCTION PLANS CONCERNING THE TYPE, SIZE & LOCATION OF UTILITIES HAS BEEN BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINATION OF EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES, IN PLACE, UNLESS OTHERWISE NOTED OR SPECIFIED.

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, AZ 86045
TOPOGRAPHIC SURVEY

REVISIONS

MARK	DATE	DESCRIPTION

REVIEWED BY: OKB
DRAWN BY: KMB

REGISTERED LAND SURVEYOR
AARON D. BORLING
48756
Date Signed 11/14/17
ARIZONA, USA
Expires 12/31/17

ORIGINAL ISSUE
DATE: 7/21/2017

JOB No: 1641B

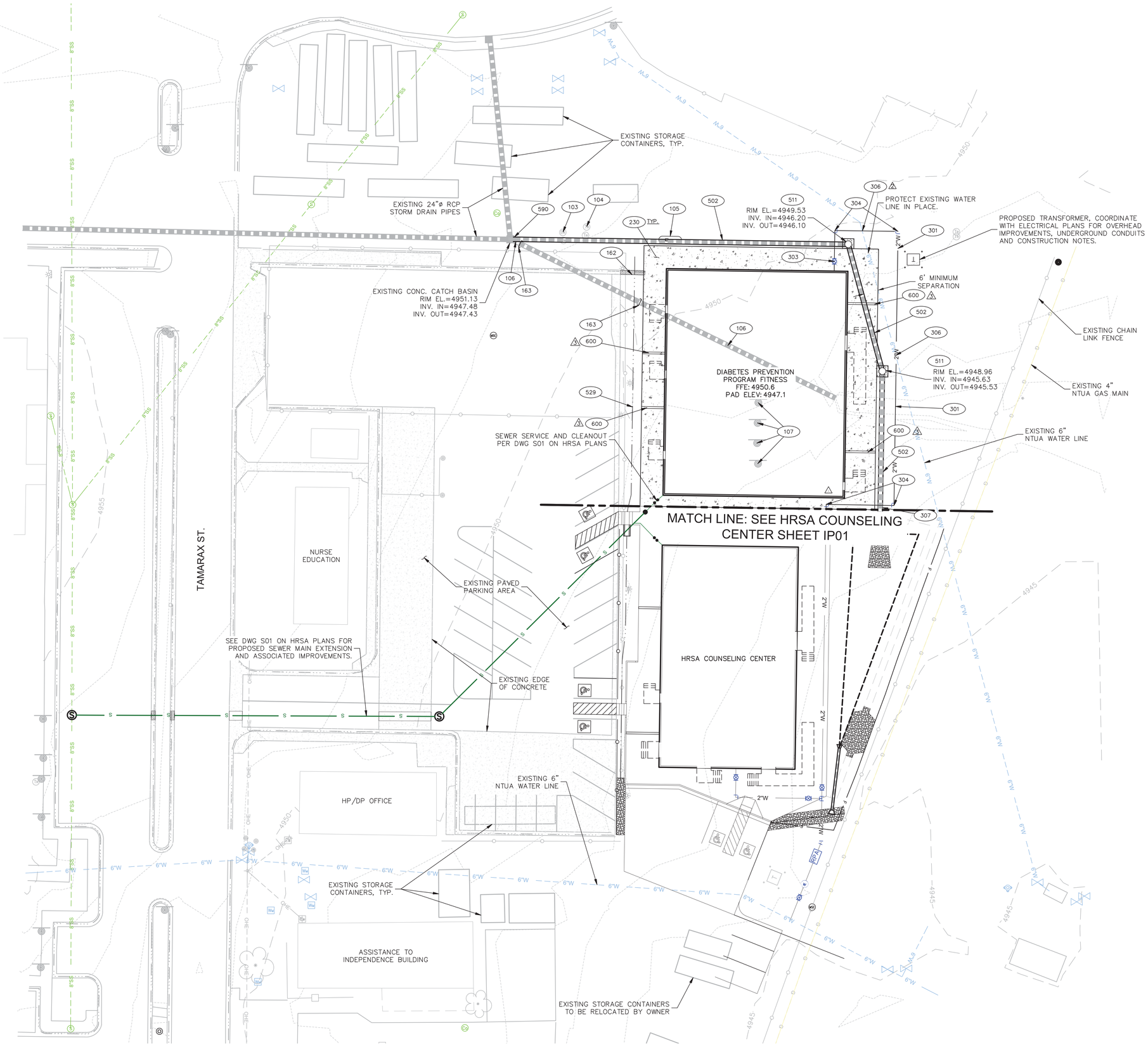
SHEET:
RS01

SEQUENCE #:

SWI PROJECT # 17095

Shephard Wesnitzer, Inc. www.swiaz.com
110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax

PLOTTED: Nov 14, 2017–10:25am



CONSTRUCTION NOTES

103 (2 E.A.) REMOVE EXISTING ELECTRICAL RISER PER M.A.G. SPEC. 350. COORDINATE WITH A.P.S.

104 (2 EA.) REMOVE EXISTING TELECOMMUNICATION RISER PER M.A.G. SPEC. 350. COORDINATE WITH NTUA.

105 (1 E.A.) REMOVE EXISTING PROPANE TANK PER M.A.G. SPEC. 350. COORDINATE WITH T.C.R.H.C.C. FACILITIES MANAGEMENT.

106 (120 L.F.) REMOVE AND DISPOSE OF EXISTING 24" DIAMETER CONCRETE PIPE STORM DRAIN.

107 (4 E.A.) REMOVE AND SALVAGE EXISTING SIGNAGE PER M.A.G. SPEC 350.

162 (2 L.F.) SAWCUT AND (11 L.F.) REMOVE & DISPOSE OF EXISTING CONCRETE VERTICAL CURB & GUTTER PER M.A.G. SPECS. 336 AND 350.

163 (2 E.A.) SAWCUT EXISTING 24" DIAMETER CONCRETE PIPE STORM DRAIN MINIMUM 2' FROM EXISTING FENCE PER M.A.G. SPEC 336. INSTALL PLUGS AT END OF PIPE PER M.A.G. DTL 427. CONCRETE PIPE WITHIN HELIPAD ENCLOSURE TO BE ABANDONED IN PLACE.

230 (4,145 S.F.) CONSTRUCT CONCRETE SIDEWALK PER M.A.G. DTL. 230 AND DETAIL 'C' ON DWG DT01.

⚠ 301 (198 L.F.) INSTALL 2" WATER SERVICE LINE PER N.T.U.A. DETAILS WS–1c, WS–2 & WS–2a ON DWG DT02. COORDINATE WITH PLUMBING PLANS FOR SERVICE LINE CONNECTION AT BUILDING.

⚠ 303 (1 EA.) INSTALL 2" VALVE WITH BOX AND THRUST BLOCK PER N.T.U.A. DTLS. WS–2, WS–2A, AND WS–1C ON DWG DT02.

⚠ 304 (4 EA.) INSTALL 2" FITTINGS WITH THRUST BLOCKS PER N.T.U.A. DTLS. WS–19 AND WS–19A ON DWG DT02.

⚠ 306 (1 EA.) 2" WATER SERVICE CROSSES EXISTING 6" WATERLINE. CONTRACTOR SHALL PROVIDE MINIMUM COVER ON 2" LINE AND 6" CLEARANCE WITH EXISTING 6" WATER LINE.

⚠ 307 (1 EA.) 2" WATER SERVICE CROSSES NEW 24" STORM DRAIN. CONTRACTOR SHALL PROVIDE MINIMUM COVER ON 2" LINE AND 6" CLEARANCE WITH NEW STORM DRAIN. 2" LINE SHALL BE CURVED UNDER STORM DRAIN WITHOUT USE OF FITTINGS.

502 (263 L.F.) INSTALL 24" HDPE ADS (N–12) DUAL WALL STORM DRAIN (OR APPROVED EQUAL) PER M.A.G. SPEC. 618. TRENCH EXCAVATION, BACKFILLING, AND COMPACTION PER M.A.G. SPEC. 601 AND DETAIL 'G' ON SHEET DT01.

511 (2 E.A.) INSTALL 24" NYLOPLAST DRAIN BASIN WITH HS–20 SOLID LID PER MANUFACTURER'S SPECIFICATIONS AND DETAIL 'H' ON DWG DT01.

529 (110 L.F.) CONSTRUCT UNLINED CHANNEL PER DETAIL 'J' ON DWG DT01.

590 (1 E.A.) REMOVE EXISTING CONCRETE PIPE FROM CATCH BASIN. CONNECT 24" HDPE PIPE TO EXISTING CATCH BASIN PER DETAIL 'D' ON DWG DT01.

⚠ 600 (4 E.A.) INSTALL CONDENSATE CHANNEL PER M.A.G. DETAIL 203 ON DWG DT01.

SCALE 1" : 20'
0 10 20

SWI PROJECT # 17095

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110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax
www.swiaz.com

SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER

TUBA CITY REGIONAL HEALTH CARE CORPORATION

TAMARAX STREET

TUBA CITY, AZ 86045

CIVIL IMPROVEMENT PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
⚠1	9/27/17	NTUA COMMENTS
⚠2	10/09/17	NTUA COMMENTS
⚠3	11/13/17	CONDENSATE DRAINS

REVIEWED BY: OKB
DRAWN BY: KMB

REGISTERED PROFESSIONAL ENGINEER — CERTIFICATE NO. 13494 — DAVID M. MONIHAN, JR. — 11/14/17 — Expires 9/30/18

ORIGINAL ISSUE DATE: 7/21/2017

JOB No: **1641B**

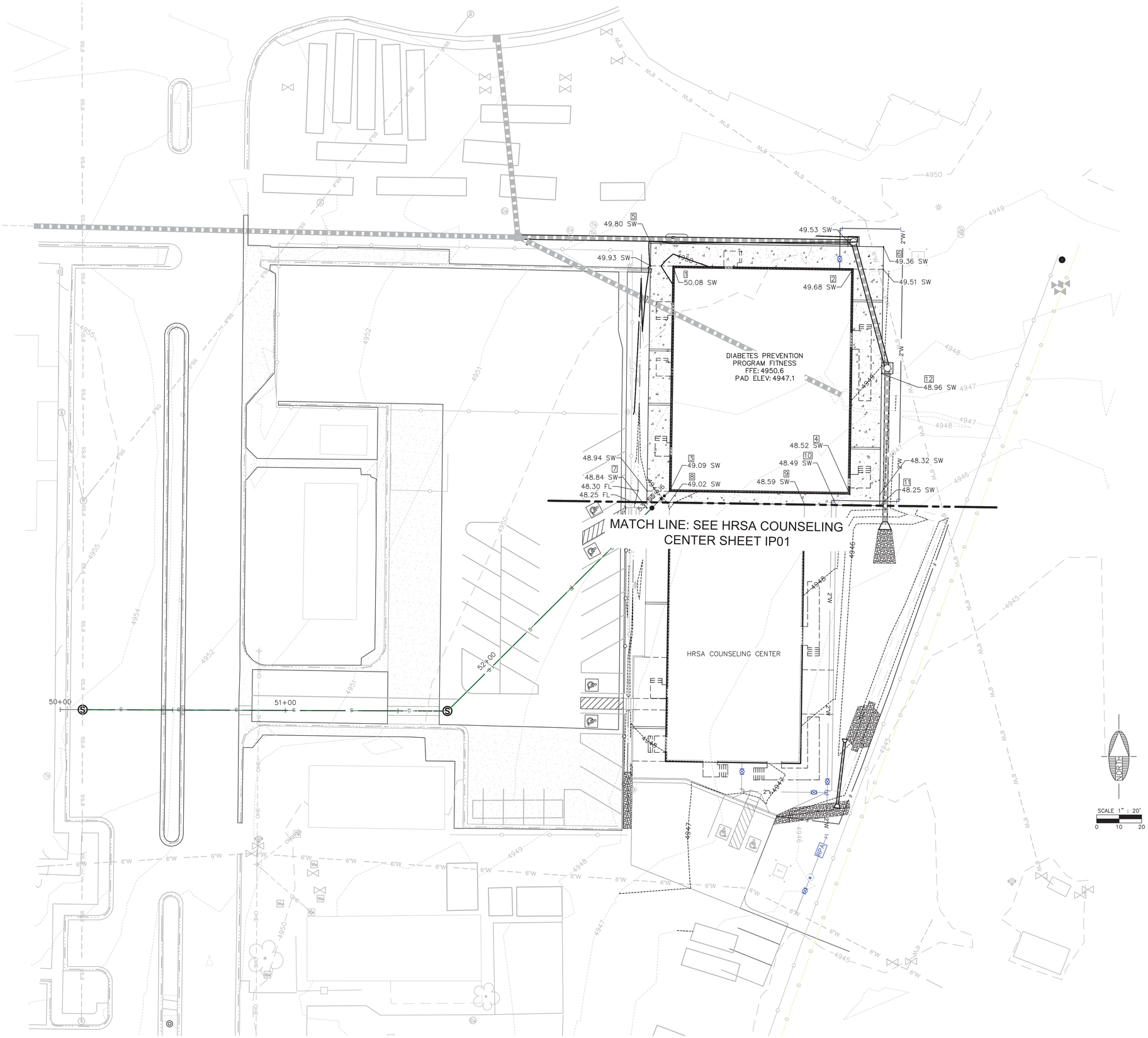
SHEET:

IP01

SEQUENCE #:

FILE: P:\2017\17095\DRAWINGS\CONSTRUCTION PLANS\1641B\17095 – IMPROVEMENT PLAN B.DWG ETAQUE

PLOTTED: Nov 14, 2017–10:25am



POINT TABLE		
POINT #	NORTHING	EASTING
1	1869565.67	901284.86
2	1869564.37	901364.75
3	1869465.68	901283.36
4	1869464.48	901363.35
5	1869575.82	901275.01
6	1869574.27	901378.38
7	1869458.40	901273.20
8	1869460.68	901283.28
9	1869459.78	901343.27
10	1869459.57	901357.27
11	1869459.28	901376.66
12	1869517.91	901377.54

GRADING DESCRIPTIONS LEGEND

ME	MATCH EXISTING*
FG	FINISHED GRADE
FL	FLOWLINE
C	CONCRETE
TC	TOP OF CURB
P	ASPHALT PAVEMENT
SW	SIDEWALK
TW	TOP OF WALL
BW	BOTTOM OF WALL
PB	BOTTOM OF DETENTION POND
PT	TOP OF DETENTION POND
[#]	POINT NUMBER
- - - - - - - -	GRADE BREAK
4950	PROPOSED INDEX CONT.
----------	PROPOSED INTERMEDIATE CONT.

NOTE:
1. "MATCH EXISTING" GRADES ARE FOR REFERENCE ONLY, MATCHING EXISTING IS MORE IMPORTANT THAN THE GRADE SHOWN.
2. HORIZONTAL CONTROL POINTS AT PROPOSED CURB ARE LOCATED AT TOP BACK OF CURB.

SWI PROJECT # 17095

Shephard Wesnitzer, Inc.
110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax
www.swiaz.com

SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER

TUBA CITY REGIONAL HEALTH CARE CORPORATION

TAMARAX STREET

TUBA CITY, AZ 86045

GRADING & HORIZONTAL CONTROL

REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: OKB
DRAWN BY: KMB

Registered Professional Engineer (Civil)
CERTIFICATE NO.
13494
DAVID M. MONIHAN, JR.
11/14/17
DATE SIGNED
Expires 9/30

ORIGINAL ISSUE DATE: 7/21/2017

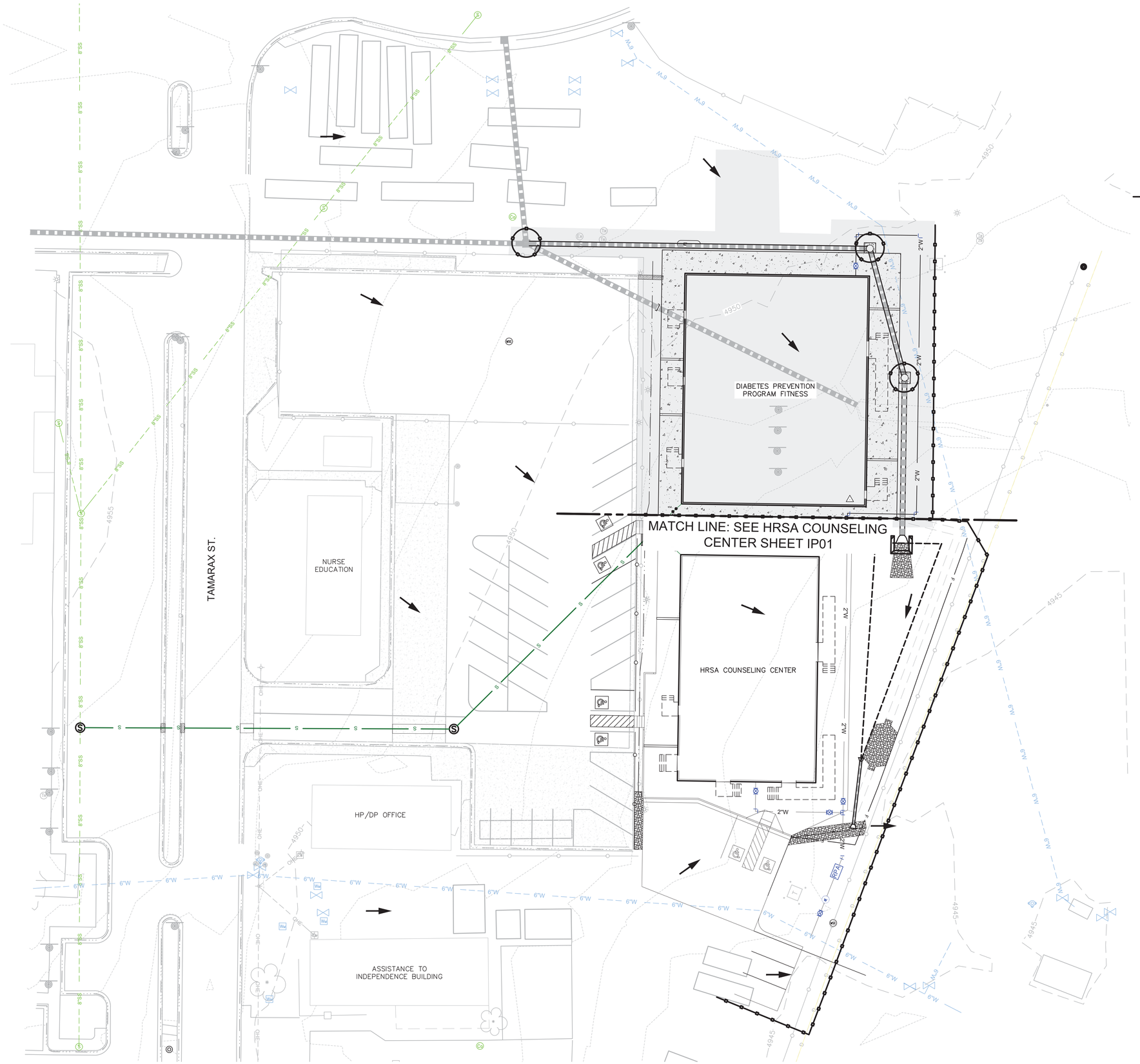
JOB No: **1641B**

SHEET:

GD01

SEQUENCE #:

FILE: P:\2017\17095\DRAWINGS\CONSTRUCTION PLANS\1641B\17095 – GRADING & HORIZONTAL CONTROL BLDG ETAGUE



LEGEND

- DISTURBED AREA
- "TEMPORARY STONE CONSTRUCTION ENTRANCE" PER DETAIL ON SW03. LOCATION PER CONTRACTOR.
- DRAINAGE FLOW DIRECTION
- "CURB INLET SEDIMENT BARRIER"
- "CULVERT INLET/OUTLET PROTECTION" PER DETAIL SW03.
- "STRAW ROLL" PER APPROPRIATE DETAIL ON SW03.

SCALE 1" : 20'
0 10 20

SWI PROJECT # 17095

Shephard Wesnitzer, Inc.
110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax
www.swiaz.com

SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER

TUBA CITY REGIONAL HEALTH CARE CORPORATION

TAMARAX STREET

TUBA CITY, AZ 86045

STORMWATER POLLUTION PREVENTION PLAN

REVISIONS

MARK	DATE	DESCRIPTION

REVIEWED BY: OKB
DRAWN BY: KMB

13494
DAVID M. MONIHAN, JR.
11/14/17
Expires 9/30/18

ORIGINAL ISSUE DATE: 7/21/2017

JOB No: **1641B**

SHEET:

SW01

SEQUENCE #:

A EROSION & SEDIMENT CONTROL STANDARD NOTES

1. THE CONTRACTOR MUST NOTIFY BLUE STAKE AT 1–800–STAKE–IT AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE COUNTY ORDINANCES AND POLICIES.
2. THE CONTRACTOR GRANTS THE RIGHT–OF–ENTRY ON TO THIS PROPERTY TO THE DESIGNATED COCONINO COUNTY PERSONNEL FOR THE PURPOSE OF INSPECTING AND MONITORING FOR COMPLIANCE WITH EROSION AND SEDIMENT CONTROL LAW AND THE DESIGN AND CONSTRUCTION STANDARDS MANUAL.
3. ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE, INSPECTED AND APPROVED BY COCONINO COUNTY PRIOR TO CLEARING, STRIPPING OF TOPSOIL OR GRADING.
4. THE CONTRACTOR SHALL POST A SIGN AT THE MAIN ENTRANCE TO THE CONSTRUCTION SITE CONTAINING THE AZPDES AUTHORIZATION NUMBER AND/OR COPY OF NOTICE OF INTENT AUTHORIZATION, CONSTRUCTION SITE OPERATOR CONTACT NAME AND TELEPHONE NUMBER, A BRIEF PROJECT DESCRIPTION, AND THE LOCATION OF THE APPROVED STORM WATER POLLUTION PREVENTION PLAN. THE SIGN SHALL ALSO DISPLAY THE NAME, CONTACT INFORMATION, AND QUALIFICATIONS OF THE PERSONNEL PERFORMING ROUTINE INSPECTIONS.
5. THE CONTRACTOR'S REPRESENTATIVE IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
6. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ADEQUATE STABILIZATION IS ACHIEVED.
7. WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.
8. THE CONTRACTOR'S REPRESENTATIVE SHALL INSPECT AND DOCUMENT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:
   A. SEDIMENT BASINS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT ELEVATION INDICATED ON THE RISER PIPE. SEDIMENT SHALL BE DISPOSED IN SUITABLE AREAS AND IN SUCH A MANNER THAT WILL NOT ERODE OR CAUSE SEDIMENTATION PROBLEMS. THE BASIN EMBANKMENT SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. EMERGENCY SPILLWAYS SHOULD BE CHECKED REGULARLY TO ENSURE THAT ITS LINING IS WELL ESTABLISHED AND EROSION RESISTANT.
   B. SEDIMENT BASINS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. SEDIMENT SHALL BE REMOVED AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE. SEDIMENT REMOVED FROM THE BASIN SHALL BE DEPOSITED IN A SUITABLE AREA AND IN A SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
   C. GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.
   D. SILT FENCE AND/OR STRAW ROLL BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
   E. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.
   F. STREAM DIVERSION AND STORM CONVEYANCE CHANNELS SHALL BE INSPECTED DAILY AND AFTER EACH RAIN TO ENSURE THEY ARE FUNCTIONING PROPERLY AND THAT THE INTEGRITY OF THE LININGS ARE NOT IMPAIRED. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES MUST BE MADE IMMEDIATELY AFTER THE INSPECTION.
9. INSPECTION FORMS SHALL BE COMPLETED BY THE CONTRACTOR'S INSPECTOR WITH THE MINIMUM FOLLOWING INFORMATION: INSPECTION DATE, TITLE AND QUALIFICATIONS OF EACH INSPECTOR, WEATHER INFORMATION FOR PERIOD SINCE LAST INSPECTION, LOCATION OF DISCHARGE OF SEDIMENT OR OTHER POLLUTANTS, LIST OF BMPS THAT NEED TO BE MAINTAINED OR ARE INADEQUATE, LIST ADDITIONAL NEEDED BMPS, CORRECTIVE ACTION REQUIRED, SOURCES OF ALL NON–STORMWATER AND CONTROL MEASURES, DATES WHEN MAJOR GRADING ACTIONS OCCURRED, POLLUTANT DISCHARGE STATUS OF STORAGE AREAS, AND DATES WHEN CONSTRUCTION ACTIVITIES CEASED.
10. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING INSPECTION RECORDS FOR AT LEAST THREE (3) YEARS FOLLOWING THE COMPLETION OF PROJECT. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTOL PLAN SHALL BE KEPT ON SITE AT ALL TIMES AND SHALL BE AMENDED AS NECESSARY TO REFLECT CURRENT SWPPP BMP'S
11. THE SWPPP SHALL BE MODIFIED BY THE CONTRACTOR WITHIN 7 CALENDAR DAYS FOLLOWING AN INSPECTION THAT DISCOVERS AN INADEQUATE BMP. BMPS SHALL BE MODIFIED OR ADDED AS SOON AS PRACTICABLE AFTER THE BMP HAS BEEN DETERMINED INADEQUATE.
12. SEDIMENT BASIN MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
13. PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED AND ALL WORK COMPLETED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS. ROADS AND PARKING AREAS SHALL BE STABILIZED AS SOON AS PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
14. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER ADEQUATE SITE STABILIZATION AND AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AS AUTHORIZED BY COCONINO COUNTY INSPECTORS. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT AND OTHER DEBRIS AT THE STREETS USED FOR ACCESS TO THE PROJECT SITE. WHEN SEDIMENT APPEARS ON THE PAVED ROAD SURFACE, THE ROAD WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING AND/OR SWEEPING, AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
16. THROUGH THE PHASES OF WORK THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PROJECT SITE AND ADJACENT STREETS FREE FROM DUST AND DEBRIS GENERATED BY CONSTRUCTION ACTIVITIES. WATER AND/OR DUST PALLIATIVE FOR LAYING DUST CAUSED FROM CONSTRUCTION ACTIVITIES AND DISTURBANCE OF NATURALLY VEGETATED AREAS, SHALL BE APPLIED IN AMOUNTS AS NECESSARY TO CONTROL THE DUST TO THE SATISFACTION OF THE COUNTY INSPECTOR. DUST PALLIATIVE SHALL BE PER MAG SPECIFICATION SECTION 792.
17. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
18. A COPY OF THE PROJECT'S STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE MAINTAINED AT THE CONSTRUCTION SITE AND SHALL ALWAYS BE AVAILABLE FOR REVIEW.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE SWPPP THROUGHOUT CONSTRUCTION AND INDICATE ANY AND ALL REVISIONS / UPDATES ON THIS PLAN.
20. APPROVAL OF PLANS DOES NOT RELIEVE THE OPERATOR FROM CORRECTING ERRORS OR OMISSIONS DISCOVERED DURING CONSTRUCTION. CONFORMANCE WITH THE REQUIREMENTS OF THIS PLAN SHALL IN NO WAY RELIEVE THE OPERATOR FROM HIS RESPONSIBILITIES TO THE SITE AND ADJACENT PROPERTIES. TEMPORARY EROSION CONTROL SHALL CONSIST OF, BUT NOT BE LIMITED TO, CONSTRUCTING SUCH FACILITIES AND TAKING SUCH MEASURES AS ARE NECESSARY TO PREVENT, CONTROL AND ABATE WATER, MUD AND EROSION DAMAGE TO PUBLIC AND PRIVATE PROPERTY AS A RESULT OF THE CONSTRUCTION OF THIS PROPERTY.
21. CONTRACTOR SHALL IMMEDIATELY RESTORE ANY DAMAGED EROSION CONTROL MEASURE WITHIN THE PROJECT BOUNDARY.
21. FLOOD PLAIN LIMITS SHALL BE CLEARLY MARKED IN THE FIELD BY FLAGS, SIGNS, ETC.
22. TREE SAVE AREAS SHALL BE CLEARLY MARKED IN THE FIELD BY ORANGE SAFETY FENCE.
23. AN ORANGE SAFETY FENCE MUST BE INSTALLED AROUND ALL SILT TRAPS AND SEDIMENT BASINS.
24. THE SWPPP SHALL BE MODIFIED BY THE CONTRACTOR WITHIN 15 BUSINESS DAYS FOLLOWING ANY CHANGE IN DESIGN, CONSTRUCTION OPERATION, OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON DISCHARGE OR NOT PREVIOUSLY ADDRESSED IN THE SWPPP.
25. THE SWPPP SHALL BE MODIFIED BY THE CONTRACTOR WITHIN 15 BUSINESS DAYS IF IT IS DETERMINED THAT DISCHARGE IS CAUSING OR CONTRIBUTING TO WATER QUALITY EXCEEDENCES OR THE SWPPP IS INEFFECTIVE.
26. ALL WORK IN ADOT RIGHT OF WAY SHALL MEET THE REQUIREMENTS OF THE ADOT CONSTRUCTION PERMIT.

B EROSION CONTROL MEASURES

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS ESTABLISHED HEREIN.

C STRUCTURAL PRACTICES

1. SILT FENCE BARRIER: SILT FENCE AND/OR STRAW ROLL SEDIMENT BARRIERS WILL BE INSTALLED DOWNSLOPE OF AREAS WITH MINIMAL GRADES TO FILTER SEDIMENT LADEN RUNOFF FROM SHEET FLOW AS INDICATED ON THE PLANS.
2. A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREA INTERSECTS WITH EXISTING ROADS. DURING MUDDY CONDITIONS DRIVERS OF CONSTRUCTION VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE HIGHWAY.
3. STORM DRAIN INLET & SPILLWAY PROTECTION: ALL STORM SEWER INLETS AND SPILLWAYS SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT–LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER INLETS AND CULVERTS.

D VEGETATIVE PRACTICES

1. TOP SOILING (STOCKPILE) TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATIONS ARE TO BE STABILIZED WITH TEMPORARY VEGETATION. PRIOR TO LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION & SEDIMENT PLAN TO THE OWNER COVERING THE STOCKPILE AREA WHICH MAY HAVE TO BE APPROVED BY THE PLAN APPROVING AUTHORITY BEFORE ANY ACTIVITY COMMENCES.
2. TEMPORARY SEEDING FOR ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.
3. EXISTING VEGETATION WILL BE PRESERVED OUTSIDE ALL LIMITS OF DISTURBANCE.

E MANAGEMENT STRATEGIES

1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE, MUD AND DEBRIS SHALL BE WASHED FROM ALL CONSTRUCTION VEHICLES AND EQUIPMENT BEFORE LEAVING THE SITE. A WATER TANK TRUCK WILL BE USED IF PUBLIC WATER IS UNAVAILABLE.
3. INSTALL PERIMETER CONTROLS AS SHOWN TO INCLUDE DIVERSION DIKES, SILT FENCE, AND STRAW ROLLS. SEDIMENT TRAPPING MEASURES SHALL BE INSTALLED AS A FIRST STEP IN GRADING
4. GRADING OPERATIONS MAY COMMENCE ONCE PERIMETER CONTROLS, DIVERSIONS AND TRAPPING MEASURES ARE INSTALLED.
5. FILL SLOPE SURFACES SHALL BE LEFT IN ROUGHENED CONDITION TO REDUCE SHEET AND RILL EROSION OF THE SLOPES. THE CONTRACTOR SHALL REDIRECT CONCENTRATED FLOW AWAY FROM THE FILL SLOPES BY INSTALLING EARTH BERMS AND DIRECT THE RUN–OFF TO STABILIZED OUTLET OR SEDIMENT BASIN AND TRAPPING DEVICES.
6. TEMPORARY SEEDING OR OTHER STABILIZATION METHODS WILL FOLLOW IMMEDIATELY AFTER GRADING.
7. ONCE THE UTILITIES, CURB AND GUTTER, AND THE ROADS ARE BROUGHT NEAR FINAL GRADE IN A MANNER SUCH THAT STORM SEWER SYSTEMS ARE FUNCTIONAL, INSTALL THE STANDARD INLET PROTECTION AROUND THE STRUCTURES.
8. ONCE FINAL GRADES ARE ESTABLISHED TO CREATE SHEET FLOW CONDITIONS IN ACCORDANCE WITH REQUIRED DRAINAGE PATTERNS, THE CONTRACTOR MAY INSTALL SILT FENCE AND REMOVE EXISTING DIVERSION DIKES AND BASIN ALONG THE SITE PERIMETER WHEN AUTHORIZED BY THE INSPECTOR. INSTALL CHECK DAMS AND OUTLET PROTECTION AS SHOWN ON THE PLAN.
9. FOR VEGETATIVE STABILIZATION OF ALL DENUDED AREAS SEE EROSION CONTROL MEASURES AND VEGETATIVE PRACTICES.
10. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
11. AFTER ACHIEVING PERMENANT STABILIZATION, THE TEMPORARY EROSION & SILTATION CONTROLS WILL BE CLEANED UP AND REMOVED FROM THE SITE.

F MAINTENANCE

IN GENERAL, ALL EROSION & SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL.

G GENERAL LAND CONSERVATION NOTES

1. VEGETATED STABILIZATION MEASURES MUST BE INITIATED AS SOON AS FINAL GRADING IS COMPLETE AND PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
2. ALL EROSION AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. THE FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
3. ALL STORM AND SANITARY LINES NOT IN STREET ARE TO BE MULCHED AND SEEDED AS SOON AS PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
4. ELECTRIC POWER, TELEPHONE, AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED, AND MULCHED AS SOON AS PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
5. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
6. ANY DISTURBED AREAS NOT PAVED, SODDED OR BUILT UPON ARE TO BE MULCHED WITH HAY OR STRAW MULCH AT THE RATE OF TWO TONS PER ACRE AND OVER–SEEDED AS SOON AS PRECIPITATION OR IRRIGATION IS AVAILABLE.
7. AT THE COMPLETION OF CONSTRUCTION PROJECTS, AND PRIOR TO THE RELEASE OF THE BOND, ALL TEMPORARY SILTATION AND EROSION CONTROLS SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED.
8. TEMPORARY DIVERSIONS, SILT FENCE, STRAW ROLL, STONE CONSTRUCTION ENTRANCE AND OTHER CONTROL MEASURES AS NECESSARY ARE TO BE PLACED AS INDICATED ON THE DRAWINGS PRIOR TO OR DURNING THE FIRST STEP IN EXCAVATION.
9. WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL IS TO BE PLACED IN STREAMBEDS. WHERE SOIL IS PLACED ON DOWNHILL SIDE OF TRENCHES, IT IS TO BE BACK–SLOPED TO DRAIN TOWARD THE TRENCH. WHEN NECESSARY TO DEWATER THE TRENCHES, THE PUMP DISCHARGE HOSE MUST OUTLET IN A STABILIZED AREA.

H GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO COCONINO STANDARDS, MAG STANDARDS, AZPDES STANDARDS AND SPECIFICATIONS, AND GENERALLY ACCEPTED CONSTRUCTION PRACTICE.
2. THESE PLANS REPRESENT A REASONABLE EFFORT TO IMPLEMENT THE MOST CURRENT AND BEST MANAGEMENT PRACTICES (BMPS) IN MITIGATING STORM WATER POLLUTION DURING CONSTRUCTION. THE EFFECTIVENESS OF THE MITIGATION MEASURES DEPICTED IN THESE PLANS DEPEND IN PART ON PROPER INSTALLATION, IMPLEMENTATION, MAINTENANCE AND REPAIR OF THE DEVICES SELECTED.
3. THE DETAILS SHOWN ON THE DETAIL SHEET ARE BY SHEPHARD – WESNITZER, INC. AND BY EROSION DRAW 4.0 (COPYRIGHT 2002 ©JOHN MCULLAH) UNDER A LICENSE AGREEMENT.
4. TOPOGRAPHIC AND BASE MAP INFORMATION (SHOWN FADED ON PLANS) PROVIDED BY SHEPHARD – WESNITZER, INC.
5. SILT FENCE AND/OR STRAW ROLL AND SLOPE TREATMENT LOCATIONS SHOWN ON BASE MAP FILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMING EXACT FILL SLOPE LOCATIONS AND PROVIDING SILT FENCE FOR ALL FILL SLOPES.

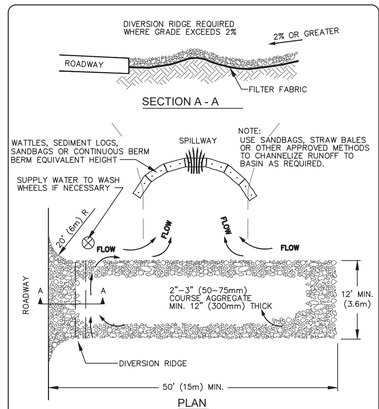
I SEEDING AND MULCHING

UNLESS OTHERWISE SPECIFIED IN THE CONSTRUCTION PLANS, ALL DISTURBED SLOPES SHALL BE MULCHED AND SEEDED PER THE FOLLOWING SEED SPECIFICATIONS:

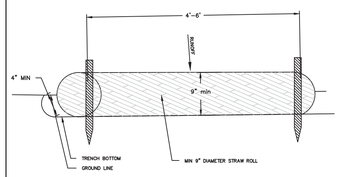
SEED SHALL BE OF VARIETY SPECIFIED, AND SHALL BE APPLIED AT THE RATE SPECIFIED.

SPECIES	PURE LIVE SEED RATE/ACRE
SAND DRIPSEED (SPOROBOLUS CRYPTANDRUS)	2 LB
SIDEOATS GRAMA (BOUTELOUS CURTIPENDULA)	10 LB
CRESTED WHEATGRASS (AGROPYRON CRISTATUM)	10 LB

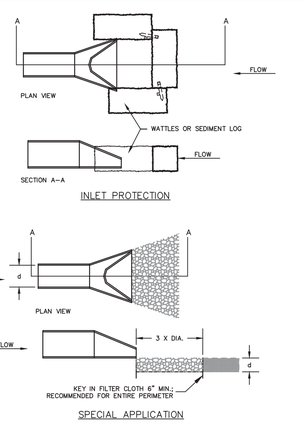
1. SEEDING OPERATIONS SHALL NOT BE PERFORMED WHEN WIND WOULD PREVENT UNIFORM APPLICATION OF MATERIALS OR WOULD CARRY SEEDING MATERIALS INTO AREAS NOT DESIGNATED TO BE SEEDED.
2. THE EQUIPMENT AND METHODS USED TO DISTRIBUTE SEEDING MATERIALS SHALL BE SUCH AS TO PROVIDE AN EVEN AND UNIFORM APPLICATION OF SEED, MULCH AND OR OTHER MATERIALS AT THE SPECIFIED RATES.
3. SEEDING OPERATIONS SHALL NOT BE PERFORMED ON UNDISTURBED SOIL OUTSIDE THE CLEARING AND GRUBBING LIMITS OF THE PROJECT OR ON STEEP ROCK CUTS.
4. IMMEDIATELY BEFORE SEEDING, THE SURFACE AREA SHALL BE RAKED OR OTHERWISE LOOSENED TO OBTAIN A SMOOTH FRIABLE SURFACE FREE OF EARTH CLODS, HUMPS AND DEPRESSIONS. LOOSE STONES HAVING A DIMENSION GREATER THAN ONE INCH AND DEBRIS BROUGHT TO THE SURFACE DURING CULTIVATION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
5. THE AREA TO BE SEEDED SHALL BE ROUGHENED WITH GROOVES PARALLEL TO THE CONTOURS PRIOR TO SEEDING. A BULLDOZER OR CRAWLER TRACTOR SHALL BE DRIVEN UP AND DOWN THE SLOPE PARALLEL TO THE FALL LINE TO CREATE A TRACKWALKED SLOPE. THE SEEDS SHALL BE UNIFORMLY APPLIED IN A DIRECTION PARALLEL TO THE CONTOURS OF THE SLOPE. ALTERNATE SURFACE TREATMENT METHODS MAY BE APPROVED BY THE ENGINEER.
6. IMMEDIATELY AFTER SEEDING, THE AREA SHALL BE UNIFORMLY COVERED WITH SCREENED MANURE AT THE RATE OF ONE CUBIC YARD PER 1,000 SQUARE FEET AND THEN WATERED UNTIL THE GROUND IS WET TO A MINIMUM DEPTH OF TWO INCHES.
7. WATER SHALL BE FREE OF OIL, ACID, SALTS OR OTHER SUBSTANCES WHICH ARE HARMFUL TO PLANTS. THE SOURCE SHALL BE AS APPROVED BY THE ENGINEER PRIOR TO USE.
8. THE CONTRACTOR SHALL PROTECT SEEDED AREAS FROM DAMAGE BY TRAFFIC OR CONSTRUCTION EQUIPMENT. SURFACES WHICH ARE ERODED OR OTHERWISE DAMAGED FOLLOWING SEEDING AND PRIOR TO FINAL ACCEPTANCE SHALL BE REPAIRED BY REGRADING, RESEEDING AND REMULCHING AS DIRECTED BY THE ENGINEER.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

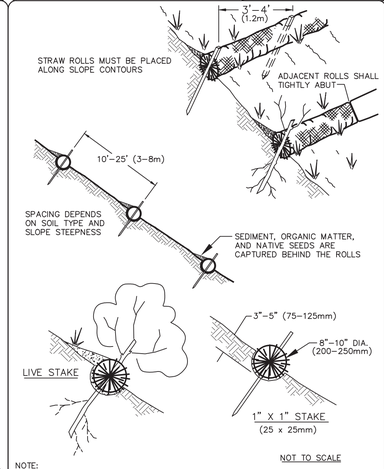


STRAW ROLL STAKED



NOTES:
1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. d= 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 2".

CULVERT INLET/ OUTLET PROTECTION
(WHERE NONE IS SPECIFIED ON CONSTRUCTION PLANS)



NOTE:
1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"–5" (75–125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

STRAW ROLLS DETAIL

SWI PROJECT # 17095

SWI
Shephard Wesnitzer, Inc.
110 W. Dale Avenue
Flagstaff, AZ 86001
928.773.0354
928.774.8934 fax
www.swiaz.com

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS CENTER
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, AZ 86045

SWPPP NOTES AND DETAILS

REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: OKB
DRAWN BY: KMB

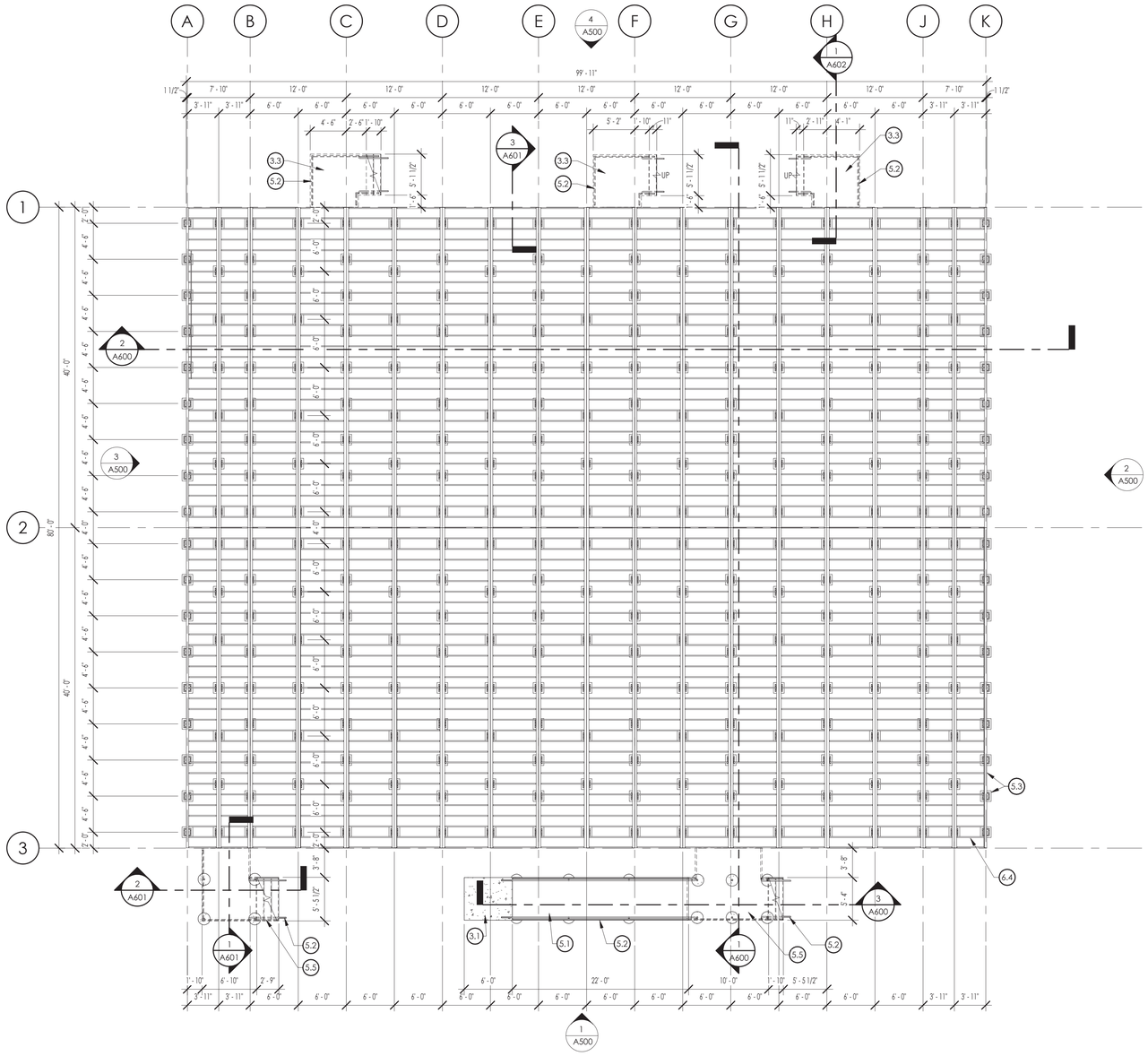
Registered Professional Engineer (Civil) CERTIFICATE NO. 13494 DAVID M. MONIHAN, JR. 11/14/17 Expires 9/30

ORIGINAL ISSUE DATE: 7/21/2017

JOB No: 1641B

SHEET: SW02

SEQUENCE #:



1 FOUNDATION / FRAMING PLAN
1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16' 32'

FOUNDATION / FRAMING NOTES

1. DRAWINGS ARE FOR DESIGN INTENT ONLY. CONTRACTOR RESPONSIBLE FOR STRUCTURAL DESIGN AND ALL PERMITTING, ETC.

KEYNOTES

3.1	CONCRETE FROST FOOTING, MIN. 2'-6" BELOW GRADE
3.3	CAST-IN-PLACE CONCRETE STAIR
5.1	ADA COMPLIANT METAL RAMP
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
5.3	STEEL CHANNEL SUPPORTS, PIERS, JACKS AND PADS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES
5.5	METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
6.4	FLOOR FRAMING PER MODULAR BUILDING MANUFACTURER

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
FOUNDATION / FRAMING PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	11-07-17	OWNER REVISIONS

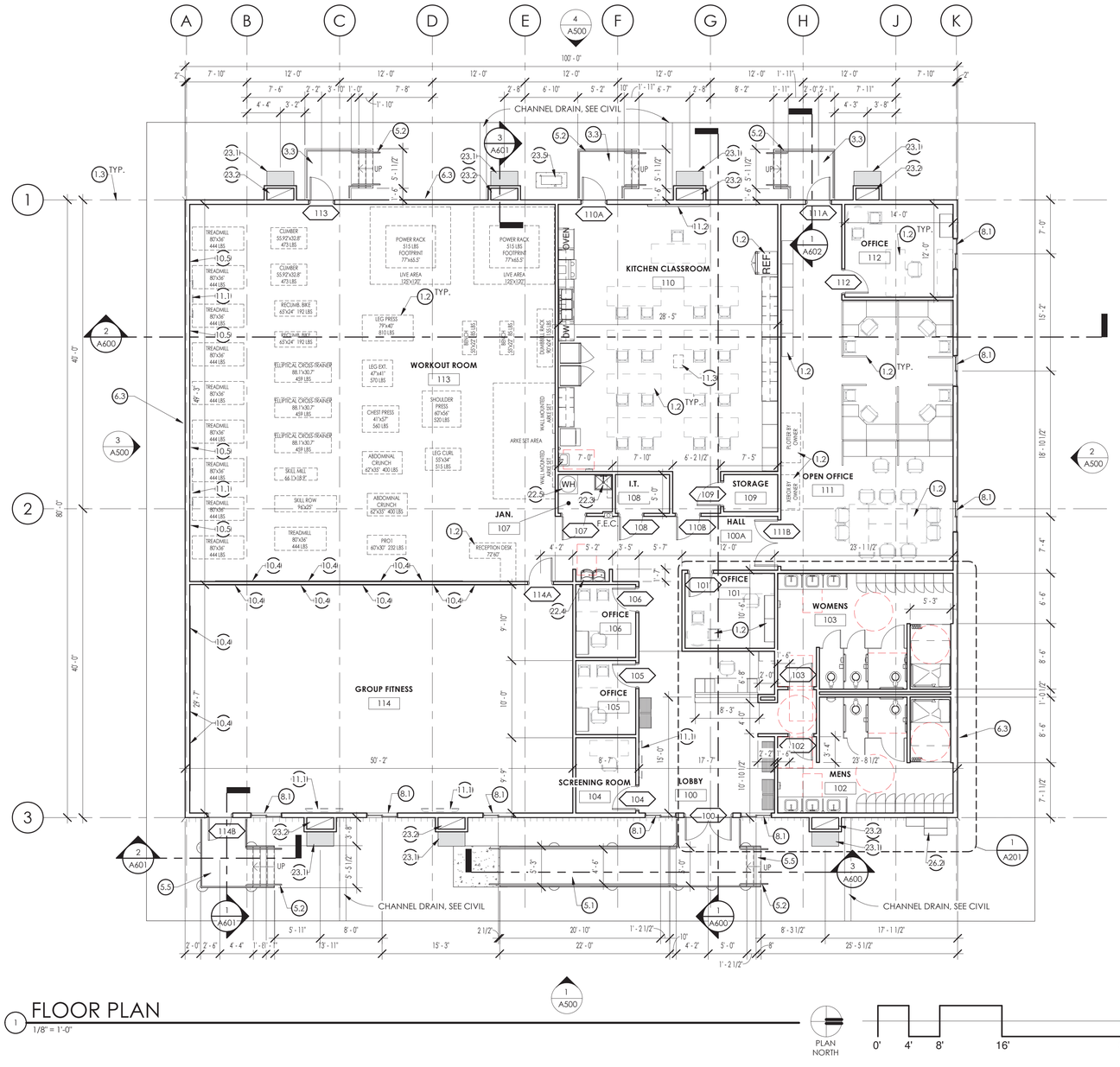
REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 11/07/17
ARIZONA U.S.A.

EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017
JOB No: 1641B
SHEET: A100

ENTIRE SHEET 3



1 FLOOR PLAN
1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16' 32'

GENERAL NOTES

1. SEE ALSO CIVIL PLAN FOR WORK OUTSIDE OF THE BUILDING PERIMETER.
2. FINISH FLOOR ELEVATION TO BE +100.00 U.N.O. (4,950.60 ACTUAL PER CIVIL)
3. ALL STUD WALLS TO RECEIVE TWO BEADS OF SEALANT AT BOTTOM TRACK & TOP TRACK
4. ALL STUD WALLS TO RECEIVE INSULATION U.N.O. AS FOLLOWS:

   5-1/2" OR 6" INTERIOR STUDS = R-19 BATT
   3-1/2" OR 3-5/8" INTERIOR STUDS = R-13 BATT
   2-1/2" INTERIOR STUDS = R-11 BATT

   NOTE: PROVIDE ALUMINUM FACED INSULATION AT ALL WET AREAS, MENS, WOMENS, JAN. ETC.
5. BUILDING IS DESIGNED FOR PERMANENT OCCUPANCY INCLUDING HEATING DURING FREEZING CLIMATE
6. ADJUST PIER JACKS AS REQUIRED TO MAINTAIN LEVEL BUILDING
7. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES BELOW GRADE AND RELATED SERVICES CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANIES.
8. BUILDING TO BE SECURED IN PLACE WITH CROSS DRIVE ANCHOR TIE DOWNS TO MEET CURRENT APPLICABLE BUILDING CODES.
9. DRAWINGS ARE FOR DESIGN INTENT ONLY. CONTRACTOR RESPONSIBLE FOR CONSTRUCTION DOCUMENT PERMITTING.
10. PROVIDE BLOCKING AND SUPPORTS AS REQ'D FOR WALL MOUNTED EXERCISE EQUIPMENT.

KEYNOTES

#	
1.2	FURNITURE & EQUIPMENT BY OWNER, NOT IN CONTRACT.
1.3	MOD LINE
3.3	CAST-IN-PLACE CONCRETE STAIR
5.1	ADA COMPLIANT METAL RAMP
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
5.5	METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
6.3	SKIRTING BELOW
8.1	VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS
10.4	8' LENGTH MIRROR FROM 6" A.F.F. TO 8'-0" A.F.F.
10.5	8' LENGTH HALF HEIGHT MIRROR FROM 6" A.F.F. TO 4'-0" A.F.F.
11.1	OWNER PROVIDED WALL MOUNTED TV. PROVIDE BLOCKING IN WALL. COORDINATE MOUNTING HEIGHT AND LOCATION WITH OWNER.
11.2	DRY ERASE BOARD & PROJECTION SCREEN BY OWNER.
11.3	CEILING MOUNTED PROJECTOR BY OWNER. PROVIDE BLOCKING IN CEILING. COORDINATE LOCATION AND CABLING REQUIREMENTS WITH OWNER.
22.3	MOP SINK, SEE PLUMBING DRAWINGS
22.4	ADA COMPLIANT DUAL-HEIGHT DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS
22.5	WATER HEATER, SEE PLUMBING DRAWINGS
23.1	WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS
23.2	MECHANICAL CHASE, SEE MECHANICAL DRAWINGS
23.5	CONDENSING UNIT ON CONCRETE HOUSEKEEPING PAD, SEE MECHANICAL & ELECTRICAL DRAWINGS
26.2	ELECTRICAL SERVICE PANEL, SEE ELECTRICAL

GENERAL TECHNICAL SPECIFICATIONS

1. LOW SLOPE ROOF TO BE TPO OR PVC WITH 10 YEAR WARRANTY.
   a. PROVIDE ALTERNATE FOR DERBIGUM ROOF WITH 10 YEAR WARRANTY.
2. LOBBY 100, HALL 100A, OFFICE 101, SCREENING ROOM 104, OFFICE 105, OFFICE 106, JANITOR 107, I.T. 108, STORAGE 109, KITCHEN CLASSROOM 110, OPEN OFFICE 111 AND OFFICE 112 TO BE COMMERCIAL LAMINATE FLOORING. COLOR & STYLE AS SELECTED BY OWNER. PROVIDE TRANSITION STRIPS AS REQ'D.
   PRODUCTS:
   a. ARMSTRONG COMMERCIAL LAMINATE FLOORING. www.armstrongflooring.com
   b. MANNINGTON COMMERCIAL LVT. www.manningtoncommercial.com
   c. OR EQUAL.
3. MENS 102 AND WOMENS 103 FLOORING TO BE SLIP RESISTANT SHEET VINYL WITH HEAT WELD JOINTS AND 6" INTEGRAL BASE. COLOR AS SELECTED BY OWNER. PROVIDE TRANSITION STRIPS AS REQ'D.
   PRODUCTS:
   a. ARMSTRONG SLIP RESISTANT FLOORING. www.armstrongflooring.com
   b. JOHNSONITE COLOR ESSENCE SR. www.johnsonite.com
   c. OR EQUAL.
4. WORKOUT ROOM 113 AND GROUP FITNESS 114 FLOORING TO BE RUBBER SPORTS FLOORING, 1/4" THICK. COLOR AS SELECTED BY OWNER. PROVIDE TRANSITION STRIPS AS REQ'D.
   PRODUCTS:
   a. JOHNSONITE INERTIA SPORTS & MULTI-FUNCTION RUBBER FLOORING. www.johnsonite.com
   b. OR EQUAL.
5. ALL ROOMS EXCEPT MENS 102, WOMENS 103 TO HAVE RESILIENT BASE, 1/8" THICK, 4" HIGH, BY ARMSTRONG OR EQUAL. COLOR AS SELECTED BY OWNER.
6. CEILING TILES TO BE ARMSTRONG OR EQUAL "FISSURED" MEDIUM TEXTURE, SQUARE EDGE. FLAME SPREAD 0-25.
7. CEILING GRID TO BE USG DONN DX26 HEAVY DUTY OR EQUAL.
8. CABINETRY TO BE STANDARD BUILDERS GRADE MELAMINE SURFACED. COLOR AS SELECTED BY OWNER.
9. COUNTERTOPS TO BE STANDARD PLASTIC LAMINATE, HIGH PRESSURE LAMINATED. COLOR AS SELECTED BY OWNER.
10. PROVIDE ADA & ICC 117.1 COMPLIANT ROOM ID SIGNAGE WHERE REQUIRED, MOHAWK SERIES 200A OR EQUAL, CONFORM TO TCRHCC STANDARD.
11. EXTERIOR DOORS TO BE INSULATED HOLLOW METAL DOOR (18 GA) & FRAME (16 GA). INTERIOR DOORS TO BE H.C. 1 3/8" THICK WITH HOLLOW METAL FRAMES (20 GA). PAINT COLOR AS SELECTED BY OWNER.
12. HARDWARE:
    a. CONTACT CHAS SHOW WITH C&I SHOW HARDWARE 480-967-8568 FOR HARDWARE.
    b. EXTERIOR DOORS TO HAVE LCN CLOSERS, DOOR SWEEPS, ADA COMPLIANT THRESHOLDS, DRIP CAPS, BEST 9K LOCKSETS.
    c. INTERIOR DOORS TO HAVE STANDARD PASSAGE SETS (PRIVACY AT RESTROOMS). OFFICE 101 TO HAVE BEST 9K OFFICE LOCKSET.
    d. DOORS 100 & 111 TO HAVE PANIC HARDWARE.
    e. CONTRACTOR TO COORDINATE WITH OWNER FOR KEYING REQUIREMENTS.
13. PAINT ACCEPTABLE MANUFACTURERS TO BE SHERWIN WILLIAMS, DIAMOND VOGEL, DUNN EDWARDS OR EQUAL. COLORS AS SELECTED BY OWNER.
14. GYPSUM BOARD TO BE 5/8" TYPE "X" USG SHEETROCK BRAND FIRECODE X OR EQUAL. AT ALL WET LOCATIONS, GYPSUM BOARD TO BE MOISTURE RESISTANT TYPE "X".
15. WINDOWS TO BE VINYL PELLA 250 SERIES SLIDING, LOW E, DUAL PANE OR EQUAL.
16. TOILET ACCESSORIES:
    PROVIDE UNITS MANUFACTURED BY BOBRICK OR EQUAL, MODEL #'S AS SCHEDULED PER PLAN.
17. PIPE & TUBE RAILINGS:
    A. ENGINEER RAILINGS TO WITHSTAND LOADS INDICATED, DETERMINE ALLOWABLE DESIGN WORKING STRESSES OF RAILING MATERIALS BASED ON 72% OF MIN. YIELD STRENGTH OF STEEL.
    B. STRUCTURAL PERFORMANCE:
       1. HANDRAILS:
          a. 50 LB/FT APPLIED IN ANY DIRECTION.
          b. 200 LB/FT CONCENTRATED LOAD APPLIED IN ANY DIRECTION.
          c. UNIFORM & CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
       2. TOP RAILS OF GUARDS:
          a. 50 LB/FT APPLIED HORIZONTALLY CONCURRENTLY WITH 100 LB/FT APPLIED VERTICALLY DOWNWARD.
          b. 200 LB/FT CONCENTRATED LOAD APPLIED IN ANY DIRECTION.
          c. UNIFORM & CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
       3. INFILL OF GUARDS:
          a. 200 LB/FT CONCENTRATED LOAD APPLIED HORIZONTALLY ON A 1 SF AREA.
          b. UNIFORM LOAD OF 25 LB/SF APPLIED HORIZONTALLY.
          c. INFILL & OTHER LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
    C. CONTROL OF CORROSION: PREVENT GALVANIC ACTION & OTHER FORMS OF CORROSION BY INSULATING METALS & OTHER MATERIALS FROM DIRECT CONTACT W/ INCOMPATIBLE MATERIALS.
    D. QUALITY:
       1. WELDING: QUALIFY PROCEDURES & PERSONNEL PER AWSD1.1 "STRUCTURAL WELDING CODE - STEEL"
       2. PROVIDE HOT DIP GALVANIZED FINISH AT EXTERIOR APPLICATIONS.
       3. PRIME & PAINT ALL EXPOSED STEEL.
       4. FULLY WELD ALL CONNECTIONS & JOINTS, FINISH SMOOTH & BLENDED W/ NO ROUGHNESS, MATCH ADJACENT CONTOURS.
       5. CLOSE EXPOSED ENDS OF RAILS, ETC. W/ FULL WELDED END PLATES.
       6. PRIMER: SHOP PRIMER PREPARED SURFACES & COMPLY W/ SSPC-PA1.

ENTIRE SHEET 3

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
FLOOR PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	11-07-17	OWNER REVISIONS

REVIEWED BY: JTB
DRAWN BY: MWR

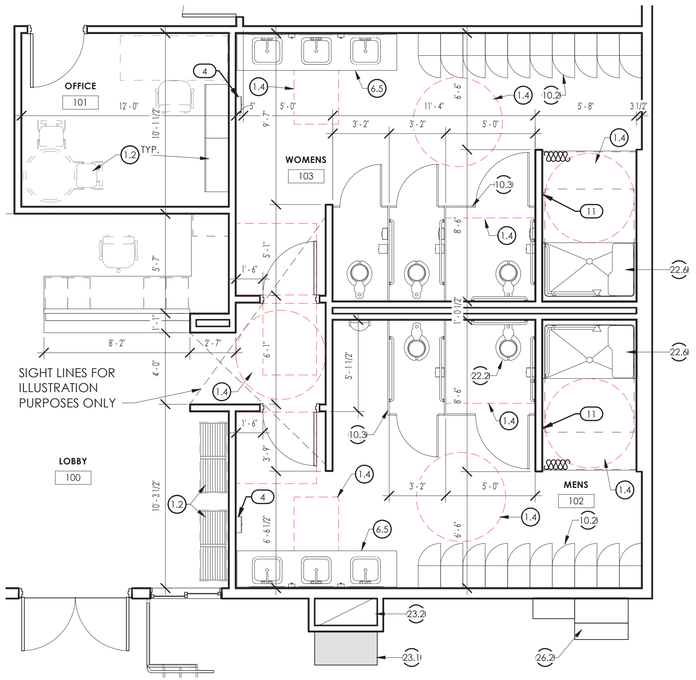
REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 11/07/17
ARIZONA U.S.A.

EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

JOB No: 1641B

SHEET: A200



NOTE: RECESS PLYWOOD FLOOR AS REQUIRED TO INSTALL PREFABRICATED SHOWER UNIT IN COMPLIANCE WITH ADA FOR TYPE ROLL-IN SHOWER. COORDINATE FLOORING AS REQUIRED.

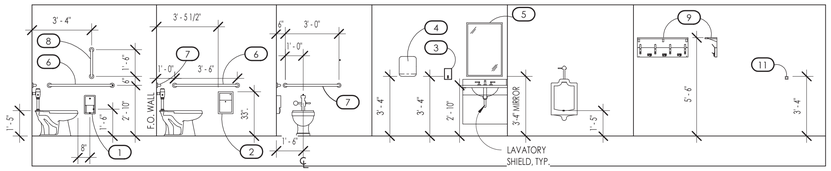
1 ENLARGED FLOOR PLAN
1/4" = 1'-0"

PLAN NORTH

TOILET ACCESSORIES SCHEDULE

NOTE:
-SEE PROJECT SPECIFICATIONS FOR MORE INFORMATION
-MODEL NUMBERS GIVEN BY BOBRICK

1. SURFACE-MOUNTED MULTIROLL TOILET TISSUE DISPENSER B-2888. OWNER SUPPLIED, CONTRACTOR INSTALLED.
2. SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL B-270
3. SURFACE-MOUNTED SOAP DISPENSER B-2111. OWNER SUPPLIED, CONTRACTOR INSTALLED.
4. SURFACE-MOUNTED PAPER TOWEL DISPENSER B-262. OWNER SUPPLIED, CONTRACTOR INSTALLED.
5. MIRROR W/ STAINLESS STEEL ANGLE FRAME B-290-2436
6. STAINLESS STEEL GRAB BAR B-5806x42
7. STAINLESS STEEL GRAB BAR B-5806x36
8. STAINLESS STEEL GRAB BAR B-5806x18
9. UTILITY SHELF W/ MOP/ BROOM HOLDERS AND RAG HOOKS B-224
10. EXTRA-HEAVY-DUTY SHOWER CURTAIN ROD B-6047 x 60. CURTAIN BY OWNER.
11. ROBE HOOK B-671



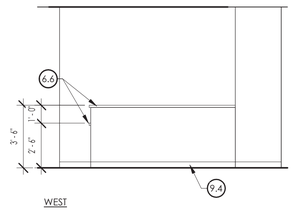
TYPICAL MOUNTING HEIGHTS
1/4" = 1'-0"

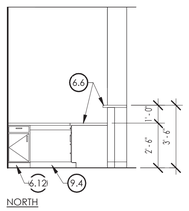
GENERAL NOTES

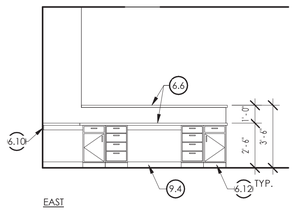
1. SEE TYPICAL MOUNTING HEIGHTS FOR ADDITIONAL INFORMATION.
2. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION ON PLUMBING FIXTURES AND TOILET ACCESSORIES.
3. PROVIDE ALL BLOCKING AS REQUIRED FOR ALL TOILET ACCESSORIES AND EQUIPMENT

(#) KEYNOTES

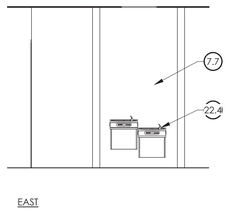
1.2 FURNITURE & EQUIPMENT BY OWNER, NOT IN CONTRACT.
1.4 ADA CLEAR CLEARANCES PER ICC/ANSI A117.1 WITH 2010 ADA STANDARDS, TYP.
6.5 COUNTERTOP & 4" BACKSPLASH PER GENERAL TECHNICAL SPECIFICATIONS. SEE ALSO INTERIOR ELEVATIONS
6.6 COUNTERTOP PER GENERAL TECHNICAL SPECIFICATIONS. SEE ALSO INTERIOR ELEVATIONS
6.7 PROVIDE SUPPORT BRACKET AT 36" O.C. MAX. PLASTIC LAMINATE ALL EXPOSED SURFACES
6.10 CLEAT, PAINT
6.12 24" DEEP BASE CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD WITH (1) ADJUSTABLE SHELF OR DRAWERS AS SHOWN. PLASTIC LAMINATE ALL EXPOSED SURFACES.
6.13 24" DEEP WALL CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD WITH (6) ADJUSTABLE SHELVES. PLASTIC LAMINATE ALL EXPOSED SURFACES.
6.14 14" DEEP UPPER WALL CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD WITH (2) ADJUSTABLE SHELVES. PLASTIC LAMINATE ALL EXPOSED SURFACES.
6.15 DOUBLE OVEN WALL CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD. PLASTIC LAMINATE ALL EXPOSED SURFACES.
6.16 MILLWORK ENCLOSURE OVER HOOD EXHAUST
7.7 MOISTURE RESISTANT GYPSUM BOARD AT PLUMBING WALLS
8.4 INTERIOR METAL FRAME & WOOD DOOR, PRIME & PAINT
9.4 4" RUBBER WALL BASE PER GENERAL TECHNICAL SPECIFICATIONS
9.5 INTEGRAL SHEET VINYL 6" HIGH BASE PER GENERAL TECHNICAL SPECIFICATIONS
9.6 FRP WALL PANELS WITH TRIM
10.2 LOCKER - OWNER PROVIDED
10.3 TOILET PARTITIONS, SEE GENERAL TECHNICAL SPECIFICATIONS
22.1 SINK, SEE PLUMBING DRAWINGS
22.2 FLOOR MOUNTED FLUSH VALVE WATER CLOSET, SEE PLUMBING DRAWINGS
22.3 MOP SINK, SEE PLUMBING DRAWINGS
22.4 ADA COMPLIANT DUAL-HEIGHT DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS
22.5 WATER HEATER, SEE PLUMBING DRAWINGS
22.6 ADA COMPLIANT SHOWER, SEE PLUMBING DRAWINGS
22.7 URINAL, SEE PLUMBING DRAWINGS
22.8 LAV GUARDS, SEE PLUMBING DRAWINGS
22.9 WATER HEATER STAND, SEE PLUMBING DRAWINGS
23.1 WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS
23.2 MECHANICAL CHASE, SEE MECHANICAL DRAWINGS
26.2 ELECTRICAL SERVICE PANEL, SEE ELECTRICAL



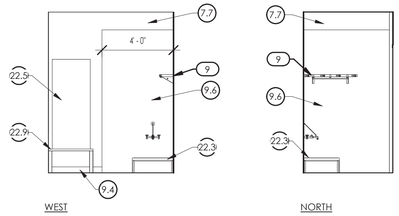




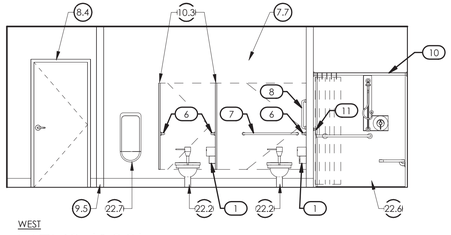
2 LOBBY (100)
1/4" = 1'-0"

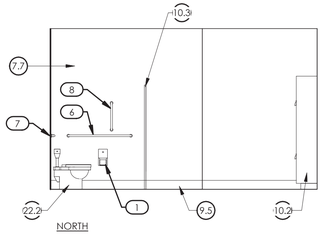


3 HALL (100A)
1/4" = 1'-0"

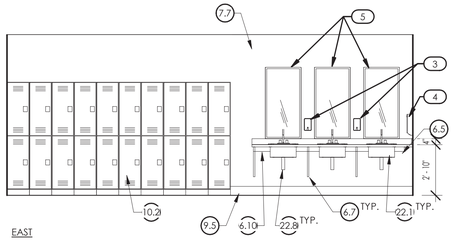


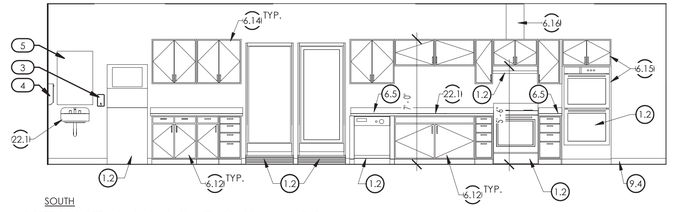
4 JANITOR (107)
1/4" = 1'-0"



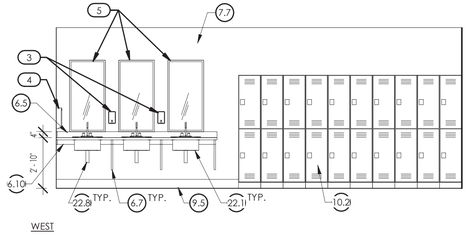


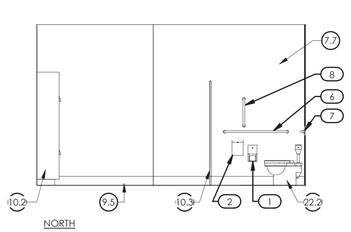
5 MENS (102)
1/4" = 1'-0"

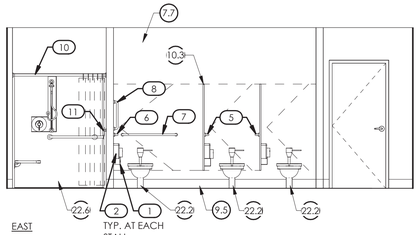




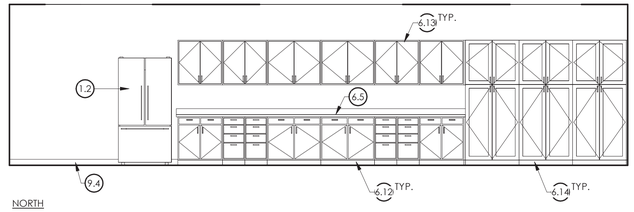
6 KITCHEN CLASSROOM (110)
1/4" = 1'-0"







7 WOMENS (103)
1/4" = 1'-0"



8 KITCHEN CLASSROOM (110)
1/4" = 1'-0"

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SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

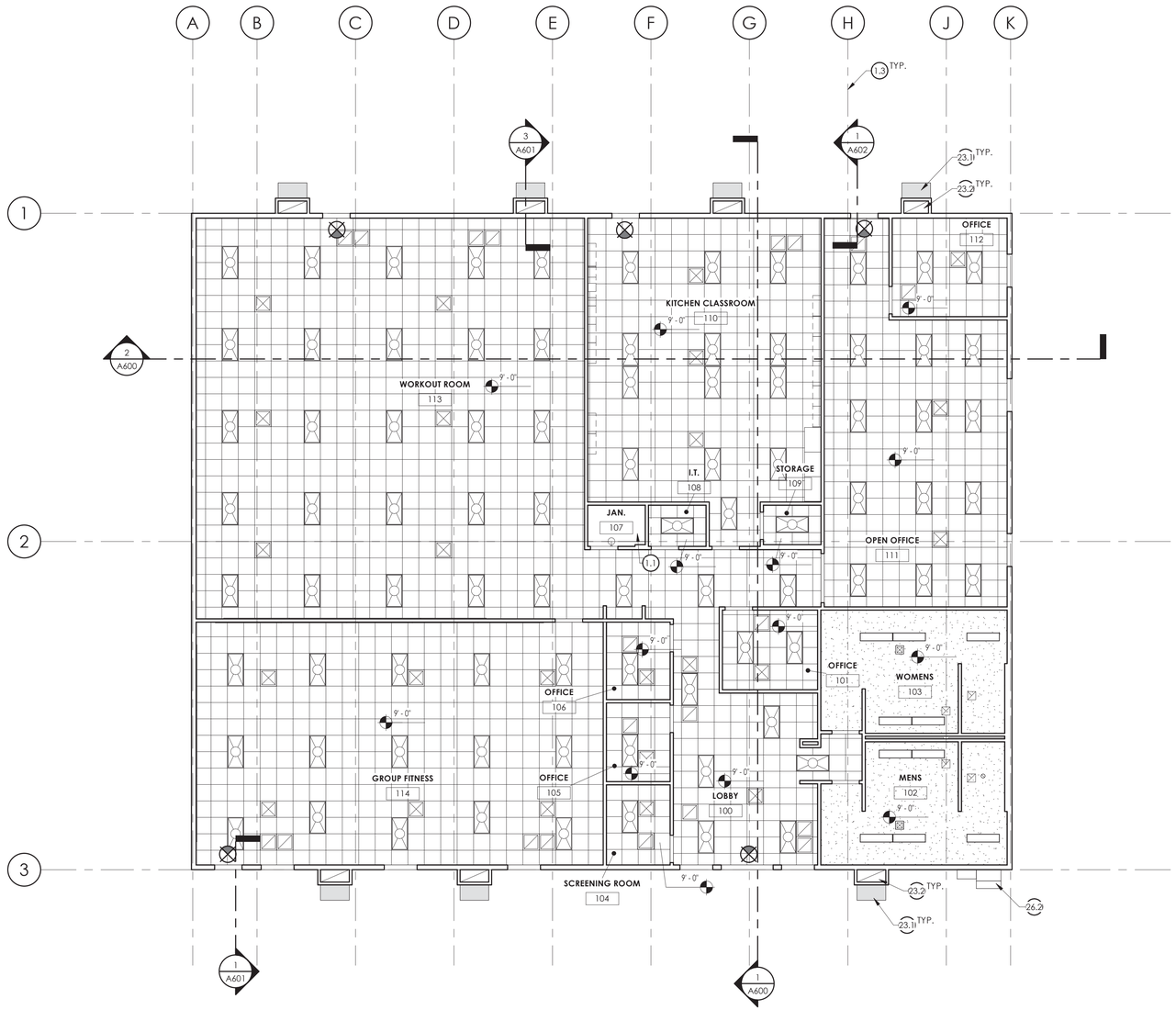
DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
RESTROOMS ENLARGED PLAN & ELEVS

REVISIONS		
MARK	DATE	DESCRIPTION
3	11-07-17	OWNER REVISIONS

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 11/07/17
NOT VALID UNLESS SIGNED
EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017
JOB No: 1641B
SHEET: A201



1 REFLECTED CEILING PLAN
1/8" = 1'-0"

PLAN NORTH

CEILING SYMBOLS

NOTE:
-NOT ALL LIGHT FIXTURE & CEILING TYPES APPLY.

- 2'x2' SUSPENDED ACOUSTIC CEILING.
- FGB HARD CEILING. SEE FINISH SCHEDULE.
- EXPOSED UNDERSIDE OF DECK.
- 2x4 LIGHT FIXTURE IN SUSPENDED CEILING, SEE ELECTRICAL DRAWINGS.
- PENDENT LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS.
- WALL MOUNTED LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS. FOR TYPE, MAKE AND SIZE.
- MECHANICAL SUPPLY AIR AT CEILING. SEE MECHANICAL DRAWINGS FOR SIZE.
- MECHANICAL - RETURN AIR AT CEILING. SEE MECHANICAL DRAWINGS FOR SIZE.
- MECHANICAL - EXHAUST AIR AT CEILING. SEE MECHANICAL DRAWINGS FOR SIZE.
- FULL HEIGHT EXTERIOR WALL OR NEW WALL EXTENDING TO B.O. DECK AS OCCURS.
- (P) SMOKE DETECTOR, SEE ELECTRICAL DRAWINGS.
- (J) CEILING ELECTRICAL JUNCTION BOX, SEE ELECTRICAL DRAWINGS.
- (E) EXISTING TO REMAIN.
- EXIT SIGN FIXTURE, SEE ELECTRICAL DRAWINGS.

CEILING GENERAL NOTES

1. CEILING SYSTEMS SHALL PROVIDE FOR LIGHTING FIXTURES AND AIR CONDITIONING DIFFUSERS. INDEPENDENT FRAMING AND ATTACHMENTS TO THE STRUCTURE SHALL BE ADEQUATE TO SUPPORT THE CEILING SYSTEM WHERE DUCTWORK INTERFERES WITH NORMAL SUSPENSION. ATTACHMENT OF HANGERS OR FRAMING TO DUCTWORK PROHIBITED
2. COORDINATE EXACT LOCATION OF ALL CEILING ITEMS (DIFFUSERS, LIGHT FIXTURES, ETC.) NOT DIMENSIONED ON THIS OR OTHER DRAWINGS IN FIELD WITH ARCHITECT
3. LIGHT FIXTURES ARE SHOWN ON THIS DRAWING FOR THE ARCHITECTURAL LOCATIONS AND GENERAL FIXTURE TYPE ONLY. SEE ELECTRICAL DRAWINGS FOR THE EXACT FIXTURE TYPE AND CIRCUITING
4. MECHANICAL REGISTERS ARE SHOWN ON THIS DRAWING FOR THE ARCHITECTURAL LOCATIONS ONLY. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR SIZING, DISTRIBUTION, CONNECTIONS, AND ALL OTHER REQUIREMENTS
5. VERIFY MECHANICAL AND ELECTRICAL. COORDINATE AND ADJUST AS REQUIRED
6. FOR SMOKE DETECTOR LOCATIONS IN CEILING SEE SPECIAL SYSTEMS DWGS
7. ALL FGB OVER STUDS EXTENDING TO STRUCTURE WHERE NOT EXPOSED TO VIEW, NEED ONLY JOINTS TAPED, NO TEXTURE OR FINISH
8. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE VARIOUS TRADE ITEMS WITHIN THE SPACE ABOVE ALL CEILING (INCLUDING, BUT NOT LIMITED TO: STRUCTURAL MEMBERS, MECHANICAL DUCTS AND INSTALLATION, CONDUITS, RACEWAYS, SPRINKLER SYSTEMS, AND ANY SPECIAL STRUCTURAL SUPPORTS REQUIRED) AND SHALL BE RESPONSIBLE FOR MAINTAINING THE FINISH CEILING HEIGHT ABOVE THE FINISH FLOOR INDICATED IN THE DRAWINGS AND THE FINISH SCHEDULE. (CEILING HEIGHT DIMENSIONS ARE TO THE FINISH SURFACE OF CEILING)
9. FOR TYPICAL HANGER WIRE ATTACHMENT TO EXISTING STRUCTURE ABOVE CEILING, SEE DETAIL
10. ACCESS PANELS SHALL BE PROVIDED & INSTALLED WHEREVER REQUIRED BY BUILDING CODE OR FOR THE PROPER OPERATION OR MAINTENANCE OF MECHANICAL OR ELECTRICAL EQUIPMENT, WHETHER OR NOT INDICATED ON DRAWINGS. CONTRACTOR SHALL COORDINATE SIZE, LOCATION AND TYPE OF ACCESS PANEL WITH OTHER CONTRACTORS WORK & RECEIVE APPROVAL OF THE ARCHITECT. NO ACCESS PANEL SHALL BE LOCATED, FRAMED OR INSTALLED WITHOUT THE EXPRESSED APPROVAL OF THE ARCHITECT
11. ALL DUCT PENETRATIONS THROUGH PARTITIONS & CEILING SHALL BE PROVIDED WITH NECESSARY FRAMES AND BRACING AROUND THE OPENING & SHALL BE PROVIDED WITH AUTOMATIC FIRE DAMPERS (IF REQUIRED) BY MECHANICAL DRAWINGS OR FOR FIRE-RATED PENETRATIONS
12. ALL EXPOSED DUCT WORK, FRAMING, JOIST, CONDUIT, ROOF DECK, INSULATION (W/ FABRIC COVER), AND ANY OTHER ITEM IN THE CEILING CAVITY; TO BE PAINTED PER FINISH SCHEDULE
13. FGB CEILING EDGES AT ROOMS 100 AND 103 SHALL BE CAULKED AND SEALED

(#) KEYNOTES

1.1	OPEN TO ABOVE, NO CEILING
1.3	MOD LINE
23.1	WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS
23.2	MECHANICAL CHASE, SEE MECHANICAL DRAWINGS
26.2	ELECTRICAL SERVICE PANEL, SEE ELECTRICAL

ENTIRE SHEET 3

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SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
REFLECTED CEILING PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	11-07-17	OWNER REVISIONS

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 11/07/17
ARIZONA U.S.A.

EXPIRES 12/31/2018

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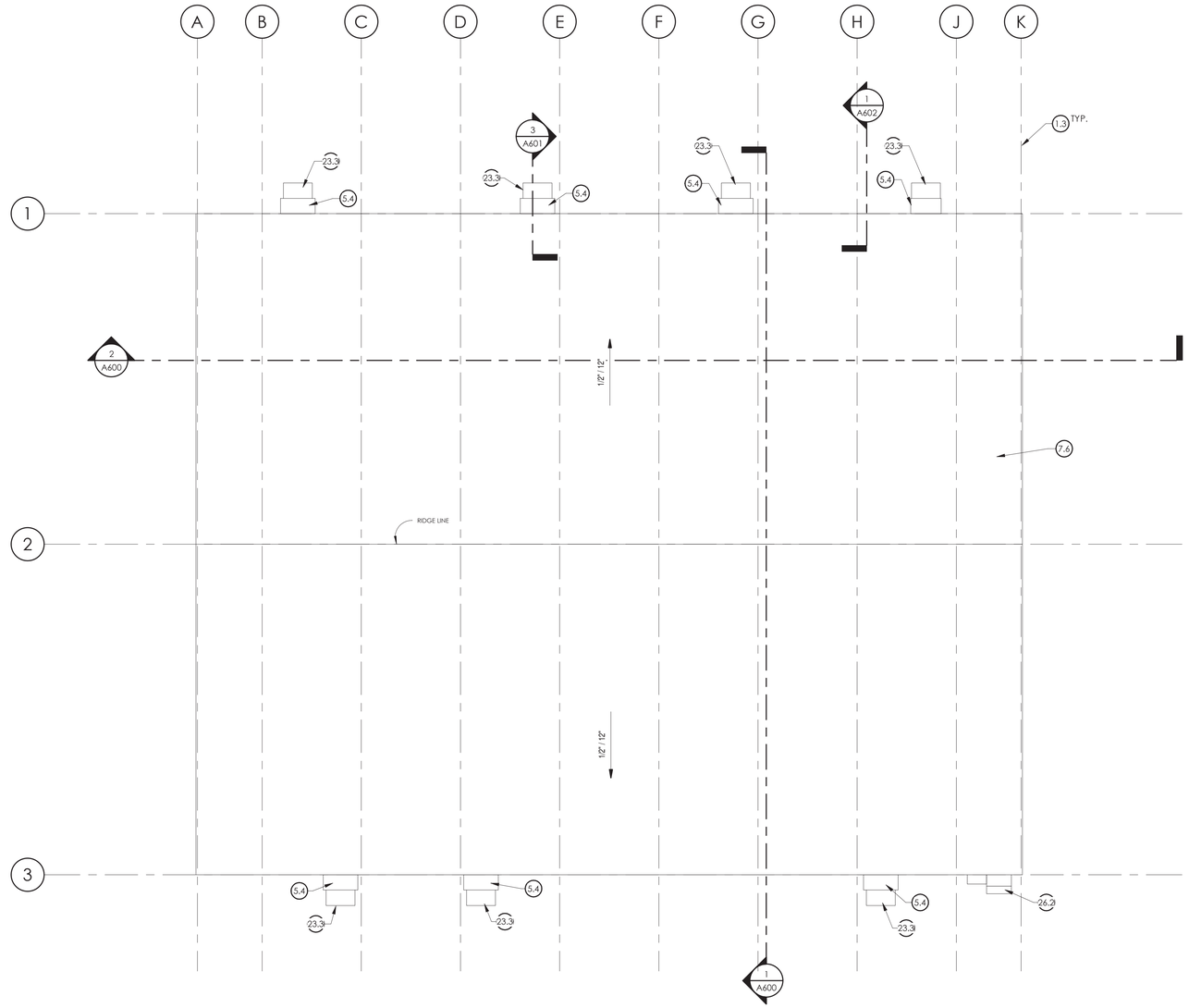

1 ROOF PLAN
1/8" = 1'-0"

PLAN NORTH

ROOFING GENERAL NOTES

1. ROOF SIDE OF ALL EXPOSED METAL TO BE PAINTED.
2. NOT ALL ROOF PENETRATIONS ARE SHOWN. COORDINATE WITH MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS.
3. NOTE: COMPLY WITH SMACNA ARCHITECTURAL SHEET METAL MANUAL.

(#) KEYNOTES

1.3	MOD LINE
5.4	PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
7.6	BASE QUOTE TPO OR PVC ROOF, 10 YEAR WARRANTY. ALTERNATE DERBIGUM ROOF WITH 10 YEAR WARRANTY
23.3	WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS
26.2	ELECTRICAL SERVICE PANEL, SEE ELECTRICAL

SPS+ ARCHITECTS

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
ROOF PLAN

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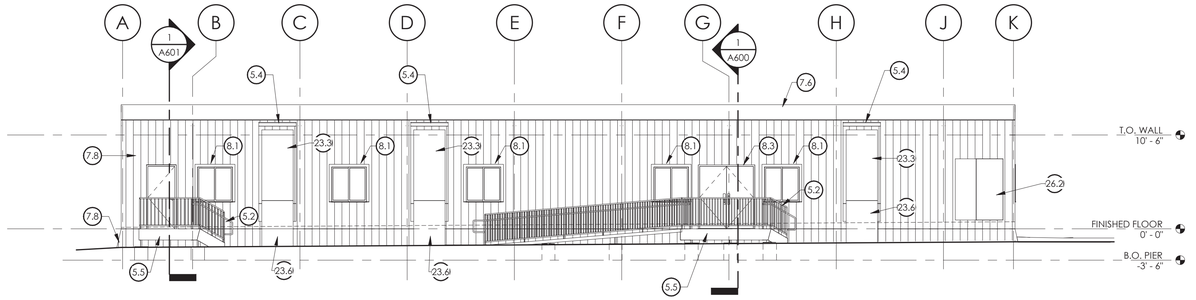
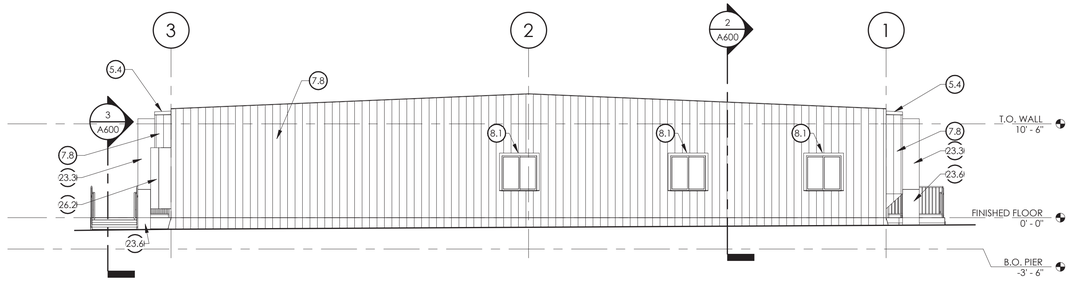


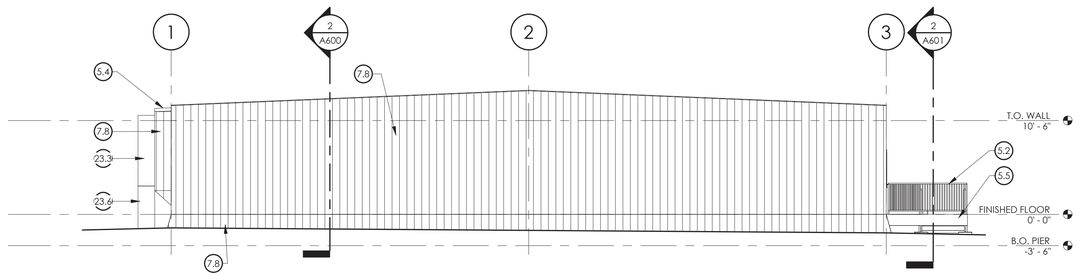
1 EAST EXTERIOR ELEVATION

1/8" = 1'-0"



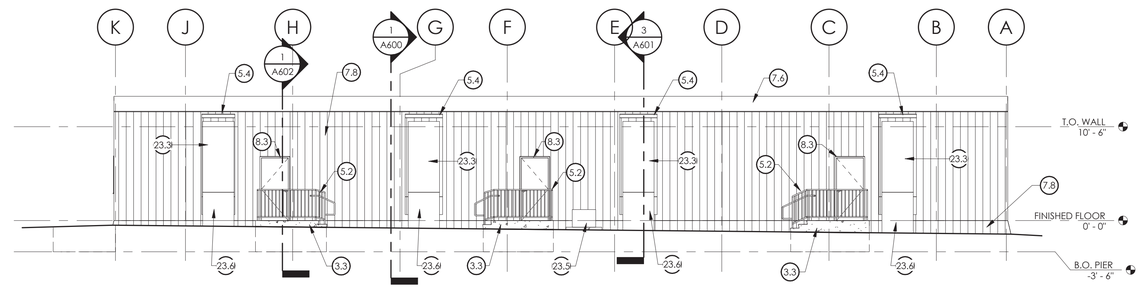
2 NORTH EXTERIOR ELEVATION

1/8" = 1'-0"



3 SOUTH EXTERIOR ELEVATION

1/8" = 1'-0"



4 WEST EXTERIOR ELEVATION

1/8" = 1'-0"

KEYNOTES

#	
3.3	CAST-IN-PLACE CONCRETE STAIR
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
5.4	PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
5.5	METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
7.6	BASE QUOTE TPO OR PVC ROOF, 10 YEAR WARRANTY. ALTERNATE DERBIGUM ROOF WITH 10 YEAR WARRANTY
7.8	T1-11 T&G PLYWOOD SIDING PANELS, PAINT
8.1	VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS
8.3	INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT
23.3	WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS
23.5	CONDENSING UNIT ON CONCRETE HOUSEKEEPING PAD, SEE MECHANICAL & ELECTRICAL DRAWINGS
23.6	HVAC METAL SHROUD DOWN TO SIDEWALK TO MEET ADA BARRIER REQUIREMENTS, SEE MECHANICAL DRAWINGS
26.2	ELECTRICAL SERVICE PANEL, SEE ELECTRICAL

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TUBA CITY, ARIZONA 86045
EXTERIOR ELEVATIONS

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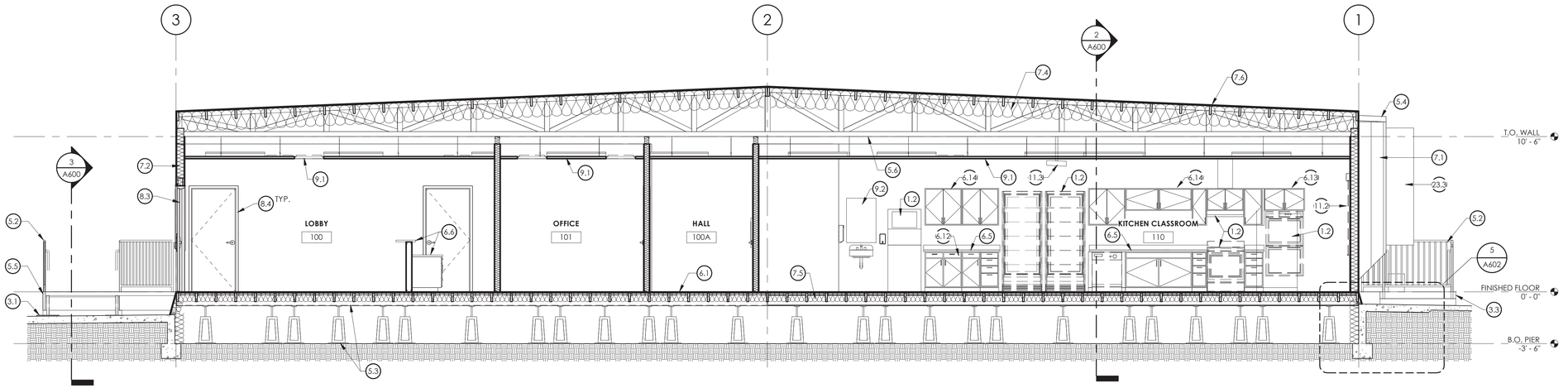
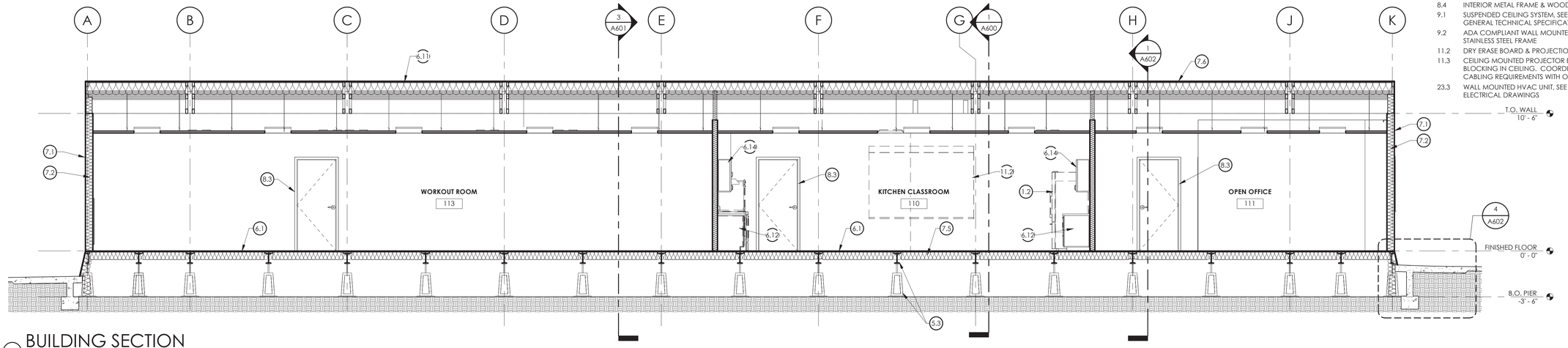
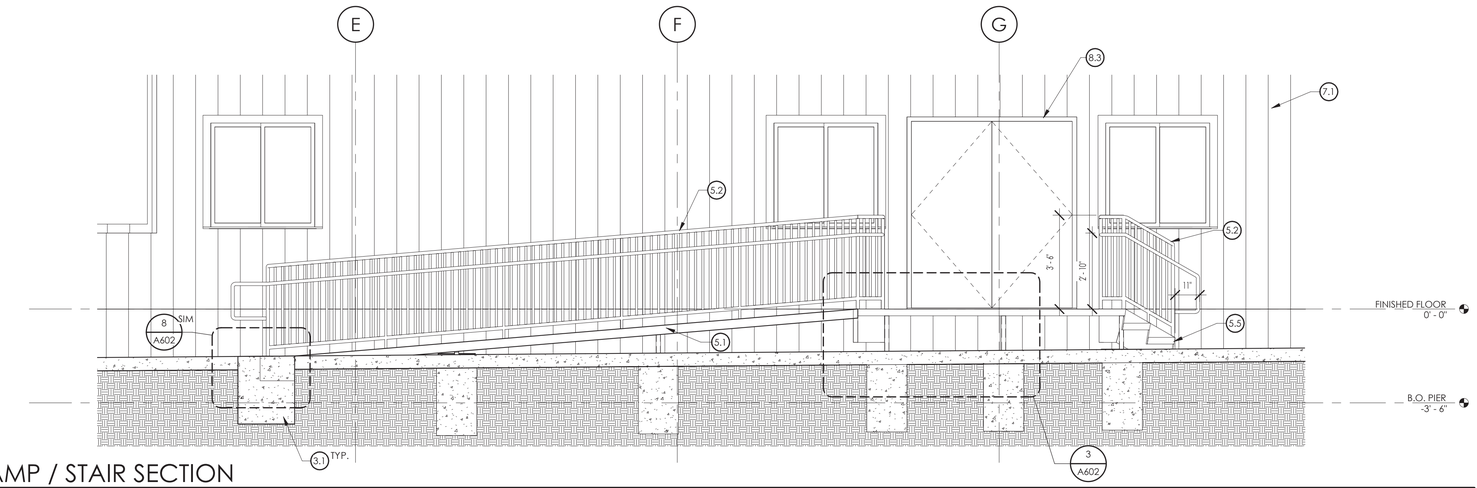


1 BUILDING SECTION
1/4" = 1'-0"



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



3 RAMP / STAIR SECTION
3/8" = 1'-0"

KEYNOTES

#	
1.2	FURNITURE & EQUIPMENT BY OWNER, NOT IN CONTRACT.
3.1	CONCRETE FROST FOOTING, MIN. 2'-6" BELOW GRADE
3.3	CAST-IN-PLACE CONCRETE STAIR
5.1	ADA COMPLIANT METAL RAMP
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
5.3	STEEL CHANNEL SUPPORTS, PIERS, JACKS AND PADS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES
5.4	PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
5.5	METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
5.6	STEEL TRUSS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES
6.1	3/4" T&G PLYWOOD OVER 2x8 FLOOR JOISTS @ 16" O.C.
6.5	COUNTERTOP & 4" BACKSPLASH PER GENERAL TECHNICAL SPECIFICATIONS. SEE ALSO INTERIOR ELEVATIONS
6.6	COUNTERTOP PER GENERAL TECHNICAL SPECIFICATIONS. SEE ALSO INTERIOR ELEVATIONS
6.11	3/4" T&G ROOF SHTG OVER 2x8's AT 24" O.C. MAX
6.12	24" DEEP BASE CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD WITH (1) ADJUSTABLE SHELF OR DRAWERS AS SHOWN. PLASTIC LAMINATE ALL EXPOSED SURFACES.
6.13	24" DEEP WALL CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD WITH (6) ADJUSTABLE SHELVES. PLASTIC LAMINATE ALL EXPOSED SURFACES.
6.14	14" DEEP UPPER WALL CABINET OF 3/4" HIGH DENSITY PARTICLE BOARD WITH (2) ADJUSTABLE SHELVES. PLASTIC LAMINATE ALL EXPOSED SURFACES.
7.1	1/2" T1-11 T&G PLYWOOD SIDING PANELS, PAINT
7.2	MIN. R-19 EXTERIOR WALL BATT INSULATION, SEE GENERAL TECHNICAL SPECIFICATIONS
7.4	MIN. R-38 UNFACED BATT INSULATION, WIRE IN PLACE, SEE GENERAL TECHNICAL SPECIFICATIONS
7.5	MIN. R-19 FLOOR AND SKIRT BATT INSULATION, WIRE IN PLACE, SEE GENERAL TECHNICAL SPECIFICATIONS
7.6	BASE QUOTE TPO OR PVC ROOF, 10 YEAR WARRANTY, ALTERNATE DERBIGUM ROOF WITH 10 YEAR WARRANTY
8.1	VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS
8.3	INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT
8.4	INTERIOR METAL FRAME & WOOD DOOR, PRIME & PAINT
9.1	SUSPENDED CEILING SYSTEM, SEE CEILING PLAN & GENERAL TECHNICAL SPECIFICATIONS
9.2	ADA COMPLIANT WALL MOUNTED MIRROR WITH STAINLESS STEEL FRAME
11.2	DRY ERASE BOARD & PROJECTION SCREEN BY OWNER.
11.3	CEILING MOUNTED PROJECTOR BY OWNER. PROVIDE BLOCKING IN CEILING. COORDINATE LOCATION AND CABLING REQUIREMENTS WITH OWNER.
23.3	WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
BUILDING SECTIONS

REVISIONS

MARK	DATE	DESCRIPTION
3	11-07-17	OWNER REVISIONS

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT
CERTIFICATE NO.
15244
ROBERT L. PIAN
Date Signed 11/07/17
ARIZONA U.S.A.
EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017
JOB No: 1641B
SHEET: A600

ENTIRE SHEET 3

KEYNOTES

#	
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
5.3	STEEL CHANNEL SUPPORTS, PIERS, JACKS AND PADS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES
5.4	PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
5.5	METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
5.6	STEEL TRUSS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES
6.1	3/4" T&G PLYWOOD OVER 2x8 FLOOR JOISTS @ 16" O.C.
6.2	CONTRACTOR TO CONFIRM WEIGHT & SIZE OF MECHANICAL UNIT & ASSOCIATED EQUIPMENT. DESIGN SUPPORT MATERIALS AS REQUIRED.
6.11	3/4" T&G ROOF SHTG OVER 2x8's AT 24" O.C. MAX
7.1	1/2" T1-11 T&G PLYWOOD SIDING PANELS, PAINT
7.2	MIN. R-19 EXTERIOR WALL BATT INSULATION, SEE GENERAL TECHNICAL SPECIFICATIONS
7.4	MIN. R-38 UNFACED BATT INSULATION, WIRE IN PLACE, SEE GENERAL TECHNICAL SPECIFICATIONS
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7.6	BASE QUOTE TPO OR PVC ROOF, 10 YEAR WARRANTY, ALTERNATE DERBIGUM ROOF WITH 10 YEAR WARRANTY
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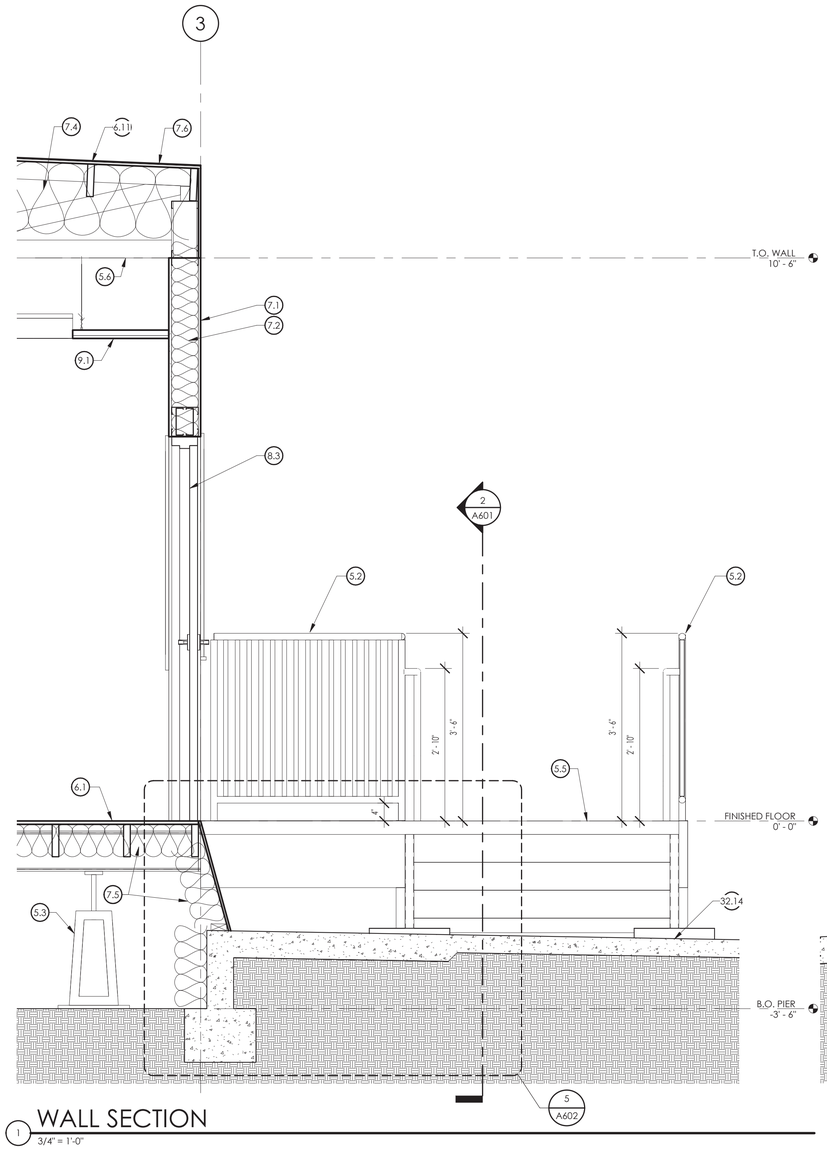
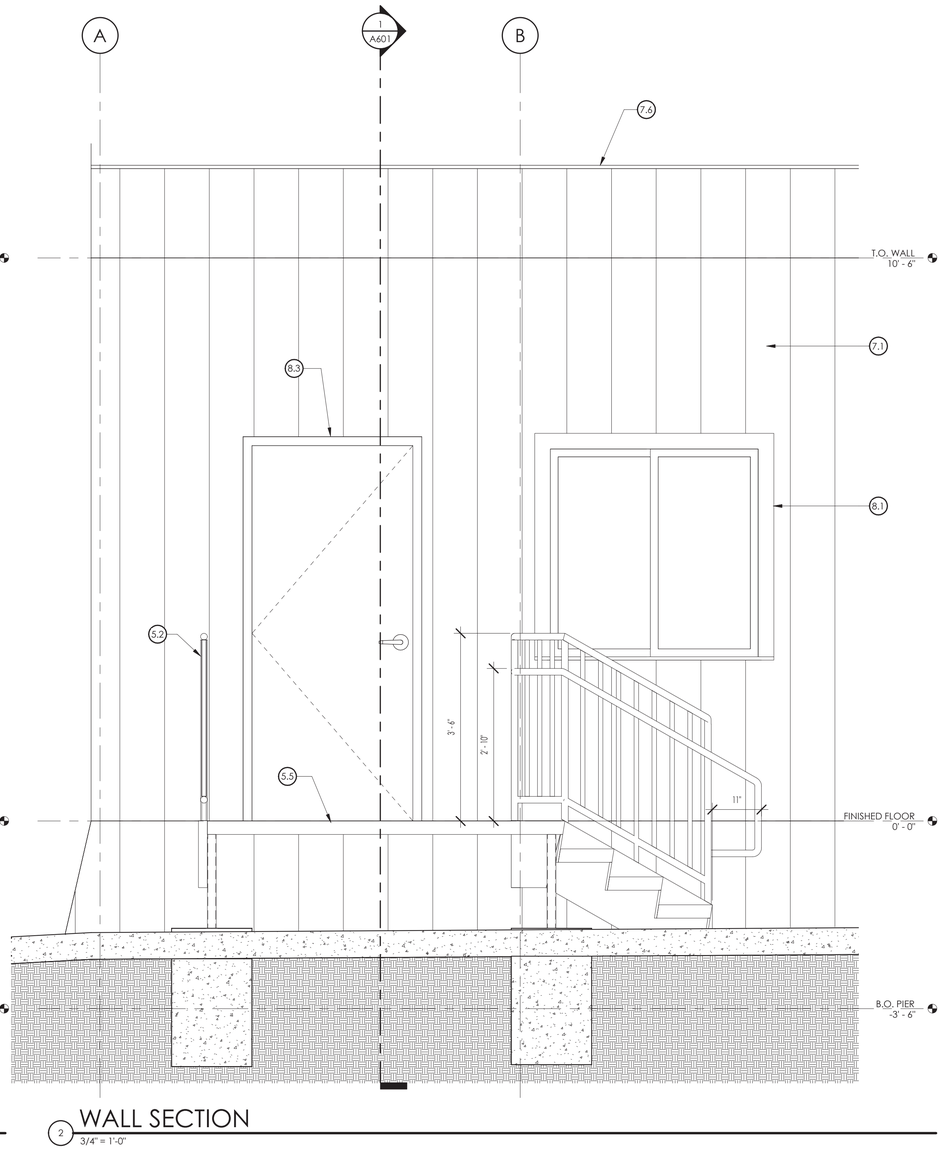
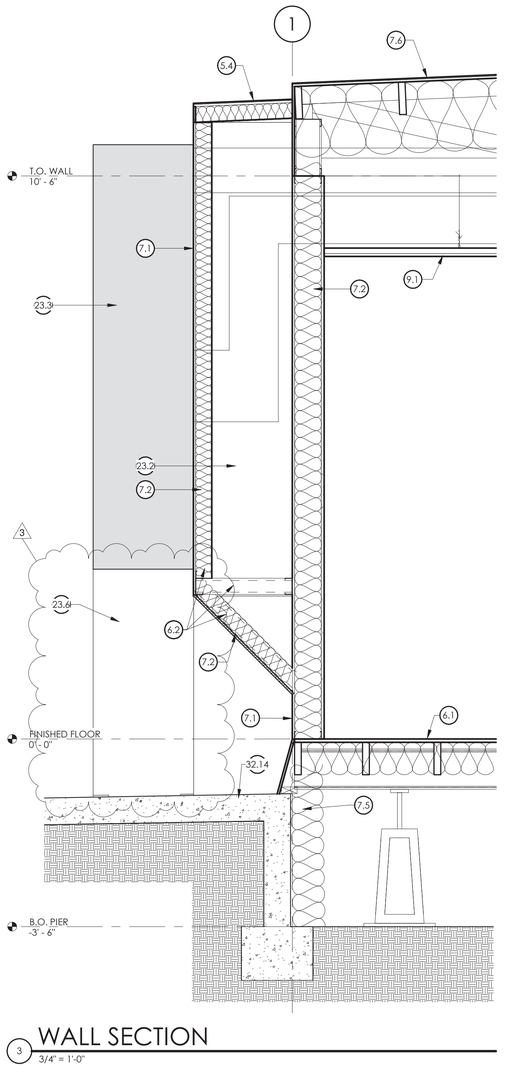
8.3	INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT
9.1	SUSPENDED CEILING SYSTEM, SEE CEILING PLAN & GENERAL TECHNICAL SPECIFICATIONS
23.2	MECHANICAL CHASE, SEE MECHANICAL DRAWINGS
23.3	WALL MOUNTED HVAC UNIT, SEE MECHANICAL & ELECTRICAL DRAWINGS
23.6	HVAC METAL SHROUD DOWN TO SIDEWALK TO MEET ADA BARRIER REQUIREMENTS, SEE MECHANICAL DRAWINGS
32.14	NEW CONCRETE SIDEWALK



1 WALL SECTION
3/4" = 1'-0"



2 WALL SECTION
3/4" = 1'-0"



3 WALL SECTION
3/4" = 1'-0"

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

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TAMARAX STREET
TUBA CITY, ARIZONA 86045
WALL SECTIONS

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SHEET:

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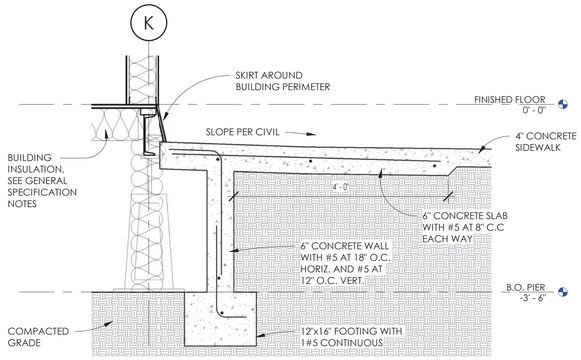
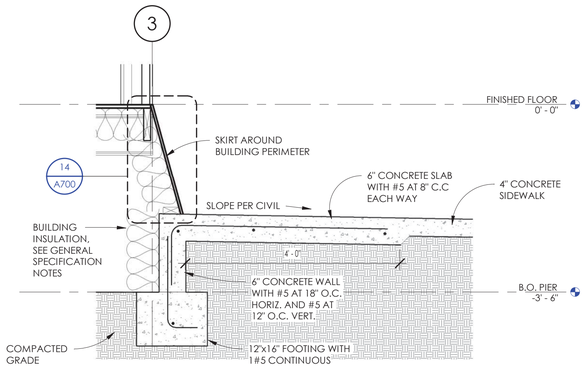
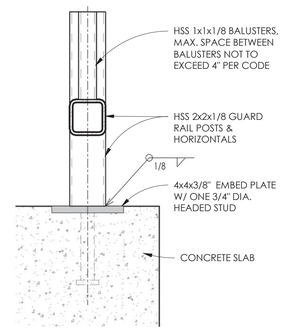


4 CONCRETE TURNDOWN AT SKIRT
3/4" = 1'-0"



5 CONCRETE TURNDOWN AT SKIRT
3/4" = 1'-0"



6 HANDRAIL AT CONCRETE
3" = 1'-0"

8 KEYNOTES

3.1	CONCRETE FROST FOOTING, MIN. 2'-6" BELOW GRADE
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
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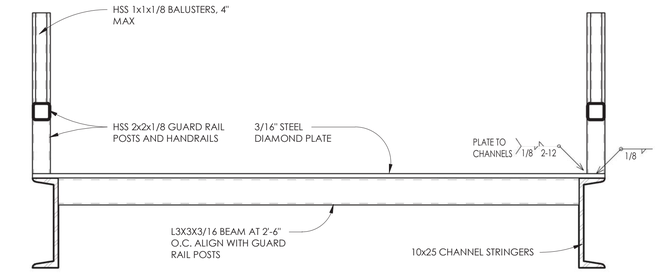
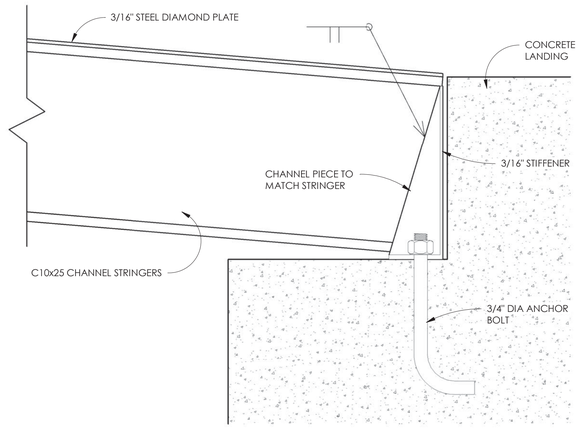
8.3	INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT
9.1	SUSPENDED CEILING SYSTEM, SEE CEILING PLAN & GENERAL TECHNICAL SPECIFICATIONS

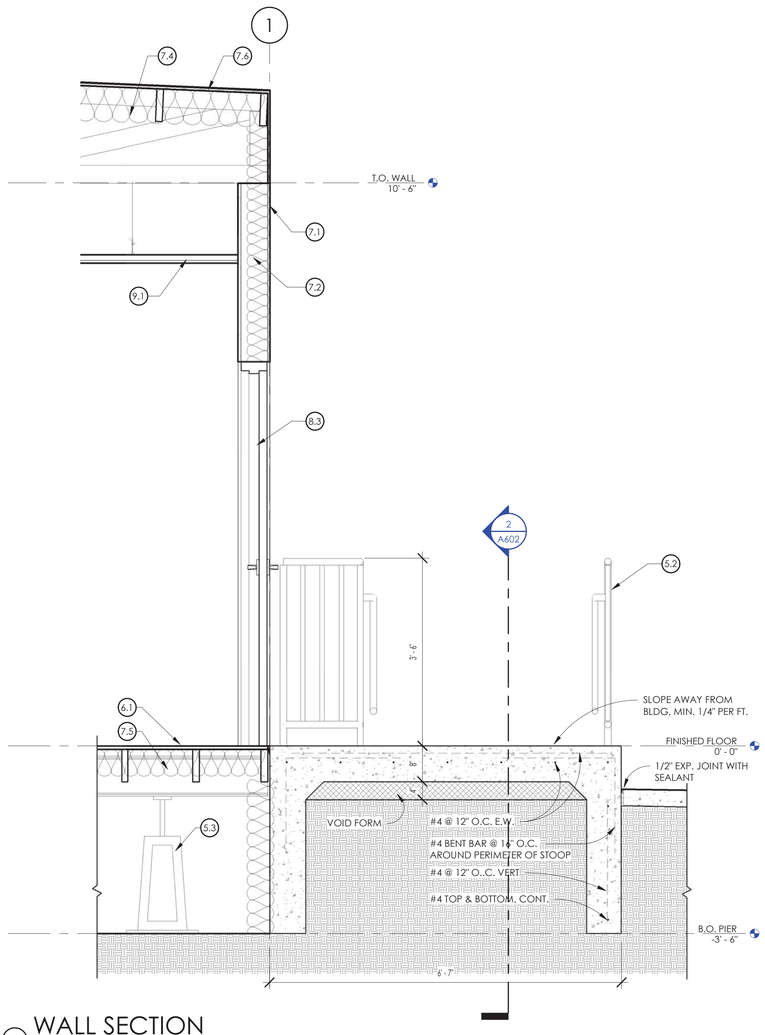
NOTE: PRIME AND PAINT EXPOSED METAL RAMP, STAIRS, RAILINGS, GUARDRAILS, BALLUSTERS, TYP.



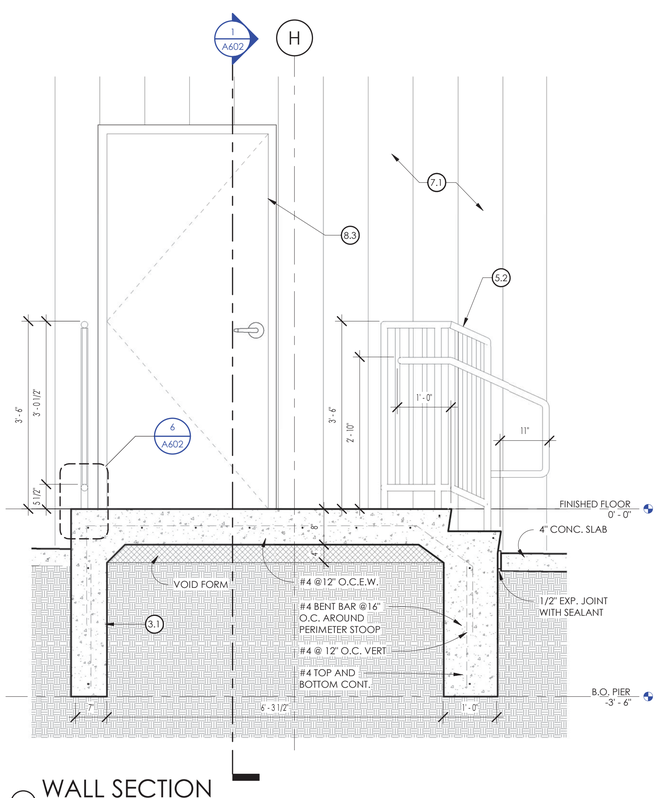
7 RAMP SECTION
1 1/2" = 1'-0"



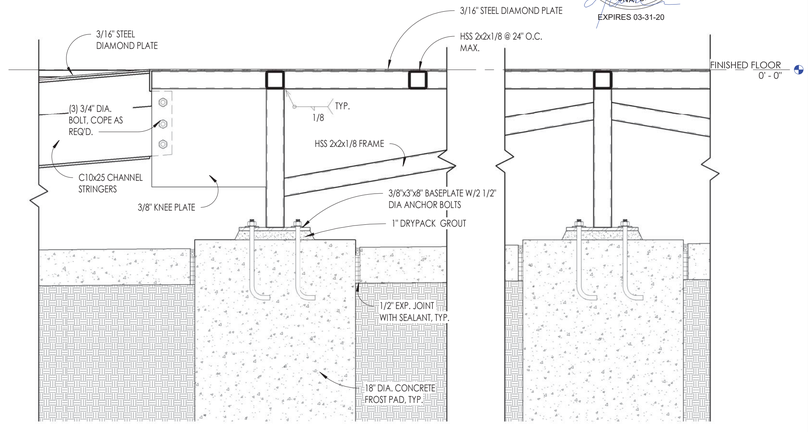
8 STEEL RAMP TO CONCRETE
3" = 1'-0"



1 WALL SECTION
3/4" = 1'-0"



2 WALL SECTION
3/4" = 1'-0"



3 RAMP DETAIL
1 1/2" = 1'-0"

THIS DRAWING HAS BEEN PREPARED BY OTHERS AND REVIEWED BY:

CARUSO TURLEY SCOTT, INC.
CONSULTING STRUCTURAL ENGINEERS
FOR CORRECTNESS OF STRUCTURAL ITEMS ONLY

Registered Professional Engineer (Structural) CERTIFICATE NO 23288 C.J. ATKINSON Date Signed 9.28.2017 ARIZONA, U.S.A. EXPIRES 03-31-20

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

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TAMARAX STREET
TUBA CITY, ARIZONA 86045
WALL SECTIONS

REVISIONS		
MARK	DATE	DESCRIPTION

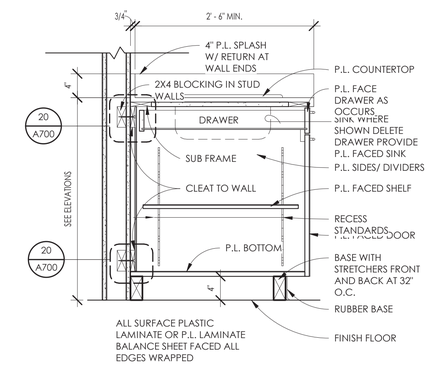
REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT CERTIFICATE NO 15244 ROBERT L. PIAN Date Signed 9/28/17 ARIZONA, U.S.A. EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

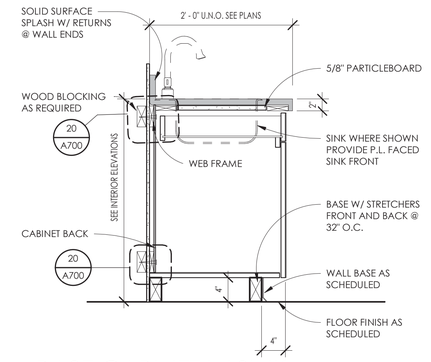
JOB No: 1641B

SHEET: A602



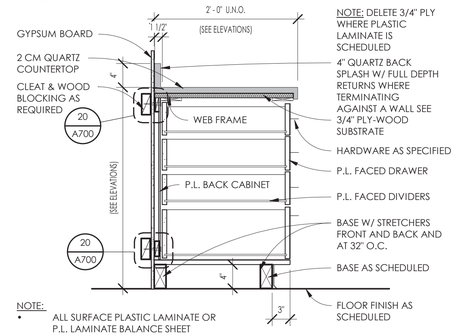
5 BASE CABINETS - TYPICAL

1" = 1'-0"



10 BASE CABINET W SINK

1" = 1'-0"

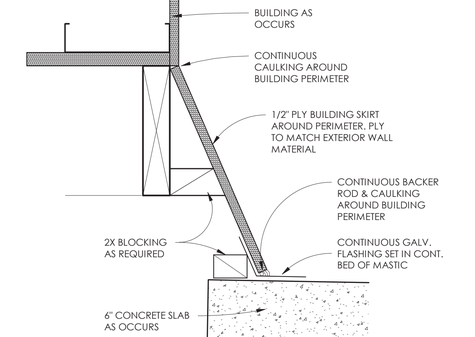


NOTE:

- ALL SURFACE PLASTIC LAMINATE OR P.L. LAMINATE BALANCE SHEET FACED ALL EDGES WRAPPED
- SEE SPECIFICATIONS FOR PULLS AND HARDWARE

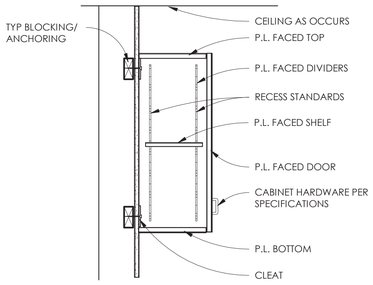
15 4 DRAWER BASE CABINET

1" = 1'-0"



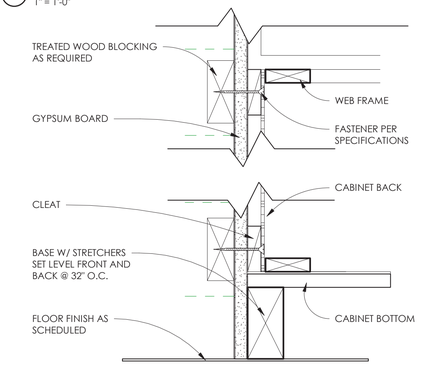
14 BUILDING SKIRT

3" = 1'-0"



19 UPPER CABINET

1" = 1'-0"



20 CLEAT AT BASE CABINET

3" = 1'-0"

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
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TAMARAX STREET
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DETAILS

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ARIZONA U.S.A.

EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

JOB No: 1641B

SHEET:

A700

BUILDING CODE:
SITE WORK - 2012 EDITION OF THE INTERNATIONAL BUILDING CODE AND STANDARDS REFERENCED THEREIN, WITH COCONINO COUNTY AMENDMENTS.
MODULAR BUILDING - 2009 EDITION OF THE INTERNATIONAL BUILDING CODE AND STANDARDS REFERENCED THEREIN, WITH ARIZONA DEPARTMENT OF HOUSING – MANUFACTURED HOUSING DIVISION AMENDMENTS.

LOADS:
ROOFS:

ROOF LIVE LOAD = 20 PSF (REDUCIBLE),GROUND SNOW LOAD, Pg = 45 PSF.
ROOF SNOW LOAD, Pf = 30 PSF (NON-REDUCIBLE).

FLOORS:

FLOOR LIVE LOAD = 100 PSF (NON-REDUCIBLE).

LATERAL:

WIND:

BASIC WIND SPEED (3-SECOND GUST) = 90 MPH. (ASCE 7-05)
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST), V(ult) = 115 MPH. (ASCE 7-10)
OCCUPANCY CATEGORY, II. (ASCE7-05)
WIND IMPORTANCE FACTOR, I = 1.0. (ASCE 7-05)
EXPOSURE C
RISK CATEGORY, II. (ASCE 7-10)

SEISMIC:

SEISMIC IMPORTANCE FACTOR, I = 1.0
OCCUPANCY CATEGORY, II. (ASCE7-05)
RISK CATEGORY,II (ASCE7-10)
MAPPED SHORT PERIOD SPECTRAL ACCELERATION, Ss = 0.300
MAPPED ONE SECOND SPECTRAL ACCELERATION, S1 = 0.089
SOIL SITE CLASS, C
DESIGN SHORT PERIOD SPECTRAL ACCELERATION, Sds = 0.240
DESIGN ONE SECOND SPECTRAL ACCELERATION, Sd1 = 0.101
SEISMIC DESIGN CATEGORY, B

FOUNDATIONS:

GEOTECHNICAL REPORT BY RAMM AND ASSOCIATES; JOB NO. G24105B. ISOLATED AND CONTINUOUS FOOTINGS BELOW FROST LINE SHALL BEAR ON FIRM, UNDISTURBED SOIL 30" MINIMUM BELOW ADJACENT FINISHED GRADE, AS STATED IN GEOTECHNICAL REPORT FOR EXTERIOR FOOTINGS SUBJECTED TO FROST OR BEAR AT 4945.0 ELEVATION FOR INTERIOR FOOTINGS NOT SUBJECTED TO FROST. FINISHED GRADE IS DEFINED AS TOP OF SLAB FOR INTERIOR FOOTINGS AND LOWEST ADJACENT GRADE WITHIN 5 FEET FOR PERIMETER FOOTINGS. DESIGN SOIL BEARING VALUE = 2500 PSF FOR EXTERIOR FOOTINGS BELOW FROST LINE OR 1500 PSF FOR AT-GRADE FOOTINGS. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION PRIOR TO COMMENCEMENT OF EARTHWORK. GEOTECHNICAL ENGINEER SHALL INSPECT FOUNDATION EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.

CONCRETE:

SPECIFIED 28 DAY COMPRESSIVE STRENGTH F'c:

FOUNDATIONS (DESIGN BASED ON 2,500 PSI)	3,000 PSI
EXTERIOR SLAB ON GRADE	3,000 PSI

GENERAL:

ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE REFERENCED EDITION OF THE ACI. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED UNLESS NOTED OTHERWISE. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED. NO OTHER ADMIXTURES PERMITTED WITHOUT APPROVAL. FOR CONCRETE WITHOUT PLASTICIZER, MAXIMUM SLUMP 4 1/2" AT POINT OF PLACEMENT U.N.O. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL.

FOR REINFORCING INFORMATION, SEE REINFORCING SECTION OF G.S.N., PLANS, SCHEDULES AND DETAILS.

UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE EMBEDMENT OF CONDUITS, PIPES, SLEEVES, ETC. OF ANY MATERIAL SHALL NOT BE PERMITTED WITHIN ANY CONCRETE STRUCTURAL ELEMENT (IE: COLUMNS, BEAMS, ELEVATED SLABS, ETC.) OR STRUCTURAL CONCRETE TOPPINGS WITHOUT THE EXPRESSED APPROVAL OF THE STRUCTURAL ENGINEER.

FLY ASH - IF PERMITTED BY ARCHITECTURAL SPECIFICATIONS, SHALL BE LIMITED TO 25% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT. FLY ASH SHALL BE INCLUDED IN THE CALCULATION OF W/C RATIOS SPECIFIED ABOVE. FLY ASH ADDITIVES SHALL NOT BE USED ON SLABS WITH A BURNISHED OR ACID FINISH.

TEST DATA FOR EACH CONCRETE MIX SHALL BE SUBMITTED FOR REVIEW PER CHAPTER 5 OF ACI 318. REFERENCE FIGURE R5.3 FOR SUBMITTAL REQUIREMENTS AND OPTIONS. CONCRETE MIX DESIGNS THAT ARE SUBMITTED WITHOUT THE APPROPRIATE TEST DATA CANNOT BE REVIEWED.

SLABS ON GRADE:

MAXIMUM SLUMP WITHOUT PLASTICIZER AT POINT OF PLACEMENT SHALL BE 5 INCHES. (FOR WAREHOUSE, INDUSTRIAL OR HIGH TRAFFIC SLAB USES, MIX DESIGN SHALL HAVE A MINIMUM AMOUNT OF CEMENTITIOUS MATERIALS (CEMENT PLUS FLY ASH), 540 POUNDS PER CUBIC YARD (FOR 3/4 INCH NOMINAL MAXIMUM AGGREGATE SIZE) PER ACI 302.1R-04 TABLE 6.2). MIX DESIGNS SHALL TAKE CARE TO PROVIDE THE LARGEST POSSIBLE SIZE OF COARSE AGGREGATE WHILE MAINTAINING CONCRETE WORKABILITY. NOMINAL MAXIMUM AGGREGATE SIZE SHALL NOT BE LESS THAN 3/4 INCH NOR MORE THAN 1/3 THE DEPTH OF THE SLAB. MIX DESIGNERS SHALL SUBMIT SLAB ON GRADE DESIGNS WITH SHRINKAGE CHARACTERISTICS NOT EXCEEDING 0.00078 IN/IN TO MEET THE REQUIREMENTS OF ACI 360R-06, FIG5.6 FOR TYPICAL CONCRETE. SLABS SHALL BE PLACED ON A FLAT, SMOOTH, FIRM, COMPACTED SUBGRADE.

CONCRETE SHALL BE MIXED, PLACED, FINISHED AND CURED PER REFERENCED EDITION OF ACI 302.1 FOR THE APPROPRIATE FLOOR CLASS TYPE PER TABLE 1.1 AND SECTION 7. CURING COMPOUND SHALL BE COMPATIBLE WITH ARCHITECTURAL FLOOR FINISH.

SLABS ON GRADE SHALL BE VIBRATED ONLY AT TRENCHES, FLOOR DUCTS, TURNDOWNS, ETC. CAST CLOSURE POUR AROUND COLUMNS AFTER COLUMN DEAD LOAD IS APPLIED. UNLESS APPROVED OTHERWISE IN WRITING BY THE ARCHITECT, ALL CONCRETE SLABS ON GRADE SHALL BE BOUND BY CONTROL JOINTS (CONSTRUCTION OR SAW CUT) PER TYPICAL DETAILS, AS SHOWN ON THE FOUNDATION PLAN, SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 150 SQUARE FEET. CONSTRUCTION CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING, ALL OTHER JOINTS MAY BE SAW CUT. SLAB REINFORCING, WHERE SHOWN, SHALL NOT EXTEND MORE THAN 125 FEET WITHOUT STOPPING THE REINFORCEMENT AT A CONTROL JOINT.

VAPOR BARRIER IF REQUIRED BY ARCHITECTURAL SPECIFICATION OR SOILS REPORT SHALL CONSIST OF A MINIMUM 10 MIL MATERIAL LAPPED A MINIMUM OF 6 INCHES AND TAPED PER MANUFACTURER RECOMMENDATIONS. THE BARRIER SHALL BE PLACED ON TOP OF A SMOOTH AND COMPACTED SUBGRADE SURFACE. THE FLOOR SLAB SHALL BE PLACED OVER A FOUR INCH LAYER OF COMPACTED AGGREGATE BASE COURSE ON TOP OF THE VAPOR BARRIER. ANY DAMAGE TO VAPOR BARRIER SHALL BE REPAIRED PRIOR TO AGGREGATE COURSE PLACEMENT. CARE SHALL BE TAKEN TO KEEP MOISTURE AWAY FROM THE COMPACTED SUBBASE. SUBGRADE MUST BE ALLOWED TO DRY AFTER RAINS PRIOR TO SLAB PLACEMENT. FLOOD CURING IS NOT ALLOWED. SAND IS NOT AN ALTERNATIVE FOR THE SUB-BASE COURSE.

REINFORCING:

ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy = 60 KSI / GRADE 60) DEFORMED BARS FOR ALL BARS #5 AND LARGER, ASTM A615 (Fy = 40 KSI / GRADE 40) DEFORMED BARS FOR ALL BARS #4 AND SMALLER. WHERE SHOWN ON DRAWINGS ALL GRADE 60 REINFORCING TO BE WELDED SHALL BE ASTM A706. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. REFERENCED ACI CODE AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ---------- 3"
EXPOSED TO EARTH OR WEATHER
#6 OR LARGER ---------- 2"
#5 AND SMALLER ---------- 1 1/2"
ALL OTHER PER REFERENCED EDITION OF ACI 318

ALL REINFORCING SHALL BE CHAIRED TO ENSURE PROPER CLEARANCES. SUPPORT OF FOUNDATION REINFORCING MUST PROVIDE ISOLATION FROM MOISTURE/CORROSION BY USE OF A PLASTIC OR CONCRETE CHAIR. DUCT-TAPE COVERED REINFORCING IS NOT AN ACCEPTABLE CHAIR.

ALL DIMENSIONS REFERENCED IN DRAWINGS AS "CLEAR" SHALL BE FROM FACE OF STRUCTURE TO EDGE OF REINFORCING, AND SHALL NOT BE LESS THAN STATED, NOR GREATER THAN "CLEAR" DIMENSION PLUS 3/8". ALL OTHERS SHALL BE PLUS OR MINUS 1/4" TYPICAL UNLESS NOTED OTHERWISE.

FIELD BENDING OR STRAIGHTENING OF DEFORMED BARS SHALL BE LIMITED TO #5 BARS AND SMALLER AND SHALL BE FIELD BENT OR STRAIGHTENED ONLY ONCE. ANY BEND SHALL BE LIMITED TO 90 DEGREES. IF FIELD BENDING OR STRAIGHTENING OF #6 BARS OR LARGER IS REQUIRED, OR IF A SECOND BEND IS REQUIRED FOR #5 BARS AND SMALLER, HEAT SHALL BE APPLIED FOR BENDING OR STRAIGHTENING. CONTRACTOR SHALL SUBMIT PROCEDURE FOR APPLYING HEAT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BENDING OR STRAIGHTENING BARS.

LAP SPLICES IN CONCRETE:

ALL SPLICE LOCATIONS SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. REINFORCING BAR SPACING GIVEN ARE MAXIMUM ON CENTERS. DOWEL VERTICAL REINFORCING TO FOUNDATION WITH STANDARD 90-DEGREE HOOKS UNLESS NOTED OTHERWISE. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE.

LAP SPLICES, UNLESS NOTED OTHERWISE, SHALL BE CLASS "B" TENSION LAP SPLICES PER REFERENCED EDITION OF ACI 318.

LAPS IN WELDED WIRE REINFORCING SHALL BE MADE SO THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH REINFORCING SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES.

DRYPACK:

DRYPACK SHALL BE 5,000 PSI NON-SHRINK GROUT, FIVE STAR OR EQUIVALENTS. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL DRYPACK UNDER BASE PLATES AFTER THE STRUCTURAL STEEL FRAME HAS BEEN PLUMBED BUT PRIOR TO SUPPORTED DECKING BEING INSTALLED.

STRUCTURAL STEEL:

GENERAL:

ALL CONSTRUCTION PER REFERENCED AISC STEEL CONSTRUCTION MANUAL. ALL WIDE FLANGE STEEL SHALL BE ASTM A992 (Fy = 50 KSI). ALL PIPE STEEL SHALL BE ASTM A500 (Fy = 42 KSI) OR ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI). ALL TUBE STEEL SHALL BE ASTM A500 (Fy = 46 KSI).
ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE SHALL BE ASTM A36 (Fy = 36 KSI). THE TERMS PIPE AND ROUND HOLLOW STRUCTURAL SHAPE (HSS) ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS ALONG WITH THE TERMS TUBE STEEL AND RECTANGULAR OR SQUARE HSS.

ALL STRUCTURAL ROLLED STEEL MEMBERS WITH Fy GREATER THAN 36 KSI ARE TO BE IDENTIFIED WITH AN ASTM SPECIFICATION MARK OR TAG PER IBC SEC. 2203.1.

UNLESS NOTED OTHERWISE, ALL BOLTS SHALL BE ASTM A307. A325 BOLTS MAY BE SUBSTITUTED FOR A307 BOLTS AT THE CONTRACTOR'S OPTION, REVERSE SUBSTITUTION IS NOT PERMITTED. ALL BOLTS SHALL BE INSTALLED WITH STEEL WASHERS AT SHORT SLOTTED HOLES USING SNUG TIGHT INSTALLATION, UNLESS NOTED OTHERWISE.

ANCHOR RODS:

ANCHOR RODS INCLUDE HOOKED, HEADED, AND THREADED AND NUTTED ANCHORS. THE TERMS ANCHOR BOLT AND ANCHOR ROD ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS. ALL ANCHOR ROD MATERIAL SHALL BE PER ASTM F1554 GRADE 36. A307 ANCHOR RODS MAY BE SUBSTITUTED FOR ASTM F1554 GRADE 36 AT CONTRACTOR'S OPTION. ALL ANCHOR RODS SHALL BE INSTALLED WITH STEEL WASHERS AT OVERSIZED ROUND HOLES USING SNUG TIGHT INSTALLATION, UNLESS NOTED OTHERWISE.

THE ANCHORING MECHANISM FOR NUTTED ANCHOR RODS SHALL CONSIST OF DOUBLE NUTS WITH A WASHER BETWEEN. THE NUTS AND WASHER ARE TO BE EMBEDDED INTO THE CONCRETE PER THE DETAILS AND PLANS. THE WASHER SHALL BE 1/4"X4"X4" U.N.O. THE CONTRACTOR SHALL PREVENT THE NUTS FROM SPINNING OFF DURING THE VIBRATION OF THE CONCRETE. THIS COULD BE ACCOMPLISHED BY TIGHTENING THE NUTS AGAINST EACH OTHER THEREBY LOCKING THEM IN PLACE OR BY TACK WELDING EACH NUT TO THE ANCHOR ROD.

WHERE THE ANCHORS ARE TO BE GALVANIZED, THE ANCHOR ROD AND THE NUTS SHALL BE GALVANIZED WITH THE SAME PROCESS TO ENSURE THE THREADS MATCH.

AT CONTRACTOR'S OPTION HEADED ANCHORS PER ABOVE MAY BE SUBSTITUTED FOR CONVENTIONAL ANCHORS AND MACHINE BOLTS (REVERSE SUBSTITUTION NOT ALLOWABLE).

POST- INSTALLED ANCHORS:

GENERAL:

ALL POST-INSTALLED ANCHORS SHALL UTILIZE THE EXACT ANCHORAGE SYSTEM SPECIFIED IN THE STRUCTURAL DETAILS. WHERE ANCHORAGE "PER GSN" IS SPECIFIED, SEE BELOW. ANCHORAGE PRODUCTS MAY NOT BE SWAPPED BETWEEN MANUFACTURERS WITHOUT APPROVAL OF THE ENGINEER OF RECORD. ALL REQUESTS FOR EQUIVALENT ANCHORAGE PRODUCTS MUST BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO BEING INSTALLED IN THE FIELD.

UNLESS NOTED OTHERWISE POST INSTALLED ANCHORS SHALL NOT BE INSTALLED UNTIL CONCRETE OR MASONRY MATERIAL HAVE REACHED DESIGN STRENGTH AND HAVE BEEN FULLY CURED FOR A MINIMUM OF 21 DAYS.

MANUFACTURER'S INSTALLATION TRAINING AND CERTIFICATE ARE REQUIRED FOR ALL INSTALLERS OF POST-INSTALLED ANCHORS. ALL ANCHORS SHALL BE INSTALLED WITH STEEL WASHERS AT SHORT SLOTTED HOLES IN ACCORDANCE WITH THE MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS (MPII). ALL ANCHORS SHALL TIGHTENED/TORQUED AS REQUIRED PER MANUFACTURERS INSTRUCTIONS AND EVALUATION REPORTS.

POST-INSTALLED ANCHORS IN CONCRETE:

ALL EXPANSION TYPE ANCHORAGE FOR CONCRETE INSTALLATION ONLY SHALL BE PER HILTI 'KWIK BOLT-TZ' EXPANSION ANCHOR PER ICC ESR-1917 OR APPROVED ICC EQUIVALENT. ALL EPOXY ADHESIVE TYPE ANCHORAGE FOR CONCRETE INSTALLATION ONLY SHALL BE PER HILTI 'HIT-HY 200' ADHESIVE ANCHORS PER ICC ESR-3187 OR APPROVED ICC EQUIVALENT. ALL SCREW TYPE ANCHORAGE FOR CONCRETE INSTALLATION ONLY SHALL BE PER HILTI 'KWIK HUS-EZ' SCREW ANCHOR PER ICC ESR-3027 OR APPROVED ICC EQUIVALENT.

POST-INSTALLED ANCHORS IN MASONRY:

ALL EXPANSION TYPE ANCHORAGE FOR MASONRY INSTALLATION ONLY SHALL BE PER HILTI 'KWIK BOLT 3' EXPANSION ANCHOR PER ICC ESR-1385 OR APPROVED ICC EQUIVALENT. ALL ADHESIVE (EPOXY) ANCHORAGE FOR MASONRY SHALL BE PER HILTI 'HIT-HY 70' ADHESIVE ANCHOR ICC ESR-2682 OR APPROVED ICC EQUIVALENT. ALL SCREW TYPE ANCHORAGE FOR MASONRY INSTALLATION ONLY SHALL BE PER HILTI 'KWIK HUS-EZ' SCREW ANCHOR PER ICC ESR-3056 OR APPROVED ICC EQUIVALENT.

WELDING:

UNLESS NOTED OTHERWISE, ALL SHOP AND FIELD WELDS PER REFERENCED EDITION OF THE AWS STANDARDS. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING DOCUMENTED CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW.

WOOD:

GENERAL:

WOOD FRAMING MEMBERS SHALL NOT BE NOTCHED OR DRILLED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT. ALL NAILING NOT NOTED SHALL BE PER TYPICAL DETAIL AND COMMON NAIL DIAMETER TABLE BELOW. ALL BOLTING SHALL BE PER STRUCTURAL STEEL SECTION ABOVE. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. OR OTHER MANUFACTURER WITH CURRENT AND EQUIVALENT ICC APPROVAL. WHERE "TYPE" OF CONNECTOR IS INDICATED ON THE DRAWINGS, THE CONNECTOR AND ATTACHMENT SHALL BE PER THE MAXIMUM MODEL NUMBER BASED ON THE SIZE OF THE MEMBERS CONNECTED.

NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH	NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH
6d	0.113"	11 1/2	2"	12d	0.148"	9	3 1/4"
8d	0.131"	10 1/4	2 1/2"	16d	0.162"	8	3 1/2"
10d	0.148"	9	3"	20d	0.192"	6	4"

IN STUD WALLS, UNLESS NOTED OTHERWISE, INSTALL DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS AND AT ISOLATED BEARING POINTS OF FRAMING MEMBERS ABOVE. WOOD FRAME BEARING WALLS SHALL HAVE A SIMPSON RSP ANCHOR TOP AND BOTTOM OF STUDS AT 32" O.C. MAXIMUM, EXCEPT AT THOSE WALLS WHERE PLYWOOD SHEATHING IS NAILED DIRECTLY TO THE TOP AND BOTTOM PLATES. PROVIDE 2X SOLID BLOCKING AT MID-HEIGHT OF BEARING STUD WALLS.

PROVIDE A MINIMUM OF 0.229" X 3" X 3" GALVANIZED STEEL PLATE WASHER UNDER EACH NUT AT FOUNDATION ANCHOR BOLTS OF SHEAR WALLS. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-3/4", PROVIDE A STANDARD CUT WASHER BETWEEN THE PLATE WASHER AND THE NUT.

PRESERVATIVE-TREATED WOOD:

ALL SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE-TREATED WOOD. WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE SHALL BE PRESERVATIVE-TREATED WOOD.

ALL WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING THAT ARE LOCATED AT EXTERIOR WALLS THAT ARE LESS THAN 8 INCHES FROM FINISHED GRADE SHALL BE PRESERVATIVE-TREATED WOOD.

ALL FASTENERS INCLUDING NUTS AND WASHERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE PER ASTM A 153. FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS ARE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS PER ASTM B 695, CLASS 55 MINIMUM.

PROVIDE 2" SOLID BLOCKING AT SUPPORTS OF ALL JOISTS. DOUBLE UP FLOOR JOISTS AND BLOCKING UNDER PARTITIONS.

SAWN LUMBER:

FRAMING LUMBER SHALL COMPLY WITH THE REFERENCED EDITION OF THE GRADING RULES OF THE WWPA OR THE WCLIB. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY AND SHALL HAVE MINIMUM PROPERTIES WHICH MEET OR EXCEED THE FOLLOWING WOOD TYPES:

	WOOD TYPE
JOISTS	
2 X 4	H.F. STND
2 X 6 OR LARGER	H.F. #2
BEAMS	
WIDTH 4" OR LESS	D.F.L. #1
WIDTH GREATER THAN 4"	D.F.L. #1
LEDGERS AND TOP PLATES	D.F.L. #2
STUDS	
2 X 4	H.F. STND
2 X 6 OR LARGER	H.F. #2
POSTS	
4 X 4	H.F. #2
4 X 6 OR LARGER	H.F. #2
6 X 6 OR LARGER	H.F. #1

FLOOR FRAMING:

A. DEFLECTION: FLOOR TOTAL LOAD MAXIMUM = L/360, LIVE LOAD MAXIMUM = L/600. ROOFS WITHOUT PLASTER OR GYPBOARD CEILINGS TOTAL LOAD MAXIMUM = L/180, LIVE LOAD MAXIMUM = L/240. ROOFS WITH PLASTER OR GYPBOARD CEILINGS TOTAL LOAD MAXIMUM = L/240, LIVE LOAD MAXIMUM = L/360. FABRICATOR SHALL DESIGN MEMBERS FOR PONDING WHERE ROOF SLOPES ARE LESS THAN 1/4" PER FOOT.

PLYWOOD:

ALL PLYWOOD SHALL BE APA "CDX" RATED SHEATHING OR BETTER AND SHALL BEAR THE STAMP OF AN APPROVED TESTING AGENCY. LAY UP PLYWOOD WITH FACE GRAIN PERPENDICULAR TO SUPPORTS. (ON ROOFS WHERE PLYWOOD IS LAID UP WITH FACE GRAIN PARALLEL TO SUPPORTS, USE A MINIMUM OF 5-PLY PLYWOOD). STAGGER JOINTS. ALL NAILING, COMMON NAILS. WHERE SCREWS ARE INDICATED FOR WOOD TO WOOD ATTACHMENTS, USE WOOD SCREWS. ALL PLYWOOD SHALL BE OF THE FOLLOWING NOMINAL THICKNESS, SPAN/INDEX RATIO AND SHALL BE ATTACHED AS FOLLOWS UNLESS NOTED OTHERWISE:

USE	THICKNESS NOTED ON DRAWINGS	SPAN/INDEX RATIO	EDGE ATTACHMENT	INTERMEDIATE ATTACHMENT
ROOF	1/2" (15/32" MIN)	32/16	8d AT 6" O.C.	8d AT 12" O.C.
FLOOR	3/4" (23/32" MIN) T&G	48/24	SCREWS AT 6" O.C.	SCREWS AT 12" O.C.

SCREWS AT FLOOR SHEATHING SHALL BE #8 X 2 1/2" LONG FOR SHEATHING LESS THAN 1" THICK. ALL FLOOR SHEATHING SHALL BE GLUED TO SUPPORTING MEMBERS WITH APA AFG-01 QUALIFIED GLUE.

NAILS AT FLOOR SHEATHING SHALL BE 0.138 DIA X 2 1/4" LONG RING SHANK NAILS FOR SHEATHING LESS THAN 1" THICK. ALL FLOOR SHEATHING SHALL BE GLUED TO SUPPORTING MEMBERS WITH APA AFG-01 QUALIFIED GLUE.

ALL SHEATHING SHALL BE GAPPED 1/8" ON THE EDGES AND ENDS. ROOF SHEATHING SHALL HAVE PANEL SHEATHING CLIPS APPROPRIATELY INSTALLED BETWEEN THE TRUSSES.

ATTACHMENT AT STEEL MEMBERS SHALL BE ITW RAMSET 1500K SERIES, 0.14" DIAMETER X 1 1/2" LONG (3/4" PLYWOOD MAX), POWER-DRIVEN FASTENERS INSTALLED PER ICC ESR-1799, TABLE 4, OR APPROVED ICC EQUIVALENT. SPACING SHALL BE AS NOTED ABOVE.

ALTERNATE:

APA PERFORMANCE RATED SHEATHING MAY BE USED AS AN ALTERNATE TO PLYWOOD WITH PRIOR APPROVAL OF OWNER, ARCHITECT AND INSTALLING CONTRACTOR. WHERE ROOFING, BALCONY WATERPROOFING, OR OUTDOOR DECK WATERPROOFING IS TO BE GUARANTEED, IT MAY NOT BE USED WITHOUT PRIOR APPROVAL FROM ROOFING OR WATERPROOFING SYSTEM MANUFACTURER. RATED SHEATHING SHALL COMPLY WITH APA PRP-108, EXPOSURE 1, AND SHALL HAVE A SPAN RATING AND SHEAR VALUES EQUIVALENT TO OR BETTER THAN THE PLYWOOD IT REPLACES. ATTACHMENT AND THICKNESS (WITHIN 1/32") SHALL BE THE SAME AS THE PLYWOOD IT REPLACES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

THIS DRAWING HAS BEEN PREPARED BY OTHERS AND REVIEWED BY:

CARUSO TURLEY SCOTT, INC.
CONSULTING STRUCTURAL ENGINEERS
FOR CORRECTNESS OF STRUCTURAL ITEMS ONLY

Registered Professional Engineer (Structural) CERTIFICATE NO 23288 C.J. ATKINSON 9.28.2017 Date Signed ARIZONA, U.S.A.

EXPIRES 03-31-20

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
GENERAL STRUCTURAL NOTES

REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT CERTIFICATE NO 15244 ROBERT L. PIAN Date Signed 11/30/17 ARIZONA, U.S.A.

EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

JOB No: 1641B

SHEET:

S100

SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 HARD COPY SUBMITTAL SETS OF EACH ITEM TO CTS FOR REVIEW, UNLESS NOTED OTHERWISE IN ARCHITECTURAL SPECIFICATIONS. ELECTRONIC SUBMITTALS ARE ALSO ACCEPTABLE.

THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON CONTRACTOR'S REVIEW.

VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS.

MANUFACTURER OR FABRICATOR SHALL CLOUD ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY.

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANYTIME BEFORE OR AFTER SHOP DRAWING REVIEW.

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT SHALL NOT BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS.

THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY.

REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

DEFERRED SUBMITTALS:

SHOP DRAWING SUBMITTALS REQUIRED BY THESE GENERAL STRUCTURAL NOTES WHICH CONTAIN DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER OTHER THAN THE ENGINEER OF RECORD, SHALL BE SUBMITTED DURING CONSTRUCTION TO THE CITY FIELD INSPECTOR FOR REVIEW. THE DOCUMENTS WILL FIRST BE REVIEWED BY THE ENGINEER OF RECORD AND DETERMINED TO BE IN GENERAL CONFORMANCE WITH THE BUILDING DESIGN. THESE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. THE FOLLOWING ITEMS SHALL BE SUBMITTED PER THIS SECTION:

PRE-ENGINEERED BUILDINGS
ALTERNATIVE STAIR DESIGNS

GENERAL NOTES:

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE REFRENCED EDITION AND/OR ADDENDA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.
CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT.
ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE.

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS CHOSEN, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES, APPROVALS AND THE COORDINATION OF THE WORK WITH ALL RELATED TRADES AND SUPPLIERS.

SPECIAL INSPECTION - STRUCTURAL ONLY:

SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A STATE REGISTERED STRUCTURAL ENGINEER WHO IS FAMILIAR WITH THE STRUCTURAL DESIGN OF THIS PROJECT. THE SUPERVISING STRUCTURAL ENGINEER SHALL SEAL THE SPECIAL INSPECTION CERTIFICATE.

SPECIAL INSPECTION IS TO BE PROVIDED FOR THE ITEMS LISTED BELOW IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE BUILDING JURISDICTION. "SPECIAL STRUCTURAL INSPECTION" SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM REQUESTING THE BUILDING JURISDICTION INSPECTIONS REQUIRED BY SECTION 109 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 FOR THE FOLLOWING:

CONCRETE CONSTRUCTION:

1. CONCRETE:
   - A. DURING THE TAKING OF TEST SPECIMENS.
   - B. CONTINUOUS INSPECTION DURING THE PLACEMENT OF ALL REINFORCED CONCRETE, UNLESS NOTED OTHERWISE.
   - C. CONTINUOUS INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING THE PLACEMENT OF CONCRETE AROUND BOLTS. (EXCEPTION: NO INSPECTION IS REQUIRED FOR PLACEMENT OF CONCRETE AROUND FOUNDATION ANCHOR BOLTS.)
   - D. NO INSPECTION IS REQUIRED FOR PLACEMENT OF SLAB ON GRADE CONCRETE. INSPECTION OF SLAB ON GRADE REINFORCING IS REQUIRED PER "REINFORCING STEEL" SECTION BELOW.
   - E. NO INSPECTION IS REQUIRED FOR THE PLACEMENT OF FOUNDATION CONCRETE (FOR BUILDINGS THREE STORIES OR LESS WHEN DESIGNED WITH 2,500PSI). INSPECTION OF FOUNDATION REINFORCING IS REQUIRED PER "REINFORCING STEEL" SECTION BELOW.

2. REINFORCING STEEL: INSPECTION OF IN-PLACE REINFORCING FOR CONFORMANCE PRIOR TO THE CLOSING OF FORMS OR THE DELIVERY OF CONCRETE TO THE JOBSITE FOR THE FOLLOWING:
   - A. REINFORCING FOR ALL CONCRETE REQUIRED TO HAVE INSPECTION NOTED ABOVE.
   - B. REINFORCING FOR CONCRETE FOUNDATIONS.
   - C. REINFORCING FOR SLABS ON GRADE.
   - D. REINFORCING FOR ALL MASONRY REQUIRED TO HAVE INSPECTION NOTED BELOW.

STEEL CONSTRUCTION:

1. WELDING:
   - A. VERIFICATION OF VALID WELDER'S CERTIFICATES.
   - B. PERIODIC VISUAL INSPECTION OF ALL SHOP AND FIELD WELDS.
   - C. ALL STRUCTURAL STEEL FABRICATORS SHALL EMPLOY AN AWS CERTIFIED INDEPENDENT TESTING AGENCY TO PROVIDE SHOP WELD INSPECTIONS PER CODE. INSPECTION REPORTS AND REQUIRED DOCUMENTATION SHALL BE SUBMITTED TO ENGINEER OF RECORD PRIOR TO STEEL INSTALLATION.
   - D. CONTINUOUS INSPECTION OF ALL MULTIPASS FILLET WELDS, SINGLE PASS FILLET WELDS LARGER THAN 5/16", COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS, PLUG AND SLOT WELDS.
   - E. NON-DESTRUCTIVE TESTING OF ALL COMPLETE PENETRATION WELDS BY AN AWS CERTIFIED INDEPENDENT TESTING AGENCY AT THE CONTRACTORS EXPENSE.

SPECIAL CASES:

1. EXPANSION, EPOXY, ADHESIVE, AND SCREW ANCHORS: DURING THE PLACEMENT OF ALL ANCHORS SHOWN ON STRUCTURAL DRAWINGS. ADDITIONAL INSPECTIONS REQUIRED FOR REPAIR DETAILS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
A. INSPECTION OF HOLE DIAMETER, HOLE DEPTH AND DRILL BIT CONFORMANCE.
B. INSPECTION OF HOLE CLEANING WITH WIRE BRUSH AND COMPRESSED AIR.
C. INSPECTION OF ANCHOR INSTALLATION USING SPECIFIED PRODUCT AND MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.
D. INSPECTION OF EXPANSION ANCHORS SHALL INCLUDE THE VERIFICATION OF THE TIGHTENING TORQUE THAT IS SPECIFIED BY THE ANCHOR MANUFACTURER.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATION.
B. THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO APPROVE DEVIATIONS FROM THE DESIGN DRAWINGS OR SPECIFICATIONS, AND ALL DEVIATIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO PROCEEDING WITH THE WORK. ALL REQUESTS FOR DEVIATIONS SHALL BE INITIATED BY THE CONTRACTOR VIA WRITTEN REQUEST FOR INFORMATION (RFI).
C. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE ENGINEER OR ARCHITECT OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL.
D. CONTRACTOR SHALL PROVIDE THE SPECIAL INSPECTOR ACCESS TO ALL ITEMS REQUIRING SPECIAL INSPECTION. ACCESS SHALL BE PROVIDED BY IN-PLACE LADDERS, SCAFFOLDS, LIFTS AND/OR OTHER EQUIPMENT OPERATED BY THE CONTRACTOR'S PERSONNEL AS REQUIRED FOR SAFE OBSERVATION. INSPECTOR IS NOT RESPONSIBLE OR AUTHORIZED TO OPERATE CONTRACTOR'S EQUIPMENT.
E. UPON COMPLETION OF THE ASSIGNED WORK THE ENGINEER OR ARCHITECT SHALL COMPLETE AND SIGN THE APPROPRIATE FORMS CERTIFYING THAT TO THE BEST OF THEIR KNOWLEDGE THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

THIS DRAWING HAS BEEN PREPARED BY OTHERS AND REVIEWED BY:

CARUSO TURLEY SCOTT, INC.
CONSULTING STRUCTURAL ENGINEERS
FOR CORRECTNESS OF STRUCTURAL ITEMS ONLY

Registered Professional Engineer (Structural) CERTIFICATE NO. 23288 C.J. ATKINSON Date Signed 9.28.2017 ARIZONA, U.S.A.
EXPIRES 03-31-20

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
GENERAL STRUCTURAL NOTES

REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: JTB
DRAWN BY: MWR

REGISTERED ARCHITECT CERTIFICATE NO. 15244 ROBERT L. PIAN Date Signed 9/28/17 ARIZONA, U.S.A.
EXPIRES 12/31/2018

ORIGINAL ISSUE DATE: 07-21-2017

JOB No: 1641B

SHEET:

S101

MECHANICAL SPECIFICATIONS

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ALL AUTHORITIES HAVING JURISDICTION INCLUDING, BUT NOT LIMITED TO THE 2012 IMC, 2012 IBC, 2012 IPC, 2012 IECC AS ADOPTED BY TUBA CITY, COCONINO COUNTY, ARIZONA WITH AMENDMENTS.
2. WORK SHALL INCLUDE ALL MATERIALS, LABOR, SERVICES AND EQUIPMENT NECESSARY TO PROVIDE AN OPERATING SYSTEM AS SHOWN ON THE PLANS. PLANS ARE SCHEMATIC AND ARE NOT INTENDED TO SPECIFY ALL INCIDENTAL HARDWARE OR IDENTIFY ALL OFFSETS OR DIFFICULTIES WHICH MAY BE ENCOUNTERED IN THE COURSE OF COMPLETING THE PROJECT. DO NOT SCALE THE PLANS. CONTRACTORS SHALL FIELD MEASURE AND CREATE SHOP DRAWINGS FOR DUCT FABRICATION.
3. FIELD VERIFY ALL CLEARANCES PRIOR TO FABRICATION OR ORDERING DUCTWORK. CONTRACTOR SHALL NOT CHARGE OWNER, ARCHITECT, GENERAL CONTRACTOR, ENGINEER OR OTHERS FOR ADJUSTMENT DUE TO FIELD CONDITIONS. CONTRACTOR MUST INCLUDE IN FEE TO COMPLETE PROJECT MISCELLANEOUS DUCT FITTINGS TO/FROM AIR HANDLERS, PACKAGE UNITS, DUCTS REQUIRING OFFSETS, SPECIAL FITTINGS AROUND BEAMS, COLUMNS OR STRUCTURAL BRACES. FIELD VERIFICATION AND INSTALLATION SHALL BE CONSIDERED INCLUDED IN BASE SCOPE OF WORK WITHOUT ADDITIONAL COMPENSATION FEES. MECHANICAL CONTRACTOR SHALL OBTAIN ARCHITECTURAL PLANS AND VERIFY INTENDED CEILING HEIGHTS, SOFFIT LOCATIONS, AND OTHER ARCHITECTURAL FEATURE LOCATIONS AND SHALL ROUTE DUCTWORK ACCORDINGLY TO ALLOW CONSTRUCTION OF ELEMENTS OF BUILDING TO BE CONSTRUCTED AFTER MECHANICAL INSTALLATION PHASE. LOCATE ALL DUCTS TO PROVIDE SUFFICIENT CLEARANCE FOR CEILING HARDWARE, ALL LIGHTS, AND ANY ARCHITECTURAL FEATURES IN CEILINGS. DUCT ROUTING MAY NEED TO BE FIELD ADJUSTED FROM PLANS FOR FIELD CONDITIONS AND FITTINGS PROVIDED TO SUIT. AIR FLOW TOTAL CROSS SECTIONAL AREA SHALL BE MAINTAINED THROUGH SUCH FITTINGS.
4. DISCREPANCIES ON MECHANICAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION PRIOR TO SUBMISSION OF BID TO CONSTRUCT MECHANICAL SYSTEM. DISCREPANCIES BROUGHT TO ENGINEER'S ATTENTION AFTER SUBMISSION OF BID SHALL NOT BE BILLABLE TO ENGINEER, ARCHITECT, CLIENT OR OTHERS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMEDY PER CODE AND WITH THE ASSISTANCE OF THE ENGINEER. ENGINEER WILL ASSIST CONTRACTOR IN DETERMINING REMEDY AND SHALL STRIVE IN GOOD FAITH TO FIND A LEAST COST AND CODE COMPLIANT SOLUTION TO SUCH DISCREPANCIES. CONTRACTOR'S SUBMISSION OF BID TO CONSTRUCT MECHANICAL SYSTEM IS SEEN AS AGREEMENT TO THESE TERMS.
5. SEE DUCT CONSTRUCTION AND INSULATION REQUIREMENTS THIS SHEET.
6. PROVIDE EACH DUCT SUPPLY BRANCH WITH OWNER ADJUSTABLE VOLUME CONTROL USING A LOCKING BRANCH DAMPER 18" FROM MAIN TAKEOFF OR OBD IN DEVICE IF BRANCH IS INACCESSIBLE. PROVIDE AUTOMATIC SHUT OFF DAMPERS ON EXHAUST SYSTEMS & SUPPLY SYSTEMS WITH AIRFLOW > 3,000 CFM. OUTSIDE AIR SYSTEM SHALL BE CAPABLE OF REDUCING OUTSIDE AIR TO REQUIRED MINIMUM.
7. ALL PLATE DAMPERS WITH A DIMENSION GREATER THAN 12" SHALL HAVE A CONTINUOUS PIVOT ROD. FOR DAMPERS WITH THE LARGEST DIMENSION LESS THAN 12", NON-CONTINUOUS PIVOT ROD IS ACCEPTABLE. DAMPER BLADES TO BE CONSTRUCTED OF AT LEAST 2 GAUGES HEAVIER THAN THE DUCT IN WHICH THEY ARE INSTALLED AND NO LIGHTER THAN 22 GAUGE. DAMPERS SHALL FEATURE TIGHT FITTING SYNTHETIC BUSHINGS AND BEARINGS AT PIVOT ROD TO DUCT CONTACT. DAMPERS SHALL BE MANUAL QUADRANT LOCKING TYPE UNLESS OTHERWISE SPECIFIED ON PLANS. FRICTION LOCK HANDLE DAMPERS NOT ACCEPTABLE. INSTALLATIONS SHALL BE FREE OF OBJECTIONABLE VIBRATION AND NOISE. ALL BAROMETRIC DAMPERS TO BE COUNTERBALANCED TO BE FULLY CLOSED AT NO AIR FLOW AND COMPLETELY OPEN AT MAXIMUM 0.10"SP, UNLESS INDICATED OTHERWISE ON DRAWINGS.
8. FIELD VERIFY EXACT LOCATIONS OF STRUCTURE AND INSTALL NEW EQUIPMENT ACCORDINGLY. FIELD VERIFY 15' CLEARANCE OF BUILDING AIR INTAKES FROM BUILDING AIR EXHAUSTS, MECHANICAL VENTS, AND PLUMBING VENTS PER CODE.
9. PROVIDE AS-BUILT DRAWINGS AND EQUIPMENT INSTALLATION AND OPERATION MANUALS TO OWNER FOLLOWING PROJECT COMPLETION.
10. ALL HVAC EQUIPMENT SHALL BE UL LISTED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
11. SEE STRUCTURAL PLANS FOR MECHANICAL EQUIPMENT SUPPORTS AND BRACING.
12. DO NOT CUT STRUCTURAL MEMBERS TO INSTALL DUCTS OR UNITS.
13. PROVIDE EMBOSSED UV RESISTANT PHENOLIC ID LABEL EACH PIECE OF HVAC EQUIPMENT NEAR DISCONNECT. LABEL SHALL IDENTIFY EACH PIECE OF EQUIPMENT PER PLAN IDENTIFICATION NUMBER.
14. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE COURTESY 120V OUTLET IN WEATHERPROOF ENCLOSURE FOR A/C SERVICE. HARDWARE AND INSTALLATION BY ELECTRICAL CONTRACTOR. PROVIDE 1 RECEPTACLE WITHIN 25' OF EACH AC/EC.
15. ALL MATERIALS EXPOSED WITHIN DUCTS OR INSULATION AROUND DUCTS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50. UL LISTING REQUIRED.
16. PROVIDE INTERLOCKS. INTERLOCKS MAY BE REQUIRED BETWEEN EXHAUST FANS, SUPPLY FANS, MOTORIZED DAMPERS, OR OTHER EQUIPMENT AS SPECIFIED ON PLANS. INTERLOCK HARDWARE WILL BE PROVIDED BY MECHANICAL CONTRACTOR. SEE SMOKE DETECTION SPECIFICATIONS FOR INDOOR UNIT INTERLOCKS TO FACP.
17. PROVIDE 2012 IECC COMPLIANT THERMOSTATS, FURNISH INSULATED SUB-BASE WHEN MOUNTING THERMOSTATS ON EXTERIOR WALLS. TEMPERATURE CONTROL MUST BE CAPABLE OF THE FOLLOWING: SETBACK TEMP TO 55°F DURING UNOCCUPIED HEATING AND SETUP TEMP TO 85°F DURING UNOCCUPIED COOLING. CLOSING OSA DAMPERS DURING UNOCCUPIED HOURS USING 7 DIFFERENT DAY SCHEDULES. ACCESSIBLE 2-HOUR OCCUPANT OVERRIDE. AUTOMATIC START. BATTERY BACKUP CAPABLE OF MAINTAINING PROGRAMMED SETTINGS FOR AT LEAST 10 HOURS WITHOUT LINE POWER.
18. CONTRACTOR SHALL DEMONSTRATE THAT ALL NEW EQUIPMENT AND ALL AIR DEVICES ARE BALANCED AND ADJUSTED AS SHOWN ON PLANS.
19. CONTRACTOR TO PROVIDE SIGNED AND SEALED TEST AND BALANCE REPORT TO ENGINEER AND OWNER. TEST AND BALANCE OF SYSTEM TO BE PERFORMED BY AN AABC OR NEBB CONTRACTOR CERTIFIED IN THE STATE OF ARIZONA. PRIOR TO FINAL INSPECTION, PROVIDE A COPY OF THE SIGNED AND SEALED AIR-BALANCE REPORT TO THE MECHANICAL INSPECTOR FOR FINAL APPROVAL AS REQUIRED BY IMC.

DEFINITIONS:
PROVIDE – FURNISH AND INSTALL.
FURNISH – DELIVER EQUIPMENT AND/OR MATERIALS TO SITE.
INSTALL – PHYSICALLY PLACE IN POSITION AND PUT INTO OPERATION.

DUCT CONSTRUCTION AND DUCT INSULATION REQUIREMENTS

DUCT TYPE	INSULATION AND CONSTRUCTION TYPE	INSULATION MINIMUM R-VALUE	NOTES
SUPPLY AND RETURN MAINS LOCATED OUTSIDE THE BUILDING ENVELOPE	INTERNALLY LINED. EXTERIOR DUCTS SHALL BE WEATHER SEALED AND WATER TIGHT	R-8	1-9
CONCEALED RECTANGULAR SUPPLY AND RETURN MAINS AND BRANCHES IN UNCONDITIONED SPACES AND PLENUMS BELOW ROOF, AND DUCTS INSIDE THE BUILDING ENVELOPE	EXTERNALLY WRAPPED WITH FOIL BACKED INSULATION, SEE REQUIREMENTS FOR FLEX DUCTS	R-6	1-9
EXHAUST DUCTS	EXTERNALLY WRAP THE FIRST 15' UPSTREAM AND DOWN STREAM FROM THE IN-LINE FAN. EXHAUST DUCTS FOR THE CEILING EXHAUST FAN CAN BE UNINSULATED	R-6	1-9

NOTES:
1. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE NET INSIDE DIMENSIONS. CONTRACTOR SHALL INCREASE DUCT DIMENSIONS FOR INTERNALLY LINED DUCT TO ACCOUNT FOR THE THICKNESS OF INSULATION LINER WHERE REQUIRED.
2. ALL DUCTWORK SHALL BE LOCK FORMED QUALITY STEEL. ALL DUCTS WITH A DIMENSION OVER 16" SHALL BE FLANGED TYPE CONNECTIONS. CONCEALED DUCT BRANCHES MAY BE RECTANGULAR OR ROUND STEEL. ALL DUCTS SHALL BE SUSPENDED FROM STRUCTURE OF BUILDING PER CODE.
3. DUCT SEAMS AND FLANGES SHALL BE TIGHT AND WITHOUT VISIBLE GAPS.
4. DUCT CONSTRUCTION SHALL BE SMACNA CLASS A: ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS SHALL BE SEALED. ALL SEAMS ON HIDDEN RIGID DUCTS SHALL BE SEALED USING UL 181A OR 181B MASTICS. EXCEPTION: CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS. APPLY MASTIC TO EXTERIOR SEAMS OF ALL CONCEALED DUCTS PRIOR TO WRAPPING.
5. ALL WORK OUTDOORS SHALL BE WEATHER SEALED AND WATERTIGHT.
6. PROVIDE TURNING VANES AT ALL RECTANGULAR ELLS AND TEES PER DETAILS ON PLANS.
7. FLEXIBLE DUCTS SHALL BE UL 181 LISTED, CLASS 1, WITH AN INNER CORE OF STEEL WIRE HELIX WRAPPED IN FIBERGLASS AND SHEATHED IN A DOUBLE LAMINATION OF POLYESTER. FLEX DUCT SHALL HAVE A MINIMUM R VALUE OF 6.0 AND SHALL BE RATED FOR 4" WG POSITIVE AND 0.75" WG NEGATIVE PRESSURES (MINIMUM). UP TO 8 FEET MAXIMUM U.L. LISTED INSULATED FLEXIBLE DUCT IS PERMISSIBLE AT BRANCH ENDS IN CONCEALED LOCATIONS ONLY. ALL FLEXIBLE DUCTWORK SHALL BE INSTALLED PER CODE FULLY EXTENDED WITHOUT CRIMPING OR RESTRICTIVE SHORT RADIUS BENDS. FLEX DUCTS SHALL NOT BE USED FOR EXHAUST SYSTEMS.
8. ALL DUCTS AND FITTINGS SHALL BE FABRICATED PER LATEST EDITION SMACNA.
9. ALL MATERIALS EXPOSED WITHIN DUCTS OR AS INSULATION AROUND DUCTS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50. UL LISTING REQUIRED. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIR FLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED CODE REQUIREMENTS. POLYSTYRENE PRODUCTS SHALL MEET AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C578 91. ALL INSULATION SHALL BE LOW EMITTING WITH NOT GREATER THAN .05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE APPLICABLE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.

MECHANICAL SYMBOLS LEGEND

SINGLE LINE DUCTWORK	DOUBLE LINE DUCTWORK	DESCRIPTION
EQ # CFM WEIGHT/HEIGHT V/PH/MCA — EQUIPMENT TYPE, UNIQUE DESIGNATION, CFM OR TONNAGE, PHYSICAL DATA, ELECTRICAL		MECHANICAL EQUIPMENT TAG
CD CFM SIZE — DIFFUSER TAG, AIR QUANTITY (CFM), NECK SIZE		GRILLE, REGISTER OR DIFFUSER TAG WITH CFM AND NECK SIZE.
A M-T — SECTION DESIGNATION, SHEET NUMBER		MECHANICAL SECTION TAG.
SUPPLY RETURN EXHAUST ROUND SIDEWALL LINEAR		GRILLES REGISTERS AND DIFFUSERS.
WXD X"ø	WXD X"ø	RECTANGULAR AND ROUND DUCT. DUCT SIZES ARE IN INCHES. DUCT SIZES REPRESENT INSIDE DIMENSIONS OF DUCTWORK.
WXD, WXD	WXD	45° TAP USED AT BRANCH DUCTS ONLY.
WXD, X"ø	WXD	CONICAL TAP USED AT ROUND BRANCH DUCTS.
		90° ELBOW WITH SINGLE RADIUS TURNING VANES CURVED ELBOW (MIN. RADIUS R = 1.5 WIDTH)
EQUIPMENT	WXD EQUIPMENT	FLEXIBLE DUCT CONNECTION
		SPIN-IN FLEX DUCT TAKE-OFF WITH MANUAL BALANCE DAMPER. FLEX DUCT NOT TO EXCEED 6'-0"
	MB	MANUAL BALANCING DAMPER (USE OBD IN RECTANGULAR DUCTS AND PLATE DAMPER IN ROUND DUCTS UNLESS OTHERWISE NOTED)
M	M	MOTORIZED DAMPER.
		ACCESS PANEL.
SF FD FSD	SF FD FSD	SMOKE DAMPER, FIRE DAMPER, AND COMBINATION FIRE SMOKE DAMPER WITH ACCESS PANEL.
DSD	DSD	DUCT SMOKE DETECTOR.
BDD VD	BDD VD	BACKDRAFT DAMPER / MANUAL VOLUME DAMPER.
SUPPLY RETURN EXHAUST	SUPPLY RETURN EXHAUST	DUCTWORK DOWN.
SUPPLY RETURN EXHAUST	SUPPLY RETURN EXHAUST	DUCTWORK UP.
UP DOWN	UP DOWN	ROUND DUCTWORK.
WxD WxD	WxD WxD	DUCT TRANSITION.
T S CO RS RH CO2 OS		THERMOSTATIC SENSOR, TEMPERATURE SENSOR, CO SENSOR, REMOTE SENSOR, CO2 SENSOR AND OCCUPANCY SENSOR

*** NOT ALL SYMBOLS ARE APPLICABLE FOR THIS PROJECT ***

SMOKE DETECTION AND TESTING REQUIREMENTS

SMOKE DETECTION: AREA SMOKE DETECTION WILL BE PROVIDED BY THE FIRE ALARM SYSTEM CONTRACTOR. UPON POSITIVE DETECTION OF SMOKE BY THE AREA SMOKE DETECTION SYSTEM ALL AH UNITS SHALL SHUTDOWN. INTERLOCK WIRING FROM FACP TO AH UNITS PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.

COORDINATE WITH THE FIRE ALARM SYSTEM INSTALLER ON INTERLOCK INSTALLATION AND TESTING.

SMOKE DETECTION ASSOCIATED WITH HVAC SHUTOFFS SHALL BE TESTED BY AN APPROVED TESTING AGENCY OR A THIRD PARTY SPECIAL INSPECTOR. THE SPECIAL INSPECTOR/TESTING AGENCY SHALL BE AN INDEPENDENT THIRD PARTY INDIVIDUAL OR FIRM AND SHALL NOT BE THE INSTALLING CONTRACTOR. THE THIRD PARTY SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED AND SEALED TEST REPORT TO THE MECHANICAL INSPECTOR PRIOR TO ISSUANCE OF FINAL INSPECTION APPROVAL OR OCCUPANCY APPROVAL, INCLUDING CONDITIONAL OCCUPANCY APPROVAL.

MECHANICAL CONTROL REQUIREMENTS

MECHANICAL CONTROLS DEVICES, LABOR, THERMOSTATS, RELAYS, TIMERS, INTERLOCK WIRING (SHIELDED), CONDUIT, SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND SHALL BE ALL INCLUSIVE FOR A FULLY FUNCTIONAL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.

AH UNITS: PROVIDE ASHRAE 90.1 COMPLIANT 7-DAY PROGRAMMABLE THERMOSTATS. PROGRAM OCCUPANCY SCHEDULE AND TEMPERATURE SETBACKS PER OWNER REQUIREMENTS (SETBACK OF 60°F IN HEATING MODE AND SETUP OF 85°F IN COOLING MODE SUGGESTED). CONFIGURE MOTORIZED OUTSIDE AIR DAMPERS TO REMAIN CLOSED DURING UNOCCUPIED SCHEDULE, AND TO BE OPEN TO MINIMUM BALANCED POSITION DURING OCCUPIED SCHEDULE (AS DETERMINED BY THE TEST AND BALANCE CONTRACTOR). AH UNITS SCHEDULED WITH THE VENTILATOR OPTION WILL ALSO RELIVE EXCESS BUILDING PRESSURE. SEE SMOKE DETECTION AND TESTING REQUIREMENTS FOR INTERLOCKS TO THE FACP. ANY CONTROL WIRING LOACTED OUTDOORS SHALL BE INSTALLED IN RIGID METAL CONDUIT, SUPPORT WITH UNISTRUT OR EQUAL SUPPORTS. NOTE: PROVIDE AN INSULATED SUB-BASE FOR ALL THERMOSTATS LOCATED AT EXTERIOR WALLS.

EF-1: (IN-LINE EXHAUST FAN) CONTROL: PROVIDE A TIMER AND CONFIGURE TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS. FAN SHALL BE OFF DURING UNOCCUPIED HOURS. PROGRAM TIMER PER OWNER SCHEDULE.

EF-2: (CEILING EXHAUST FAN) CONTROL: PROVIDE A LOCAL WALL SWITCH LOCATED NEXT TO THE LIGHT SWITCH IN THE ROOM SERVED.

CEF 1-5: CRAWL SPACE EXHAUST FANS TO INCLUDE A DEHUMIDISTAT AS SCHEDULED. SET TO EXHAUST WHEN HUMIDITY IS DETECTED ABOVE 50%.

MECHANICAL ABBREVIATIONS

ABBV	DESCRIPTION	ABBV	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AC	AIR CONDITIONING UNIT	MFR	MANUFACTURER
AHU	AIR HANDLING UNIT	MAX	MAXIMUM
ALT	ALTERNATE	MECH	MECHANICAL
AP	ACCESS PANEL	MC	MECHANICAL CONTRACTOR
BDD	BACKDRAFT DAMPER	MBH	THOUSAND BTU/ HOUR
BHP	BRAKE HORSEPOWER	MIN	MINIMUM
BLDG	BUILDING	MAT	MIXED AIR TEMPERATURE
CAP	CAPACITY	MCC	MOTOR CONTROL CENTER
CLG	CEILING	NEG	NEGATIVE
CCT	CIRCUIT	NEUT	NEUTRAL
CW	COLD WATER	NC	NORMALLY CLOSED
CONN	CONNECTION	NO	NORMALLY OPEN
CONT	CONTINUED	NA	APPLICABLE
CPR	COPPER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
DTR	DUCT THROUGH ROOF	OAT	OUTSIDE AIR TEMPERATURE
DIA,ø	DIAMETER	OBD	OPPOSED BLADE DAMPER
DIF	DIFFUSER	PSI	POUNDS PER SQUARE INCH
DIM	DIMENSION	PRESS	PRESSURE
DAT	DIS. AIR TEMPERATURE	PD	PRESSURE DROP
DTR	DUCT THROUGH ROOF	PRV	PRESSURE REDUCING VALVE
DWG	DRAWING	P	PUMP
DX	DIRECT EXPANSION	QTY	QUANTITY
EA	EACH	RA	RETURN AIR
EC	ELECTRICAL CONTRACTOR	RAT	RETURN AIR TEMPERATURE
EL	ELEVATION	RF	RETURN FAN
EMER	EMERGENCY	REF	REFERENCE
EAT	ENTERING AIR TEMPERATURE	REG	REGISTER
EWT	ENT. WATER TEMPERATURE	REQD	REQUIRED
EQUIP	EQUIPMENT	REV	REVISION
EXH	EXHAUST	RM	ROOM
FC	FAN COIL	SECT	SECTION
FPM	PER MINUTE	SHT	SHEET
FLEX	FLEXIBLE	SA	SUPPLY AIR
FLR	FLOOR	SPEC	SPECIFICATION
FD	FLOOR DRAIN	SS	STAINLESS STEEL
FUT	FUTURE	STD	STANDARD
GPM	GALLONS PER MINUTE	SF	SUPPLY FAN
GALV	GALVANIZED	SQFT	SQUARE FEET
GRD	GRADE	TEMP	TEMPERATURE
GR	GRILLE	TG	TRANSFER AIR GRILLE
HVAC	HEATING/VENTILATING/AC	TYP	TYPICAL
HT	HEIGHT	UL	UNDERWRITER'S LABORATORY
HOR	HORIZONTAL	UH	UNIT HEATER
HP	HORSEPOWER	VAV	VARIABLE AIR VOLUME
HW	HOT WATER	VFD	VARIABLE FREQUENCY DRIVE
IN	INCH	VENT	VENTILATION
KW	KILOWATT	VERT	VERTICAL
LAT	LEAVING AIR TEMPERATURE	VD	VOLUME DAMPER
LWT	LEAVING WATER TEMPERATURE	WG	WATER GAGE

*** NOT ALL ABBREVIATIONS ARE APPLICABLE FOR THIS PROJECT ***

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
MECHANICAL SPECIFICATIONS, AND LEGEND

REVISIONS

MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

REVIEWED BY: GSP
DRAWN BY: WDK/FC

Certificate No. 29717 GREGORY PRIAND Professional Engineer Date Signed 11-7-17 State of Arizona, U.S.A.

Expires 12/31/2019

DATE: 07-21-2017
JOB No: 1641B
SHEET: M100

APPLIED ENGINEERING
2800 S. RURAL RD. SUITE 101
TEMPE, AZ 85282 (480)968 3070
JOB NUMBER 17-045

OUTSIDE AIR VENTILATION CALCULATIONS PER IMC 2012 SECTION 403 AND TEST AND BALANCE NOTES

VENTILATION RATE PROCEDURE											SYSTEM CALCULATION				
POTENTIALLY CRITICAL ZONES	Az AREA(SF)	Rp TABLE 6-1 (CFM/PERSON)	Ra TABLE 6-1 (CFM/SF)	OCCUPANT DENSITY (#/1000 SF)	Pz ZONE POPULATION	Vp (CFM)	Va (CFM)	Vbz BREATHING ZONE OSA (CFM)	Ez TABLE 6-2 ZONE EFFECTIVENESS	Voz MIN REQ'D OSA TO ZONE PER ASHRAE 62.1 (CFM)	Vpzm =Vdzm ZONE PRIMARY AIRFLOW (CFM)	Zp=Voz/Vpz PRIMARY OUTDOOR AIR FRACTION	D OCCUPANT DIVERSITY	Vou UNCORRECTED OSA REQUIREMENT FOR SYSTEM (CFM)	Ev APPENDIX A SYSTEM VENTILATION EFFICIENCY	Vot DESIGN OUTDOOR INTAKE FLOW AT SYSTEM (CFM)
WORKOUT ROOM	1405	20	0.06	10	14	281	84	365	0.80	457	2400	0.19			0.95	
CORRIDOR	1129	0	0.06	0	0	0	68	68	0.80	85	600	0.14			1.00	
SYSTEM AH-1 & AH-2											Max (Zp)	0.19	1.00	433	0.95	454
OFFICE	1055	5	0.06	5	5	26	63	90	0.80	112	990	0.11			1.00	
SYSTEM AH-3											Max (Zp)	0.11	1.00	90	1.00	90
ENTRY LOBBY	180	7.5	0.06	30	5	41	11	51	0.80	64	395	0.16			0.94	
STORAGE	76	0	0.12	0	0	0	9	9	0.80	11	135	0.08			1.02	
OFFICE	221	5	0.06	5	1	6	13	19	0.80	23	375	0.06			1.04	
CORRIDOR	441	0	0.06	0	0	0	26	26	0.80	33	125	0.26			0.84	
SYSTEM: AH-4											Max (Zp)	0.26	1.00	106	0.84	126
FITNESS RM	1467	20	0.06	10	19	377	88	465	0.80	581	1925	0.08			1.00	
SYSTEM AH-5 & AH-6											Max (Zp)	0.08	1.00	465	1.00	465
KITCHEN CLASSROOM	854	10	0.12	25	21	214	102	316	0.80	395	1500	0.26			1.00	
SYSTEM AH-7											Max (Zp)	0.26	1.00	316	1.00	316

COOLING AND HEATING VENTILATION CALCULATIONS ARE IN ACCORDANCE WITH ASHRAE 62.1 AND IMC REQUIREMENTS. TOTAL DESIGN OSA AVAILABLE EXCEEDS IMC REQUIREMENTS
TOTAL REQUIRED OSA = 1,441 CFM
TOTAL PROVIDED OSA = 1,470 CFM

TEST AND BALANCE CONTRACTOR TO ADJUST EACH UNITS OUTSIDE AIR INTAKE PER THE EQUIPMENT SCHEDULE:

BUILDING AIR BALANCE:
1,470 CFM OSA – 1220 CFM EXHAUST – 250 CFM RELIEF AT AH UNIT VENTILATORS = 0 CFM (SLIGHTLY POSITIVE BUILDING PRESSURIZATION).

CALCULATION NOTES:
1. ALL RESTROOM, JANITOR ROOMS, AND LOCKER AREAS ARE EXHAUSTED IN ACCORDANCE WITH IMC TABLE 403.3.
2. HEATING CALCULATIONS: 0.80 IS USED FOR Ez IN ACCORDANCE WITH TABLE 403.3.1.2 (CEILING SUPPLY OF WARM AIR & CEILING RETURN).
3. Vot=Voz FOR SINGLE ZONE SYSTEMS.
4. MECHANICAL VENTILATION IS PROVIDED TO THE CRAWLSPACE AND IS GREATER THAN 0.02 CFM PER SF OF AREA, AND AUTOMATICALLY CONTROLLED TO OPERATE WHEN THE RELATIVE HUMIDITY IN THE SPACE EXCEEDS 60 PERCENT PER IMC SECTION 406.

(L) Llouver SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

MARK	MANUFACTURER	MODEL	AREA SERVED	NOMINAL SIZE	NOTES
1	AIR VENT INC	RA	AUTOMATIC CRAWLSPACE VENT	16" x 8"	1–2
2	AIR VENT INC	RM	MANUAL CRAWLSPACE VENT	16" x 8"	1, 3

NOTES:
1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. VENT TO AUTOMATICALLY OPEN FULLY AT APPROXIMATELY 70 DEGREES AND CLOSE FULLY AT 40 DEGREES.
3. INSTALL CRAWL SPACE FAN AT LOUVER, SEE EF SCHEDULE. PROVIDE ALL MOUNTING HARDWARE REQUIRED TO ADAPT FAN TO LOUVER.

(CEF) CRAWL SPACE EXHAUST FAN SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	ESP	VOLTS	PHASE	AMPS	RPM	MAX ZONES	WT	NOTES
1–5	CRAWLSPACE	TJERNLUND	V2D	220	N/A	120	1	0.6	N/A	N/A	10	1–3

NOTES:
1. PROVIDE FAN FOR OPERATION AT 5,000 FT ELEVATION.
2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. CRAWL SPACE EXHAUST FAN: PROVIDE UL OR E.T.L. VENTILATOR FAN WITH A DEHUMIDISTAT AND CONTROL THAT ACTIVATES THE FAN WHEN RELATIVE HUMIDITY RISES ABOVE THE SET–POINT (50% RH). UNIT SHALL INCLUDE FACTORY INSTALLED PRE–WIRED THERMOSTAT AND DEHUMIDISTAT, AND SHALL PREVENT OPERATION BELOW 35°F.

(RV) ROOF VENT SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

MARK	TYPE	MAKE	MODEL	AIRFLOW (CFM)	MAX PRESSURE DROP (IN. WG.)	NOTES
1	EXHAUST	GREENHECK	GRSR–12	600	0.07	1–3

NOTES:
1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE SPUN ALUMINUM VENTILATOR WITH ALUMINUM BIRD SCREEN AND INSULATED ROOF CURB, PROVIDE PITCHED ROOF CURB TO MATCH THE AS–BUILT ROOF SLOPE. SUCH THAT VENT IS INSTALLED LEVEL. INCLUDE CURB SEAL.
3. PROVIDE ALL FLASHING AND COUNTER–FLASHING.

(X) DRYER VENT ACCESSORIES

MARK	ITEM	MANUFACTURER	MODEL	SIZE	NOTES
DV1	DRYER ROOF VENT JACK	IN–O–VATE	DJK486U	9"Hx6"Wx8"D	1–3
DB	RECESSED DRYER VENT BOX	IN–O–VATE	DRYERBOX 350	18" x 9.5" x 3.5"	1–3

NOTES:
1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE 4"ø UL 2158A LISTED FLEXIBLE (SEMI–RIGID) DUCTING BETWEEN NEW EXHAUST DUCT INLET AND DRYER VENT CONNECTION, MAXIMUM LENGTH NOT TO EXCEED 8'. PROVIDE ALL HARDWARE COMPLETE. SEE DOMESTIC DRYER VENT REQUIREMENTS SHEET M001.
3. SEE DOMESTIC DRYER DUCT CONSTRUCTIONS REQUIREMENTS ON PLANS AND DRYER DUCT INSTALLATION DETAIL.

(KH) KITCHEN HOOD SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS. DO NOT EXCEED CFM LISTED

MARK	QUANTITY	TYPE	MANUFACTURER	MODEL	MAX CFM	VOLTS	PHASE	AMPS/WATTS/(HP)	MAXIMUM INLET SONES	WT (LBS.)	NOTES
1	SEE PLAN	WALL MOUNT HOOD	WHIRLPOOL	UXT5230BFS	350	120	1	0.9 A / 110 W	7.0	30	1–5

NOTES:
1. INSTALL EXHAUST FAN PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. WATTS, HP, SONES AND WEIGHT ARE MAXIMUM CAPACITIES ALLOWED.
3. DO NOT EXCEED CFM LISTED.
4. PROVIDE UL LISTED UNIT WITH DIRECT DRIVE EXHAUST FAN. PROVIDE WITH BACKDRAFT DAMPER, MOUNTING BRACKETS, GALVANIZED STEEL HOUSING, DYNAMICALLY BALANCED FAN.
5. PROVIDE WITH STAINLESS STEEL HOUSING, AND MINIMUM 3–SPEED OPERATION.

(AH) WALL MOUNT A/C UNIT WITH ELECTRIC HEAT SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

MARK	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY CFM	MINIMUM ESP	OSA CFM	ELECTRICAL DATA VOLTS/PHASE	MCA	MOCP	EER	COOLING (MBH) TOTAL	SENSIBLE	HEATING KW	HEATING TEMP RISE (°F)	WT (LB)	NOTES
1	BARD	WA4S3–A10MV	4	1,500	0.5	230	230/1	89	90	11.2	45	34	10	29	640	1–15
2	BARD	WA3S3–A10MV	3	1,100	0.5	230	230/1	61	70	11.4	35	27	10	29	640	1–15
3	BARD	WA3S3–A10MV	3	1,100	0.5	90	230/1	61	70	11.4	35	27	10	29	640	1–15
4	BARD	WA4S3–A15MP	4	1,500	0.5	130	230/1	89	90	11.2	45	34	15	31	640	1–15
5	BARD	WA3S3–A10MV	3	1,100	0.5	235	230/1	61	70	11.4	35	27	10	29	640	1–15
6	BARD	WA4S3–A10MV	4	1,500	0.5	130	230/1	89	90	11.2	45	34	10	29	640	1–15
7	BARD	WA4S3–A15MV	4	1,500	0.5	320	230/1	89	90	11.2	45	34	15	31	640	1–15

NOTES:
1. GROSS COOLING CAPACITY BASED ON 80°F DB / 67°F WB, EAT 95°F AMBIENT FOR OPERATION AT 5,000 FT ELEVATION.
2. COOLING CAPACITY, HEATING CAPACITY, CFM AT ESP AND (S)EER ARE MINIMUM CAPACITIES REQUIRED. ALL UNITS SHALL HAVE NO LESS THAN THESE CAPACITIES. MCA, MOCP AND WEIGHT ARE MAXIMUM CAPACITIES ALLOWED.
3. PROVIDE UNIT WITH R–410A REFRIGERANT.
4. EXTERNAL STATIC PRESSURE SHALL INCLUDE DUCT AND DUCT–MOUNTED COMPONENTS SHOWN ON DRAWINGS ONLY. VENDOR SHALL CALCULATE INTERNAL STATIC PRESSURES FOR SUCH ACCESSORIES AS FILTERS, DAMPERS, COILS, PLENUMS, ETC.
5. PROVIDE UNIT WITH SINGLE POINT POWER.
6. PROVIDE UNIT WITH BARD GUARD SIZED TO FIT THE UNIT AND INSTALLED BY THE FACTORY. (3)
7. PROVIDE 3–TON AND 4–TON UNITS UNITS WITH (2–STAGE) SCROLL COMPRESSOR.
8. PROVIDE AH–4 WITH MOTORIZED FRESH AIR DAMPER.
9. PROVIDE AH–1, AH–2, AH–3, AH–5, AH–6 AND AH–7 WITH ROOM VENTILATOR OPTION FOR 0–50% OSA WITH FULLY MODULATING RELIEF AIR DAMPER, 7" INTAKE HOOD WITH FILTER, SOLID STATE CONTROLLER WITH OCCUPANCY AND 4–20 MA THERMOSTAT SIGNAL INPUT.
10. PROVIDE UNIT WITH FACTORY INSTALLED CRANKCASE HEATER.
11. PROVIDE UNIT WITH ECM SUPPLY AIR BLOWER MOTORS.
12. PROVIDE UNITS CONFIGURED FOR 2" MERV 8 PLEATED FILTERS. PROVIDE WITH TWO SETS OF MERV 8 PLEATED FILTERS. INITIAL SET FOR USE DURING CONSTRUCTION, FINAL SET USED AFTER FINAL CLEAN, PRIOR TO TEST AND BALANCE, AND PRIOR TO OWNER OCCUPANCY.
13. PROVIDE ALL UNITS WITH ELECTRIC HEAT AS SCHEDULED, UNITS WITH HEATERS ABOVE 10KW SHALL HAVE 2–STAGE HEATING.
14. PROVIDE ALL UNITS WITH ASHRAE 90.1 COMPLIANT PROGRAMMABLE THERMOSTAT WITH 2–STAGES OF COOLING AND 2–STAGES OF HEATING. PROGRAM SETBACK TEMPERATURES AND SCHEDULES PER OWNER REQUIREMENTS. SEE MECHANICAL CONTROL REQUIREMENTS.
15. PROVIDE ALL UNITS WITH A CUSTOM BUILT AH UNIT SKIRT, WITH (4) 16 GA STEEL PANELS CUT TO FIT AND 1–1/2" UNISTRUT ANGLE IRON STEEL. ALL AH UNIT SKIRTS SHALL BE FIELD MEASURED TO ENSURE PROPER FIT PRIOR TO MANUFACTURING. PROVIDE WITH A 1'x1' STAINLESS STEEL ACCESS DOOR, 16 GAUGE WITH 16 GAUGE FRAME, PIANO HINGE, AND KEYED LATCH. ALL AH UNIT SKIRTS SHALL BE PRIMED AND PAINTED TO MATCH THE COLOR ON THE EXTERIOR OF THE BUILDING, REFER TO ARCHITECT FOR COLOR. (3)

(X) AIR DEVICE SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

MARK	DEVICE TYPE	MFGR	MODEL	SIZE	FACE OR BORDER	MATERIAL	MAX NC LEVEL	FRONTAL BLADES	DEVICE DAMPER	NOTES
CD1	CEILING DIFFUSER	TITUS	OMNI	24X24	LAY–IN	STEEL	25	LOUVERED	NONE	1–4
CD2	CEILING DIFFUSER	TITUS	MCD–AA	8X8	TYPE 1 SURFACE	ALUMINUM	25	LOUVERED	OBD	1–4
SR1	SUPPLY REGISTER	TITUS	300 RL	8X6	TYPE 1 SURFACE	ALUMINUM	25	LOUVERED	OBD	1–4
RG1	RETURN GRILLE	TITUS	350 RL	22X22	LAY–IN	STEEL	25	LOUVERED	NONE	1–4
TG1	TRANSFER GRILLE	TITUS	350 RL	22X22	LAY–IN	STEEL	25	LOUVERED	NONE	1–4
ER1	EXHAUST REGISTER	TITUS	350 FL	12X12	TYPE 1 SURFACE	ALUMINUM	25	LOUVERED	OBD	1–4
⌙	MANUAL DAMPER	GREENHECK	MBD / MBDR	SEE PLAN	DUCT MOUNT	STEEL	N/A	N/A	N/A	1, 5

(ID) CFM / NECK SIZE / TYPICAL

NOTES:
1. INSTALL PER DETAILS ON PLANS AND PER MANUFACTURER'S INSTALLATION REQUIREMENTS AND RECOMMENDATIONS.
2. PROVIDE SQUARE TO ROUND ADAPTER IF REQUIRED.
3. PERFORMANCE NOT TO EXCEED 25 NC AND 0.08"S.P.
4. CEILING DIFFUSERS OR GRILLES TO BE WHITE IN COLOR UNLESS DIRECTED OTHERWISE BY ARCHITECT.
5. PROVIDE GREENHECK MODEL MBD FOR OBD'S AND MODEL MBDR FOR ROUND DAMPERS. MANUAL BALANCE DAMPER SHALL BE MINIMUM 20 GAUGE WITH SYNTHETIC OR BRONZE BUSHING, AND INCLUDE LOCKING HANDLE WITH INSULATION STANDOFF. DAMPERS OVER 12" SHALL HAVE A CONTINUOUS PIVOT ROD. DO NOT USE JIFFY DAMPERS, LIGHT GAUGE, NON–CONTINUOUS RODS, OR WING–NUT ON AXLE TYPE DAMPERS WHICH ARE NOT ACCEPTABLE.

(IU)(OU) SPLIT SYSTEM COOLING ONLY UNIT SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

AIR HANDLING UNIT (INDOOR UNIT) CONDENSING UNIT (OUTDOOR UNIT) MARK	MFGR	MODEL	AREA SERVED	NOM TONS	SUPPLY CFM	ELECTRICAL MIN. (S)EER	VOLTS/PHASE	MCA AMPS	MOCP	COOLING TOT MBH	ENT. AIR DB	ENT. AIR WB	MAX WT (LBS.)	NOTES
IU–1	MITSUBISHI	PKA–A12HA	I.T. ROOM	1	290–425	(15.2)	230/1	13	15	6–12	80	67	50	1–14
OU–1		PUY–A12NHA											125	

NOTES:
1. INSTALL INDOOR AND OUTDOOR UNITS PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
2. COOLING CAPACITY BASED ON 95°F DB AMBIENT, EAT 80/67°F WB. PROJECT ELEVATION: 5,000 FT.
3. PROVIDE WITH R–410A REFRIGERANT.
4. PROVIDE WALL MOUNTED INDOOR UNIT.
5. INSTALL OUTDOOR UNIT ON 4" CONCRETE HOUSEKEEPING PAD WITH LOCKABLE GATED ENCLOSURE.
6. PROVIDE WITH WALL MOUNTED HARD WIRED CONTROLLER/THERMOSTAT.
7. SEE MANUFACTURER'S DOCUMENTATION FOR MAXIMUM LENGTH OF REFRIGERANT LINES. PROVIDE PRE–CHARGED REFRIGERATION PIPING SIZED PER THE MANUFACTURER'S GUIDELINES FOR THE ACTUAL REFRIGERANT PIPING LENGTH.
8. PROVIDE UNIT WITH LOW AMBIENT COOLING OPTION AND ACCESSORIES FOR OPERATION DOWN TO 0°F.
9. REFER TO PLUMBING PLANS FOR CONDENSATE DRAIN PIPING.
10. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION.
11. INSULATE BOTH LIQUID AND SUCTION LINES PER MANUFACTURER'S RECOMMENDATIONS. ALL REFRIGERANT LINES SHALL BE TYPE–K HARD COPPER ONLY AND INSULATED. EXTERIOR INSULATION SHALL BE WRAPPED WITH ALUMINUM JACKET AND SS BANDS PER DETAIL 2/M300.
12. PROVIDE WITH FACTORY CONDENSATE PUMP.
13. PROVIDE WITH AUXILIARY DRAIN PAN SENSOR OPTION TO TURN IU OFF ON HIGH CONDENSATE LEVEL.

(EF) EXHAUST FAN SCHEDULE

*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS

MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	ESP	VOLTS	PHASE	MOTOR HP	FLA	RPM	MAX ZONES	WT	NOTES
1	RESTROOM/LOCKER	GREENHECK	SQ–120–VG	600	0.5	115	1	1/2	6.2	1,121	3.0	70	1, 2, 4
2	JANITOR	GREENHECK	SP–A290	150	0.5	115	1	N/A	0.72	988	3.0	26	1–3

NOTES:
1. PROVIDE FAN FOR OPERATION AT 5,000 FT ELEVATION.
2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. CEILING MOUNTED FAN: PROVIDE UL LISTED AND AMCA CERTIFIED DIRECT DRIVE CEILING MOUNTED EXHAUST FAN. PROVIDE WITH BACKDRAFT DAMPER, ACOUSTICALLY INSULATED CABINET, MOUNTING BRACKETS, GALVANIZED STEEL HOUSING, DYNAMICALLY BALANCED FAN, MOTOR WITH THERMAL OVERLOAD PROTECTION, FACTORY VIBRATION ISOLATION KIT, AND DISCHARGE PER PLANS. PROVIDE WITH SOLID STATE SPEED CONTROLLER AND LOCATE INTERNALLY CONCEALED IN THE UNIT FOR ADJUSTMENT BY THE TAB CONTRACTOR. PROVIDE WITH AN ON/OFF SWITCH AND INSTALL NEXT TO THE LIGHT SWITCH IN THE ROOM SERVED.
4. IN–LINE FAN: PROVIDE UL LISTED AND AMCA CERTIFIED DIRECT DRIVE IN–LINE EXHAUST FAN. PROVIDE WITH INSULATED HOUSING WITH 1" THICK MINIMUM INSULATION, BACKWARD INCLINED ALUMINUM WHEEL, MOUNTING BRACKETS, FACTORY VIBRATION ISOLATION KIT, AND DISCHARGE PER PLANS. PROVIDE WITH FLEX CONNECTIONS AT DUCT INLET AND OUTLET, PROVIDE WITH CORROSION RESISTANT FASTENERS. PROVIDE WITH EC MOTOR "VARI–GREEN" OR EQUAL MOTOR WITH DIAL ON FAN HOUSING FOR SPEED ADJUSTMENT BY THE TAB CONTRACTOR. PROVIDE WITH WD–330 GRAVITY BACKDRAFT DAMPER. DAMPER MUST BE CAPABLE OF OPERATING WITHIN THE RANGE OF 0.05" WC START OPEN TO 1.5" WC FULL OPEN. PROVIDE FAN WITH TIMER AND SCHEDULE TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS. FAN SHALL BE OFF DURING UNOCCUPIED HOURS. PROVIDE ACCESS PANEL IN CEILING FOR FAN SERVICE.

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
MECHANICAL SCHEDULED AND OSA CALCULATIONS

REVISIONS

MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

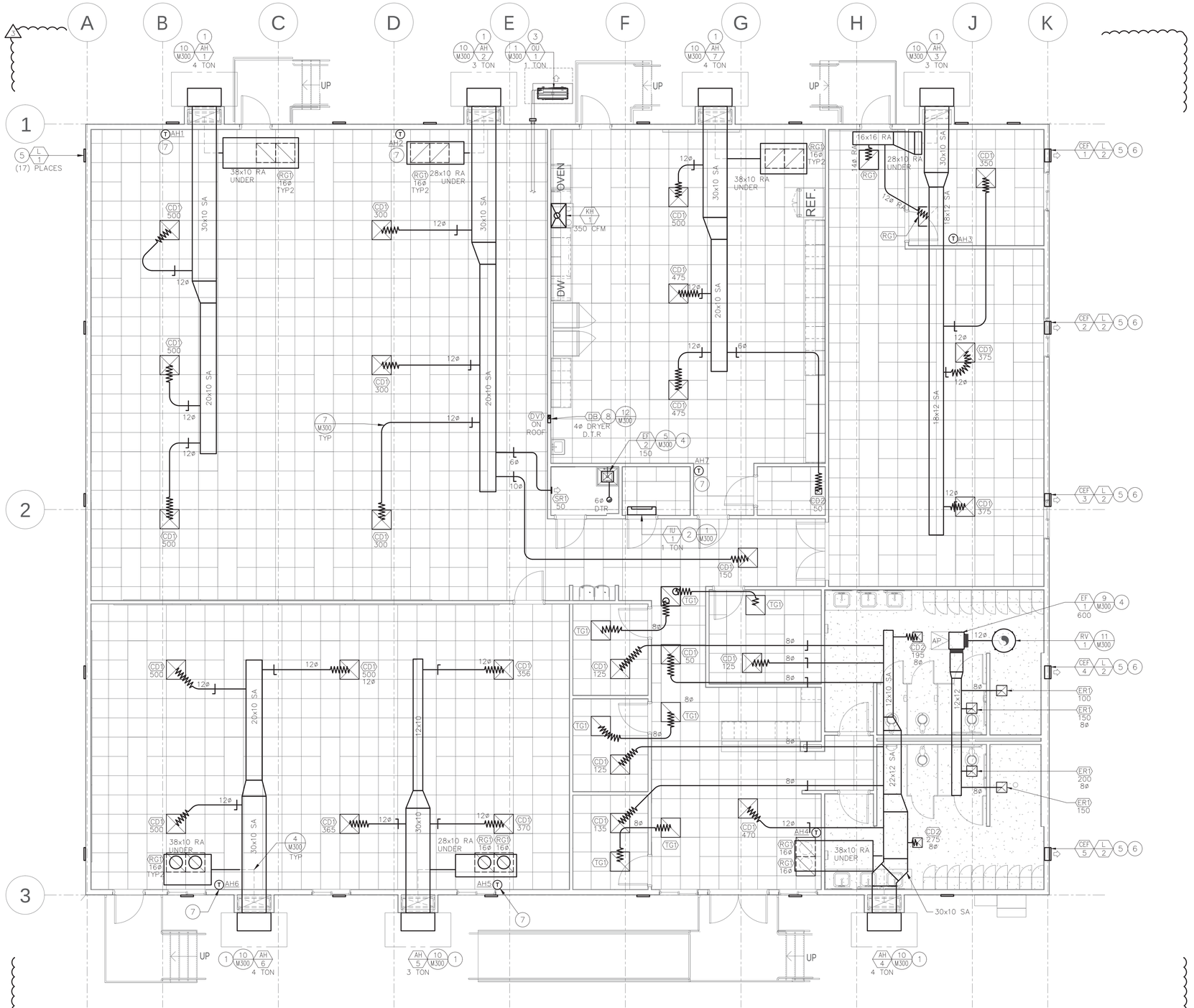
REVIEWED BY: GSP
DRAWN BY: WDK/FC

Professional Engineer Registered Certificate No. 29717 GREGORY PRIANO Date Signed 11-7-17 Phoenix, U.S.A.

Expires 12/31/2019

DATE: 07-21-2017
JOB No: 1641B
SHEET: M101

APPLIED ENGINEERING
2800 S. RURAL RD. SUITE 101
TEMPE, AZ 85282 (480)968 3070
JOB NUMBER 17–045



MECHANICAL KEYED NOTES:

1. PROVIDE AND INSTALL NEW WALL MOUNT AIR HANDLER UNIT AS SCHEDULED AND PER DETAIL INDICATED. EXTEND DUCTS AT SIZE INDICATED TO AIR DEVICES. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
2. PROVIDE AND INSTALL NEW DUCTLESS SPLIT SYSTEM (IU) AS SCHEDULED AND PER DETAILS INDICATED. LOCATE UNIT HIGH ON WALL. PRE-COORDINATE LOCATION OF UNIT WITH IT INSTALLER, ELECTRICAL CONTRACTOR, AND OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. EXTEND LINE-SET CONCEALED IN WALLS AND ABOVE CEILING TO OUTDOOR UNIT.
3. PROVIDE AND INSTALL OUTDOOR UNIT (OU) FOR DUCTLESS SPLIT SYSTEM AND LOCATE ON A CONCRETE HOUSEKEEPING PAD. BOTH EXTERIOR LINE-SETS SHALL BE INSULATED AND WRAPPED WITH AN ALUMINUM JACKET PER DETAIL INDICATED. EXTEND LINE-SETS TO IU CONCEALED IN WALLS AND ABOVE CEILING.
4. PROVIDE AND INSTALL EXHAUST FAN AS SCHEDULED AND PER DETAIL INDICATED AND ROUTE DUCTS TO ROOF VENT. SEE CONTROL REQUIREMENTS AND SCHEDULE FOR REQUIRED FAN CONTROLS.
5. PROVIDE LOUVERS TO CRAWL SPACE AS SCHEDULED. COORDINATE INSTALLATION SUCH THAT ALL LOUVERS ARE INSTALLED AT A UNIFORM ELEVATION AND SPACING PER PLAN. MANUAL LOUVERS SHALL BE INSTALLED AT EXHAUST FANS, AND DAMPERS SHALL BE REMOVED OR LOCKED OPEN.
6. PROVIDE CRAWL SPACE EXHAUST FAN AS SCHEDULED. SET TO EXHAUST FAN TO OPERATE WHEN HUMIDITY IN THE SPACE MEETS OR EXCEEDS 50% RH.
7. PROVIDE AN INSULATED SUB-BASE FOR THERMOSTATS INSTALLED ON EXTERIOR WALLS (TYPICAL).
8. PROVIDE AND INSTALL DRYER BOX AS SCHEDULED AND LOCATE ON WALL HIGH ENOUGH TO USE WITH A STACKED WASHER AND DRYER UNIT. ROUTE 4ø DRYER VENT UP THROUGH ROOF AND TERMINATE WITH ROOF JACK AS SCHEDULED.

ME□□ANI□AL FLOOR PLAN

3/16" = 1'-0"

SPS+ ARCHITECTS

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
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TAMARAX STREET
TUBA CITY, ARIZONA 86045
MECHANICAL FLOOR PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

REVIEWED BY: GSP
DRAWN BY: WDK/FC

Registered Professional Engineer (Mechanical) Certificate No. 29717 GREGORY PRIANO Date Signed 11-7-17 Arizona, U.S.A.

Expires 12/31/2019

DATE: 07-21-2017
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2800 S. RURAL RD. SUITE 101
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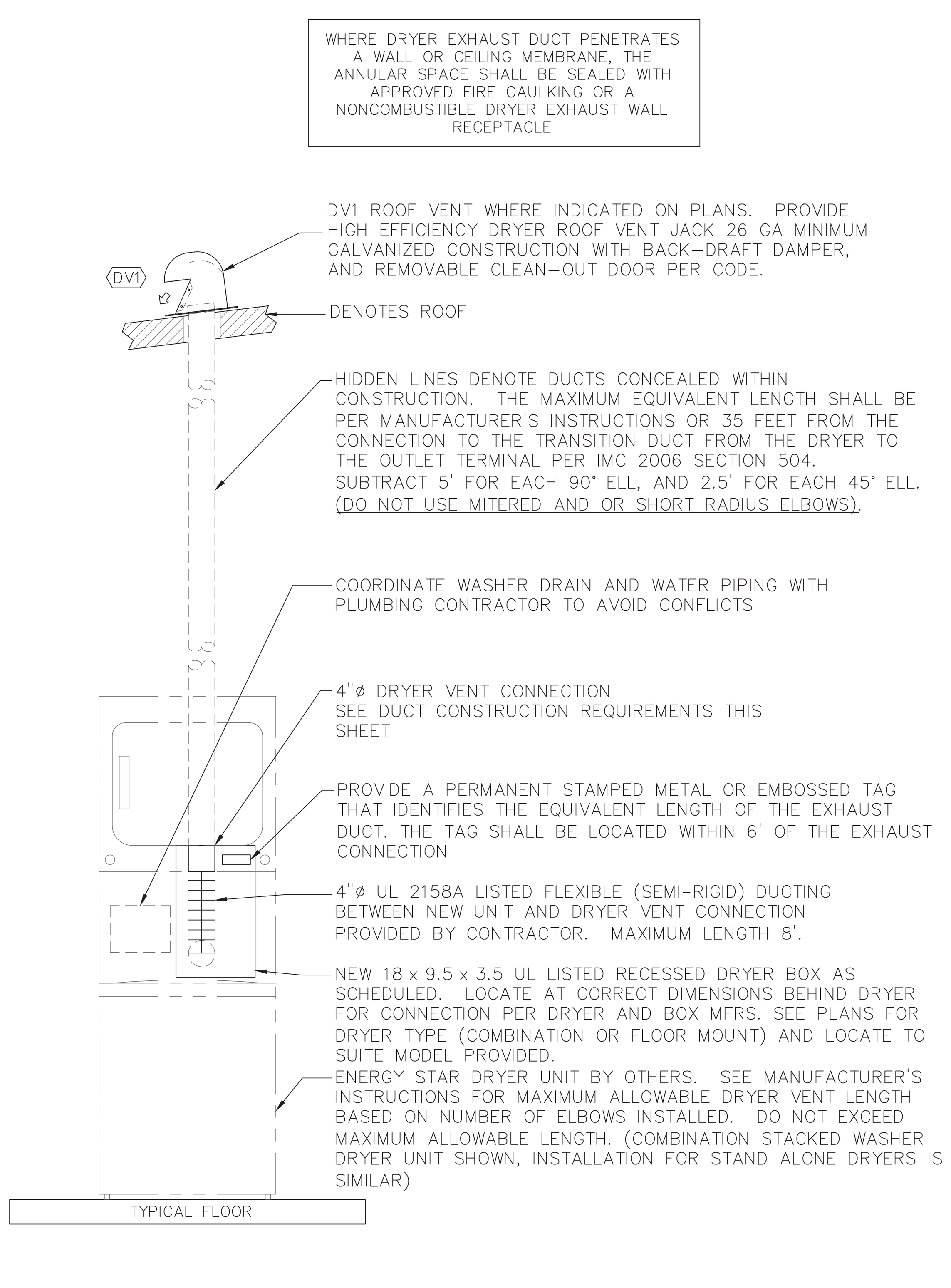
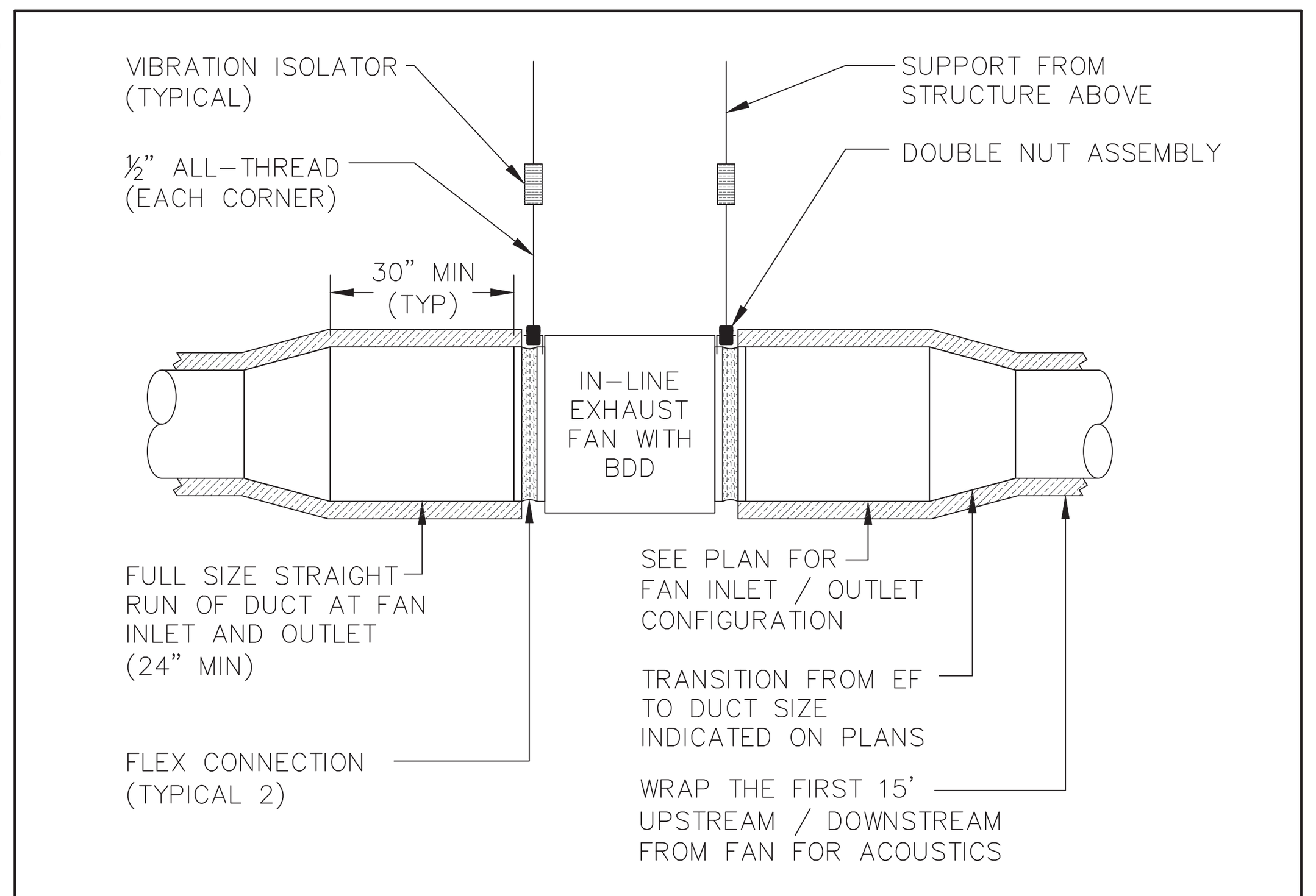
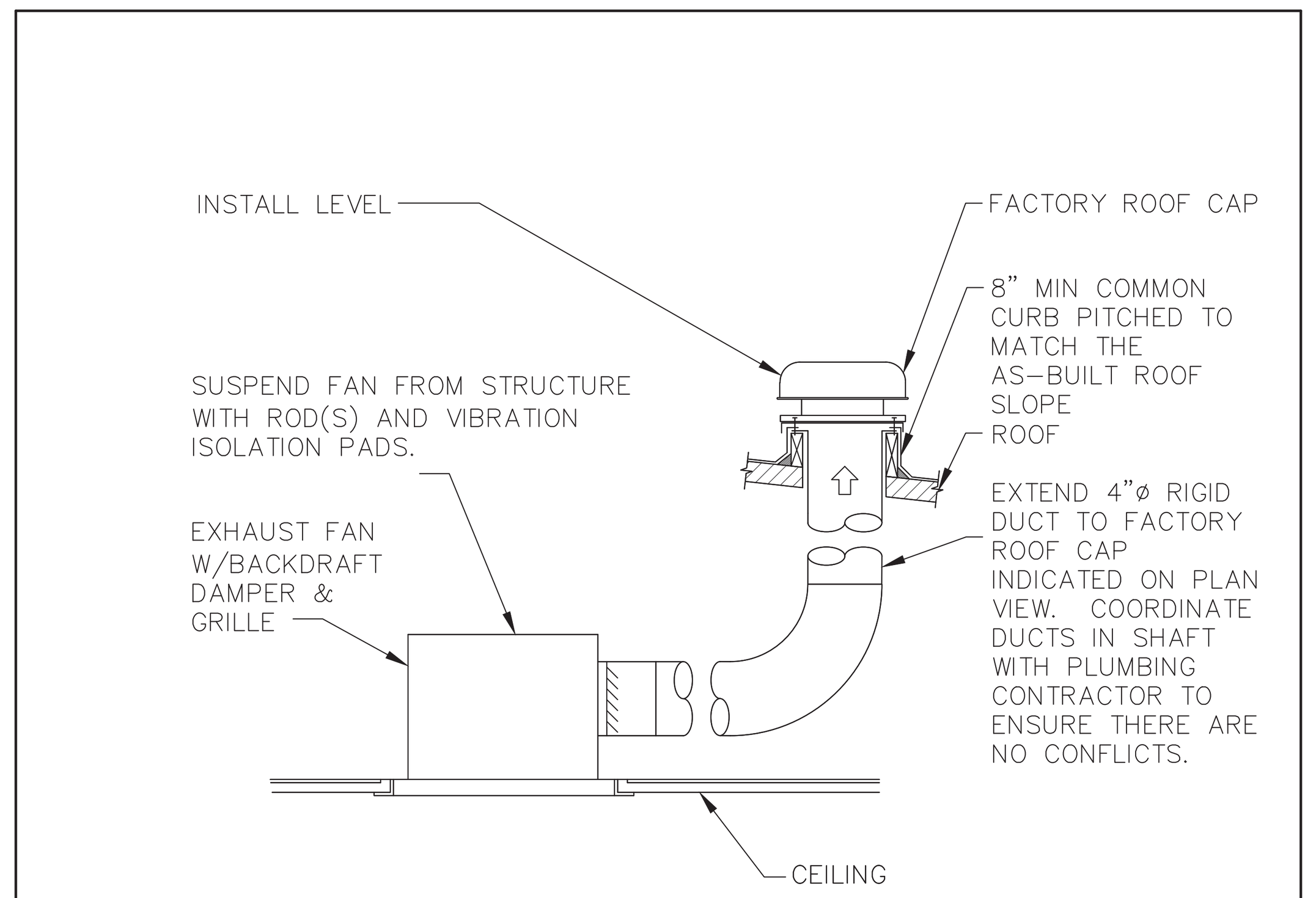


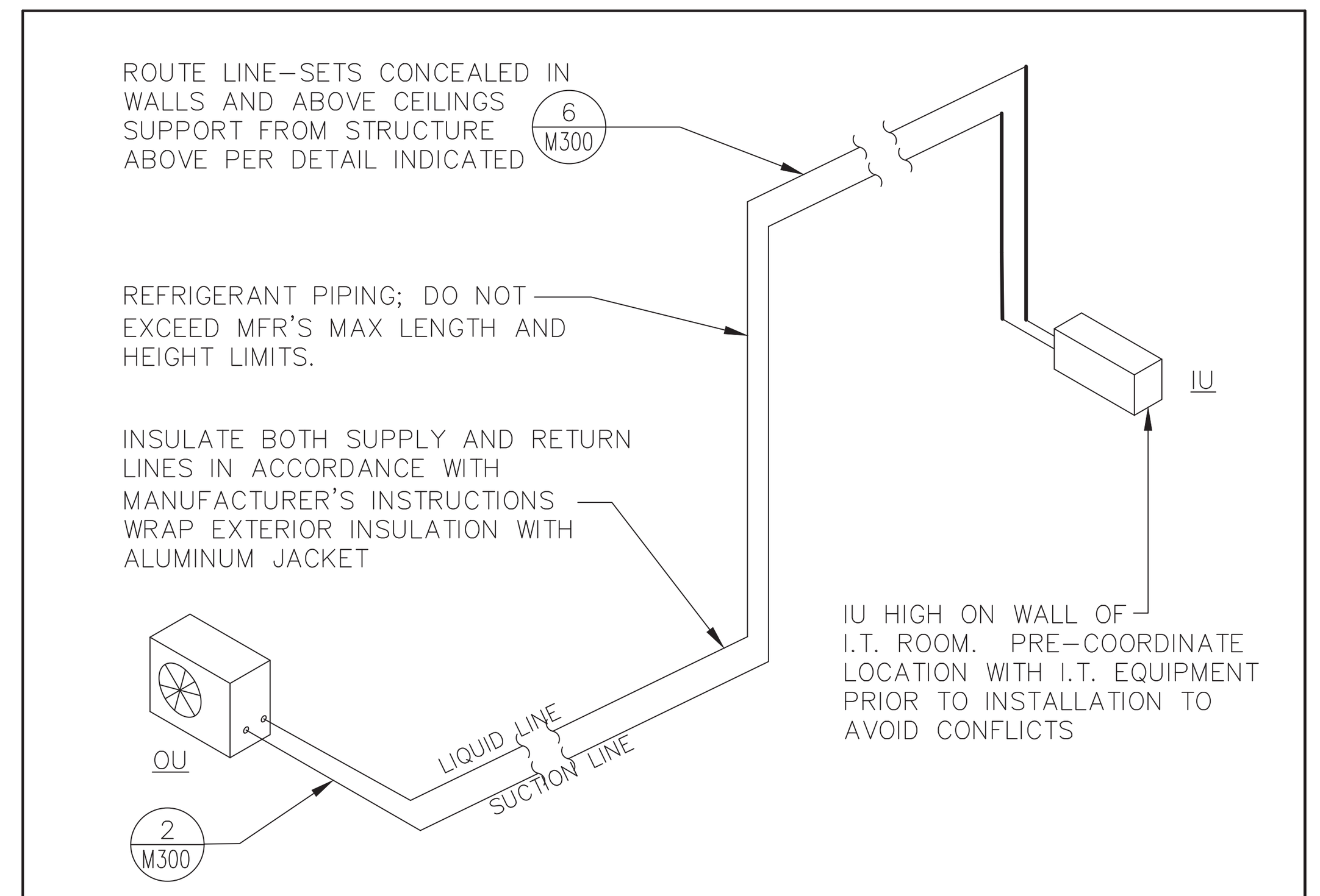
12 M300 **DRYER DUCT INSTALLATION DETAIL (TYPICAL)** SCALE N.T.S.



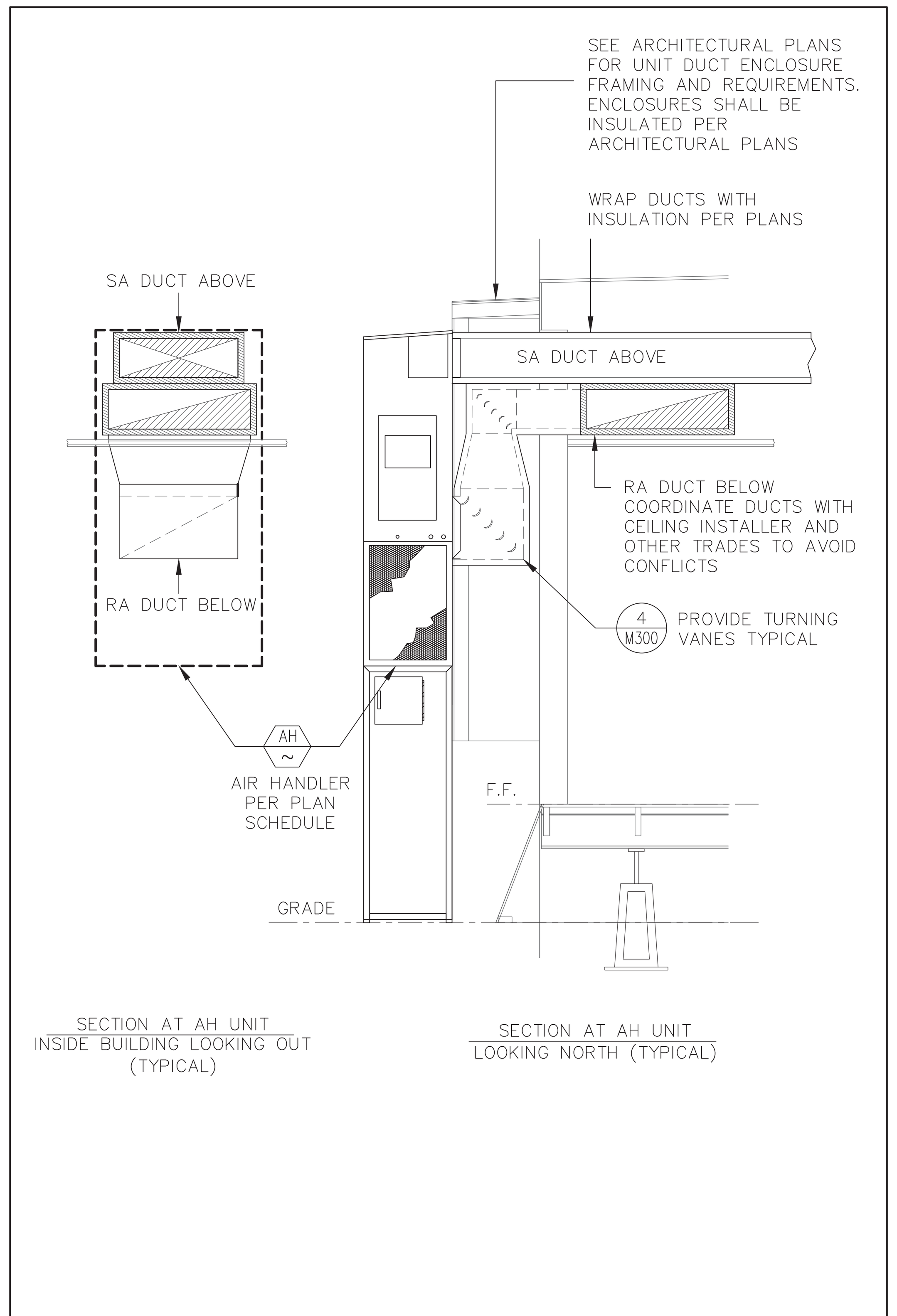
9 M300 **INLINE EXHAUST FAN DETAIL** SCALE N.T.S.



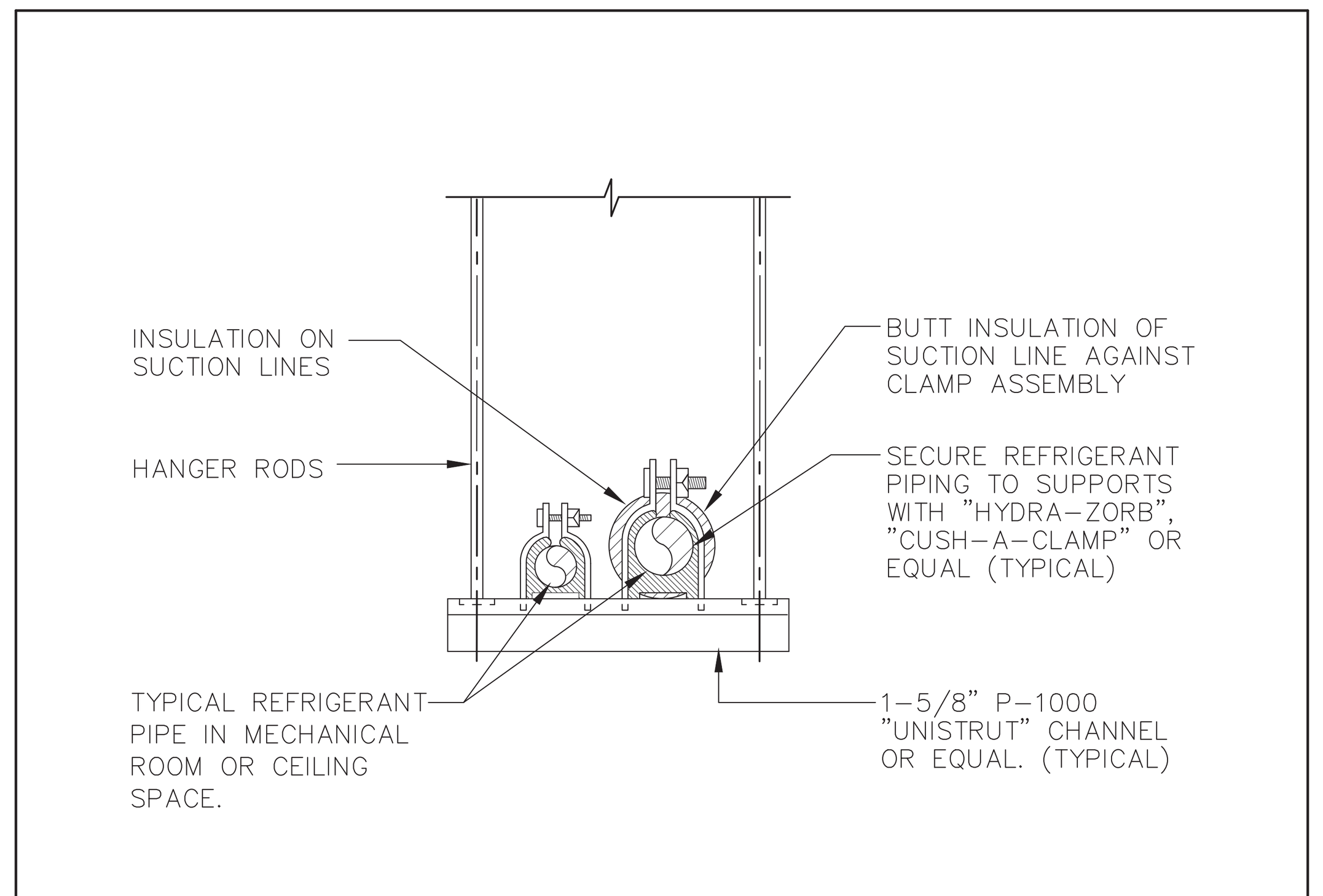
5 M300 **EXHAUST FAN ROOF DISCHARGE DETAIL** SCALE N.T.S.



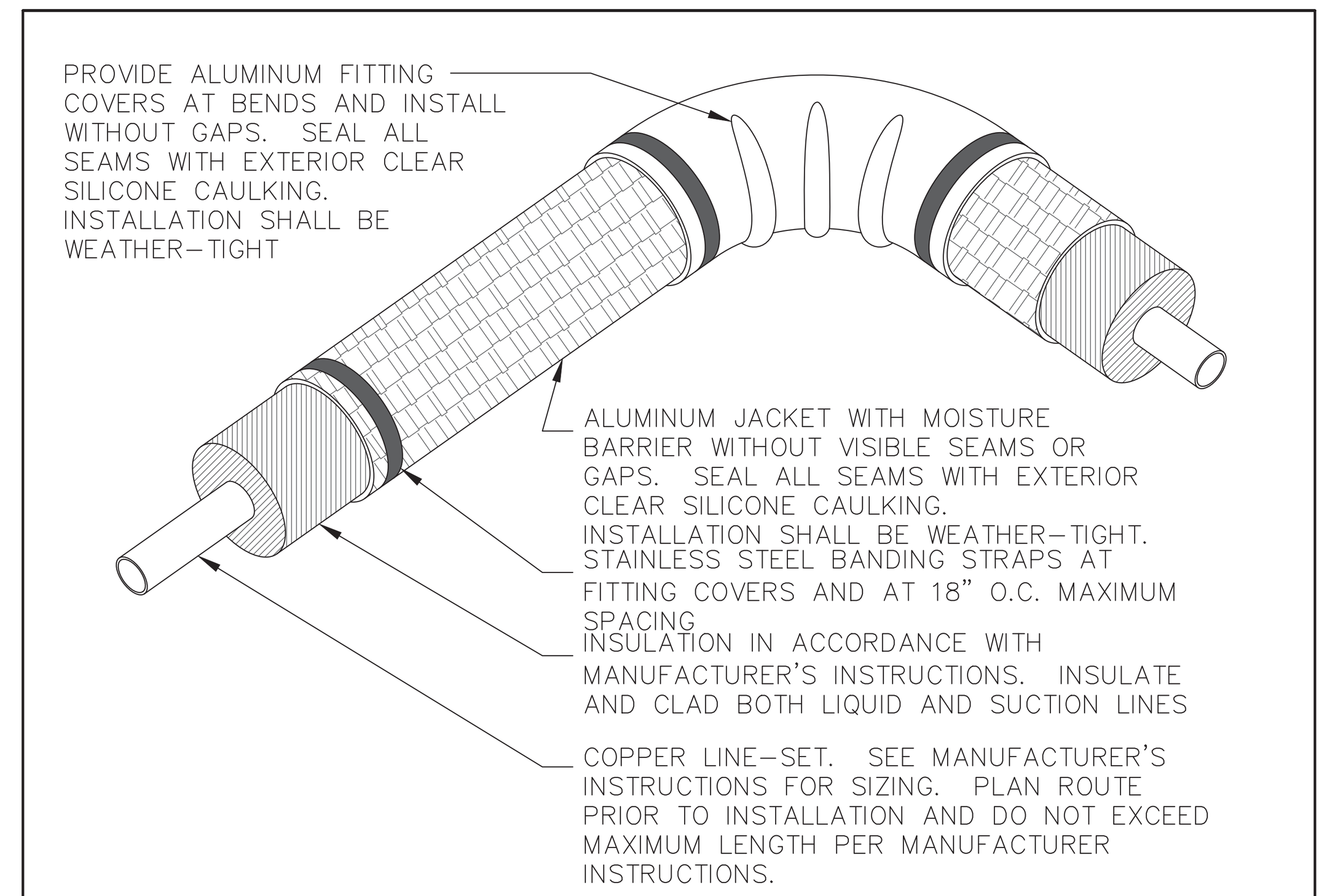
1 M300 **SPLIT SYSTEM DETAIL** SCALE N.T.S.



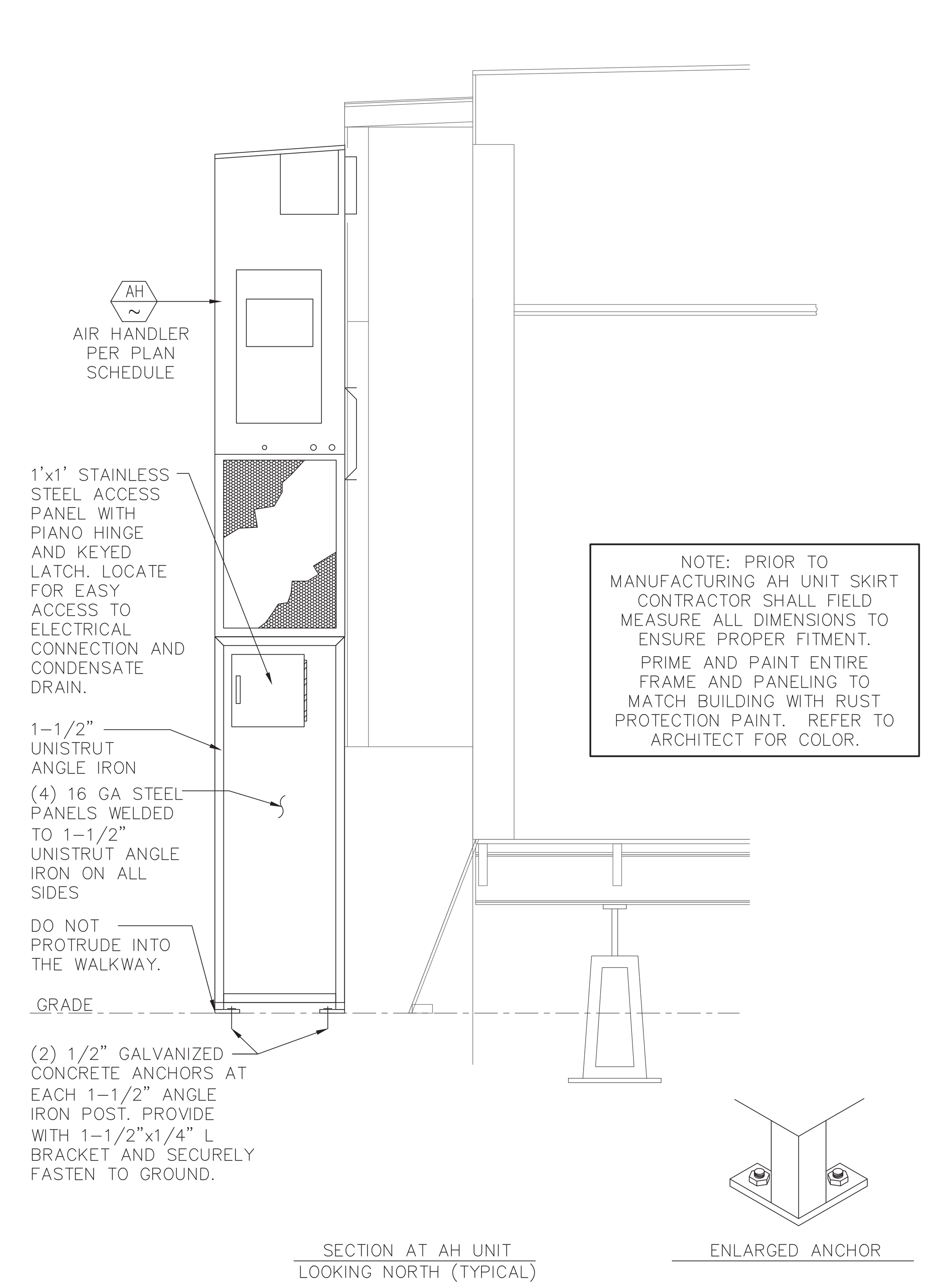
10 M300 **WALL MOUNT AH UNIT DETAIL** SCALE N.T.S.



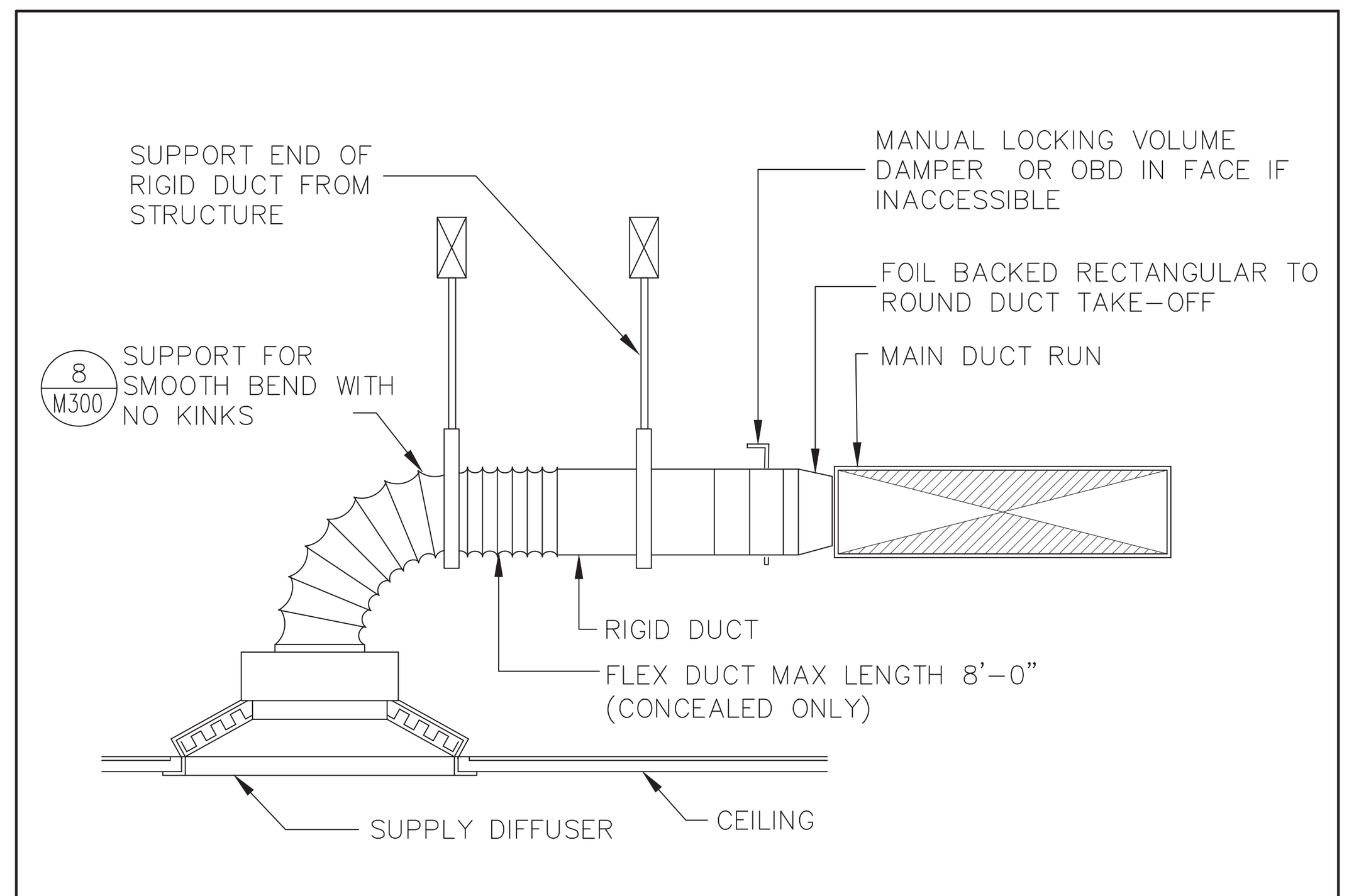
6 M300 **REFRIGERANT PIPING TRAPEZE HANGAR DETAIL** SCALE N.T.S.



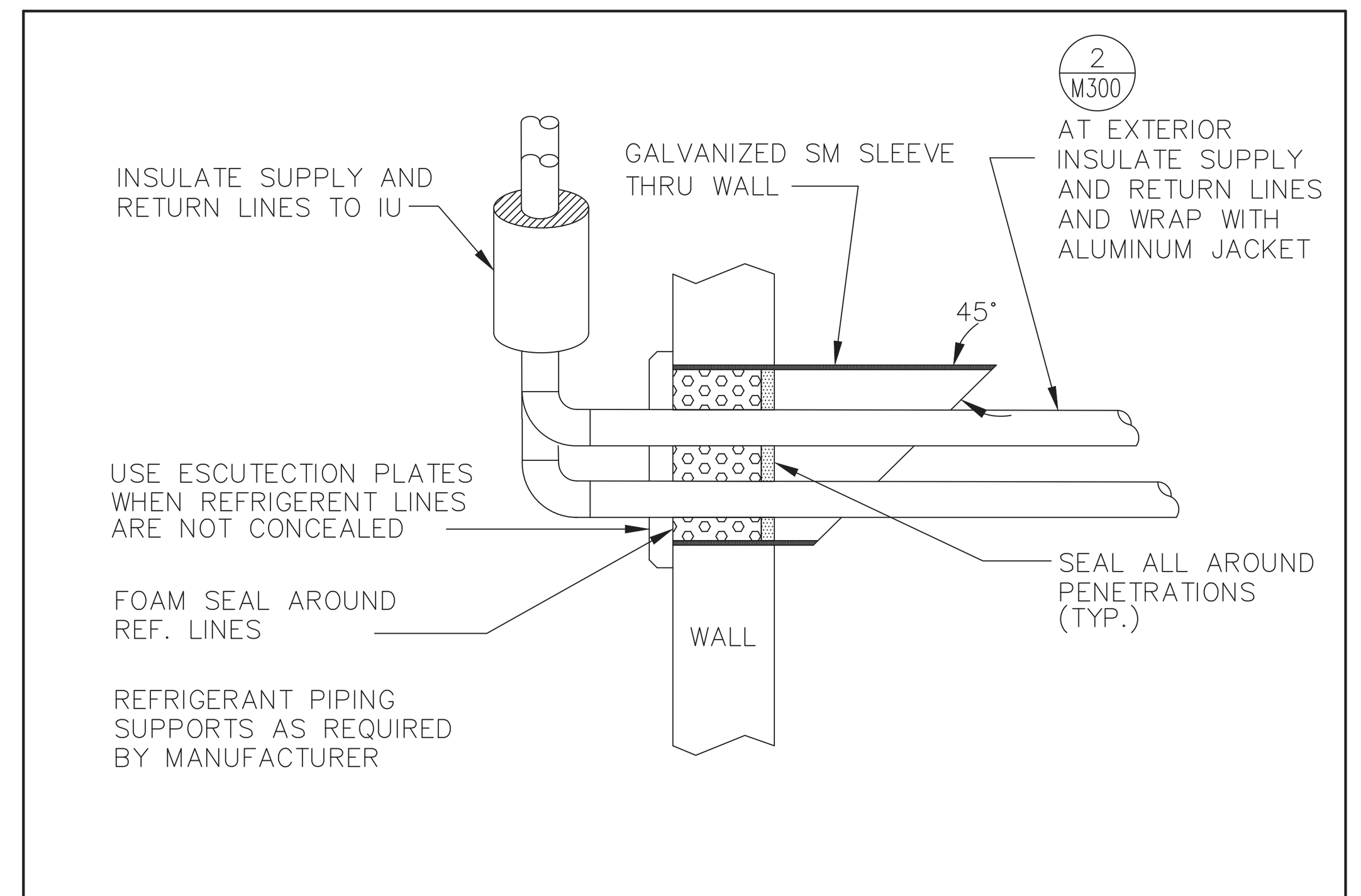
2 M300 **EXTERIOR INSULATED REFRIGERANT PIPING DETAIL** SCALE N.T.S.



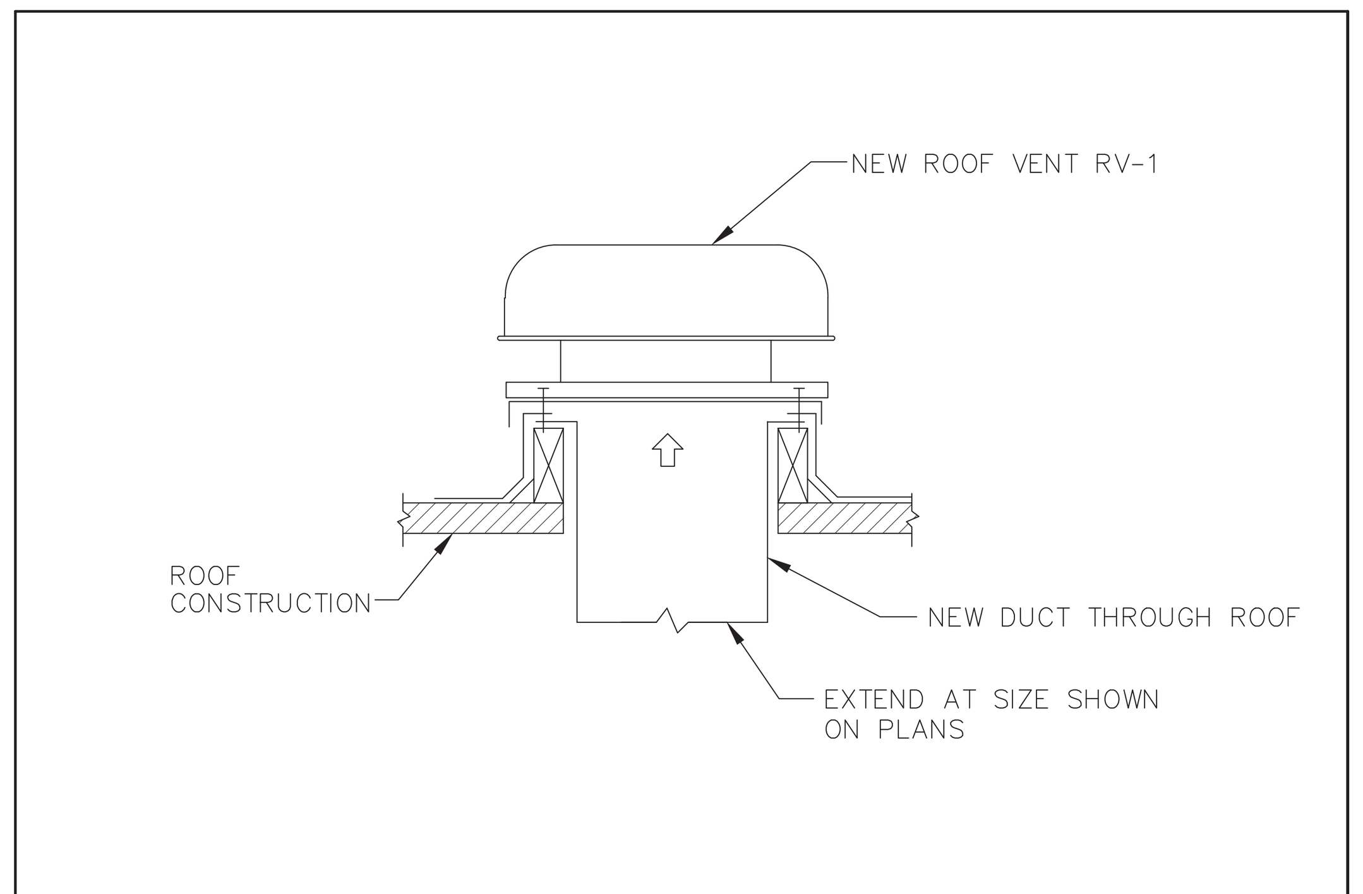
13 M300 **WALL MOUNT AH UNIT SKIRT DETAIL (TYPICAL)** SCALE N.T.S.



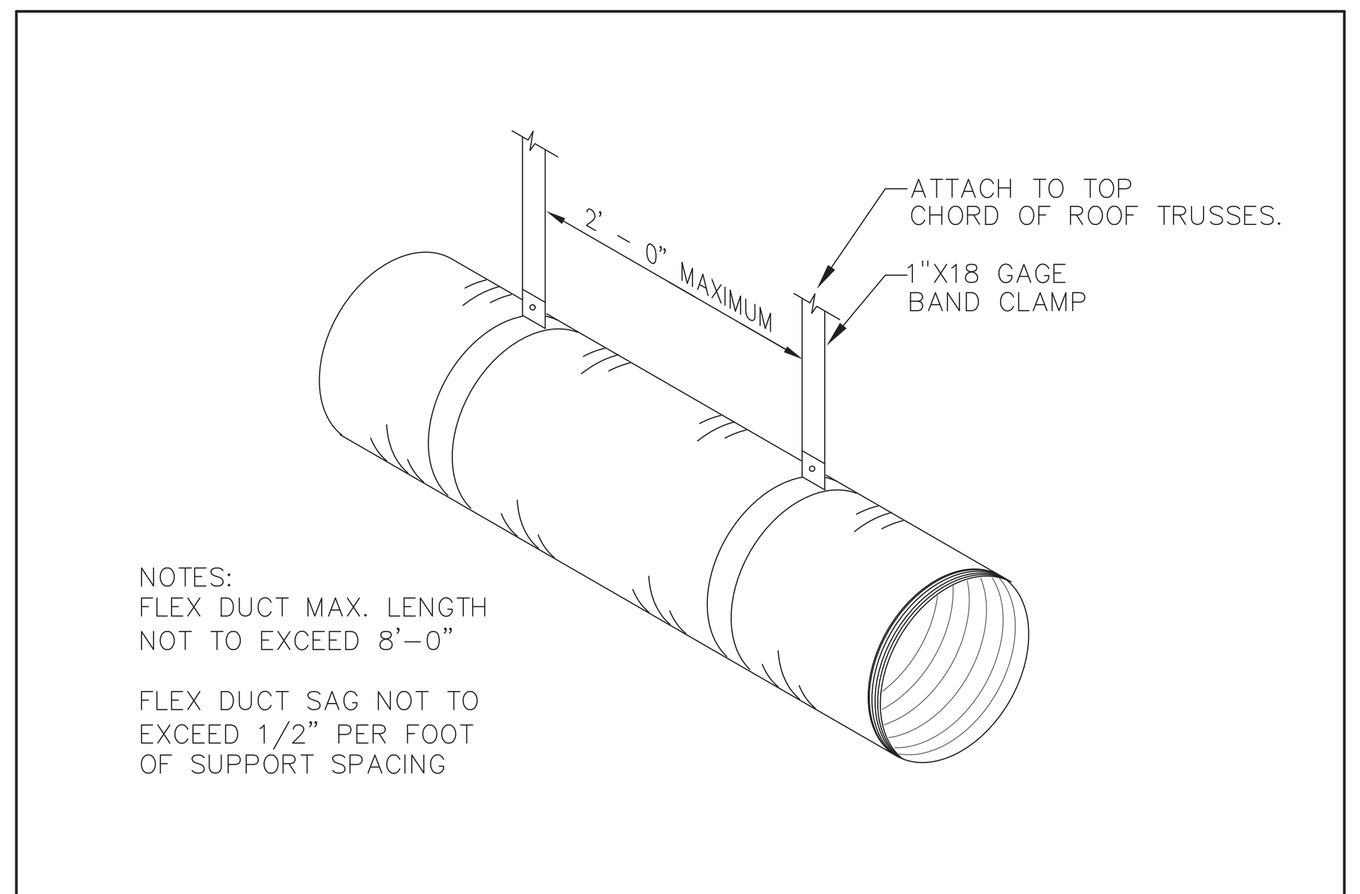
7 M300 **FLEX DIFFUSER CONNECTION DETAIL CONCEALED** SCALE N.T.S.



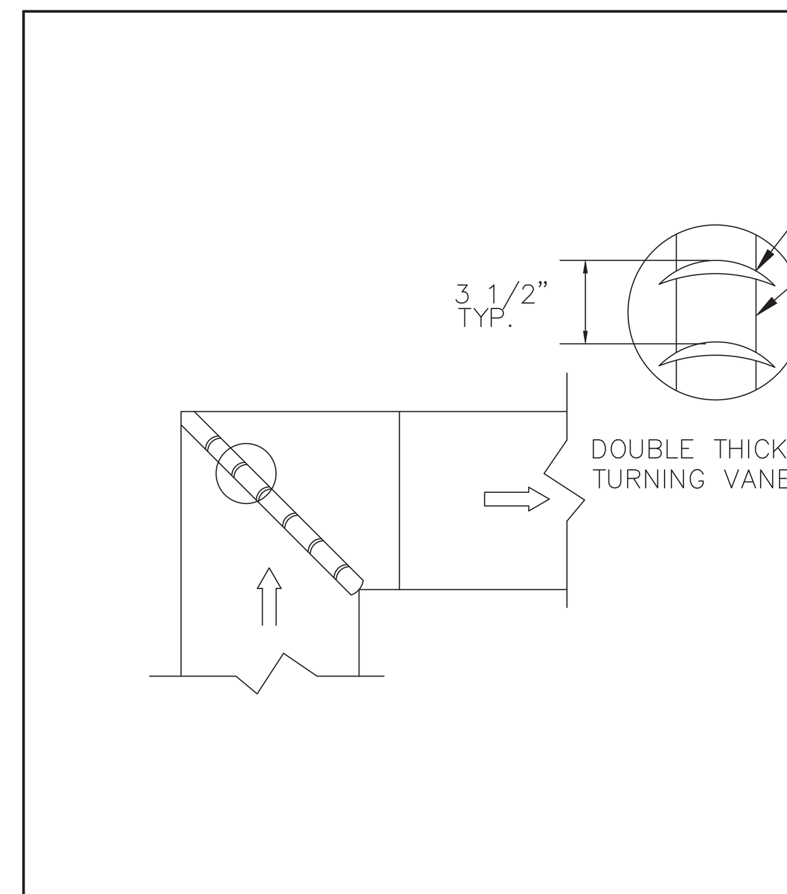
3 M300 **REFRIGERANT PIPING THRU WALL DETAIL** SCALE N.T.S.



11 M300 **ROOF VENT DETAIL**



8 M300 **FLEX DUCT SUPPORT DETAIL CONCEALED** SCALE N.T.S.



4 M300 **TYPICAL DUCT TURN DETAIL** SCALE N.T.S.

APPLIED ENGINEERING
2800 S. RURAL RD. SUITE 101
TEMPE, AZ 85282 (480)968 3070
JOB NUMBER 17-045

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
MECHANICAL DETAILS

REVISIONS

MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

REVIEWED BY: GSP
DRAWN BY: WDK/FC

Registered Professional Engineer, Certificate No. 29717, GREGORY PIRAINO, Arizona, U.S.A. Expires 12/31/2019

DATE: 07-21-2017
JOB No: 1641B
SHEET: M300

PLUMBING SPECIFICATIONS

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ALL AUTHORITIES HAVING JURISDICTION INCLUDING, BUT NOT LIMITED TO THE 2012 INTERNATIONAL PLUMBING CODE AND ADOPTED CODE OF TUBA CITY WITH AMENDMENTS. OBTAIN PERMIT PRIOR TO CONSTRUCTION. WORK SHALL INCLUDE ALL MATERIALS, LABOR, SERVICES AND EQUIPMENT NECESSARY TO PROVIDE AN OPERATING SYSTEM AS SHOWN ON THE PLANS. PLANS ARE SCHEMATIC AND ARE NOT INTENDED TO SPECIFY ALL INCIDENTAL HARDWARE OR IDENTIFY ALL OFFSETS OR DIFFICULTIES WHICH MAY BE ENCOUNTERED IN THE COURSE OF COMPLETING THE PROJECT. DO NOT SCALE THE PLANS. CONTRACTORS SHALL FIELD MEASURE AND COORDINATE WITH OTHER TRADES PRIOR TO ORDERING HARDWARE. PLANS SHALL NOT BE SCALED OR USED FOR FABRICATION WITHOUT FIELD ADJUSTMENTS. WORK AND MATERIALS SHALL BE SUBJECT TO ACCEPTANCE BY OWNER'S REPRESENTATIVE.

2. PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL CLEARANCES AND EQUIPMENT LOCATIONS PRIOR TO COMMENCING PROJECT. PLUMBING CONTRACTOR SHALL SCHEDULE COORDINATION MEETINGS WITH THE MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR, FIRE PROTECTION CONTRACTOR, AND ANY CONTRACTORS FRAMING OR INSTALLING STRUCTURE SO AS TO SET EQUIPMENT, PIPE ELEVATIONS AND FINAL PIPE ROUTING TO ACCOMMODATE ALL TRADES AND ALL EXISTING BUILDING ELEMENTS AND RESTRICTIONS. TRADES SHALL ESTABLISH A RIGHT-OF WAY PLAN PRIOR TO CONSTRUCTION. THESE COORDINATION MEETINGS WILL BE HELD ON SITE WITH ALL PARTIES IN ATTENDANCE IN ADVANCE OF ANY PIPE INSTALLATION. AS THIS RESTORATION PROJECT INVOLVES NUMEROUS SPACE LIMITATIONS, CONGESTED AREAS, AND CHALLENGING RESTRICTIONS FIELD COORDINATION INCLUDING SEVERAL COORDINATION MEETINGS IS ESSENTIAL AND REQUIRED. CONTRACTOR SHALL NOT CHARGE OWNER, ARCHITECT, GENERAL CONTRACTOR, ENGINEER OR OTHERS FOR FIELD ADJUSTMENT DUE TO FIELD CONDITIONS. CONTRACTOR MUST INCLUDE IN FEE TO COMPLETE PROJECT MISCELLANEOUS PIPES REQUIRING OFFSETS AROUND BEAMS, COLUMNS, DUCTS, CONDUIT OR STRUCTURAL ELEMENTS OR BRACES. FIELD VERIFICATION AND INSTALLATION SHALL BE CONSIDERED INCLUDED IN BASE SCOPE OF WORK WITHOUT ADDITIONAL COMPENSATION FEES. PLUMBING CONTRACTOR SHALL OBTAIN ARCHITECTURAL PLANS, STRUCTURAL PLANS, MECHANICAL PLANS, AND ELECTRICAL PLANS AND VERIFY INTENDED CEILING HEIGHTS, SOFFIT LOCATIONS, AND OTHER ARCHITECTURAL FEATURE LOCATIONS AND SHALL ROUTE PIPING ACCORDINGLY TO ALLOW CONSTRUCTION OF OTHER ELEMENTS OF THE BUILDING TO BE CONSTRUCTED. PIPING ROUTING WILL NEED TO BE FIELD ADJUSTED FROM PLANS FOR FIELD CONDITIONS AND NUMEROUS FITTINGS PROVIDED TO SUIT.

3. WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC SOLID CORE PLASTIC ABOVE AND BELOW GRADE. FOREIGN PIPE WILL NOT BE ALLOWED. ACCEPTABLE PIPE MANUFACTURERS ARE CHARLOTTE PIPE AND FOUNDRY COMPANY, TYLER SOIL PIPE, OR EQUAL DOMESTIC MANUFACTURERS. INSULATE WASTE PIPE IN CRAWL SPACE WITH 1" RUBITEX CLOSED CELL OR EQUAL INSULATION. INSULATION SHALL BE TIED WITH OUTDOOR RATED CABLE TIES EVERY 3'.

4. ALL WATER, VENT, AND WASTE PIPING SHALL BE PRESSURE TESTED PER LOCAL CODES.

5. WATER SYSTEM SHALL BE DISINFECTED PER ENVIRONMENTAL HEALTH SERVICES' CURRENT EDITION.

6. COLD AND HOT WATER PIPING SHALL BE TYPE L COPPER WITH WROUGHT LEAD FREE FITTINGS AND SOLDER.

7. INSULATE HOT WATER SUPPLY AND RETURN PIPING WITH 1" RUBITEX CLOSED CELL OR EQUAL INSULATION. COPPER PIPE INSULATION SHALL HAVE A CONDUCTIVITY NO <0.27 BTU-IN/(H-FT2-DEGREE F.).

8. CONDENSATE DRAINS FOR STANDARD EFFICIENCY APPLIANCES SHALL BE COPPER TYPE DWV. CONDENSATE DRAINS FOR HIGH EFFICIENCY AND/OR CONDENSING EQUIPMENT (FURNACES, BOILERS, WATER HEATERS, FLUES) SHALL BE PVC OR AS INSTRUCTED IN THE INSTALLATION MANUAL FOR THE EQUIPMENT. INSULATE COPPER CONDENSATE LINES WITH CLOSED CELL BLACK RUBITEX OR EQUAL. INSULATE TO 10' FROM COOLING COILS.

9. ELECTRICAL WATER HEATER EFFICIENCY SHALL MEET THE IECC STANDARD.

10. INSTALL DIELECTRIC UNION AT DISSIMILAR METAL CONNECTIONS.

11. INSTALL CLEANOUTS BELOW ALL SINKS AND LAVATORIES AND OVER ALL WATER CLOSETS.

12. VENT LINES ARE DETAILED ON ISOMETRIC SHEETS. REFER TO ISOMETRICS FOR INSTALLATION OF VENT LINES.

13. SLOPE WASTE LINES 1/4"/FT AND SLOPE VENT LINES 1/8"/FT UNLESS SPECIFIED OTHERWISE ON THE PLANS.

14. PROVIDE BRASSCRAFT STOPS AT ALL WATER EQUIPMENT. PROVIDE STAINLESS STEEL ESCUTCHEONS ON ALL VISIBLE PIPING PENETRATIONS THROUGH FINISHED WALLS. PROVIDE STAINLESS STEEL ROUND ACCESS COVER PLATE ON CLEAN OUT LOCATIONS THROUGH FINISHED WALLS. PROVIDE ADA COMPLIANT PRE-MOLDED VINYL COVERED PADDING ON CONNECTIONS AND TAILPIECE UNDER ALL ADA LAVATORIES IN BRIGHT WHITE. FLEXIBLE CONNECTIONS TO PLUMBING EQUIPMENT SHALL BE STAINLESS STEEL BRAID REINFORCED.

15. PLUMBING VENTS SHALL BE TERMINATED 10' FROM OR 3' ABOVE ANY BUILDING AIR INTAKES. REFER TO PLUMBING CODE FOR DETAILS ON PLUMBING VENT TERMINATION.

16. PROVIDE STEEL ACCESS DOORS, 14 GAUGE WITH 16 GAUGE FRAME, PIANO HINGE, AND ALLEN KEY LATCH ON TRAP PRIMERS, WATER HAMMER ARRESTERS, VALVE ACCESS DOORS, AND ANY EQUIPMENT IN WALLS REQUIRING SERVICE ACCESS. SIZE AS REQUIRED TO ALLOW SUFFICIENT SERVICE ACCESS.

17. FIRE SEALS @ RATED PENETRATIONS SHALL BE APPROPRIATE U-L RATED DESIGNS AND INSTALLATIONS.

18. COPPER PIPE INSTALLED BELOW GRADE SHALL BE WITHOUT JOINTS AND WRAPPED WITH 20 MIL POLYETHYLENE TAPE WITH A MINIMUM OF 50% OVERLAP OR SHALL BE INSTALLED IN 20 MIL POLYETHYLENE SLEEVE.

19. CONDENSATE PIPING: REFER TO PLANS FOR APPROXIMATE ROUTING. ROUTING SHOWN IS SCHEMATIC ONLY. FIELD ROUTE AND OFFSET PIPING AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, OTHER PIPING SYSTEMS OR STRUCTURE. USE CODE APPROVED COPPER TYPE "DWV" PIPE PER SPECIFICATION NOTE 8. PROVIDE TRAP AND VENT AT MECHANICAL EQUIPMENT, SLOPE TO LOCATION SHOWN ON PLANS. COORDINATE WITH MECHANICAL CONTRACTOR TO SET UNIT HEIGHT / LOCATION FOR PROPER DRAINAGE FALL.

20. WATER HEATER EQUIPMENT MUST BE PROVIDED WITH CONTROLS, THERMOSTATIC MIXING DEVICES, OR TEMP SET STOPS THAT ALLOW THE USER TO SET THE WATER TEMPERATURES TO THE FOLLOWING LEVEL: PUBLIC FACILITY RESTROOM LAVATORIES TO 110F.

21. WATER, WASTE, AND VENT PIPING IS SHOWN SCHEMATICALLY. PLUMBING CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. DO NOT MOUNT ANY PIPING OVER ELECTRICAL PANELS. DO NOT LOCATE WASTE LINES UNDER FOOTINGS. REVIEW STRUCTURAL PLANS PRIOR TO PLACEMENT OF WASTE LINES TO AVOID CONFLICTS.

PLUMBING LEGEND

SYMBOL	ABBR.	DESCRIPTION
	CW	DOMESTIC COLD WATER PIPING
	HW	DOMESTIC HOT WATER PIPING
	HWR	DOMESTIC HOT WATER RETURN PIPING
	W	WASTE PIPING
	V	VENT PIPING
G	G	GAS PIPING
RC	RC	RECLAIM WATER
A	A	COMPRESS AIR LINE
○ ○	RD, OD	ROOF DRAIN AND OVERFLOW DRAIN
∅SCO ∅FCO	SCO, FCO	SURFACE OR FLOOR CLEAN
WCO ICO	WCO, CO	WALL CLEAN OUT OR CLEAN OUT
	VTR	VENT THRU ROOF
	FS	FLOOR SINK
	FD	FLOOR DRAIN
	FR	FIRE RISER
	HB	HOSE BIBB
	BV	BALL VALVE
	BFV	BUTTERFLY VALVE
	PV	PLUG VALVE
	PRV	PRESSURE REDUCING VALVE
	S.O.V.	SHUTOFF VALVE
	CV	CHECK VALVE
	DN.	PIPE DOWN
	UP	PIPE UP
	CONN.	PIPE CONNECTION
	P&T	RESSURE AND T&P RELIEF VALVE
	SA	SHOCK ABSORBER
	TP	TRAP PRIMER WITH UNION
	RD	ROOF DRAIN
	OFD	OVERFLOW DRAIN
WH-1	WH	WATER HEATER

*** NOT ALL SYMBOLS ARE APPLICABLE FOR THIS PROJECT ***

PIPING SUPPORT

VERTICAL: SUPPORT VERTICAL SECTIONS OF PIPING DIRECTLY TO WALL USING COPPER CLAMP. PROVIDE ONE SUPPORT AT EVERY FLOOR LEVEL (MIN) PAINT EXPOSED PIPE PER ARCHITECT

HORIZONTAL:

PIPE	SUPPORT SPACING
1/2"	6'
3/4"OR 1"	8'
1 1/4" OR LARGER	10'

PLUMBING FIXTURE SCHEDULE

CODE	DESCRIPTION	CODE	DESCRIPTION (PROVIDE LISTED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS)
WC-1	WATER CLOSET (ADA FLOOR MOUNTED): FIXTURE: AMERICAN STANDARD MODEL 3461.001 (1.28 GPF) MADERA FLOWISE, VITREOUS CHINA, LOW CONSUMPTION, ADA ELONGATED BOWL, SIPHON JET FLUSHING ACTION, 1 1/2" TOP SPUD INLET. MOUNT TO MEET ADA REQUIREMENTS FLUSH VALVE: SLOAN FLUSH VALVE MODEL# 111-1.28, (1.28 GPF), HIGH EFFICIENCY TOILET FLUSH VALVE. SEAT: PROVIDE WHITE SEAT WITH OPEN FRONT SEAT WITH SELF-SUSTAINING CHECK HINGE AND WITHOUT COVER. INSTALL PER MANUFACTURER'S INSTRUCTIONS.	WHA-1	WATER HAMMER ARRESTOR FIXTURE: PPP MODEL #SWA-1000C (1") - INSTALL PER MANUFACTURER. PROVIDE ACCESS DOOR SQUARE 16 GA. WITH STAINLESS STEEL 14 GA. PIANO HINGED DOOR AND ALLEN HEAD LOCK
WC-2	WATER CLOSET (FLOOR MOUNT): FIXTURE: AMERICAN STANDARD MODEL 3451.001 (1.28 GPF) MADERA FLOWISE, VITREOUS CHINA, LOW CONSUMPTION, ELONGATED BOWL, SIPHON JET FLUSHING ACTION, 1 1/2" TOP SPUD INLET. SEE ARCHITECT DRAWING FOR MOUNTING HEIGHT. FLUSH VALVE: SLOAN FLUSH VALVE MODEL# 111-1.28, (1.28 GPF), HIGH EFFICIENCY TOILET FLUSH VALVE. SEAT: PROVIDE WHITE SEAT WITH OPEN FRONT SEAT WITH SELF-SUSTAINING CHECK HINGE AND WITHOUT COVER. INSTALL PER MANUFACTURER'S INSTRUCTIONS.	TD-1	(ADA) SHOWER TRENCH DRAIN: FIXTURE: BLUCHER MODEL: BWS-100 ADA STAINLESS STEEL PERFORATED PLATE . LOCATED TRENCH DRAIN CENTERED OF SHOWER ENTRANCE AND 3" FROM WALLS. EDGES OF TRENCH DRAINS ARE NOT TO BE FLUSH WITH WALLS. TRENCH DRAIN COVER PLATES ARE TO BE ONE PIECE AND NOT MADE UP OF MULTIPLE PLATES. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
L-1	LAVATORY COUNTER TOP (ADA): FIXTURE: AMERICAN STANDARD MODEL #0476.028, 4" CENTER HOLES, LAVATORY VITREOUS CHINA, FRONT OVERFLOW. SUPPLY FITTINGS: CHICAGO FAUCET MODEL #3300 ABCP FAUCET (0.5 GPM AERATOR MAX). SELF-METER AND SELF-CLOSING. SUPPLIES: PROVIDE CHROME PLATE ANGLE STOPS WITH QUARTER TURN ACTION. WATER SUPPLY LINE TO BE BRAIDED STAINLESS STEEL HOSE. TRAP: ADJUSTABLE CAST BODY P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, CHROME FINISH. INSULATION: ADA-CONFORMING, WHEELCHAIR ACCESSIBLE LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE COVERED WITH MOLDED, ANTI MICROBIAL TRUEBRO, INC. LAV GUARD UNDER SINK PROTECTIVE PIPE COVER MODEL #103.	DCO FCO	FLOOR CLEAN-OUT: FIXTURE: WATTS MODEL #CO-200-R - CAST IRON BODY AND FRAME WITH ROUND ADJUSTABLE NICKEL BRONZE TAP, TAPER THREAD BRONZE PLUG. SAME SIZE OF PIPE IN WHICH IS INSTALLED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
		WCO	WALL CLEAN-OUT FIXTURE: WATTS MODEL #CO-460-RD - CAST IRON BODY AND WITH STAINLESS STEEL COVER. SAME SIZE OF PIPE IN WHICH INSTALLED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
MS-1	JANITOR SINK FIXTURE: FIAT #MSB-2424 MOLDED STONE 24" X 24" X 10" MOP SINK BASIN WITH INTEGRAL STAINLESS STEEL STRAINER. SUPPLY FITTING: FIAT #830-AA ROUGH CHROME PLATED WITH INTEGRAL STOPS, VACUUM BREAKER, 3/4" HOSE THREAD AND WALL BRACE. PROVIDE FIAT #832-AA 30" HEAVY DUTY FLEXIBLE RUBBER HOSE AND HOSE BRACKET. PROVIDE FIAT #833-AA (PROVIDE 1.0 AERATOR) SILICONE SEALANT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. MOP HANGER: FIAT #889-CC, 18 GAUGE, TYPE STAINLESS STEEL WITH THREE RUBBER TOOL GRIPS. PROVIDE WALL GUARD MODEL MSG 2424.	FD-1	FLOOR DRAIN: FIXRURE: WATTS MODEL# FD-100 - FLOOR DRAIN EPOXY COATED CAST IRON DRAIN WITH NICKEL BRONZE TOP - PROVIDE WITH PRIMER READY P TRAP. P-TRAP SIZE PER PLANS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
		IM-1 (3)	REFRIGERATOR VALVE BOX: FIXTURE: SIOUX CHIEF MODEL #696-G1010MF, PLASTIC OUTLET BOX WITH QUARTER TURN HAMMER ARRESTER VALVE, 1/2" SWEAT CONNECTION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
DF-1	DRINKING FOUNTAIN (ADA): FIXTURE: ELKAY #LZSTL8WSLK (TWO LEVEL) FILTERED EZH20 BOTTLE FILLING STATION WITH VERSATILE BI LEVEL ADA, WATER SYSTEM FREE OF LEAD-CONTAINING BRASS PARTS, FLEXI-GUARD SAFETY BUBBLER. SELF CLOSING FRONT PUSH BUTTON. 120V/1PH/5.0 AMPS SUPPLIES: ANGLE STOPS WITH FLEXIBLE TUBE RISERS. TRAP: P-TRAP WITH CLEAN OUT PLUG, ESCUTCHEON, CHROME FINISH. INSTALL PER MANUFACTURER'S INSTRUCTIONS.	CW-1 (3)	WASHING MACHINE OUTLET BOX: FIXTURE: SIOUX CHIEF MODEL 696-2313VF, WASHING OUTLET BOX WITH QUARTER TURN, 1/2" SWEAT CONNECTIONS WITH WATER HAMMER ARRESTERS AND 2" DRAIN. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
WH-1 (3)	WATER HEATER (COMMERCIAL): FIXTURE: AO SMITH DRE-80 - 80 GALLON 26 DIA. POWER REQUIREMENTS: 240V/1PH/6KW - WATER RECOVERY @ 90° RISE 27 GAL./HR - PROVIDE ASME TEMP. / PRESS RELIEF VALVE AND INSTALL PER CODE & MANUFACTURER'S INSTRUCTIONS. WATER HEATER SHALL MEET ASHRAE/IESNA STANDARD 90.1 b. PROVIDE WATER HEATER WITH STAND AND PAN WITH DRAIN. DRAIN T&P RELIEF AND PAN DRAIN TO OUTDOORS AT 6" A.F.F.	S-1 (3)	3 COMPARTMENT SINK DROP-IN: FIXTURE: JUST MODEL #TL-2249-A-GR, (3) HOLES ON 4" CENTERS, DIMENSION: 49"x22"x 7.5" DEEP - SEAMLESS DIE-DRAW CONSTRUCTION OF TYPE 304, STAINLESS STEEL 18 GAUGE. NFS CERTIFY. SUPPLY FITTING: PROVIDE TWO JUST FAUCET MODEL# J-1174-KS NSF CERTIFY, LEAD FREE. SUPPLIES: PROVIDE CHROME PLATE ANGLE STOPS WITH QUARTER TURN ACTION. WATER SUPPLY LINES TO BE BRAIDED STAINLESS STEEL HOSE. TRAP: ADJUSTABLE CHROME BRASS CAST BODY 17 GA. P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON: CHROME PLATED BRASS. DISPOSAL: EVOLUTION COMPACT 3/4 HP - POWER 120V/1PH/60HZ INSTALL PER MANUFACTURER'S INSTRUCTIONS.
EX-1	EXPANSION TANK: FIXTURE: WATTS MODEL PLT-12 - 4.5 GAL - INSTALL PER MANUFACTURER'S INSTRUCTIONS.		
CP-1	CIRCULATOR PUMP: FIXTURE: BELL & GOSSETT MODEL #NBF-36 3 SPEED WITH AUTOMATIC TIMER KIT MODEL #TC-1 AND AQUASTAT MODEL #AQS-3/4 - 3/4" CONNECTION - ELECTRICAL REQUIREMENTS: 115/60/1PH/260 WATTS.		
TMV-1	THERMOSTATIC MIXING VALVE (RESTROOM AND KITCHEN): FIXTURE: POWER MODEL# LFLM492-2 - PROVIDE TEMP GAUGES EACH SIDE OF TEMP. MIXING VALVE - SET TEMP TO 110T. INSTALL PER MANUFACTURER'S INSTRUCTIONS.	TMV-2 (3)	THERMOSTATIC MIXING VALVE (RESTROOM AND KITCHEN): FIXTURE: POWER MODEL# LFLM491-2 - PROVIDE TEMP GAUGES EACH SIDE OF TEMP. MIXING VALVE - SET TEMP TO 120°F. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
TP-1	TRAP PRIMER: FIXTURE: "PRECISION PLUMBING PRODUCTS" MINI-PRIME ELECTRONIC TRAP PRIMER MODEL #MPB-500-115V WITH BOX AND COVER, BRASS BODY. INSTALL IN WALL AND UNIT SHALL BE PROVIDED WITH A CABINET BOX WITH BOLT ON COVER. POWER: 120V/1PH/60H. COMPLETE WITH BALL VALVE BEFORE TRAP PRIMER. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.	HS-1 (3)	HAND SINK WALL MOUNT: FIXTURE: ELKAY MODEL #CHSB1716C, 304 STAINLESS STEEL SINK, NSF CERTIFY, 2" DRAIN OPENING. SUPPLY FITTINGS: ELKAY FAUCET MODEL #LKB400. SUPPLIES: PROVIDE CHROME PLATE ANGLE STOPS WITH QUARTER TURN ACTION. WATER SUPPLY LINE TO BE BRAIDED STAINLESS STEEL HOSE. ADJUSTABLE CAST BODY P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, CHROME FINISH. INSULATION: ADA-CONFORMING, WHEELCHAIR ACCESSIBLE LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE COVERED WITH MOLDED, ANTI MICROBIAL TRUEBRO, INC. LAV GUARD UNDER SINK PROTECTIVE PIPE COVER MODEL #103.
HT-1	HEAT TAPE: PROVIDE FROSTEX HEAT TAPE: ALL EXPOSED PVC WASTE PIPING SHALL BE WRAPPED WITH WINTERGARD WET 6 H-612 120V HEAT TAPE WHERE INDICATED ON PLANS. PIPING SYSTEM SHALL BE WRAPPED WITH WINTERGARD WET 6 HEAT TAPE 120V/6 WATT/FT (120') AND INSULATED. INSULATION SHALL BE RUBITEX CLOSED CELL WITH OUTDOOR RATED CABLE TIES EVERY 3'. PROVIDE FROSTEX WINTERGARD PLUS PLUG KIT WITH GFI, WINTERGARD WET TAPE & LABELS, GEL FILLED END KITS, 120V ELECTRONIC TEMPERATURE CONTROL (MODEL #AMCF5), AND ALL MISCELLANEOUS HARDWARE AND EQUIPMENT TO COMPLETELY FROST PROOF PIPING SYSTEMS. SYSTEM TO BE UL LISTED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.		
HT-2	HEAT TAPE: PROVIDE FROSTEX HEAT TAPE: ALL EXPOSED WATER SUPPLY PIPING SHALL BE WRAPPED WITH WINTERGARD WET 6 H-612 120V HEAT TAPE WHERE INDICATED ON PLANS. PIPING SYSTEM SHALL BE WRAPPED WITH WINTERGARD WET 6 HEAT TAPE 120V/6 WATT/FT (10') AND INSULATED. INSULATION SHALL BE RUBITEX CLOSED CELL AND JACKETED WITH ALUMINUM. PROVIDE FROSTEX WINTERGARD PLUS PLUG KIT WITH GFI, WINTERGARD WET TAPE & LABELS, GEL FILLED END KITS, 120V ELECTRONIC TEMPERATURE CONTROL (MODEL #AMCF5), AND ALL MISCELLANEOUS HARDWARE AND EQUIPMENT TO COMPLETELY FROST PROOF PIPING SYSTEMS. SYSTEM TO BE UL LISTED. INSTALL PER MANUFACTURER'S INSTRUCTIONS. REFER TO DETAILS ON PLANS.		
HB-1	HOSE BIBB (FROSTPROOF): FITTING: WOODFORD MODEL 65 (8" STEM) CAST BRASS FROST PROOF AUTOMATIC DRAINING HOSE BIBB WITH NICKEL-PLATED FINISH. HOSE BIBB SHALL HAVE A 3/4" COPPER INLET & 3/4" HOSE OUTLET. HOSE BIBB SHALL BE PROVIDE VACUUM BREAKER.		
SH-1	SHOWER ADA: FIXTURE: AQUABATH C6536BF-0T-FUS-3/4" ONE PIECE CAST ACRYLIC, A.D.A. COMPLIANT SHOWER WITH 3/4" THRESHOLD (65" X 37-1/4" X 74-3/4" O.D. - 60" X 36" I.D), OPEN TOP AND SHALL MEET ANSI Z124.2. UNIT SHALL HAVE A BACKSIDE FLAME SPREAD OF LESS THAN 30 (CLASS B). THE UNIT SHALL BE REINFORCED WITH A FIBERGLASS STRAND/POLYESTER RESIN MIX. SHOWER SHALL BE FORMED WITH RECESSED TRENCH SYSTEM SO AS TO DIRECT WATER TO CENTER DRAIN AND SHALL INCLUDE AN ANTI-SKID FLOOR TREATMENT TO MEET PERFORMANCE REQUIREMENTS OF ASTM F-462. UNIT SHALL ALSO CONFORM WITH ANSI A-117.1, ADA AND NAHB LISTED. SHOWER SHALL INCLUDE THE FOLLOWING FACTORY INSTALLED ITEMS: S.S. GRAB BAR, "L" SHAPED PHENOLIC FOLD UP SEAT, SOAP DISH INSERT AND 1" S.S. CURTAIN ROD. FACTORY SUPPLIED (FIELD INSTALLED) EQUIPMENT SHALL INCLUDE: SELF-CAULKING BRASS SHOWER DRAIN WITH STAINLESS STEEL STRAINER AND WEIGHTED SHOWER CURTAIN, ANTIBACTERIAL, WITH HOOKS. ACRYLIC SHELL SHALL HAVE A LIMITED TEN (10) YEAR WARRANTY. SHOWER CONTROL VALVE: POWERS E710-0-0-0-8-0-W THERMOSTATIC & PRESSURE BALANCING SHOWER VALVE WITH INTEGRAL CHECKSTOPS, HIGH LIMIT STOP, C.P. METAL TRIM, 24" SLIDE BAR, 60" METAL HOSE, HAND SHOWER AND INLINE VACUUM BREAKER. ASSE 1016 AND IAPMO CUPC LISTING. (FIVE YEAR WARRANTY ON INTERNAL TEMPERING MECHANISM). INSTALL PER MANUFACTURER'S INSTRUCTIONS.		

WATER CALCULATIONS (FTFU)

PLUMBING FIXTURE SCHEDULE

FIXTURE	PIPE SIZE CW	PIPE SIZE HW	PIPE SIZE SW	PIPE SIZE SV	QTY	FIXTURE WSFU	FIXTURE SFU	TOTAL WSFU	TOTAL SFU
WC(FT)	1/2	–	4	2	5	10	4	50	20
L	1/2	1/2	2	2	6	2	1	12	6
MS	1/2	1/2	3	2	1	4	2	4	2
DF	1/2	–	2	2	1	.25	.5	.25	.5
SH	1/2	1/2	2	2	2	4	2	8	4
HB	3/4	–	–	–	2	5	–	10	–
CW	1/2	1/2	2	2	1	3	2	3	2
S	3/4	3/4	2	2	1	4	2	4	2
HS	1/2	1/2	2	2	1	4	2	4	2
DW	–	1/2	–	–	1	2	2	2	2
IM	1/2	–	–	–	1	1	–	1	–
(3)							TOTALS	98.25	38.5

BUILDING CONDITIONS

ITEM (FLUSH TANK FIXTURE UNITS)	ID	VALUE (3)	UNIT
FIXTURE UNIT REQUIREMENTS			
NEW FU'S	FU1	98.25	WSFU
ALLOWED FUTURE FU'S	FU2	75	WSFU
TOTAL FU'S	FUT	100	WSFU
GPM REQUIREMENTS			
TOTAL FU'S TO GPM	GPM1	66	GPM
-	GPM2	0	GPM
TOTAL GPM	GPMT	66	GPM
SERVICE/SUPPLY LENGTHS			
CITY SERVICE LINE	L1	250	FEET
BUILDING SUPPLY LINE			
EXISTING LINE/FLOW EQUIP. SIZES			
SERVICE LINE SIZE	PS1	SEE CIVIL DWG	INCHES
BACKFLOW PREV. SIZE	PS2		INCHES
BUILDING SUPPLY PIPE SIZE	PS3		INCHES
PRESSURE REQUIREMENTS			
PRESSURE REQUIRED AT BUILDING	P1	70	PSI
WATER METER	P2	4	PSI
RPBP LOSS	P3	11	PSI
ELEVATION HEAD	P4	7	PSI
REQUIRED RESIDUAL (FLUSH TANK)	P5	20	PSI
MAX FL = P1-(P2+...+P5)	PFL	28	PSI
BUILDING PIPING FRICTION LOSS	DP1	11.2	PSI/100'
BUILDING PIPING MAXIMUM VELOCITY	V1	8	FPS

NOTE: CONTRACTOR SHALL OBTAIN WATER PRESSURE TEST AND VERIFY PRESSURE EXCEEDS 70 PSI PRIOR TO CONSTRUCTION. CONTACT ENGINEER IN WRITING IF REPORTED PRESSURE IS LESS THAN 80 PSI PRIOR TO CONSTRUCTION.

APPLIED ENGINEERING
2800 S. RURAL RD. SUITE 101
TEMPE, AZ 85282 (480)968 3070
JOB NUMBER 17-045

SPS+ ARCHITECTS

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
PLUMBING SCHEDULES AND SPECIFICATIONS

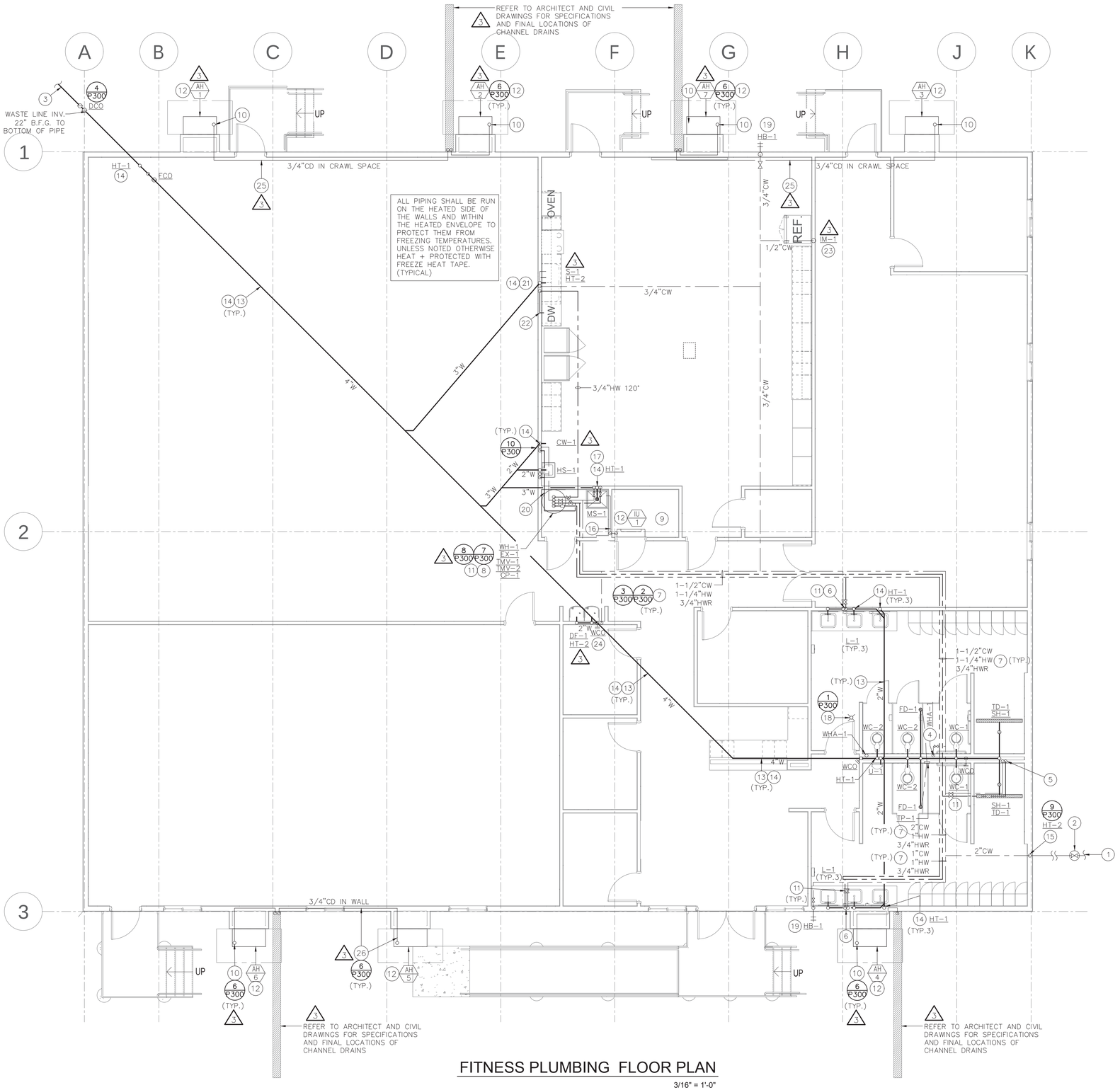
REVISIONS

MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

REVIEWED BY: GSP
DRAWN BY: WDK/FC

Certificate No. 29717 GREGORY PEKARO Registered Professional Engineer State of Arizona, U.S.A. Expires 12/31/2019

DATE: 07-21-2017
JOB No: 1641B
SHEET: P100



FITNESS PLUMBING FLOOR PLAN

3/16" = 1'-0"

PLUMBING KEYED NOTES: (X)

1. 2" SUPPLY LINE TO BUILDING PER NTUA STANDARDS. REFER TO CIVIL DRAWINGS FOR WATER METER, BACKFLOW PREVENTER, AND WATER SUPPLY LINE LOCATIONS, SIZES, AND CONNECTIONS. REFER NTUA STANDARD DETAILS FOR REQUIREMENTS..
2. FULLPORT SHUT-OFF VALVE IN TRAFFIC VALVE BOX. INSTALL WATER SUPPLY LINE AND LOCATE VALVE BELOW FROST DEPTH LINE.
3. 4" SANITARY WASTE MAIN. SEE CIVIL DRAWINGS FOR WASTE LINE CONTINUATION.
4. DROP 2"CW LINE DOWN IN WALL AND ROUTE 2"CW HEADER IN PLUMBING WALL TO PLUMBING FIXTURES. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL. PROVIDE WHA-1 ON HEADER WITH ACCESS PANEL.
5. DROP 1"CW/HW LINES DOWN IN WALL TO SHOWER. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL.
6. DROP 3/4"CW/HW LINES DOWN IN WALL TO LAVATORIES. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL.
7. WATER LINES SHALL BE ROUTED IN CEILING SPACE.
8. PROVIDE WATER HEATER WITH STAND, PAN, AND PAN DRAIN PER PLUMBING SCHEDULE. ROUTE T&P DOWN IN WALL AND TERMINATE OUTSIDE 6" A.F.F.
9. DO NOT INSTALL WATER, SANITARY VENT, AND CONDENSATE DRAIN LINES OVER ELECTRICAL ROOM OR IDF ROOMS. (TYPICAL)
10. ROUTE 3/4"CD LINE DOWN IN WALL AND TERMINATE AT 6" ABOVE CHANNEL DRAIN. REFER TO ARCHITECT AND CIVIL DRAWINGS FOR FINAL LOCATIONS OF TRENCH DRAINS. (3)
11. LOCATE S.O.V'S IN ACCESSIBLE LOCATIONS. COORDINATE FINAL LOCATION OF ACCESS PANEL WITH ARCHITECT PRIOR TO INSTALLING. (TYPICAL ALL)
12. MECHANICAL EQUIPMENT – REFER TO MECHANICAL PLAN FOR FINAL LOCATION.
13. WASTE LINE TO BE ROUTED IN CRAWL SPACE.
14. ALL EXPOSED WASTE PIPES IN CRAWL SPACE SHALL BE PROTECTED WITH CLOSED CELL BLACK RUBITEX INSULATION AND HEAT TAPE. INSULATION SHALL BE PROVIDED WITH OUTDOOR RATED CABLE TIES EVERY 3'. PROVIDE (4) HEAT TAPE SYSTEMS WITH THERMOSTATIC CONTROLLERS. THE ELECTRICAL CONTRACTOR TO PROVIDE (4) J-BOXES IN THE CRAWL SPACE. REFER TO PLANS FOR LOCATIONS.
15. EXPOSED OUTDOORS WATER SUPPLY RISER SHALL BE PROTECTED WITH INSULATION, HEAT TAPE AND ALUMINUM JACKET.
16. ROUTE 3/4"CD LINE DOWN IN WALL AND TERMINATE AT MOP SINK WITH 3" AIR GAP ABOVE RIM.
17. DROP 3/4"CW/HW LINES DOWN IN WALL TO MOP SINK. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL.
18. FIELD LOCATE 4" VENT 10' MIN AWAY FROM ANY AIR IN TAKE.
19. DROP 3/4"CW LINES DOWN IN WALL TO HOSE BIBB. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL. LOCATE WATER LINE DROP WITHIN THE HEATED ENVELOPE. (3)
20. DROP 3/4"HW/CW LINES IN WALL AND STUB AT PLUMBING FIXTURES.
21. DROP 3/4"HW 120° DEGREES IN WALL AND STUB TO (2) FAUCETS AT 3 COMPARTMENT SINK.
22. ROUTE 1/2"HW LINE WITH S.O.V. TO DISHWASHER.
23. DROP 1/2"CW LINE IN WALL TO REFRIGERATOR VALVE BOX (IM-1).
24. DROP 1/2"CW LINE IN WALL TO DRINKING FOUNTAIN.
25. ROUTE 3/4"CD LINE DOWN IN WALL AND ROUTE THROUGH THE CRAWL SPACE AND TERMINATE 6" ABOVE CHANNEL DRAIN. CONDENSATE DRAIN LINE SHALL BE HIDDEN. NO EXPOSED PIPING ALLOWED ON THE EXTERIOR OF THE BUILDING. REFER TO ARCHITECT AND CIVIL DRAWINGS FOR SPECIFICATIONS AND FINAL LOCATIONS OF CHANNEL DRAINS.
26. ROUTE 3/4"CD LINE DOWN IN WALL AND TERMINATE 6" ABOVE CHANNEL DRAIN. REFER TO ARCHITECT AND CIVIL DRAWINGS FOR SPECIFICATIONS AND FINAL LOCATIONS OF CHANNEL DRAINS.

SPS+ ARCHITECTS

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
PLUMBING FLOOR PLAN

REVISIONS

MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

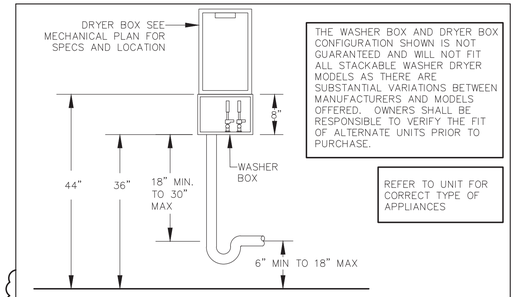
REVIEWED BY: GSP
DRAWN BY: WDK/FC

Professional Engineer Registration Certificate No. 29717 GREGORY PEKARO Date Signed 11-7-17 Arizona, U.S.A.

Expires 12/31/2019

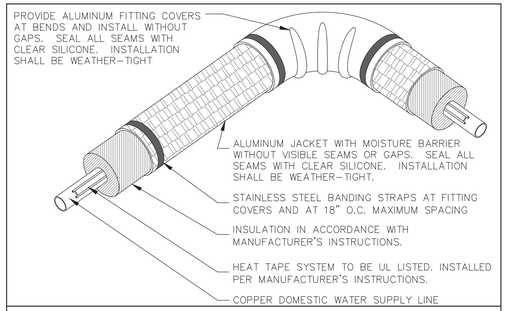
DATE: 07-21-2017
JOB No: 1641B
SHEET: P200

APPLIED ENGINEERING
2800 S. RURAL RD. SUITE 101
TEMPE, AZ 85282 (480)968 3070
JOB NUMBER 17-045



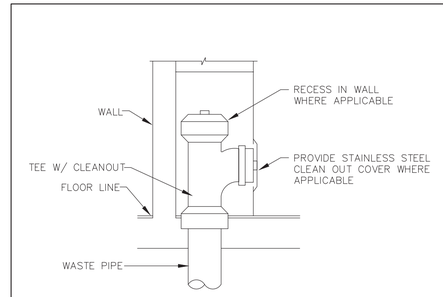
10 P300 **CLOTHES WASHER BOX (TYP. STACKABLE)**

SCALE N.T.S.



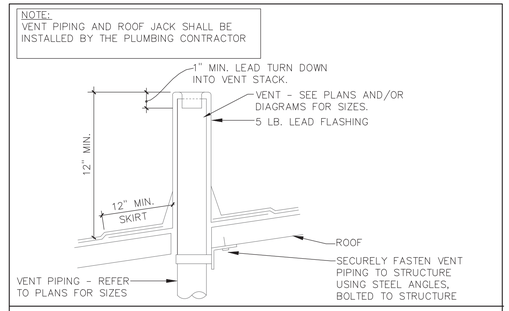
9 P300 **EXTERIOR INSULATED DOMESTIC WATER**

SCALE N.T.S.



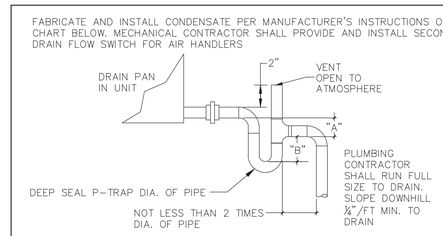
5 P300 **WALL CLEAN-OUT DETAIL**

SCALE N.T.S.



1 P300 **VENT THRU ROOF DETAIL**

SCALE N.T.S.

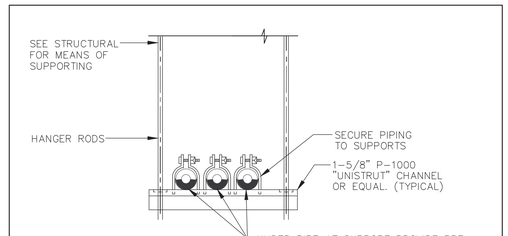


UNIT TYPE	DIM "A"	DIM "B"
DRAW THRU	|X| + 1"	1.5" * |X|
BLOW THRU	1" MIN	2.0" * |X|
WHERE X = STATIC PRESSURE IN PAN		

NOTE:
DRAIN PIPING TO BE MINIMUM UNIT CONNECTION SIZE. LARGER UNITS (+25 TONS) DRAIN PIPING (1) SIZE LARGER THAN DRAIN CONNECTION.

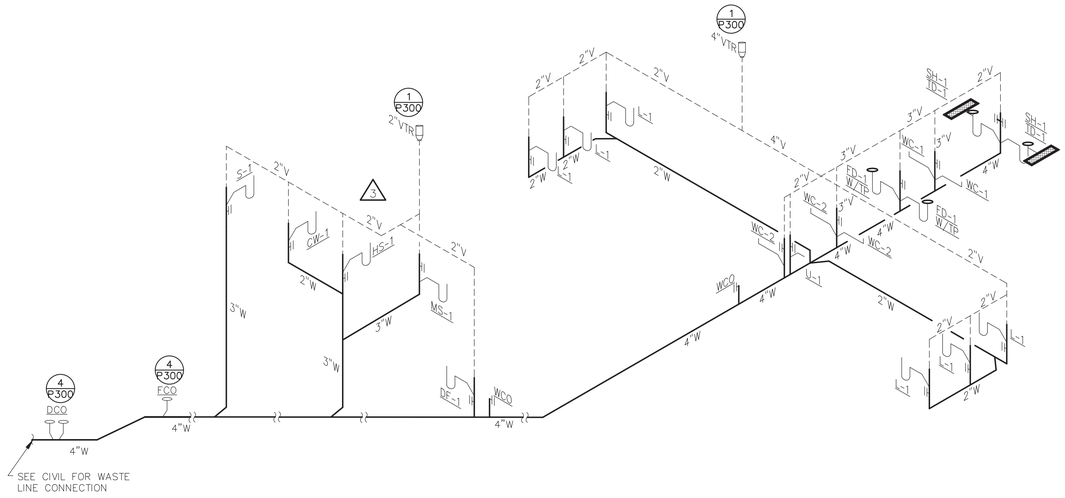
6 P300 **UNIT CONDENSATE DRAIN SIDE P-TRAP**

SCALE N.T.S.



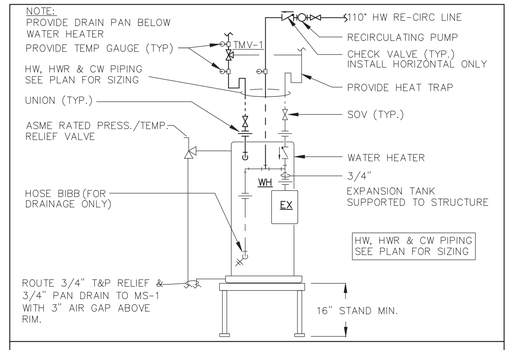
2 P300 **MULTIPLE PIPE SUPPORT (2 OR MORE)**

SCALE N.T.S.



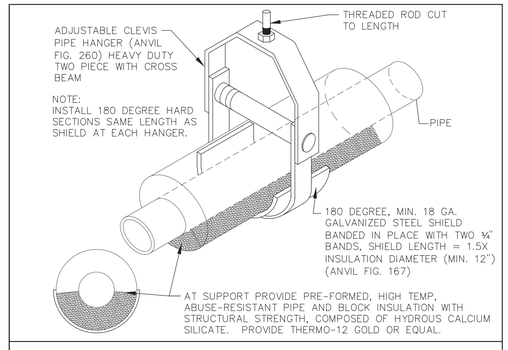
WASTE & VENT SCHEMATIC

N.T.S.



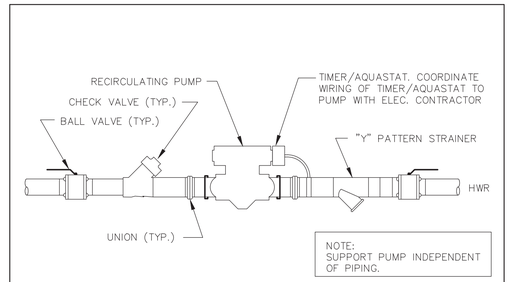
7 P300 **WATER HEATER DETAIL**

SCALE N.T.S.



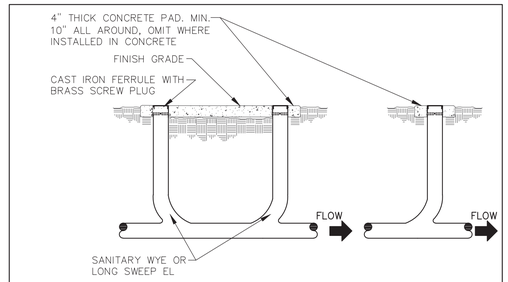
3 P300 **INSULATED SUPPORT PIPE DETAIL**

SCALE N.T.S.



8 P300 **RECIRCULATING PUMP DETAIL**

SCALE N.T.S.



4 P300 **SURFACE CLEANOUTS SCO/DCO**

SCALE N.T.S.

APPLIED ENGINEERING
2800 S. RURAL RD. SUITE 101
TEMPE, AZ 85282 (480)968 3070
JOB NUMBER 17-045

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
PLUMBING DETAILS

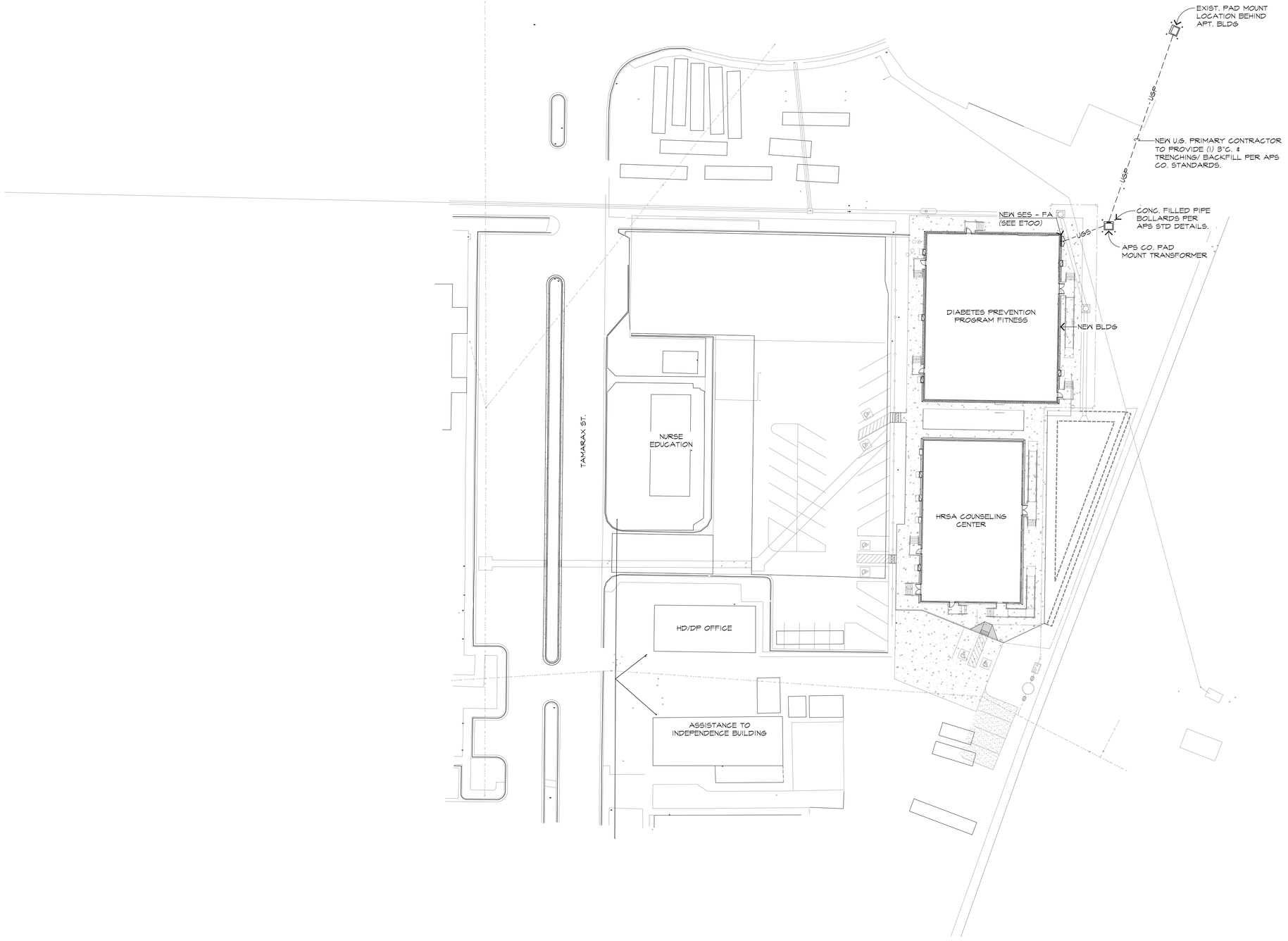
REVISIONS

MARK	DATE	DESCRIPTION
3	11.7.17	OWNER CHANGES

REVIEWED BY: GSP
DRAWN BY: WDK/FC

Certificate No. 29717 GREGORY PRIMM Registered Professional Engineer Arizona U.S.A. Expires 12/31/2019

DATE: 07-21-2017
JOB No: 1641B
SHEET: P300



1 ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

N

SPS+ ARCHITECTS

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
ELECTRICAL SITE PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	11/13/17	OWNER REVISIONS

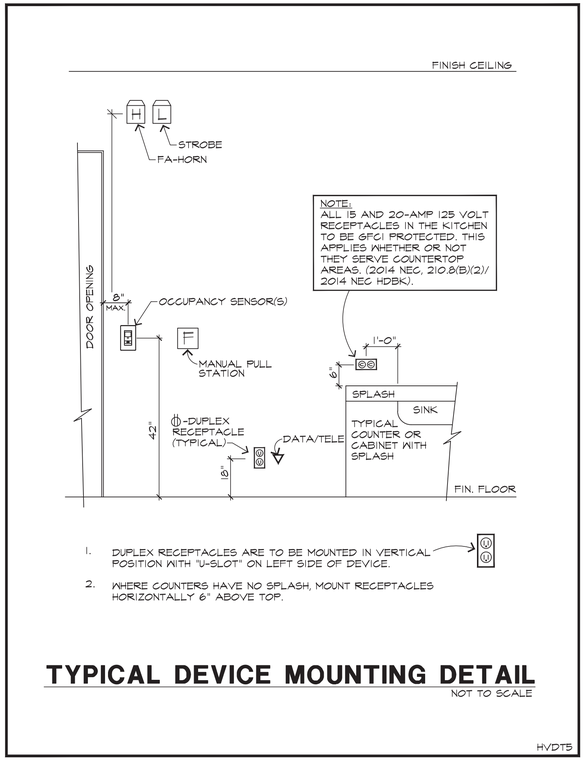
REVIEWED BY: GTB
DRAWN BY: HAV3

Registered Professional Engineer (Electrical)
10526
GEORGE T. BAYLES
Date Signed 11/13/17
ARIZONA, U.S.A.
EXPIRES 3/31/2020

DATE: 11/13/17
JOB No: 1641B
SHEET: E100

3 ENTIRE SHEET

EDC
ELECTRICAL DESIGN CONSULTANTS, Inc.
1855 E. SOUTHERN AVE., SUITE #203
MESA, ARIZONA 85204
T (602) 279-7010
www.edcinc.biz
EDC Project #: 2017-41A



TYPICAL DEVICE MOUNTING DETAIL

NOT TO SCALE

HVDT5

GENERAL NOTES

A. ALL DUPLEX RECEPTACLES MOUNTED IN COMMON WALLS SHALL BE OFFSET, DO NOT MOUNT ANY RECEPTACLES, ETC. BACK TO BACK.

B. RECEPTACLES SHALL NOT BE MOUNTED BEHIND OR IN ANY TACKBOARD, CABINET, ETC. OR BEHIND MECH. OR PLUMBING EQUIPMENT.

C. ALL DEVICES e.g. SMOKE DETECTORS, CEILING SPEAKERS, ETC. MOUNTED ON LAY-IN CEILINGS TO BE CENTERED IN TILE.

D. AT COMPLETION OF ELECTRICAL INSTALLATION, PROVIDE OWNER WITH ACCURATE AS-BUILT DRAWINGS INDICATING ALL VARIATIONS FROM CONTRACT DRAWINGS AND A LETTER TO THE OWNER'S REPRESENTATIVE STATING PROJECT FULLY COMPLIES WITH ALL CONTRACT DOCUMENTS AND IF NOT, HOW INSTALLATION WAS ACCOMPLISHED, ALL CHANGES SHALL BE SUBJECT TO OWNER'S REPRESENTATIVE'S APPROVAL.

E. THIS CONTRACT IS TO INCLUDE ALL CONTINGENCIES WHICH MAY ARISE AND WHICH MAY BE REQUIRED. NO ADDITIONAL COMPENSATION WILL BE PERMITTED FOR FAILURE TO FULLY ASCERTAIN ASPECTS OF THIS PROJECT.

ELECTRICAL SYMBOLS

NOTE: NOT ALL SYMBOLS SHOWN MAY APPLY TO THIS PROJECT

- FLUORESCENT LIGHTING FIXTURE (LETTER INDICATES TYPE)
- CEILING OUTLET (LETTER INDICATES FIXTURE TYPE)
- WALL OUTLET (LETTER INDICATES FIXTURE TYPE)
- J-BOX (JUNCTION BOX)
- EMERGENCY EXIT LIGHT (WALL OR CEILING MOUNT)
- CEILING MOUNTED EXHAUST FAN (DIRECT CONNECT)
- DUPLEX CONVENIENCE RECEPTACLE
- WP — DUPLEX RECEPTACLE W/ WP LOCKABLE COVER WITH 1/4" SHACKLE FOR PAD LOCK BY OWNER.
- FLOOR DUPLEX CONVENIENCE RECEPTACLE (FLUSH)
- SPECIAL OUTLET (PROVIDE OUTLET, ASSEMBLE AND MAKE ALL FINAL CONNECTIONS AS REQUIRED)
- WALL DATA/TELEPHONE OUTLET (MOUNT +18" AFF)
- T — T-STAT (THERMOSTAT OUTLET) FURNISHED BY MECHANICAL
- MOTOR OUTLET (CONNECT AS REQUIRED)
- MAGNETIC STARTER AS NOTED ON PLANS (FURNISHED BY ELECTRICAL)
- MAGNETIC STARTER (CONTROLS ETC. FURNISHED WITH EQUIPMENT, MAKE ALL CONNECTIONS AS REQUIRED)
- DISCONNECT SWITCH AS NOTED ON PLANS (FURNISHED BY ELECTRICAL)
- INDICATES CIRCUIT CONTROLLED BY PHOTOCELL (SLATER PS-4A OR EQUAL TORK, MOUNT ABOVE ROOF AND ADJUST PER OWNER REQUIREMENTS).
- PANEL (REFER TO PANEL SCHEDULES)
- NON-FUSIBLE DISC. SWITCH
- FUSIBLE DISCONNECT SWITCH
- C/B (CIRCUIT BREAKER)
- CIRCUIT RUN IN CEILING OR WALL
- CIRCUIT RUN IN OR UNDER FLOOR
- CIRCUIT RUN TO PANEL OR AS NOTED
- DENOTES CONDUCTORS (NEUTRAL, CIRCUIT, TRAVELERS & SWITCH LEG)
- GROUND CONDUCTOR (EXTEND & CONNECT TO APPROVED GROUND)
- TMB (TELEPHONE MTG. BOARD) WITH DUPLEX RECEPTACLE & #6(CU) GROUND PER TEL. CO. REQUIREMENTS
- S, S_B — TOGGLE SWITCHES (SINGLE POLE AND THREE WAY)
- S_M — MANUAL MOTOR STARTERS (SINGLE POLE) WITH THERMAL O.L. SIZED AS REQUIRED.
- CWR — CONTROL WIRING AS REQUIRED (1/2"C. MINIMUM)
- FBO — FURNISHED BY OTHERS (THE ELECTRICAL CONTRACTOR SHALL INSTALL & PROVIDE ELELCTRICAL SERVICE TO THE ITEM AND CONNECT AS SHOWN OR AS REQUIRED).
- HP — HORSE POWER
- WP — WEATHERPROOF
- T/S — TIMESWITCH (TORK #T200Z TIMESWITCH) MOUNT ADJACENT PANEL AVOIDING CONFLICT W/ O.H. CONDUIT RUNS
- ✳ — INDICATES LIGHTING LOAD COMPUTED AT 125% DEMAND
- INDICATES C/B LOCK-OFF DEVICE, LOCKED IN "ON" POSITION
- LINE VOLTAGE VACANCY SENSOR (WALL MOUNT)
  - WSX PDT 5A WH - SINGLE POLE
  - SPODM WH - SINGLE POLE
  - PASSIVE DUAL TECHNOLOGY
  - LINE VOLTAGE - SINGLE GANG BOX REQUIRED

ENTIRE SHEET

ELECTRICAL DESIGN CONSULTANTS, Inc.
1855 E. SOUTHERN AVE., SUITE #203
MESA, ARIZONA 85204
T (602) 279-7010
www.edcinc.biz
EDC Project #: 2017-41A

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
ELECTRICAL DETAILS & NOTES

REVISIONS		
MARK	DATE	DESCRIPTION
3	11/13/17	OWNER REVISIONS

REVIEWED BY: GTB
DRAWN BY: HAV3

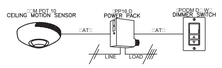
Registered Professional Engineer (Electrical)
10526
GEORGE T. BAYLES
Date Signed 11/13/17
ARIZONA, U.S.A.
EXPIRES 3/31/2020

DATE: 11/13/17
JOB No: 1641B
SHEET: E200

SYMBOL	MANUFACTURER	CATALOG NUMBER	DESCRIPTION
OS	LITHONIA	WSX PDT SA WH	VACANCY SENSOR
D OS P	LITHONIA	WSX PDT SA WH	VACANCY SENSOR
OS	LITHONIA	WSX PDT SA WH	VACANCY SENSOR
DP	LITHONIA	DPP16 DS	DIMMING PANEL - 0-10V
GW	LITHONIA	WPOD GFI	WALLPOD

RESTROOMS
JANITOR
OFFICES, STORAGE
CONFERENCE, COPY

COUNSELING/ EXAMS
OPEN OFFICES
ENTRANCES



LIGHTING FIXTURE SCHEDULE

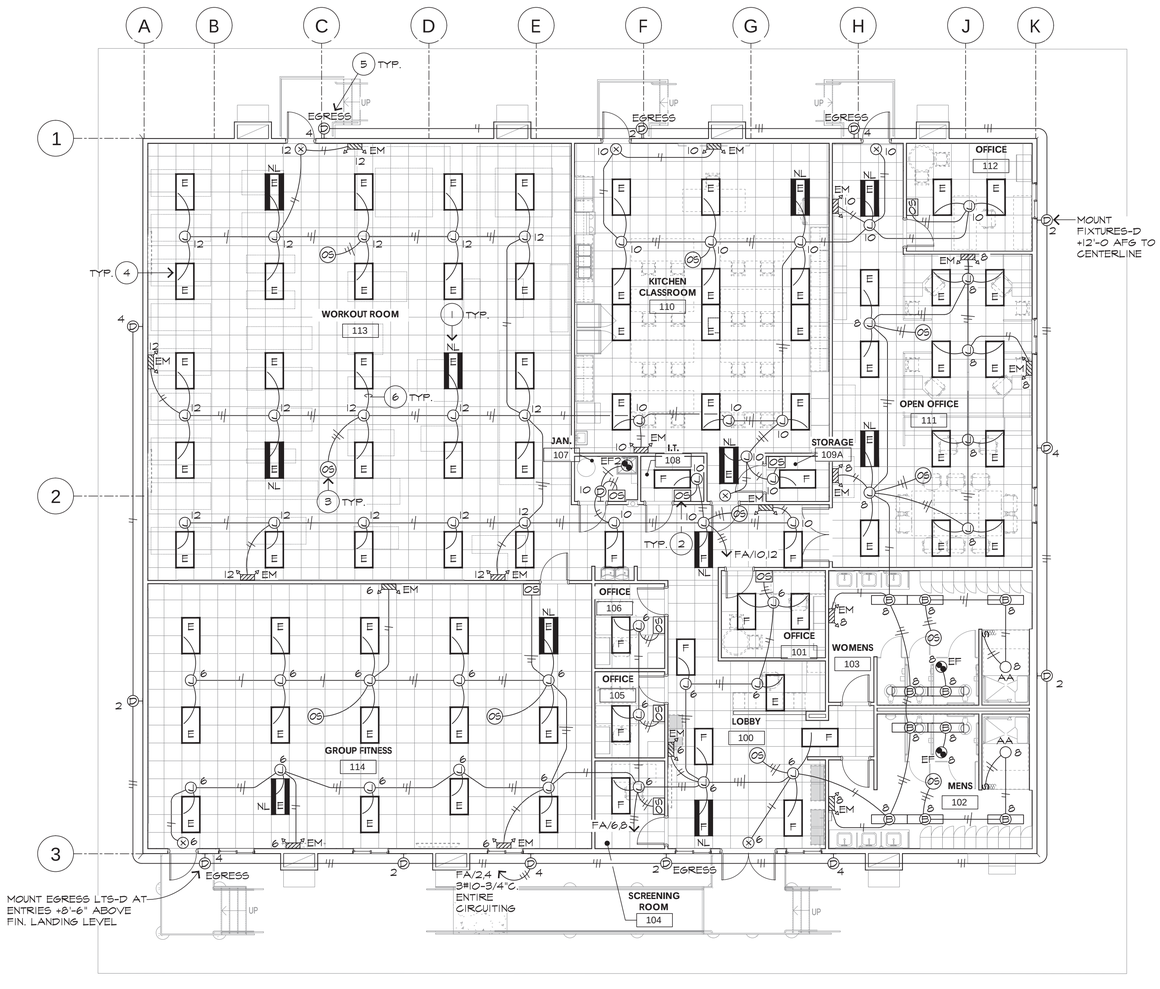
MK	MTG	MANUF.	CATALOG NO.	NO. LAMPS	REMARKS	DEPTH	VOLTS
A	R	LITHONIA	LDN6 35/10 L06AR LD MVOLT EZ10	3500K LED	LED DOWNLIGHT	-	MVOLT
AA	R	LITHONIA	LDN6 35/10 L06AR LD MVOLT EZ10-WL	3500K LED	LED DOWNLIGHT	-	MVOLT
B	S	LITHONIA	STL4-30L-EZI-LP835	3500K LED	1' X 4' WRAPAROUND	-	MVOLT
C	S	LITHONIA	TZLIN-L92-6000LM-FST-MVOLT-40K-80CRI	3000K LED	8'-0" STRIPS	-	MVOLT
D	WB	LITHONIA	CSXM-LED-30C-1000-40K-T4M-MVOLT-DDBXD	3000K LED	LED WALL LIGHT	-	MVOLT
E	R	LITHONIA	2BLT4 40L ADP MVOLT EZI LP835	3500K LED	2' X 4' LED GRID TROFFER	2 3/8"	MVOLT
F	R	LITHONIA	2BLT4 30L ADP MVOLT EZI LP835	3500K LED	2' X 4' LED GRID TROFFER	2 3/8"	MVOLT
EGRESS	WB	LITHONIA	CSXM-LED-30C-1000-40K-T4M-MVOLT-DDBXD	3000K LED	LED WALL LIGHT W/ EM BATTERY	-	MVOLT
X	UNI	LITHONIA	ECBRLED M6	FURN. W/ FIXTURE	EM EXIT LT COMBO	-	MVOLT
EM	WB	SURE-LITES	SELW-25-WH	FURN. W/ FIXTURE	EM BATTERY PACK	-	MVOLT

FIXTURE SCHEDULE NOTES

1. SUBMIT TO ENGINEER FOR REVIEW & APPROVAL ANY & ALL PROPOSED SUBSTITUTIONS OF EQUIPMENT SPECIFIED FOR THIS PROJECT. MANUFACTURERS SPECIFIED ARE TO ESTABLISH LEVEL OF QUALITY, DESIGN, WATTAGES, DIMENSION, ETC. IT IS RESPONSIBILITY OF CONTRACTOR & SUPPLIER(S) TO PROVIDE EQUAL PRODUCT TO THAT SPECIFIED. PER SPECIFICATIONS 10 DAY PRIOR APPROVAL REQUIRED ON ALL SUBSTITUTIONS, THE FOLLOWING MANUFACTURERS ARE APPROVED TO BID ON FIXTURES SPECIFIED ABOVE (LITHONIA, COLUMBIA & COOPER LTG).
2. PROVIDE AND INSTALL BODINE OR EQUAL EMERGENCY BALLASTS IN ALL EM LTS & EXIT LTS NOTED ON PLAN. CONNECT TO UNSWITCHED "HOT" CIRCUIT OF THE SAME AREA IN WHICH IT IS LOCATED (MINIMUM 90 MINUTE OPERATION).
3. CONTRACTOR SHALL VERIFY LIGHT FIXTURE TYPES PRIOR TO INSTALLATION AND COMPLY AS REQUIRED.

LIGHTING KEYNOTES (#)

1. NL FIXTURE - "E & F" SHALL HAVE LAMPS CONNECTED TO AN UNSWITCHED "HOT" CIRCUIT OF THE SAME AREA IN WHICH IT IS LOCATED.
2. REFER TO SHEET E200 FOR TYPICAL DEVICE MOUNTING DETAIL.
3. COORDINATE ALL SENSOR DEVICES & CONTROLS WITH MANUFACTURER. PROVIDE ALL WIRING, ETC. AS REQUIRED FOR COMPLETE AUTO & MANUAL CONTROL.
4. AT ALL LT. FIXTURES-"E" WHIP INDICATES 2#12 & 1#12 (BOND) IN 1/2" FLEX CONDUIT DOWN TO EACH LT. FIXTURE.
5. AT ALL EGRESS FIXTURES "D" PROVIDE REMOTE EMERGENCY BATTERY PACK. MOUNT BATTERY IN ACCESSIBLE CEILING SPACE DIRECTLY BEHIND FIXTURE.
6. INDICATES 2#12 & 1#12 (BOND) - 1/2" FLEX CONNECTION TO ALL GRID MOUNTED TROFFERS.



1 ELECTRICAL LIGHTING PLAN

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

N

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
ELECTRICAL LIGHTING PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	11/13/17	OWNER REVISIONS

REVIEWED BY: GTB
DRAWN BY: HAV3

Registered Professional Engineer (Electrical)
10526
GEORGE T. BAYLES
Date Signed 11/13/17
ARIZONA, U.S.A.
EXPIRES 3/31/2020

ENTIRE SHEET

DATE: 11/13/17
JOB No: 1641B
SHEET: E300

ELECTRICAL DESIGN CONSULTANTS, Inc.
1855 E. SOUTHERN AVE., SUITE #203
MESA, ARIZONA 85204
T (602) 279-7010
www.edcinc.biz
EDC Project #: 2017-41A

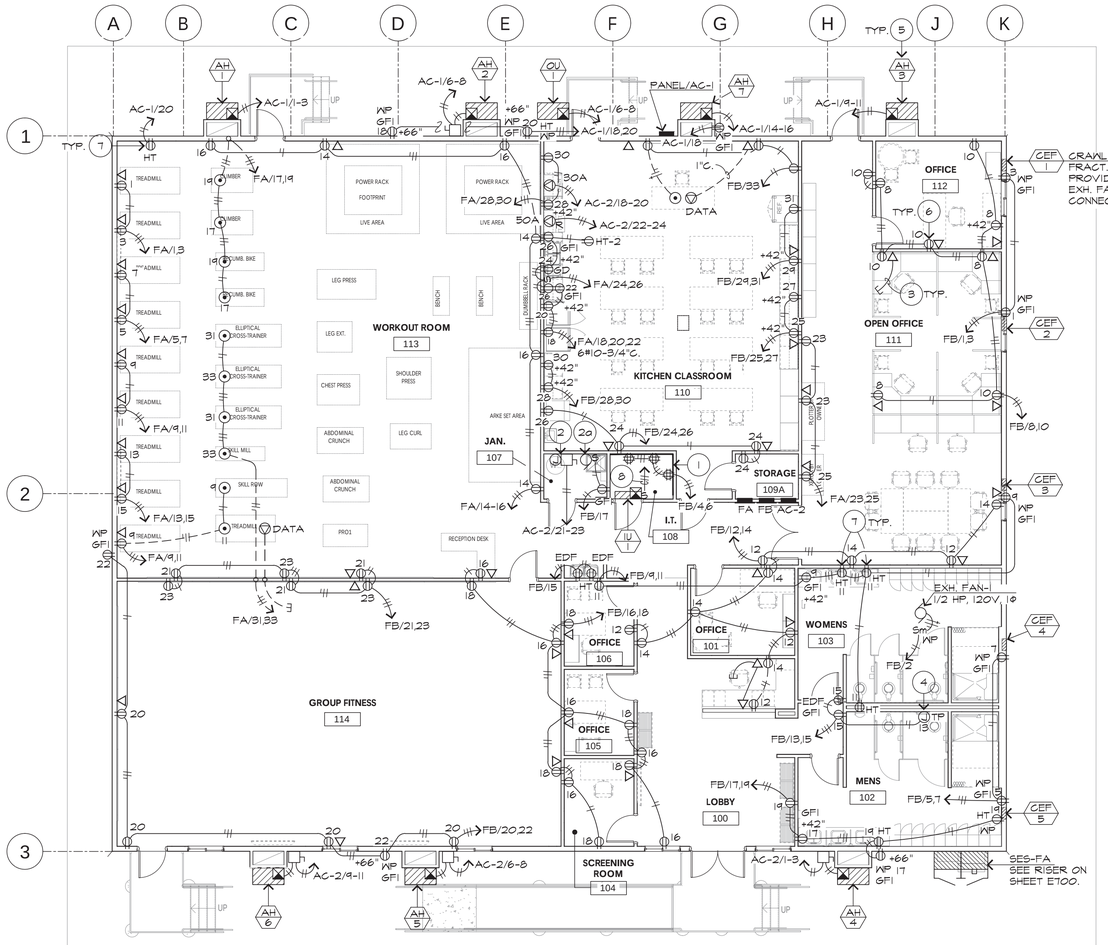
MECHANICAL EQUIPMENT SCHEDULE

MK	KW	LOAD/ea.	VOLTS-Φ	DISCONNECTING MEANS DISC. SWITCH W/ LPN-RK FUSES	(CU) FEEDERS/CONDUIT
AHU -		AIR HANDLER UNIT (PACKAGED ELECTRIC A/C UNIT)			
2,3,5	10	61.0MCA 70.0MOCP	230-1	SEE PANEL/AC-1, PROVIDE WP 100/2 W/ (2) 70A FUSES ON AHU-5	2#4 & 1#8 (BOND) - 1"C.
1,7	15	89.0MCA 90.0MOCP	230-1	SEE PANEL/AC-1	2#2 & 1#8 (BOND) - 1"C.
4,6	15	89.0MCA 90.0MOCP	230-1	WP, 100/2 W/ (2) 90A	2#2 & 1#8 (BOND) - 1"C.
IU - / OU -		SPLIT SYSTEM INDOOR/OUTDOOR UNIT			
1,2	-	13.0MCA 15.0MOCP	230-1	WP, 30/2 W/ (2) 20A	2#10 & 1#10 (BOND) - 3/4"C.

● INDOOR UNIT DERIVES POWER SUPPLY FROM OUTDOOR UNIT.

POWER KEYNOTES (#)

1. PROVIDE & INSTALL 4' X 8' X 3/4" FIRE TREATED TYPE PLYWOOD ON WEST & SOUTH WALLS OF I.T. ROOM 108. MOUNT +18"AFF. RECEPTACLES SHOWN SHALL BE MOUNTED BELOW BOARD. PAINT BOARD TO MATCH COLOR OF WALL.
2. WATER HEATER - 6.0KW, 240V, 1Φ, PROVIDE 60/2P DISCONNECT SWITCH WITH (2) LPN-RK 35A FUSES. EXTEND & MAKE ALL FINAL CONNECTIONS TO HEATER.
2a. WATER HEATER RECIRC. PUMP, FRACT HP, 120V, 1Φ. PROVIDE SPST TOGGLE SWITCH AT PUMP LOCATION FOR DISCONNECTING MEANS.
3. AT ALL DATA/TELE OUTLETS PROVIDE MUD RING WITH PULLWIRE INTO ACCESSIBLE CEILING SPACE.
4. J-BOX FOR CONNECTION OF TRAP PRIMER, 120V, 1Φ. VERIFY LOCATIONS WITH PLUMBING.
5. REFER TO MECHANICAL EQUIPMENT SCHEDULE ON THIS SHEET FOR LOADS, DESCRIPTION, ETC.
6. REFER TO SHEET E200 FOR TYPICAL DEVICE MOUNTING DETAIL.
7. (HT) RECEPTACLE IN CRAWL SPACE FOR HEAT TAPE FURNISHED FOR PIPING (REFER TO PLUMBING NOTES ON SHEET P100 & P200 FOR ADDITIONAL INFO).
8. EXTEND 2#12 & 1#12 (BOND)-3/4"C. TO OUTDOOR UNIT. DERIVES POWER FROM OUTDOOR UNIT.
9. VERIFY & COORDINATE EXACT QUALITY & EXACT LOCATION OF ALL FLOOR BOXES WITH OWNER PRIOR TO ANY ROUGH-IN OR INSTALLATION AND COMPLY AS DIRECTED.



1 ELECTRICAL POWER PLAN

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

N

ENTIRE SHEET

SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

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ELECTRICAL POWER PLAN

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FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION	BOX REQUIRED	MOUNTING HEIGHT
FACP	FIRE ALARM CONTROL PANEL	SPECIAL BACKBOX	66" TO TOP
SNAC	SUPPLEMENTARY NOTIFICATION APPLIANCE CIRCUIT	SPECIAL BACKBOX	66" TO TOP
FAAP	KEYPAD DISPLAY	SPECIAL BACKBOX	60" TO TOP
FAJB	32 PT. TERMINAL CABINET	SPECIAL BACKBOX	66" TO TOP
S	SMOKE DETECTOR	4/S DEEP W/3" OCTAGON MUD RING	VERIFY WITH ARCHITECT
H	HEAT DETECTOR	4/S DEEP W/3" OCTAGON MUD RING	VERIFY WITH ARCHITECT
	SMOKE/HEAT BASE		
D	DUCT SMOKE DETECTOR	SPECIAL BACKBOX	ON DUCT WORK BEFORE BRANCH
F	MANUAL PULL STATION	4" SQUARE 1 GANG MUD RING	48" ABOVE FINISHED FLOOR
Z[2F]	CLASS "B" MONITOR MODULE	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
Z[2I]	CLASS "B" DUAL MONITOR MODULE	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
Z[4I]	CLASS "A" MONITOR MODULE	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
MMI-10	MULTI-MODE 10 INPUT MODULE	32 PT TERMINAL CABINET	66" TO TOP
T	TAMPER SWITCH	4" SQUARE DEEP BOX	ADJACENT TO FLOW
W	FLOW SWITCH	4" SQUARE DEEP BOX	ADJACENT TO TAMPER
R	ANALOG OUTPUT MODULE (RELAY)	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
MMO-6	MULTI-MODE 6 OUTPUT MODULE	32 PT TERMINAL CABINET	66" TO TOP
S	ANALOG OUTPUT MODULE (SIGNAL)	4" SQUARE DEEP BOX	ADJACENT TO SNAC
X	RELAY	4" SQUARE DEEP BOX	ADJACENT TO 120V SWITCH LEG
T	EDWARDS TRANSFORMER	4" SQUARE DEEP BOX	ADJACENT TO 120V SWITCH LEG
RTS	REMOTE TEST STATION	4" SQUARE 1 GANG MUD RING	IN PLAIN SITE CLOSE TO DUCT DETECTOR
M	SYNCHRONIZATION MODULE	SUPPLIED	PER PRINT
H	WALL MOUNT HORN STROBE	4" SQUARE 2 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
L	WALL MOUNT STROBE	4" SQUARE 2 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
H[C]	CEILING HORN STROBE	4/S DEEP W/3" OCTAGON MUD RING	MOUNT ON CEILING
L[C]	CEILING STROBE	4/S DEEP W/3" OCTAGON MUD RING	MOUNT ON CEILING
H[M]	MINI HORN	4" SQUARE 1 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
H	OUTSIDE HORN	4" SQUARE 1 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
I	ISOLATION MODULE	4" SQUARE DEEP BOX	PER PRINT
H[WP]	WEATHERPROOF HORN STROBE ENCLOSURE	NONE	PER PRINT
H[WG]	WIREGUARD HORN STROBE DAMAGE STOPPER	NONE	PER PRINT
F[TC]	TAMPER COVER FOR MANUAL PULL STATION	NONE	PER PRINT
FSD	FIRE SMOKE DAMPER PER MECHANICAL PLANS	-	-

ALL SYMBOLS MAY NOT BE USED FOR THIS PROJECT. REFER TO PLANS FOR DEVICE LOCATIONS, ETC. CONTRACTOR IS RESPONSIBLE FOR ALL QUANTITIES, ETC. EVEN IF NOT SHOWN ON PLANS FOR A COMPLETE FULLY APPROVED AND OPERATIONAL FA SYSTEM.

FIRE ALARM NOTES

1. ALL DEVICES USING PHYSICAL CONDUCTORS SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXITING AND RETURNING ARE ROUTED SEPARATELY. THE OUTGOING AND RETURN CONDUCTORS SHALL NOT BE RUN IN THE SAME CABLE ASSEMBLY, ENCLOSURE, OR RACEWAY. ALL OUTGOING AND RETURN CONDUCTORS MUST BE SEPARATED A MINIMUM OF 6 FEET.
2. ALL CONDUCTORS FOR FIRE ALARM SHALL BE MIN. 16ga (CU).
3. 1 EA. 16-2 FPLR CABLE SHALL BE EXTENDED THROUGHOUT THE FACILITY IN A CLASS "A" LOOP FOR EACH SLC CIRCUIT. 1 EA. 12-2 FPLR CABLE SHALL BE EXTENDED TO EACH NAC CIRCUIT IN A CLASS "A" LOOP.
4. ALL F/A DEVICES e.g. (HORNS, PULL STATIONS, DETECTORS, ETC.) SHALL BE RIGIDLY AND SECURE FASTENED TO WALLS OR CEILINGS.
5. NO SMOKE DETECTOR SHALL BE LOCATED CLOSER THAN 36" TO ANY AIR REGISTER OR DIFFUSER.
6. NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 18" TO ANY AIR REGISTER OR DIFFUSER.
7. NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 36" TO ANY PART OF ANY HEAT GENERATING DEVICE IN MECHANICAL ROOMS SUCH AS FLUES, BOILERS, WATER HEATERS, ETC.
8. NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 12" TO ANY PART OF ANY LIGHT FIXTURE.
9. ALL FIRE ALARM DEVICES TO COMPLY FULLY WITH ALL A.D.A. REQUIREMENTS.
10. ALL ROUTING IS A CLOSE INTERPRETATION OF FINAL DESIGN. NEC & NFPA REQUIREMENTS SHALL BE ADHERED TO AT ALL TIMES.

SCOPE OF WORK

FIRE ALARM CONTRACTOR SHALL PROVIDE ALL THE FOLLOWING MINIMUM ITEMS FOR A FULLY OPERATIONAL NFPA APPROVED FIRE ALARM SYSTEM TO INCLUDE THE FOLLOWING:

BATTERY CALCS, ETC.
ENGINEERED DRAWINGS
SUPPLY WIRE
INSTALL WIRE
SUPPLY DEVICES
TRIM DEVICES
SUPPLY HEAD-END
TRIM HEAD-END
PROGRAM SYSTEM
TEST SYSTEM
TRAINING

SEQUENCE OF OPERATION

A. THE ACTIVATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS SHALL CAUSE FIRE ALARM OPERATION AS FOLLOWS:
   1. AUDIBLE APPLIANCES (HORNS) TO SOUND AT A TEMPORAL PATTERN THROUGHOUT THE FACILITY.
   2. VISUAL APPLIANCES (STROBE LIGHTS) TO ACTIVATE THROUGHOUT THE AFFECTED BUILDING OR AREA ONLY.
   3. THE VISUAL INDICATION OF THE ALARM INITIATING AREA OF INCIDENCE BY DEVICE TYPE AND LOCATION AT THE FIRE ALARM CONTROL PANEL.
   4. ACTIVATION OF AN AUDIBLE SIGNAL AT THE FIRE ALARM CONTROL PANEL AND REMOTE ANNUNCIATION PANELS.
   5. SEND A TRIGGER SIGNAL TO THE BUILDING'S ACCESS CONTROL SYSTEM TO UNLOCK ALL CONTROL DOORS FOR FREE EGRESS.

B. THE ACTIVATION OF FIRE ALARM SPRINKLER SYSTEM WATER FLOW SWITCHES SHALL CAUSE FIRE ALARM OPERATION AS FOLLOWS:
   1. FIRE ALARM OPERATION AS STATED ABOVE IN PARAGRAPH A.
   2. WATER FLOW SWITCHES SHALL BE ZONED ON A PER SWITCH BASIS AND BY LOCATION.

C. DISPLAY INITIATING DEVICE CIRCUIT TROUBLE CONDITIONS, SINGLE OPENS AND SIGNAL GROUNDS, FOR EACH FIRE ALARM AND SUPERVISORY INITIATING CIRCUIT, AND PROVIDE A COMMON SYSTEM TROUBLE AT THE LOCAL FIRE ALARM CONTROL PANELS AND THE MAIN CONTROL PANEL IN THE FIRE CONTROL ROOM.

D. DISPLAY NOTIFICATION APPLIANCE CIRCUIT TROUBLE CONDITIONS, SINGLE OPENS, SHORTS, AND SINGLE GROUNDS, FOR EACH CIRCUIT, AND A COMMON SYSTEM TROUBLE AT THE FIRE ALARM CONTROL PANELS. AND THE MAIN CONTROL PANEL IN THE FIRE CONTROL ROOM.

E. THE EFFECTIVE INTENSITY OF ALL NOTIFICATION STROBES SHALL BE A MINIMUM FOR 75 CANDELA PRODUCING AN EQUIVALENT ILLUMINANCE OF 0.03 LUMENS / SQ. FT. AT 50 FEET ON A HORIZONTAL AXIX.

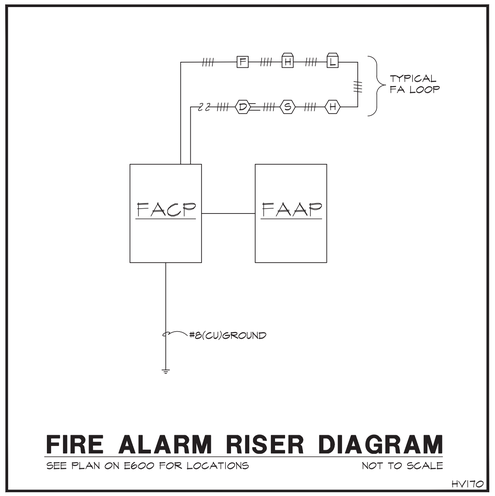
F. SYSTEM OPERATION SHALL BE LOW VOLTAGE (24 VOLTS DC) INCLUDING ALL SUPERVISORY AND CONTROL FUNCTIONS.

G. UPON LOSS OF 120 VAC OPERATING POWER, THE ENTIRE SYSTEM SHALL OPERATE ON STANDBY BATTERY POWER FOR 24 HOURS IN SUPERVISORY MODE AND THEN BE CAPABLE OF ALARM OPERATION FOR 15 MINUTES.

H. THE TRANSFER TO STANDBY POWER SHALL NOT CAUSE A GENERAL ALARM TO BE GENERATED BUT SHALL BE INDICATED AT THE FIRE ALARM PANEL AND THE REMOTE ANNUNCIATOR AS SYSTEM AND BATTERY TROUBLE.

I. AUDIBLE AND VISUAL EVACUATION SIGNALS SHALL MEET THE REQUIREMENTS AND RECOMMENDATIONS OF NFPA-72 AND THE AMERICANS WITH DISABILITIES ACT (ADA).

J. UPON DETECTION OF SMOKE IN THE ELEVATOR SHAFT OR LOBBY, A PRESSURIZATION FAN WILL BE ACTIVATED. SEE SHEET XXXX-XX FOR ALL ELEVATOR OPERATIONS.



FIRE ALARM RISER DIAGRAM

SEE PLAN ON E600 FOR LOCATIONS — NOT TO SCALE

HV170

FIRE ALARM CABLE SCHEDULE

A	16-02 UNSHIELDED (RED) FPLR - FIRE ALARM DATA CIRCUIT
B	12-02 UNSHIELDED THHN - FIRE ALARM NAC CIRCUIT
C	16-02 UNSHIELDED (RED) FPLR HYDROSEAL - UNDERGROUND

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TUBA CITY, ARIZONA 86045
FIRE ALARM RISER & NOTES

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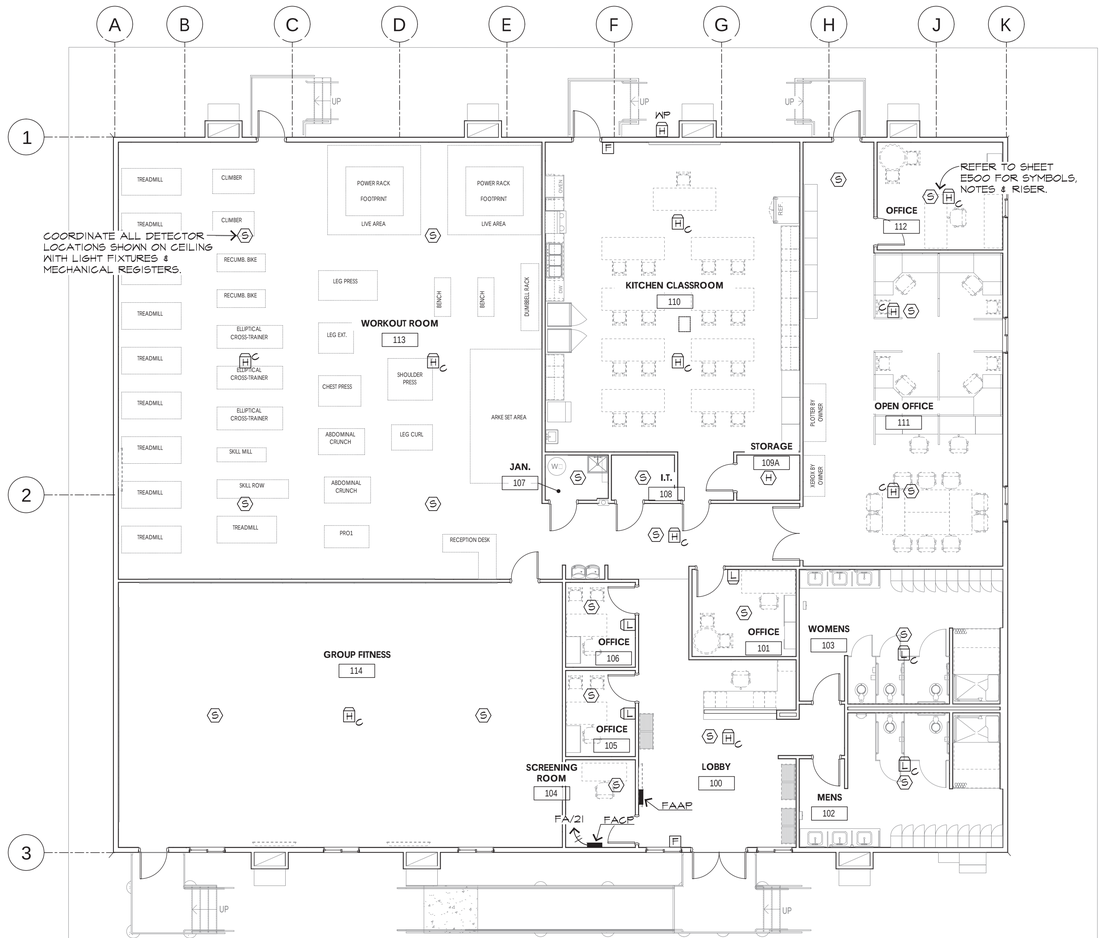

1 FIRE ALARM FLOOR PLAN

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

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SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
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FIRE ALARM FLOOR PLAN

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PANEL/ AC-1

TYPE : EATON PANELBOARD (FULLY RATED) NEMA 3R — OUTDOOR
VOLTAGE : 120/240V, 1Φ, 3W
AMPERES: 400A MAINS : MLO
LUGS : BOTTOM MOUNTING: SURFACE
HEIGHT : 29" WIDTH: 20" DEPTH: 5 3/4"
FEEDERS/CONDUIT: (2 SETS) 3#3/0 & 1#1/0 (BOND) THWN (CU) - 2"C.
(PARALLEL FEEDERS)

CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION
(AH 1) AIR HANDLER - 1	90/2	1	10235		2		
		3		10235	4		
		5	7015		6	70/2	(AH 2) AIR HANDLER - 2
		7		7015	8		
(AH 3) AIR HANDLER - 3	70/2	9	7015		10	20/2	(IU 1) INDOOR UNIT - 1
		11	1485	7015	12	2	(OU 1) OUTDOOR UNIT - 1
		13		1485	14	90/2	(AH 7) AIR HANDLER - 7
		15	10235		16		
SPACE		17		10235	18	20/2	RECEPTS
		19	360		20	20/1	HEAT TAPE
		21		-	22		SPACE
		23			24		
TOTAL VOLT-AMPS			36355	35995			X2= 72,710VA÷240V=303.0A

PANEL/ AC-2

TYPE : EATON PANELBOARD (FULLY RATED) — STORAGE RM 104
VOLTAGE : 120/240V, 1Φ, 3W
AMPERES: 400A MAINS : MLO
LUGS : BOTTOM MOUNTING: FLUSH
HEIGHT : 29" WIDTH: 20" DEPTH: 5 3/4"
FEEDERS/CONDUIT: (2 SETS) 3#3/0 & 1#1/0 (BOND) THWN (CU) - 2"C.
(PARALLEL FEEDERS)

CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION
(AH 4) AIR HANDLER - 4	90/2	1	10235		2		
		3		10235	4		
		5	7015		6	70/2	(AH 5) AIR HANDLER - 5
		7		7015	8		
(AH 6) AIR HANDLER - 6	90/2	9	10235		10		
		11		10235	12		
SPACE		13			14		SPACE
		15			16		
		17	1625		18	30/2	OVEN
		19		1625	20	2	3#10 THWN (CU) - 3/4"C.
WATER HTR	35/2	21	1950		22	50/2	RANGE
			2600				
2#8 & 1#10 (BOND) - 3/4"C.		23		1950	24		2#6, 1#8 (N) & 1#8 (BOND) - 1"C.
				2600			
TOTAL VOLT-AMPS			33660	33660			X2= 67,320VA÷240V= 281.0A

◇ INDICATES C/B LOCK-OFF DEVICE, LOCKED IN "ON" POSITION.
⊖ INDICATES HACR TYPE CIRCUIT BREAKER FOR HVAC EQUIPMENT.
✳ INDICATES LIGHTING LOAD & LARGEST MOTOR LOAD COMPUTED AT 125% DEMAND.
T/S INDICATES TORK OR INTERMATIC ASTRONOMIC TIMESWITCH (SEE SYMBOL LEGEND ON E200).
⊞ INDICATES 65% DEMAND APPLIED TO ALL KITCHEN EQUIPMENT PER NEC.

PANEL/ FA

TYPE : EATON PANELBOARD (SERIES RATED 65/10K) — STORAGE RM 104
VOLTAGE : 120/240V, 1Φ, 3W
AMPERES: 225A MAINS : 200/2 C/B
LUGS : BOTTOM MOUNTING: FLUSH
HEIGHT : 35" WIDTH: 14" DEPTH: 4"
FEEDERS/CONDUIT: 3#4/0 & 1#2 (BOND) THWN (CU) - 2"C.

CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION
RECEPTS (WORKOUT - 113)	20/1	1	900		2	20/1	T/S EXTERIOR LTG
RECEPTS (WORKOUT - 113)	2	3	300	900	4	2	S EXTERIOR LTG
RECEPTS (WORKOUT - 113)	20/1	5	900	450	6	20/1	LTG (FITNESS, CORR, OFFICES)
RECEPTS (WORKOUT - 113)	2	7	1080	900	8	2	LTG (OFFICE - 111, TLTS)
RECEPTS (WORKOUT - 113)	20/1	9	900	1215	10	20/1	LTG (KITCHEN - 110, OFF - 112)
RECEPTS (WORKOUT - 113)	2	11	1095	900	12	2	LTG (WORKOUT - 113)
RECEPTS (WORKOUT - 113)	20/1	13	900	900	14	20/1	RECEPT (WORKOUT - 113)
RECEPTS (WORKOUT - 113)	2	15	540	900	16	2	RECEPT (WORKOUT - 113)
RECEPTS (WORKOUT - 113)	20/1	17	900	540	18	20/1	REFRIG. (KIT CR - 110) ⊞
RECEPTS (WORKOUT - 113)	2	19	975	900	20	2	REFRIG. (KIT CR - 110) ⊞
FACP ◇	20/1	21	200	975	22	3	APPLIANCE RECEPT (KIT CR - 110)
RECEPTS (COPIER)	20/1	23	1000	500	24	20/1	APPLIANCE RECEPT (KIT CR - 110)
RECEPTS (PLOTTER)	2	25	1000	500	26	2	DISPOSAL/ DISHWASHER ⊞
SPARE	20/1	27	864	-	28	20/1	APPLIANCE RECEPT (KIT CR - 110)
SPARE	20/1	29	-	500	30	2	APPLIANCE RECEPT (KIT CR - 110)
RECEPTS (WORKOUT)	20/1	31	500	900	32		SPACE
RECEPTS (WORKOUT)	20/1	33	900		34		
SPACE		35			36		
		37			38		
PANEL/FB	100/2	39		9785	40		
		41	9921		42		
TOTAL VOLT-AMPS			22375	21265			X2= 44,750VA÷240V= 187.0A

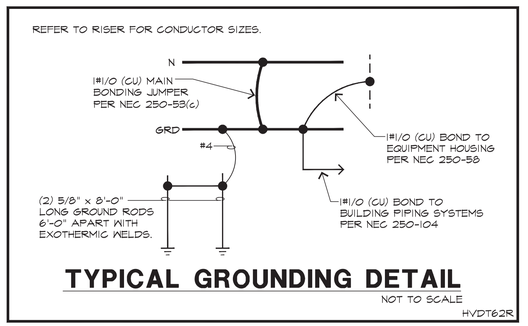
PANEL NOTES:

1. EVERY CIRCUIT & CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT & SPECIFIC PURPOSE OR USE TO COMPLY W/ NEC 408.4. THE IDENTIFICATION SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. THIS ARTICLE REQUIRES THAT EACH CIRCUITS IDENTIFICATION SHOWN WITHIN THE PANELBOARD(S). THE CONTRACTOR SHALL ETCH OR PERMANENTLY MARK THE COVERPLATES OF RECEPTACLES AND THE JUNCTION BOXES OF LUMINAIRES AND EQUIPMENT WITH THE CIRCUIT'S IDENTIFICATION (STICK-ON LABELS ARE NOT ACCEPTABLE). IT WOULD ALSO BE ACCEPTABLE TO TAG EACH CIRCUIT CONDUCTOR AT EACH JUNCTION BOX, OUTLET, SWITCH, ETC. WITH THE CIRCUIT'S IDENTIFICATION.
2. DISCONNECT SHALL BE PROVIDED FOR ALL MULTIWIRE BRANCH CIRCUIT HOMERUNS PER NEC 210.4.
3. THE UNGROUNDED AND GROUNDED CONDUCTORS OF EACH MULTIWIRE BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES OR SIMILAR MEANS IN AT LEAST ONE LOCATION WITHIN THE PANELBOARD OR OTHER POINT OF ORIGINATION PER NEC 210.4 (D).
4. PAINT SERVICE EQUIPMENT ON EXTERIOR OF BUILDING TO MATCH BUILDING COLORS (REFER TO ARCH. COLOR SCHEMES).

PANEL/ FB

TYPE : EATON PANELBOARD (10,000 AIC RATED) — STORAGE RM 104
VOLTAGE : 120/240V, 1Φ, 3W
AMPERES: 225A MAINS : MLO
LUGS : BOTTOM MOUNTING: FLUSH
HEIGHT : 35" WIDTH: 20" DEPTH: 5 3/4"
FEEDERS/CONDUIT: 3#2 & 1#8 (BOND) THWN (CU) - 1 1/4"C.

CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION
(CEF 1) CRAWL EXH. FAN - 1	20/1	1	70		2	20/1	T/S EXH. FAN
(CEF 2) CRAWL EXH. FAN - 2	2	3	1176	70	4	20/1	RECEPTS (1T RM 108)
(CEF 3) CRAWL EXH. FAN - 3	20/1	5	70	540	6	2	RECEPTS (1T RM 108)
(CEF 4) CRAWL EXH. FAN - 4	2	7	540	70	8	20/1	RECEPTS (OPEN OFF - 111)
(CEF 5) CRAWL EXH. FAN - 5	20/1	9	380	720	10	2	RECEPTS (OPEN OFF - 111)
HEAT TAPE CRAWL SPACE	2	11	900	920	12	20/1	RECEPTS (OFF - 111, 101)
TRAP PRIMER	20/1	13	200	900	14	2	RECEPTS (OFF - 111, 101)
EDF RECEPTS	2	15	900	900	16	20/1	RECEPTS (OFF 104-106, FITNESS)
RECEPTS (TLT, EXTERIOR)	20/1	17	540	1050	18	2	RECEPTS (OFF 104-106, FITNESS)
HEAT TAPE (CRAWL SPACE)	2	19	1050	840	20	20/1	RECEPTS (FITNESS - 114)
RECEPTS (FITNESS WKRM)	20/1	21	540	720	22	2	RECEPTS (EXTERIOR)
RECEPTS (FITNESS WKRM)	2	23	360	540	24	20/1	RECEPTS (KIT CR - 110)
APPLIANCE RECEPT (KIT CR - 110)	20/1	25	500	540	26	2	REFRIG (KIT CR - 110) ⊞
APPLIANCE RECEPT (KIT CR - 110)	2	27	975	500	28	20/1	APPLIANCE RECEPT (KIT CR - 110)
APPLIANCE RECEPT (KIT CR - 110)	20/1	29	500	500	30	2	APPLIANCE RECEPT (KIT CR - 110)
REFRIG (KIT CR - 110)	2	31	500	975	32		SPACE
RECEPTS (KIT CR - 110)	20/1	33	720		34		
SPARE	20/1	35		-	36		
SPARE	20/1	37	-		38		
SPARE	20/1	39		-	40		
SPARE	20/1	41	-		42		
TOTAL VOLT-AMPS			9921	9785			X2= 19,842VA÷240V= 83.0A



TYPICAL GROUNDING DETAIL

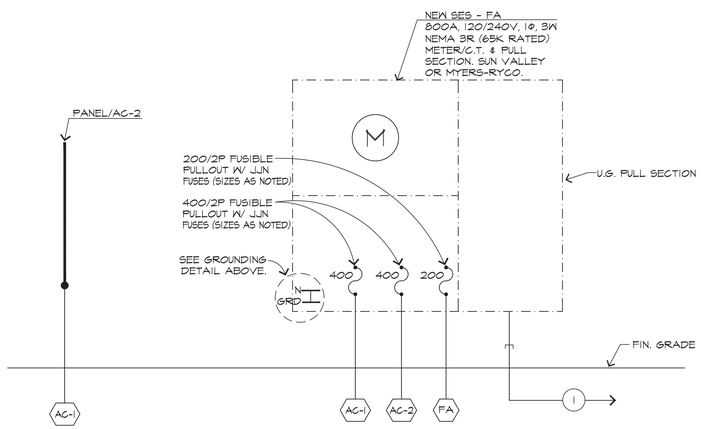
NOT TO SCALE
HVDT62R

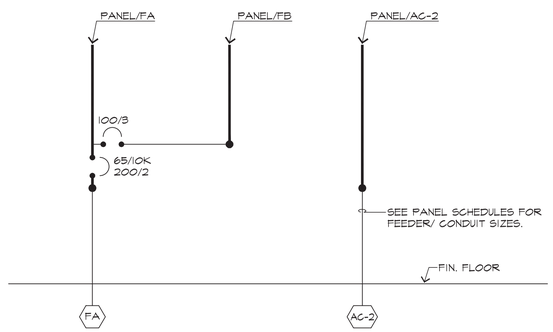
NOTES

1. EXTEND (2) 4"C. TO SERVING UTILITY CO. PAD MOUNTED TRANSFORMER FOR CONNECTION OF A COMPLETE UNDERGROUND ELECTRICAL SERVICE. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BASE BID ALL CONTRIBUTION COSTS, TRENCHING/BACKFILL, UTILITY CO'S ENGINEERING FEES, AND ANY ADDITIONAL REQ'MTS THAT ARE REQUIRED BY THE SERVING UTILITY CO. (MAKE ALL VERIFICATIONS WITH APS PRIOR TO ANY ROUGH-IN AND COMPLY AS REQUIRED).
2. ENTIRE SERVICE ENTRANCE SWITCHGEAR ASSEMBLY AND ALL OF ITS COMPONENTS TO BE BRACED TO WITHSTAND 100% OF AVAILABLE FAULT CURRENT (65,000 AMPS) PER APS CO. SHORT CIRCUIT CURRENT TABLES.
3. ALL EQUIPMENT TO BE FULLY BUSSED & COPPER, PARTIALLY BUSSED SECTIONS NOT ACCEPTABLE.
4. ALL FUSES TO BE BUSSMAN TYPE LPN-RK1 (250V) OR GOULD A2D-R (250V).
5. REFER TO GENERAL NOTES ON SHEET E200 FOR ADDITIONAL INFORMATION.
6. ALL PANEL COVERS TO BE DOOR IN DOOR TYPE WITH WELDED CARD HOLDERS. GLUE ON CARD HOLDERS NOT ACCEPTABLE.

LOAD CALC'S

PANEL/FA	187.0A
PANEL/AC-1	303.0A
PANEL/AC-2	281.0A
TOTAL	771.0A





ELECTRICAL SERVICE RISER DIAGRAM

NOT TO SCALE

SPS+ ARCHITECTS
SPS+ ARCHITECTS LLP.
8681 E. VIA DE NEGOCIO
SCOTTSDALE, AZ 85258
TEL: 480.991.0800
FAX: 480.991.2623
spsplusarchitects.com

DIABETES PREVENTION PROGRAM FITNESS
TUBA CITY REGIONAL HEALTH CARE CORPORATION
TAMARAX STREET
TUBA CITY, ARIZONA 86045
ELECTRICAL PANELS & RISER

REVISIONS		
MARK	DATE	DESCRIPTION
3	11/13/17	OWNER REVISIONS

REVIEWED BY: GTB
DRAWN BY: HAV3

Registered Professional Engineer (Electrical) CERTIFICATE 10526 GEORGE T. BAYLES Date Signed 11/13/17 ARIZONA, U.S.A.
EXPIRES 3/31/2020

ENTIRE SHEET 3

DATE: 11/13/17
JOB No: 1641B
SHEET: E700

ELECTRICAL DESIGN CONSULTANTS, Inc.
1855 E. SOUTHERN AVE., SUITE #203
MESA, ARIZONA 85204
T (602) 279-7010
www.edcinc.biz
EDC Project #: 2017-41A