APPENDIX B

WWTF DRAWINGS

FEI ENGINEERS

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS
WWTP PER
January 2016

Sheet List Table

Sheet Number	Sheet Title
General Sheets	
G0-01	COVER SHEET & DRAWING INDEX
G0-02	GENERAL ABBREVIATIONS, LEGENDS & SYMBOLS
G0-03	DESIGN CRITERIA
G0-04	ALTERNATIVE 1 – MEMBRANE BIOREACTOR PROCESS FLOW DIAGRAM
G0-05	ALTERNATIVE 2 – IFAS WITH MLE PROCESS FLOW DIAGRAM
G0-06	ALTERNATIVE 3 – ICEAS SBR BASINS PROCESS FLOW DIAGRAM
Civil Sheets	
C1-01	EXISTING SITE PLAN
C1-02	SITE LAYOUT – MEMBRANE BIOREACTOR
C1-03	SITE LAYOUT – IFAS WITH MLE PROCESS
C1-04	SITE LAYOUT – ICEAS SBR BASINS
Process Sheets	
P1-01	HEADWORKS PLAN & SECTION
P1-02	TREATMENT PLANT PLANS
P3-01	TREATMENT PLANT SECTIONS

SHEET NUMBERING SYSTEM:

X0-00

SHEET NUMBER

0 = GENERAL
1 = PLAN VIEW
2 = ELEVATION VIEW
3 = SECTION VIEW
4 = DETAILS

G = GENERAL SHEETS
C = CIVIL SHEETS
A = ARCHITECTURAL SHEETS
S = STRUCTURAL SHEETS
P = PROCESS SHEETS
M = MECHANICAL SHEETS
E = ELECTRICAL SHEETS
I = INSTRUMENTATION SHEETS

LOCATION MAP

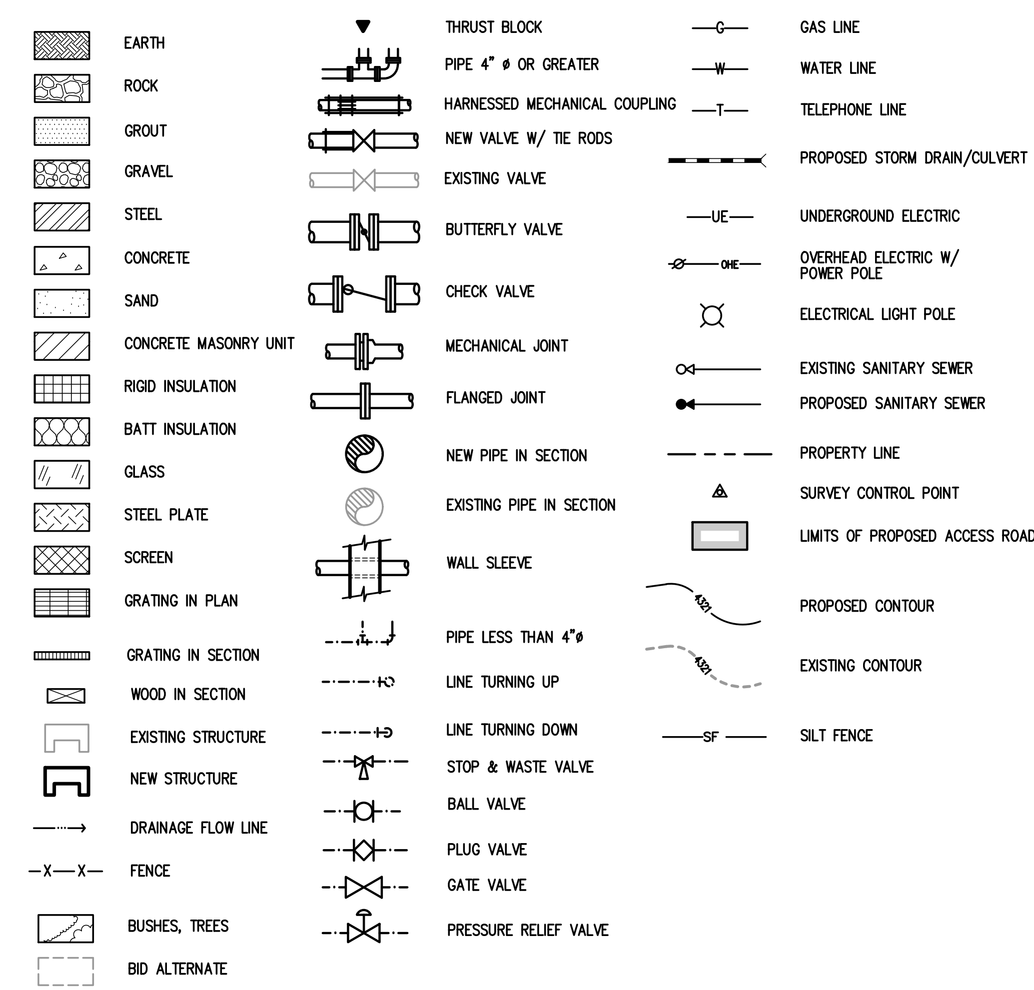
VICINITY MAP

LOCATION: W:\VTSV-S14-0132 – WWTP\G0-01.dwg PLOTTED: 1/20/2016 11:45 AM BY: Keith P. Rindt

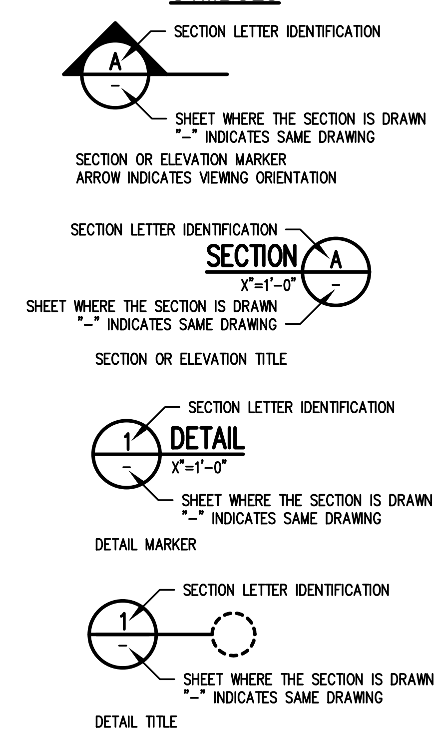
ABBREVIATIONS

AA	ANNUAL AVERAGE
AB	ANCHOR BOLT
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
AC	AIR CONDITIONING
ACOUS	ACOUSTICAL
ACP	ASPHALTIC CONCRETE
AD	AREA DRAIN OR ACCESS DOOR
ADD	ADDENDUM
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALT	ALTERNATE
AMT	AMOUNT
AOR	ACTUAL OXYGEN REQUIRED/ UPTAKE RATE
APPROX	APPROXIMATE
ARV	AIR RELIEF VALVE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASPH	ASPHALT
ASSY	ASSEMBLY
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
AVS	AUTOMATIC VALVE STATION
AWWA	AMERICAN WATER WORKS ASSOCIATION
B	BLOWER
BB	BOND BEAM
BAF	BAFFLE
BC	BACK OF CURB
BF	BOTTOM FACE
BFV	BUTTERFLY VALVE
BIO	DIGESTED SLUDGE
BLDG	BUILDING
BLK	BLOCK
BM	BENCHMARK
BMPS	BEST MANAGEMENT PRACTICES
BOD	BIOCHEMICAL OXYGEN DEMAND
BOT	BOTTOM
BSMT	BASEMENT
BV	BALL VALVE
CA	COMPRESSED AIR
C/C	CENTER TO CENTER
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CEN	CENTRATE
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
CL	CHAIN LINK OR CENTER LINE
℄	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COR	CORNER
CP	CENTRIFUGAL PUMP
CPLG	COUPLING
CTR	CENTER
CU FT	CUBIC FEET
CW	COLD WATER
CWL	CONTROL WATER LEVEL
CY	CUBIC YARDS
DEFL	DEFLECTION
DEMO	DEMOLITION
DI	DEIONIZATION
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DL	DEAD LOAD
DN	DOWN
DR	DRAIN
DWG	DRAWING
DWL	DOWEL
DWV	DRAIN WASTE AND VENT
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE OR ELECTRICAL FAN
EFF	EFFLUENT
EJ	EXPANSION JOINT
EL	ELEVATION
EXST	EXISTING
EXST GR	EXISTING GRADE
EXT	EXTERIOR
EXTN	EXTENSION
FF	FINISHED FLOOR
F/F	FACE TO FACE
FCA	FLANGE COUPLING ADAPTER
FD	FLOOR DRAIN
FDN	FOUNDATION
FED	FEDERAL
FES	FLARED END SECTION
FF	FINISH FLOOR
FIN	FINISH
FLG	FLANGE
FL OR ℄	FLOW LINE
FN	FENCE
FM	FLOW METER OR FORCE MAIN
FOC	FACE OF CONCRETE
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPW	FIRE PROTECTION WATER SUPPLY
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FSTNR	FASTENER
FT	FEET
FTG	FOOTING OR FITTING
FUR	FURNACE
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GIP	GALVANIZED IRON PIPE
GRND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRIT SLURRY
GR BM	GRADE BEAM
GRC	GALVANIZED RIGID CONDUIT
GRTG	GRATING
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GWB	GYPSUM WALL BOARD
H	HIGH
HB	HOSE BIB
HBP	HOT BITUMINOUS PAVEMENT
HDWL	HEAD WALL
HNDRL	HAND RAIL
HNDWL	HANDWHEEL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOUR
HRT	HYDRAULIC RESIDENCE TIME
HS	HIGH STRENGTH
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HW	HOT WATER
HWL	HIGH WATER LINE
HWY	HIGHWAY
HYD	HYDRANT
INCL	INCLUDED
INCR	INCREASER
ID	INSIDE DIAMETER
IF	INSIDE FACE
INF	INFLUENT
INL	INLET
INSTL	INSTALLATION
INSTR	INSTRUMENT
INSUL	INSULATION
INTR	INTERIOR
INV	INVERT
INV EL	INVERT ELEVATION
ISA	INSTRUMENT SOCIETY OF AMERICA
ISO	ISOMETRIC
JST	JOIST
JTS	JOINTS
KO	KNOCKOUT
KPL	KICK PLATE
KWY	KEYWAY
L	LEFT OR LITER
LAB	LABORATORY
LATL	LATERAL
LB(S)	POUND(S)
LCMU	LIGHTWEIGHT CONCRETE MASONRY UNIT
LF	LINEAR FOOT
LG	LENGTH
LH	LATENT HEAT
LL	LIVE LOAD
LOC	LOCATION
LP	LOW PRESSURE OR LIGHT POLE
LRG	LARGE
LT	LIGHT
LT WT	LIGHT WEIGHT
LWC	LIGHT WEIGHT CONCRETE
LWL	LOW WATER LEVEL
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MED	MEDIUM
MFM	MAGNETIC FLOW METER
MFR	MANUFACTURER
MG	MILLION GALLONS OR MILLIGRAMS
MGD	MILLION GALLONS PER DAY
MGMT	MANAGEMENT
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MLSS	MIXED LIQUID SUSPENDED SOLIDS
MM	MAX MOUNTH
MO	MASONRY OPENING
MRGYB	MOISTURE RESISTANT GYPSUM WALL BOARD
MTG	MOUNTING
N	NITROGEN OR NORTH
NA	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NP	NO PAINT
NPL	NAME PLATE
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
NRS	NON-RISING STEAM
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OE	OVERHEAD ELECTRIC
OF	OVER FLOW
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
P	PUMP
PA	PIPE ANCHOR
PAR	PARALLEL
PCO	PRESSURE CLEAN OUT
PCP	PROGRESSING CAVITY PUMP
PE	PLAIN END
PEFF	PRIMARY EFFLUENT
PERM	PERMANENT
PERP	PERPENDICULAR
PG	PRESSURE GAGE
PH	PEAK HOUR
PL	PLATE OR PROPERTY LINE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNT	PAINT
POLY	POLYETHYLENE
PORT	PORTABLE
POS	POSITIVE
PPM	PARTS PER MILLION
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PRELIM	PRELIMINARY
PREP	PREPARATION
PROJ	PROJECT
PROP	PROPERTY
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PRTV	PRESSURE TEMPERATURE RELIEF VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PT	POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PW	POTABLE WATER
QAVG	AVERAGE DAILY FLOW
QMAX	MAXIMUM DAILY FLOW
QPEAK	PEAK HOUR FLOW
QCV	QUICK COUPLER VALVE
QTR	QUARTER
QTY	QUANTITY
R	RISER
RAD	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RED	REDUCER
REC	RECESSED
RECT	RECTANGULAR
REF	REFERENCE
REHAB	REHABILITATION
REINF	REINFORCE
REQD	REQUIRED
RESIL	RESILIENT
RFCA	RESTRAINED FLANGED COUPLING ADAPTER
RFG	ROOFING
RH	RIGHT HAND
RM	ROOM
RND	ROUNDS
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RMP	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RTN	RETURN
S	SOUTH
SA	SUPPLY AIR
SALV	SALVAGE
SAN	SANITARY
SB	SPLASH BLOCK
SBNR	SINGLE BASIN NUTRIENT REMOVAL
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SCRN	SCREEN
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SEFF	SECONDARY EFFLUENT
SHT	SHEETING OR SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLR	SLUDGE LOADING RATE
SLV	SLEEVE
SM	SMOOTH
SOR	STANDARD OXYGEN REQUIRED/ UPTAKE RATE
SOTE	STANDARD OXYGEN TRANSFER EFFICIENCY
SP	SPACING
SPEC	SPECIFICATION
SQ	SQUARE
SQ FT	SQUARE FEET
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SRT	SOLIDS RETENTION TIME
SS	SANITARY SEWER
SST	STAINLESS STEEL
SST BT	STAINLESS STEEL BOLT
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STL JST	STEEL JOIST
STL PL	STEEL PLATE
SUPP	SUPPLY
SUSP CLG	SUSPENDED CEILING
SV	SOLENOID VALVE
SVC	SERVICE
SW	SIDEWALK
SWMP	STORM WATER MANAGEMENT PLAN
SYMM	SYMMETRICAL
SYS	SYSTEM
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T&P	TEMPERATURE AND PRESSURE
TB	TOP OF BEAM
TBK	THRUST BLOCK
TBM	TEMPORARY BENCH MARK
TD	TRENCH DRAIN
TE	TOP ELEVATION
TEMP	TEMPORARY
TF	TOP OF FOOTING
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TFF	TOP OF FINISH FLOOR
THD	THREAD(ED)
THK	THICK
TJ	TOP OF JOIST
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOE	THREADED ONE END
TOF	TOP OF FOOTING
TOT	TOTAL
TOW	TOP OF WALL
TP	TOP OF PAVEMENT
TR	TOP OF RIM
TSL	TOP OF SLAB
TWL	TOP WATER LEVEL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNGD	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
ULT	ULTIMATE
UN	UNION
UNFIN	UNFINISHED
UNIF	UNIFORM
UV	ULTRAVIOLET
VAC	VACUUM
VB	VALVE BOX
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
W	WIDE, WIDTH, WATER OR WEST
W/	WITH
W/O	WITHOUT
W/W	WALL TO WALL
WAS	WASTE ACTIVATE SLUDGE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WD	WOOD
WDW	WINDOW
WH	WALL HYDRANT
WHSE	WAREHOUSE
WI	WROUGHT IRON
WL	WATER LINE OR WIND LOAD
WP	WASTE PIPE
WPR	WORKING PRESSURE
WSE	WATER SURFACE ELEVATION
WSR	WASTE SLUDGE RECYCLE
WT	WEIGHT
WTR	WATER
WTRPRF	WATERPROOFING
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
X-SECT	CROSS SECTION
YCO	YARD CLEANOUT
YD	YARD DRAIN
YH	YARD HYDRANT

LEGEND



SYMBOLS



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FEI ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION

REV. No.	DATE	DESCRIPTION
1	1/2016	WWTP PER

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

GENERAL ABBREVIATIONS, LEGENDS & SYMBOLS

PROJECT No.: VTSV-S14-0132
DATE: 1/6/2016
DESIGNED BY: KV
DRAWN BY: KPR
CHECKED BY: MAD

G0-02

LOCATION: W:\VTSV-S14-0132 - WWTP\G0-02.dwg PLOTTED: 1/20/2016 11:45 AM BY: Keith P. Rindt

TREATMENT DESIGN SUMMARY

GENERAL DESIGN INFORMATION

SITE ELEVATION:	9,270 FT ASL

HYDRAULIC DESIGN FLOWS

30 DAY AVERAGE MAX MONTH FLOW (MMF):	0.31 MGD (215 GPM)
AVERAGE DAILY FLOW (ADF):	0.2 MGD (139 GPM)
PEAK PERIOD FLOW (PPF):	0.44 MGD (305 GPM)
PEAK HOURLY FLOW (PHF):	0.64 MGD (445 GPM)

DESIGN INFLUENT CONCENTRATIONS

BOD:	350 MG/L
TSS:	300 MG/L
TKN:	66 MG/L
NH3:	45 MG/L
TP:	12 MG/L
ALKALINITY:	150 mg/L as CaCO3

DESIGN INFLUENT LOADING

BOD @ 0.31 MGD:	911 PPD
TKN @ 0.31 MGD:	172 PPD
NH3 @ 0.31 MGD:	117 PPD
TP @ 0.31 MGD:	31 PPD
AVERAGE BOD @ 0.2 MGD:	583 PPD
AVERAGE TKN @ 0.2 MGD:	110 PPD
AVERAGE NH3 @ 0.2 MGD:	75 PPD
AVERAGE TP @ 0.2 MGD:	20 PPD

PERMITTED DESIGN EFFLUENT LIMITS

30-DAY / 7-DAY AVG BOD:	< 23.8 / < 35.7 LBS/DAY
30-DAY / 7-DAY AVG TSS:	< 23.8 / < 35.7 LBS/DAY
30-DAY AVERAGE NH3:	< 5.34 LBS/DAY
30- DAY/7-DAY TN:	
NOVEMBER 1- APRIL 30	<13.65 / < 20.5 LBS/DAY
MAY 1- JUNE 30	< 46.55 / < 68.8 LBS/DAY
JULY 1- AUGUST 30	< 27.7 / <41.6 LBS/DAY
SEPTEMBER 1- OCTOBER 31	< 21.1 / <31.7 LBS/DAY
30- DAY/7-DAY TP:	
NOVEMBER 1- APRIL 30	<0.8 /< 1.2 LBS/DAY
MAY 1- JUNE 30	< 1.6 / < 2.4 LBS/DAY
JULY 1- AUGUST 30	< 1.2 / <1.8 LBS/DAY
SEPTEMBER 1- OCTOBER 31	< 0.8 / <1.2 LBS/DAY
30-DAY AVG/ DAILY MAX E.COLI:	126 / 235 PER 100 ML
30-DAY AVG/ DAILY MAX FECAL COLIFORM:	200 /400 PER 100 ML

MAJOR EQUIPMENT AND PROCESS SUMMARY

HEADWORKS

MECHANICAL BAR SCREEN (EXISTING)

QUANTITY:	1 DUTY
TYPE:	CONVEYOR SCREW SCREEN W/ MANUAL BYPASS SCREEN
CAPACITY:	0.5 MGD

MECHANICAL BAR SCREEN (NEW)

QUANTITY:	1 DUTY
TYPE:	CONVEYOR SCREW SCREEN W/ MANUAL BYPASS SCREEN
STRAINER TYPE:	PERFORATED PLATE
CAPACITY:	0.8 MGD
MOTOR HP:	2 HP

GRIT REMOVAL SYSTEM

MANUFACTURER:	SPIRAGRIT MODEL SG-6.-1.3
QUANTITY:	1 DUTY

GRIT PUMPS

QUANTITY:	2 TOTAL (1 DUTY, 1 SHELF SPARE)
TYPE:	VACUUM PRIMED PUMP
MOTOR HP:	10 HP

INFLUENT FLOW METERING (EXISTING TO BE RELOCATED)

QUANTITY:	1 DUTY
TYPE:	PARSHALL FLUME
SIZE:	3 IN

BIOLOGICAL TREATMENT PROCESS

ACTIVATED SLUDGE DESIGN CRITERIA

MLSS TEMPERATURE:	8 TO 20 DEG CELSIUS
HYDRAULIC RETENTION TIME:	18 HOURS @ MMF (HRT)
YIELD:	0.6 LBS TSS/ LB BOD
F:M RATIO:	0.05
MLSS CONCENTRATION:	8000 - 10000 MG/L
DISSOLVED OXYGEN:	2.0 MG/L
SRT:	24 DAYS
MEMBRANE FLUX:	7.50 GAL/FT2. D

PROCESS AERATION REQUIREMENTS

ACTUAL OXYGEN REQUIRED (AOR, MML):	68 lbs 02/HR
AVG MONTH ACTUAL OXYGEN REQUIRED (AOR, AAL):	44 lbs 02/HR
STANDARD OXYGEN REQUIRED (SOR, MML):	5834 lbs 02/DAY
AVG STANDARD OXYGEN REQUIRED (SOR, AAL):	3764 lbs 02/DAY
AERATION TIME:	24 HRS/ DAY (W/DENITE)

RESIDUALS MANAGEMENT

SOLIDS HANDLING

AT MAXIMUM MONTH LOADING

WASTE SLUDGE GENERATION:	535 LBS/DAY (@ 350 MG/L INFLUENT BOD5, MMDF AND 0.6 YIELD)
VOLUME OF WASTE SLUDGE:	6400 GAL/DAY
CONCENTRATION FROM MBR:	10,000 MG/L (1%)
VOLATILE DESTRUCTION IN HOLDING TANK:	10% VSS/DAY
CONCENTRATION EXITING HOLDING TANK %:	1%
VOLUME OF SLUDGE POST STABILIZATION:	6000 GAL/DAY

AT ANNUAL AVERAGE DAY LOADING

WASTE SLUDGE GENERATION:	345 LBS/DAY (@ 350 MG/L INFLUENT BOD5, AADF AND 0.6 YIELD)
VOLUME OF WASTE SLUDGE:	4140 GAL/DAY
CONCENTRATION FROM MBR:	10,000 MG/L (1%)
VOLATILE DESTRUCTION IN HOLDING TANK:	10% VSS/DAY
CONCENTRATION EXITING HOLDING TANK %:	1%
VOLUME OF SLUDGE POST STABILIZATION:	3850 GAL/DAY

AT STARTUP LOADING

WASTE SLUDGE GENERATION:	155 LBS/DAY (@ 350 MG/L INFLUENT BOD5, STARTUP FLOW (0.09 MGD) AND 0.6 YIELD)
VOLUME OF WASTE SLUDGE:	1860 GAL/DAY
CONCENTRATION FROM MBR:	10,000 MG/L (1%)
VOLATILE DESTRUCTION IN HOLDING TANK:	10% VSS/DAY
CONCENTRATION EXITING HOLDING TANK %:	1%
VOLUME OF SLUDGE POST STABILIZATION:	1730 GAL/DAY

FEI ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION

REV. No.	DATE	DESCRIPTION
1	1/2016	WWTP PER

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

DESIGN CRITERIA

PROJECT No.:	VTSV-S14-0132
DATE:	1/20/2016
DESIGNED BY:	KV
DRAWN BY:	KPR
CHECKED BY:	MAD

G0-03

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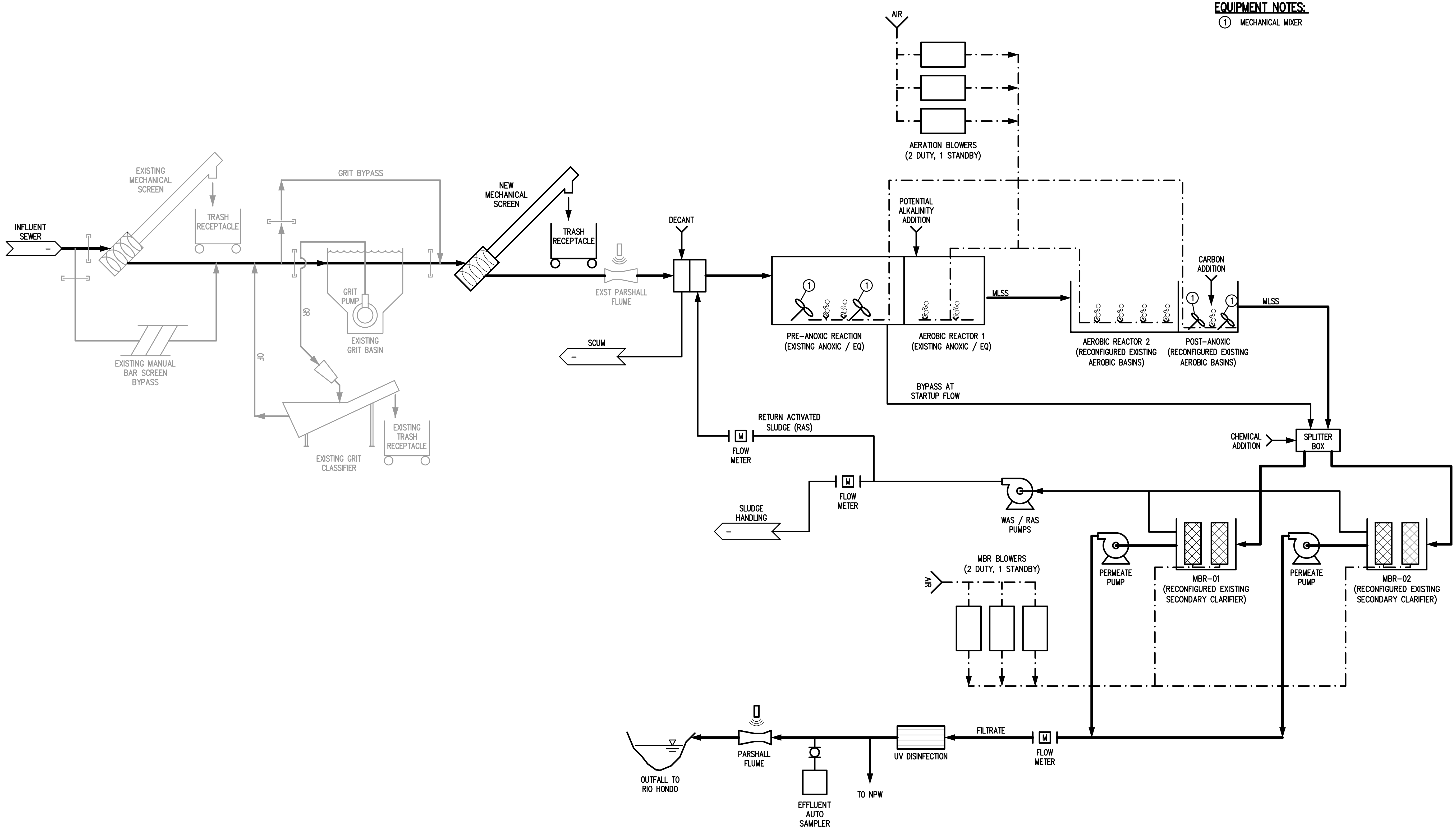
EQUIPMENT NOTES:

(1) MECHANICAL MIXER



ABBREVIATIONS:

OF – OVERFLOW
GR – GRIT
WAS – WASTE ACTIVATED SLUDGE
IMLR – INTERNAL MIXED LIQUOR
PW – POTABLE WATER
NPW – NON–POTABLE WATER
FA – FOUL AIR

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FEI ENGINEERS

REV. No.	DATE	DESCRIPTION
–	1/2016	WWTP PER

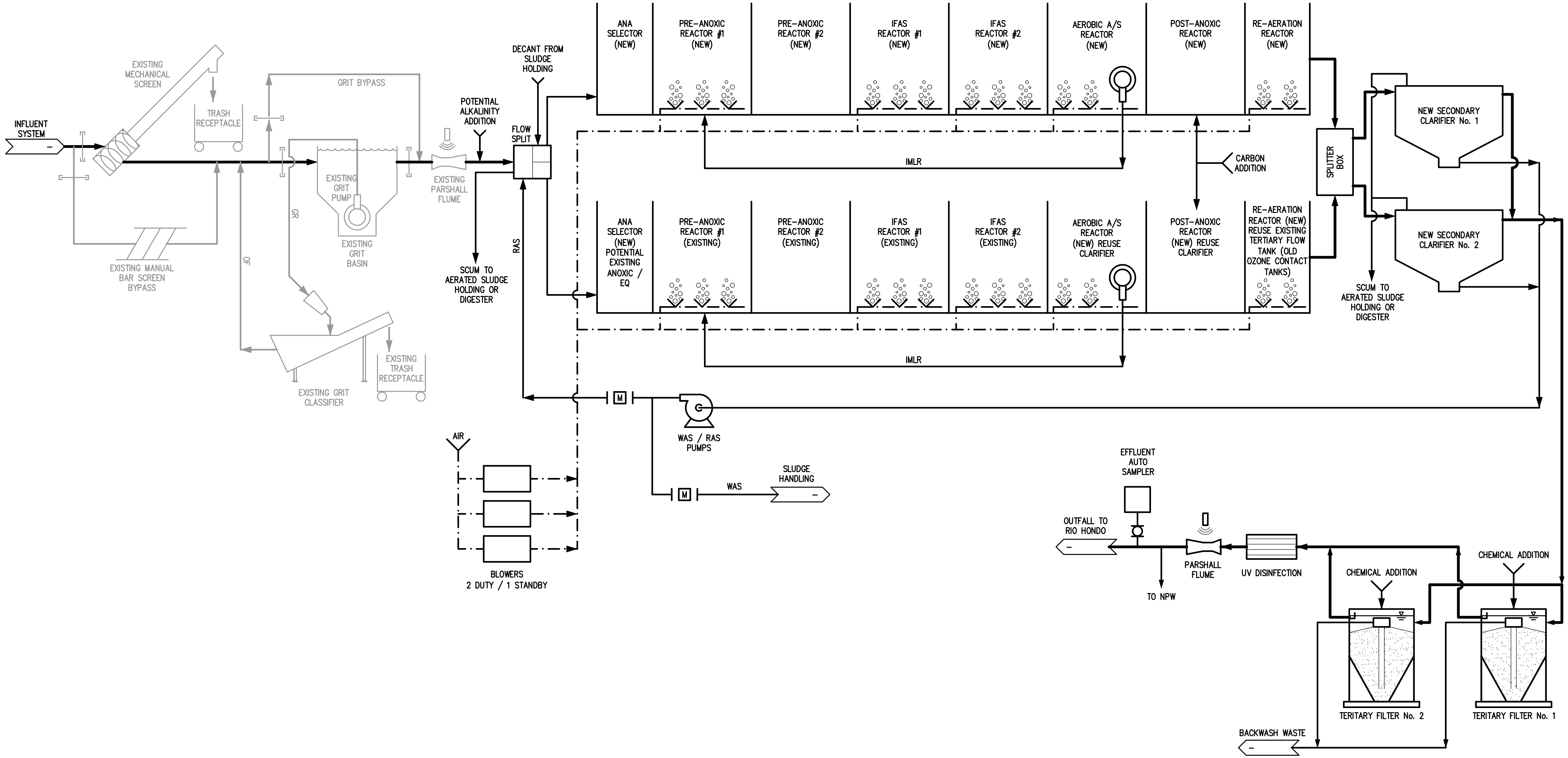
VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

ALTERNATIVE 1 – MEMBRANE BIOREACTOR PROCESS FLOW DIAGRAM

PROJECT No.: VTSV–S14–0132
DATE: 1/20/2016
DESIGNED BY: KV
DRAWN BY: SAJ
CHECKED BY: MAD

G0-04

LOCATION: W:\VTSV–S14–0132 – WWTP\G0–04.dwg PLOTTED: 1/20/2016 11:45 AM BY: Keith P. Rindt



ABBREVIATIONS:

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FEI ENGINEERS

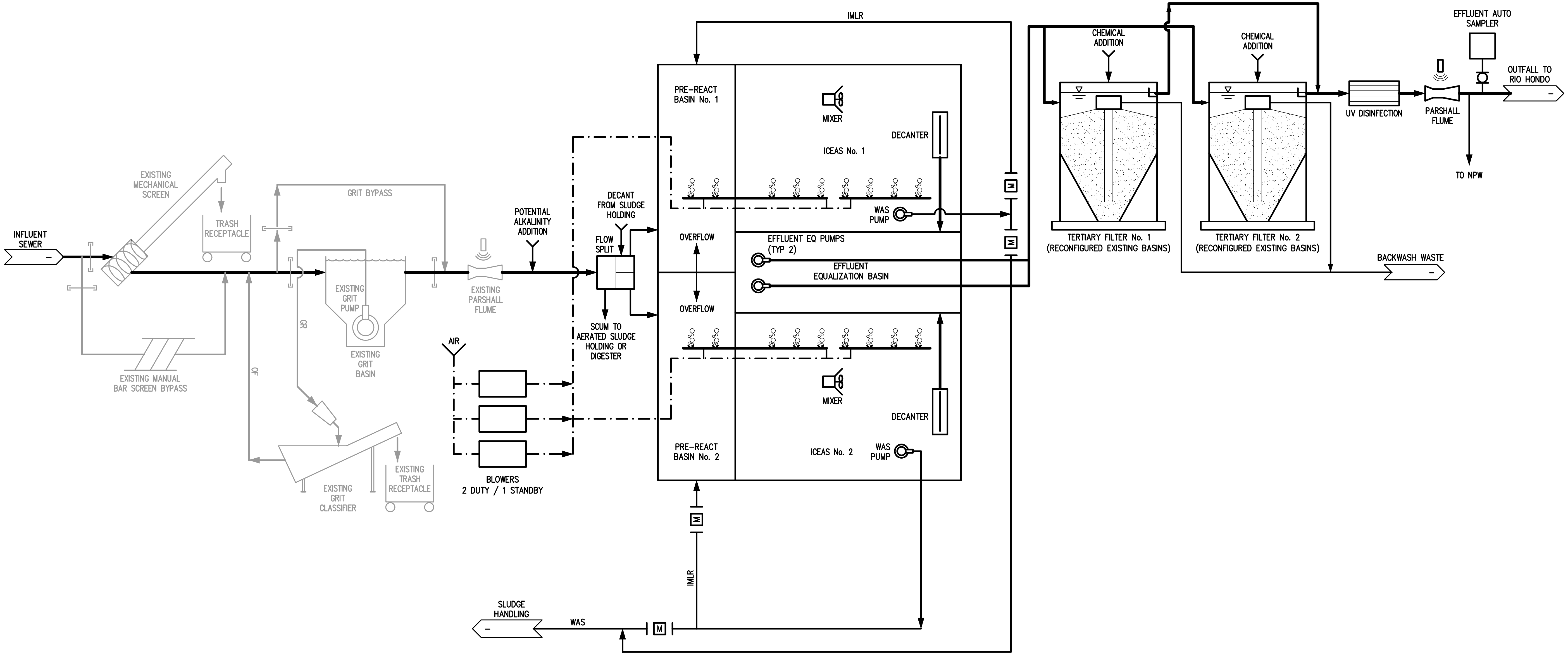
REV. No.	DATE	DESCRIPTION
–	11/2015	WWTP PER

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

ALTERNATIVE 2 – IFAS WITH MLE PROCESS FLOW DIAGRAM

PROJECT No.: VTSV-S14-0132
DATE: 1/20/2016
DESIGNED BY: KV
DRAWN BY: SAJ
CHECKED BY: MAD

G0-05



ABBREVIATIONS:
OF – OVERFLOW
GR – GRIT
WAS – WASTE ACTIVATED SLUDGE
IMLR – INTERNAL MIXED LIQUOR
NPW – NON-POTABLE WATER
RAS – RETURN ACTIVATED SLUDGE

IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

FEI ENGINEERS

REV. No.	DATE	DESCRIPTION
–	11/2015	WWTP PER

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

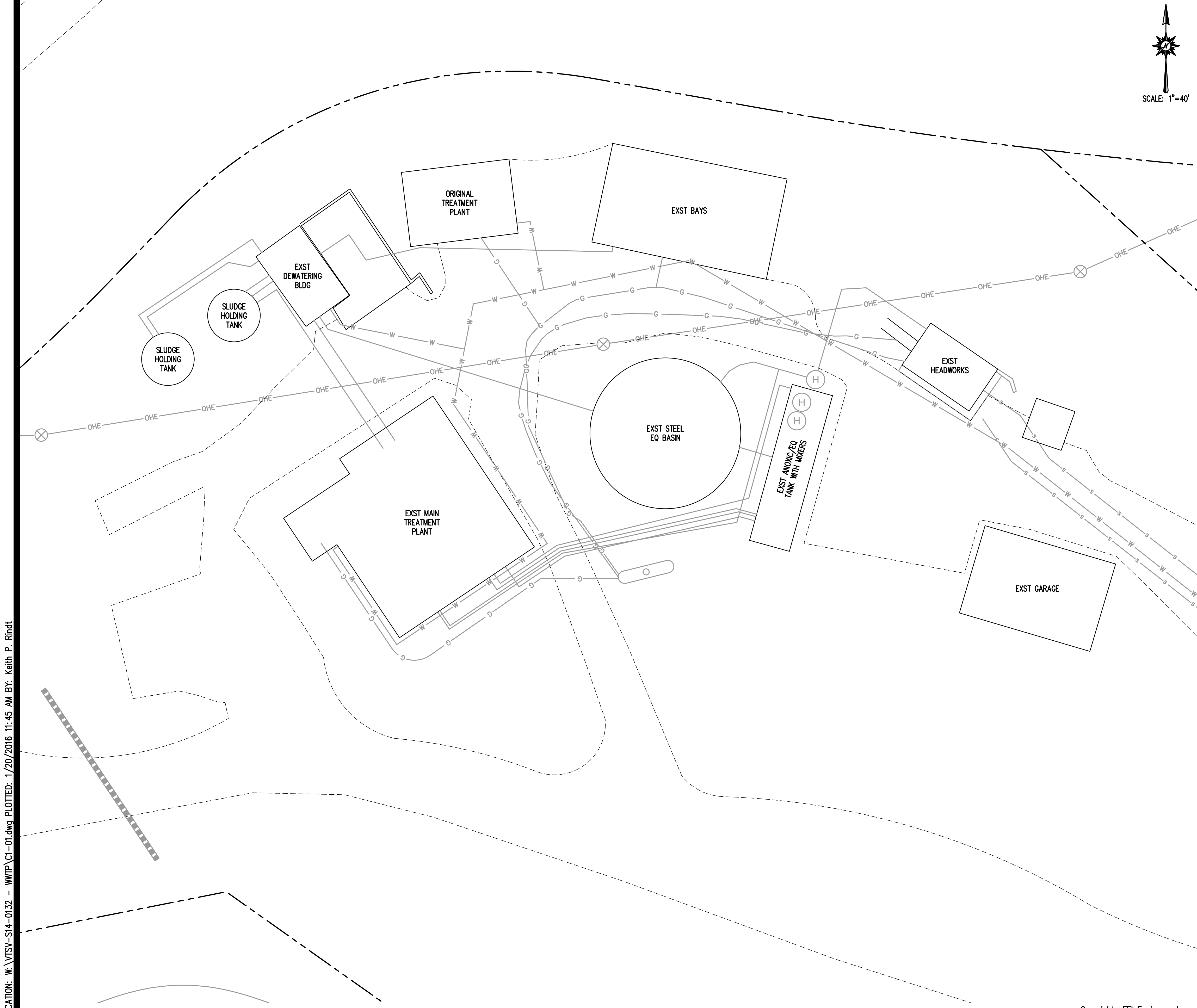
ALTERNATIVE 3 – ICEAS SBR BASINS PROCESS FLOW DIAGRAM

PROJECT No.: VTSV-S14-0132
DATE: 1/20/2016
DESIGNED BY: KV
DRAWN BY: SAJ
CHECKED BY: MAD

G0-06

GENERAL NOTES:

1.



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FEI ENGINEERS

REV. No.	DATE	DESCRIPTION
-	8/2014	WWTP PER

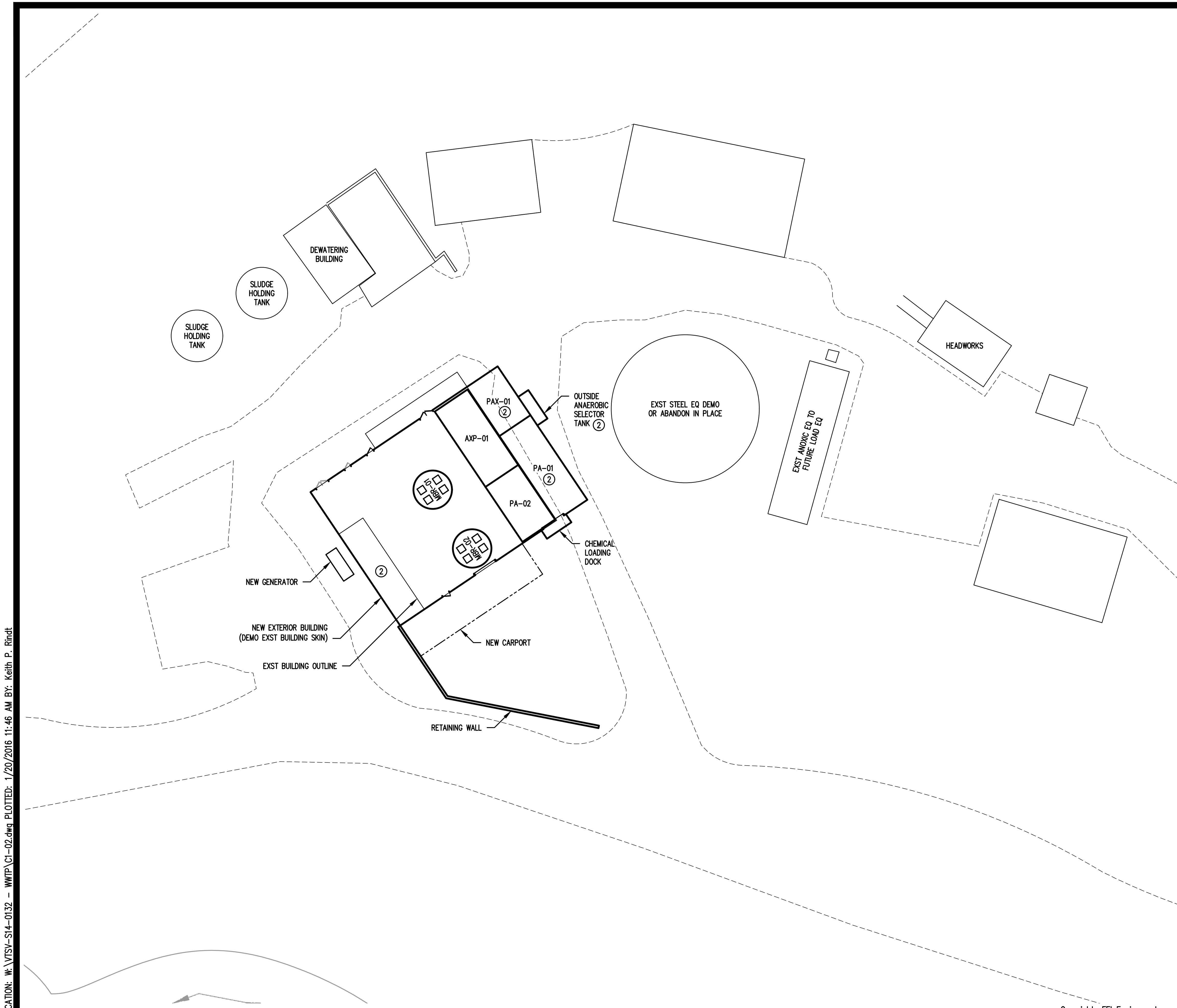
PRELIMINARY
NOT FOR CONSTRUCTION

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

EXISTING SITE PLAN

PROJECT No.: VTSV-S14-0132
DATE: 1/6/2016
DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: MAD

C1-01



SCALE: 1"=40'

GENERAL NOTES:

1. NEW BUILDING SIZE 91'-10"x65'-6"
2. EXTENSION OF EXISTING BUILDING.

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

FEI ENGINEERS

REV. No.	DATE	DESCRIPTION
-	11/2015	WWTP PER

PRELIMINARY
NOT FOR CONSTRUCTION

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

SITE LAYOUT - MEMBRANE BIOREACTOR

PROJECT No.: VTSV-S14-0132
DATE: 1/6/2016
DESIGNED BY: KV
DRAWN BY: KPR
CHECKED BY: MAD

C1-02

LOCATION: W:\VTSV-S14-0132 - WWTP\C1-02.dwg PLOTTED: 1/20/2016 11:46 AM BY: Keith P. Rindt

SCALE: 1"=40'

IMPROVEMENT NOTES:

1. EXISTING EQ TANK TO BE REUSED AS LOAD EQ.
2. TRAIN 1 (0.1 MGD): USE OF EXISTING TANKS
   A. ANAEROBIC SELECTOR FROM EXISTING ANOXIC / EQ TANK.
   B. 4 EXISTING AERATION BASINS
   C. CONVERT EXISTING SECONDARY CLARIFIERS TO AEROBIC A/S REACTORS, POST-ANOXIC REACTOR AND UTILIZE EXISTING OZONE CONTACT TANK FOR RE-AERATION.
3. NEW 30' SECONDARY CLARIFIERS (2 TOTAL).
4. NEW TERTIARY FILTER (4 TOTAL).
5. NEW PRE-FABRICATED BUILDING METAL BUILDING TO HOST NEW TREATMENT TRAIN, CLARIFIERS, TERTIARY FILTERS, PUMPS, BLOWERS, LABORATORY, OPERATIONS, CONTROL ROOM, SHOWER, AND RESTROOM.
6. TRAIN 2 (0.34 MGD): NEW TANKAGE

GENERAL NOTES:

1. UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES PRIOR TO COMMENCING WORK.
2. TERTIARY FILTRATION BUILDING BASED ON BLUE-PRO FILTER VENDOR GENERAL ARRANGEMENT DRAWING.

LOCATION: W:\VTSV-S14-0132 – WWTP\C1-03.dwg PLOTTED: 1/20/2016 11:46 AM BY: Keith P. Rindt

FEI ENGINEERS

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REV. No.	DATE	DESCRIPTION
–	1/2016	WWTP PER

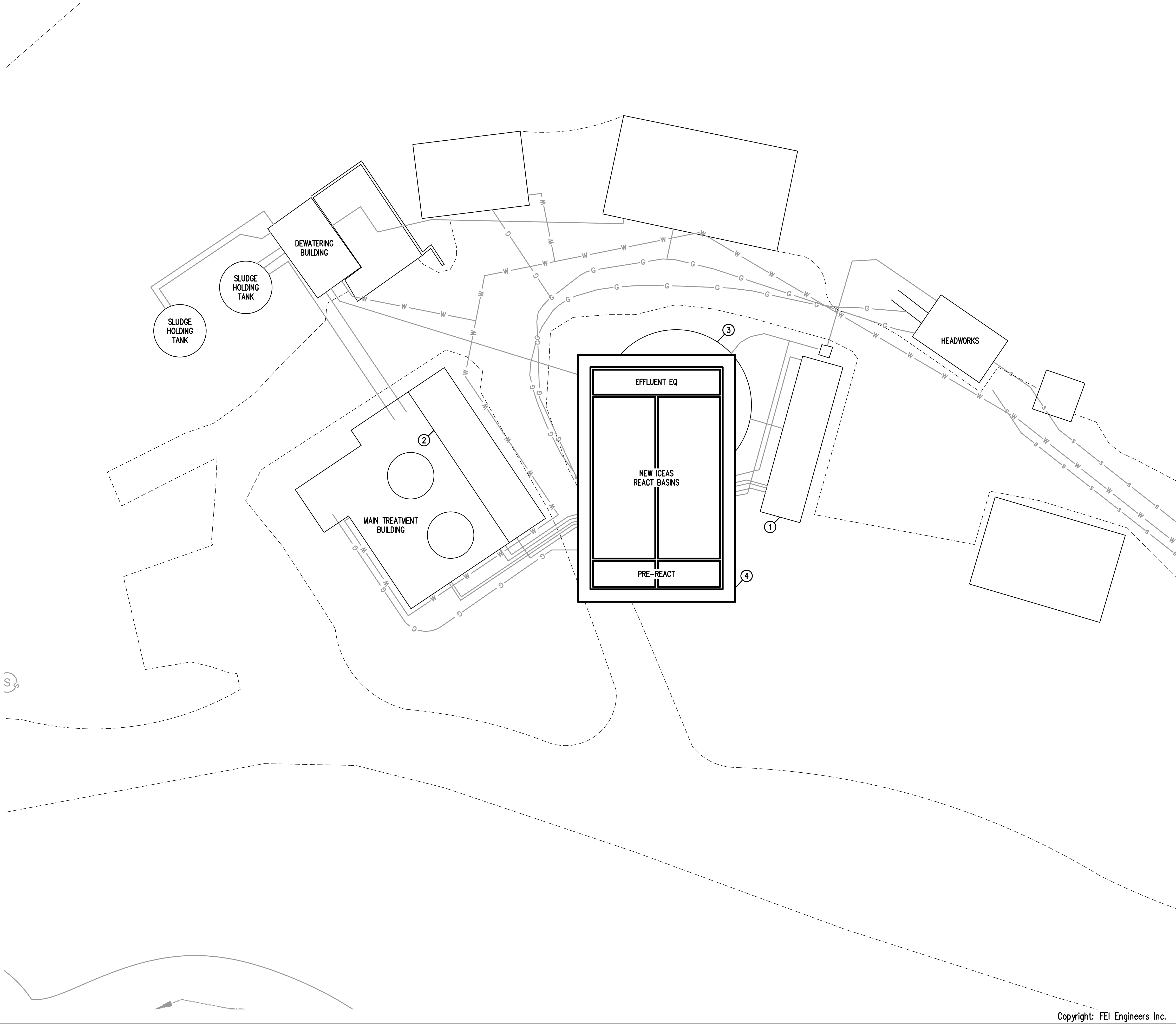
VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

SITE LAYOUT – IFAS WITH MLE PROCESS

PROJECT No.: VTSV-S14-0132
DATE: 1/6/2016
DESIGNED BY: KV
DRAWN BY: KPR
CHECKED BY: MAD

0 1
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

C1-03



SCALE: 1"=40'

NOTES:

1. EXISTING EQ TANK TO BE REUSED AS LOAD EQ TANK.
2. EXISTING AERATION BASINS TO BE RETROFITTED TO HOIST TERTIARY PHOSPHOROUS FILTERS.
3. EXISTING STEEL EQ TO BE DEMOLISHED.
4. PROPOSED PREFABRICATED METAL BUILDING.

GENERAL NOTES:

1. UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES PRIOR TO COMMENCING WORK.
2. TERTIARY FILTERS BASED ON BLUE-PRO FILTER VENDOR GENERAL ARRANGEMENT DRAWING.

FEI ENGINEERS

REV. No.	DATE	DESCRIPTION
-	1/2016	WWTP PER

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VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

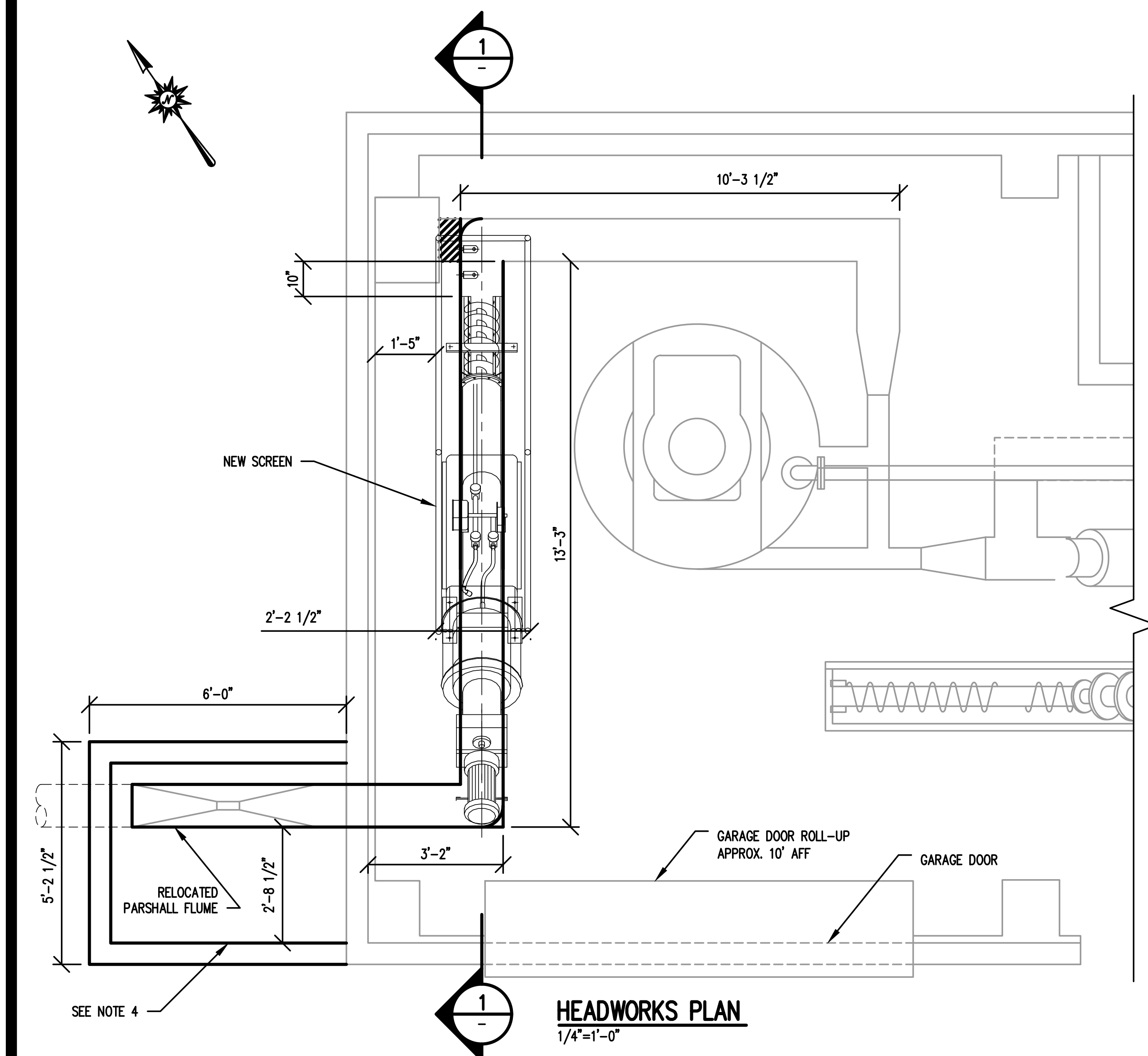
SITE LAYOUT - ICEAS SBR BASINS

PROJECT No.: VTSV-S14-0132
DATE: 1/6/2016
DESIGNED BY: KV
DRAWN BY: KPR
CHECKED BY: MAD

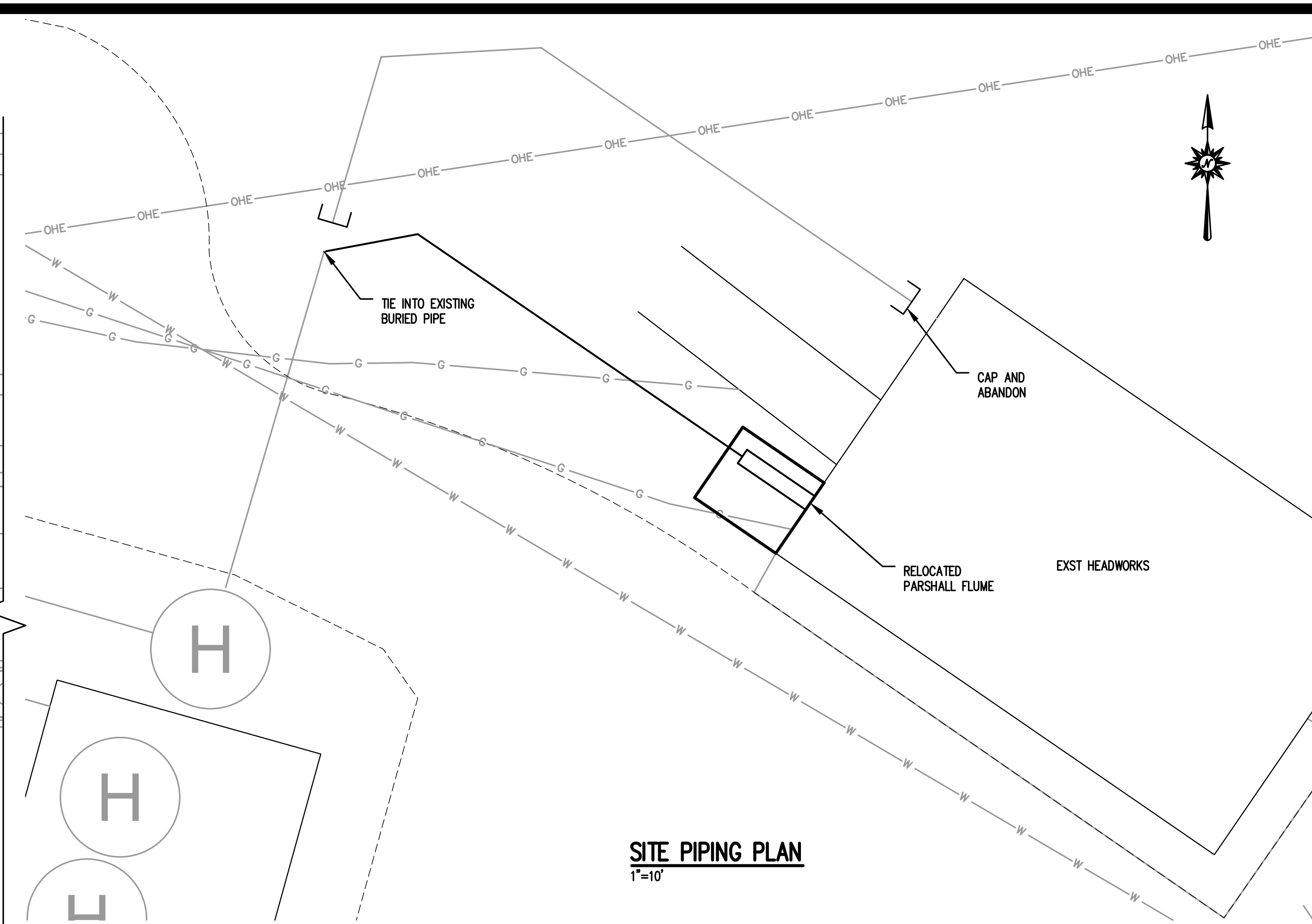
C1-04

0 1
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

LOCATION: W:\VTSV-S14-0132 - WWTP\C1-04.dwg PLOTTED: 1/20/2016 11:46 AM BY: Keith P. Rindt

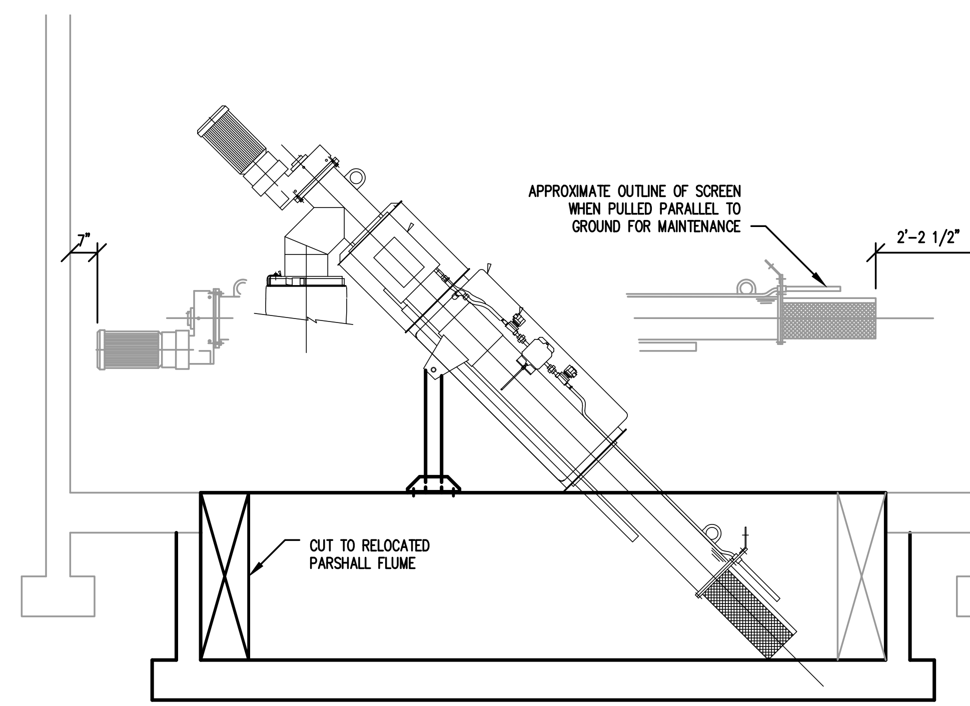


HEADWORKS PLAN
1/4"=1'-0"



SITE PIPING PLAN
1"=10'

NOTES:
1. EXISTING SCREEN U/S WATER LEVEL BASED ON 0.167 MGD OR 0.2 MGD (TO BE VERIFIED).
2. EXISTING SCREEN D/S WATER LEVEL BASED ON WATER LEVEL U/S OF GRIT CHAMBER (REFER TO TEC DRAWING HYDRAULIC PROFILE).
3. WATER LEVEL WILL VARY BASED ON INCREASED FLOW OF 0.31 MGD (MMDF) AND 0.44 MGD (PPF).
4. EXTEND EXISTING BUILDING TO WEST SIDE TO ACCOMMODATE RELOCATED PARSHALL FLUME WITH NEW AUTOSAMPLER.



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

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

FEI ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION

REV. No.	DATE	DESCRIPTION
1	1/2016	WWTP PER

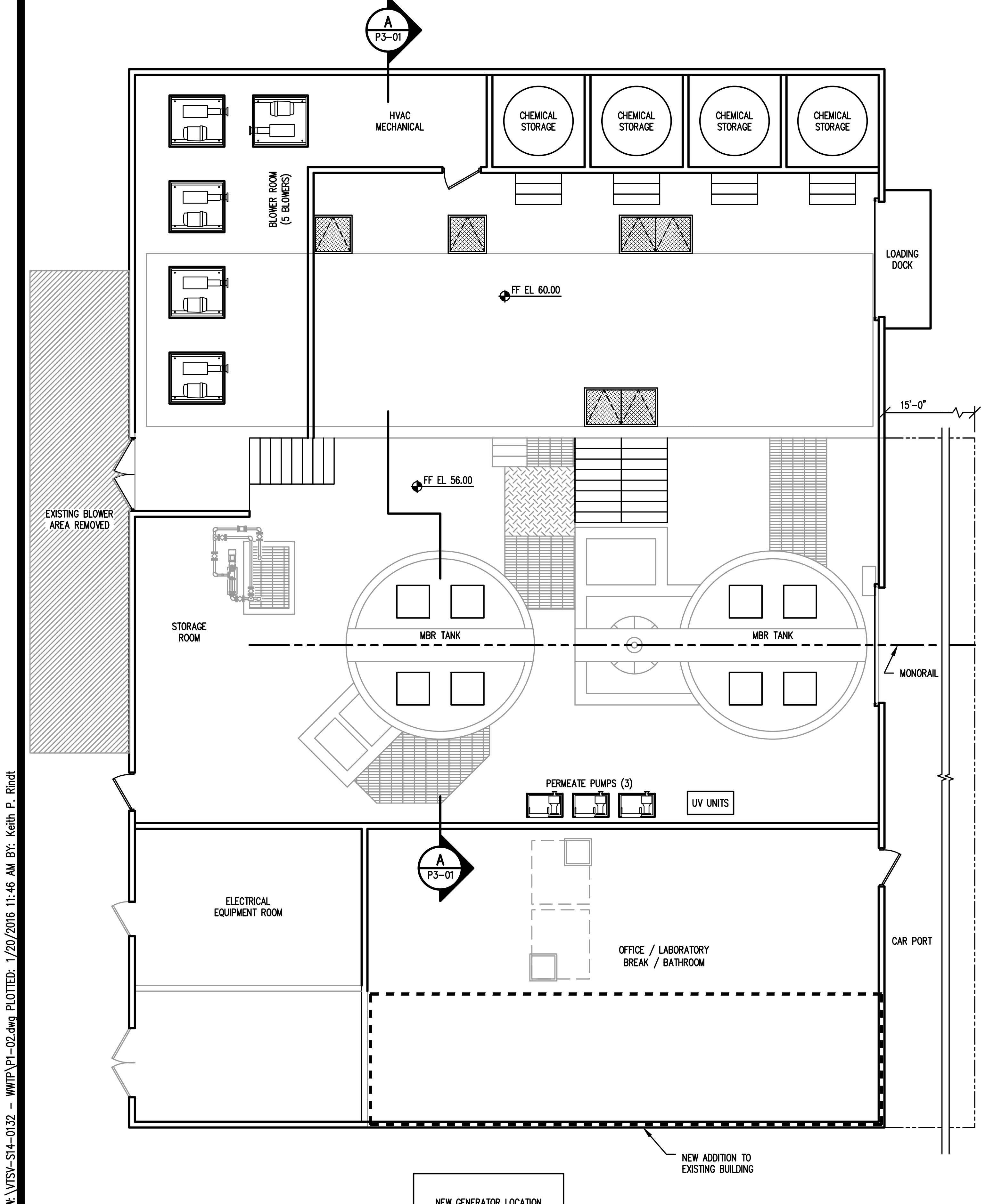
VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

HEADWORKS PLAN & SECTION

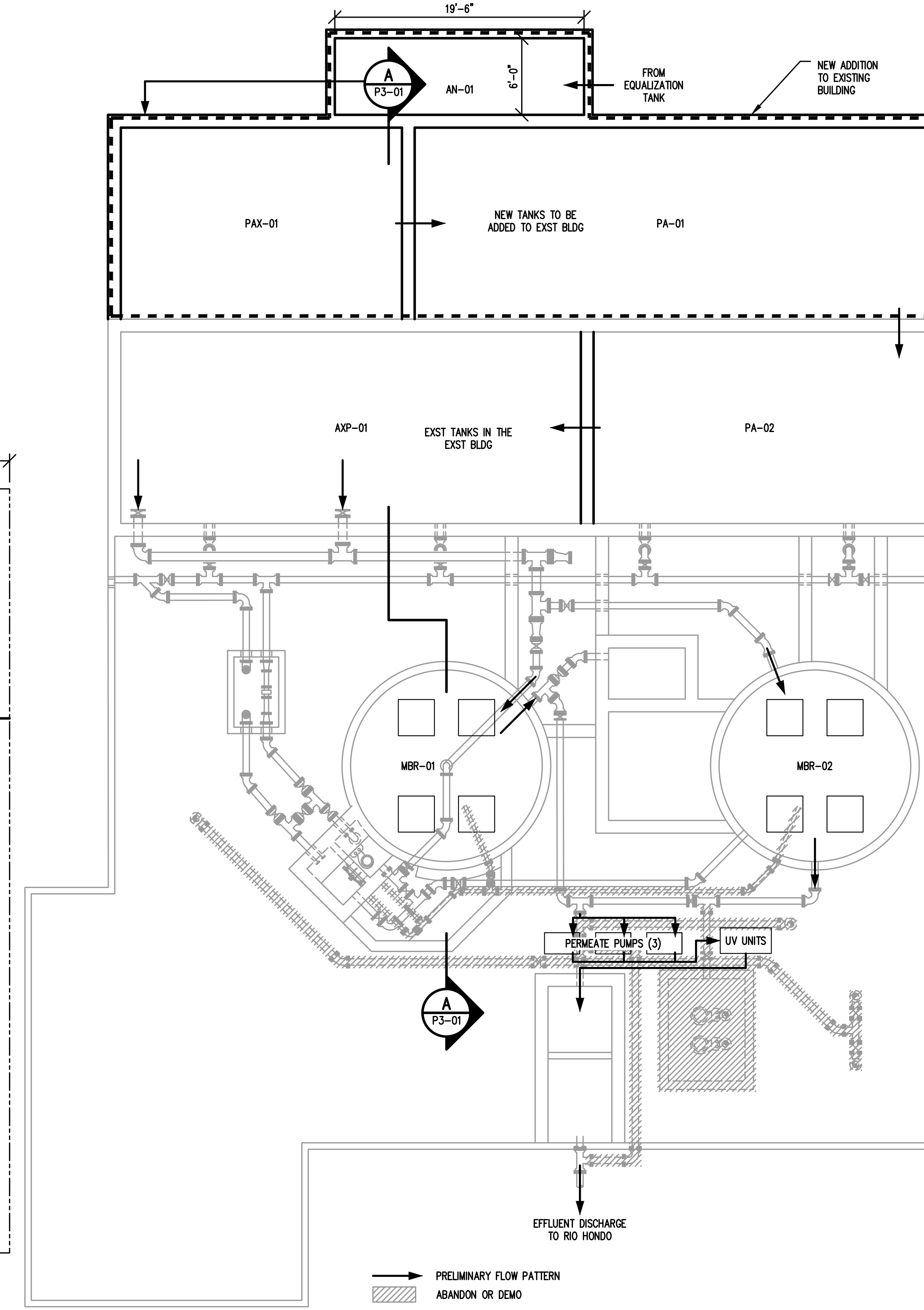
PROJECT No.: VTSV-S14-0132
DATE: 1/6/2016
DESIGNED BY: KV
DRAWN BY: KPR
CHECKED BY: MAD

P1-01

LOCATION: W:\VTSV-S14-0132 – WWTP\P1-01.dwg PLOTTED: 1/20/2016 11:46 AM BY: Keith P. Rindt



UPPER LEVEL PLAN
3/32"=1'-0"



LOWER LEVEL PLAN
3/32"=1'-0"

0 1
IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE

FEI ENGINEERS

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REV. No.	DATE	DESCRIPTION
1	1/2016	WWTP PER

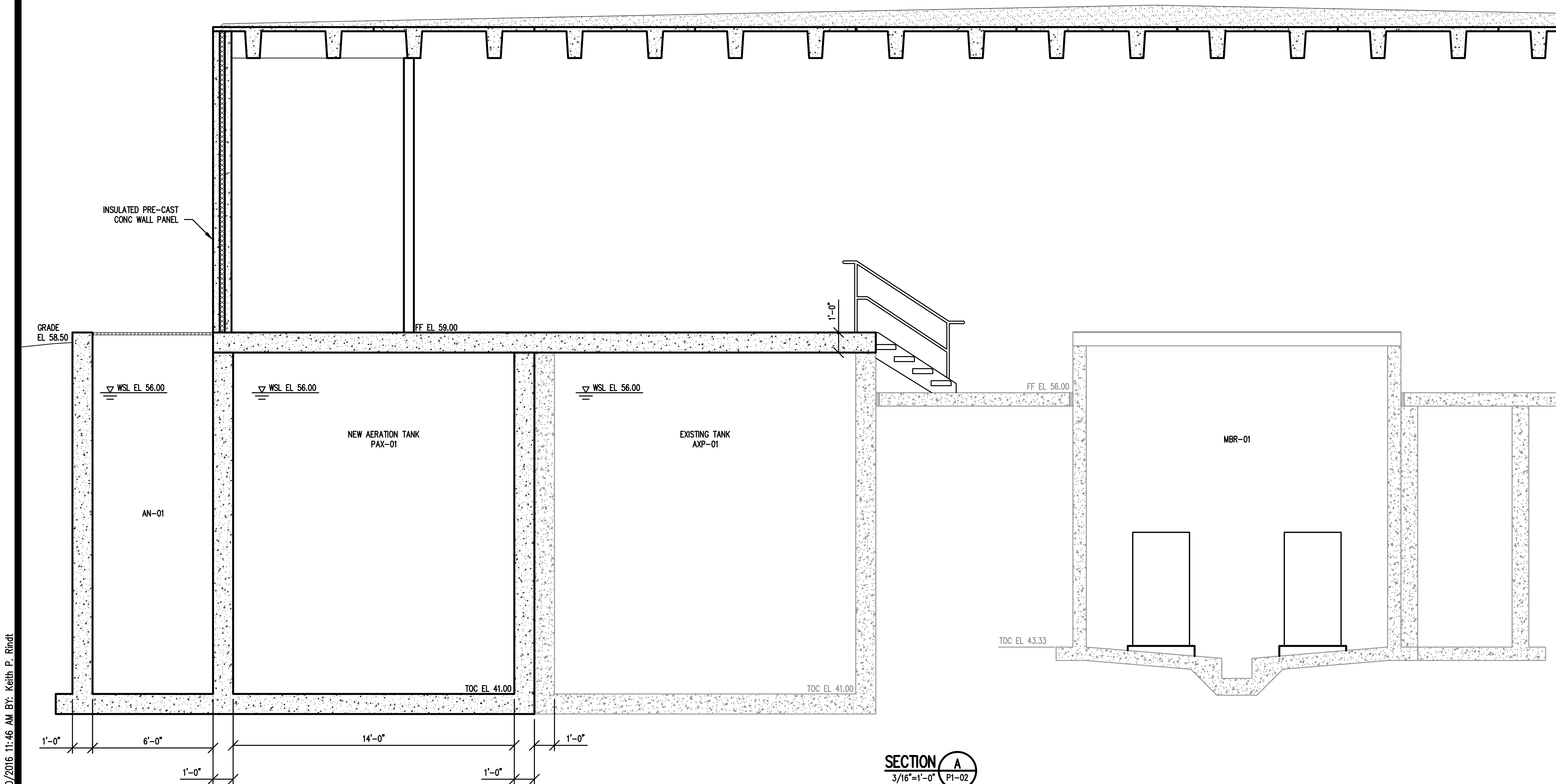
VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

TREATMENT PLANT PLANS

PROJECT No.:	VTSV-S14-0132
DATE:	1/8/2016
DESIGNED BY:	KV
DRAWN BY:	SAJ
CHECKED BY:	MAD

P1-02

LOCATION: W:\VTSV-S14-0132 - WWTP\P1-02.dwg PLOTTED: 1/20/2016 11:46 AM BY: Keith P. Rindt



LOCATION: W:\VTSV-S14-0132 - WWTP\P3-01.dwg PLOTTED: 1/20/2016 11:46 AM BY: Keith P. Rindt

FEI ENGINEERS

PRELIMINARY
NOT FOR CONSTRUCTION

REV. No.	DATE	DESCRIPTION
1	8/2014	WWTP PER

VILLAGE OF TAOS SKI VALLEY
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

TREATMENT PLANT SECTIONS

PROJECT No.: VTSV-S14-0132
DATE: 1/8/2016
DESIGNED BY: XXX
DRAWN BY: XXX
CHECKED BY: MAD

P3-01

0 1
IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE