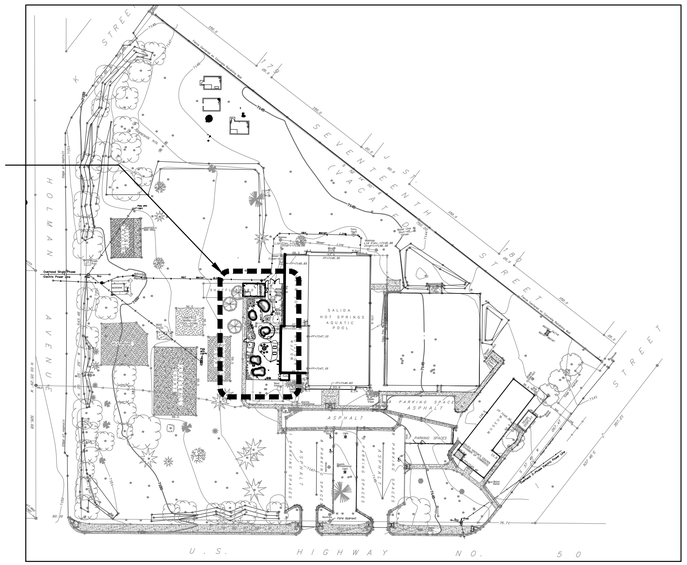
CITY OF SALIDA
SALIDA HOT SPRINGS
100% DESIGN/BUILD CONSTRUCTION SET
DECEMBER 13TH, 2019

PROJECT AREA



SHEET KEY & VICINITY MAP

0 50' 100' 200'
SCALE: 1" = 100'-0"
PRINTED ON 22"X34" SHEET

OWNER

CITY OF SALIDA, COLORADO
410 West Hwy 50
PHONE: 719-539-6738
PROJECT CONTACT: DIESEL POST, DAVID DALEY

PROJECT TEAM

LANDSCAPE ARCHITECT

DHM DESIGN
1309 E. 3RD AVE., RM 23
DURANGO, CO 81301
PHONE: 970-385-4219
CONTACT: WALKER CHRISTENSEN, KATIE FEENEY

ARCHITECT

ARCHITECTURAL SERVICES
129 1/2 West 3rd St. Suite #5
SALIDA, CO 81201
PHONE: 719-539-5461
CONTACT: SARAH F. WITTINGTON

STRUCTURAL ENGINEER

HACHMANN DESIGN AND ENGINEERING
24050 CR 301A
BUENA VISTA, CO 81211
PHONE: 720-201-6303
CONTACT: ABE HACHMANN

MECHANICAL ENGINEER

J.K. MECHANICAL DESIGN
P.O. BOX 1554
BUENA VISTA, CO 81201
PHONE: 719-530-1104
CONTACT: KRIK L. ROBERTS

ELECTRICAL ENGINEER

FRONT RANGE ELECTRICAL ENGINEERING
3333 S. Wadsworth Blvd. - Suite D324
LAKEWOOD, CO 80227
PHONE: 303-985-0548
CONTACT: CARL FRETWELL

POOL ENGINEER

AQUEOUS ENGINEERING
1828 ESE Loop 323 Suite R-2A
TYLER, TEXAS 75701
PHONE: 903-266-9089
CONTACT: BEN HARCLERODE

SHEET INDEX

LANDSCAPE AND SITE PLANS

L1.0	GENERAL NOTES
L1.1	LAYOUT PLAN
L1.2	PLANTING PLAN
L2.1	LIGHTING & CHASE DETAILS
L2.2	FENCE DETAILS
L2.3	STRING LIGHT POST DETAILS
L2.4	PERGOLA STRUCTURE DETAILS
L2.5	SHADE SAIL DETAILS
L2.5	STRING LIGHTING

ARCHITECTURAL PLANS

A1	KEY PLAN
	FLOOR PLAN
	FIRE ASSEMBLY
	CODE ANALYSIS
A2	EQUIPMENT ROOM
	EAST ELEVATION
	SOUTH ELEVATION
	BUILDING SECTIONS A & B

STRUCTURAL PLANS

S1	FOUNDATION PLAN
S2	FLOOR FRAMING PLAN

MECHANICAL PLANS

MO	MECHANICAL SPECIFICATIONS
M1	MECHANICAL SCHEDULES & DETAILS
M2	DECK HEATING PLAN
M3	SPRING WATER COOLING SYSTEM SCHEMATIC
M4	ENLARGED EQUIPMENT ROOM PLAN
M5	MECHANICAL POOL PLAN

PLUMBING PLANS

P0	PLUMBING LEGEND, DETAILS, & SCHEDULES
P1	POOL PLUMBING PLAN

ELECTRICAL PLANS

E0.0	ONELINE, NOTES, AND SCHEDULES
E0.1	ELECTRICAL SCHEDULES
E1.0	ELECTRICAL PLAN

POOL PLANS

SP0.0	GENERAL NOTES
C1.0	SITE UTILITY PLAN
C1.1	UTILITY DETAILS AND NOTES
C2.0	GRADING PLAN
C3.0	DECK DIMENSIONS & LAYOUT
SP1.0	SOAKING POOLS SITE PLAN
SP1.1	SOAKING POOLS LAYOUT
SP2.0	GENERAL & EFFL. PLUMBING ROUTES
SP2.1	HOT WATER PLUMBING PLAN
SP2.2	RECIRCULATION PLUMBING PLANS
SP2.3	POOL FEATURES PLUMBING PLANS
SP2.4	COLLECTION TANK DISCHARGE PLAN
SP3.0	POOL EQUIPMENT SCH. & LAYOUT
SP3.1	EQUIPMENT ROOM DIMENSIONAL PLAN
SP3.2	POOL EQUIPMENT SECT. & DETAILS
SP3.3	POOL EQUIPMENT DETAILS
SP3.4	EFFL. COLLECTION TANK DETAILS
SP3.5	POOL PLUMBING SCHEMATIC
SP4.0	SOAKING POOLS CROSS SECTIONS
SP4.1	SOAKING POOLS DETAILS
SP4.2	SOAKING POOL DETAILS
SP5.0	SOAKING POOL BONDING PLAN

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

REVISIONS:

JOB DESCRIPTION:
100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE:
COVER SHEET

SHEET NUMBER:
CV

SHEET_____OF_____

GENERAL NOTES

1. WORK AND MATERIALS SHALL CONFORM TO CITY OF SALIDA STANDARDS, REGULATIONS, AND CODES FOR DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS. LANDSCAPE CONSTRUCTION SHALL BE PER CITY OF SALIDA'S IRRIGATION AND LANDSCAPE STANDARDS. ANY DIFFERENCES BETWEEN THE PROJECTS SPECIFICATIONS AND THE CITY STANDARDS SHALL BE COMPLETED PER THE CITY STANDARDS.
2. TOPOGRAPHIC SURVEY WAS SUPPLIED BY CITY OF SALIDA.
3. LOCATIONS OF UTILITIES ARE GRAPHIC ONLY AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL CALL UTILITY NOTIFICATION CENTER OF COLORADO 1-800-922-1987 TO LOCATE ALL UTILITIES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL VERIFY LOCATIONS AND BURY DEPTHS OF ALL UTILITIES ON SITE. EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
4. ALL UTILITY EASEMENTS SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT ENTRY.
5. CONTRACTOR SHALL MAINTAIN THROUGH TRAFFIC ON ROADWAYS AT ALL TIMES, VIA FLAGGING IF NECESSARY, EXCEPT FOR TEMPORARY CLOSURES WITH THE PERMISSION OF THE OWNER.
6. LAYOUT AND STAKING OF IMPROVEMENTS SHALL BE REVIEWED BY THE CITY OF SALIDA REPRESENTATIVE PRIOR TO INSTALLATION OF IMPROVEMENTS. NOTIFICATION OF REQUEST FOR FIELD STAKING REVIEW SHALL BE MADE A MINIMUM OF 48 HOURS IN ADVANCE.
7. PROPOSED FINISHED GRADES, MULCH, AND PAVEMENTS SHALL ABUT EXISTING CURBS, PAVEMENTS, ETC., IN BOTH LINE AND GRADE. CONTRACTOR SHALL NOTIFY THE CITY IMMEDIATELY OF ANY DISCREPANCIES.
8. CUT AND FILL SLOPES SHALL BE GRADED AS SHOWN ON THE DRAWINGS. MAXIMUM LONGITUDINAL SLOPE FOR WALKS SHALL BE 4.9%, AND MAX SLOPE FOR LANDSCAPE AREAS SHALL BE 3:1, UNLESS OTHERWISE NOTED. SEE CIVIL FOR GRADING PLANS.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EXISTING PAVEMENT MARKINGS, SIGNAGE, LANDSCAPE, IRRIGATION, HARDSCAPE, OR OTHER ITEMS THAT HAVE BEEN DAMAGED DURING CONSTRUCTION AT CONTRACTOR'S EXPENSE.
10. TREES TO BE CENTERED IN LANDSCAPE STRIPS, UNLESS OTHERWISE NOTED, ALL OTHER TREES TO BE A MINIMUM OF 5' FROM HARDSCAPE.

CONCEPTUAL RENDERING (MODEL AND ADDITIONAL IMAGERY AVAILABLE UPON REQUEST)

PLANTING NOTES

1. PLANT CALIPER AND CONTAINER SIZE SHALL BE IN CONFORMANCE WITH CITY OF SALIDA STANDARDS.
2. THE CONTRACTOR SHALL FOLLOW THE LANDSCAPE PLAN. ANY DISCREPANCIES BETWEEN THE PLAN AND FIELD CONDITIONS SHALL BE REPORTED TO THE CITY BEFORE PROCEEDING WITH WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES BEFORE WORK BEGINS.
4. IF THERE ARE CONFLICTS BETWEEN UTILITIES AND PLANTINGS THE CONTRACTOR SHALL CONTACT THE CITY TO COORDINATE FIELD ADJUSTMENTS.
5. FIELD STAKE IRRIGATION MAINLINE AND TREE LOCATIONS FOR REVIEW BY CITY. TREES SHALL BE A MINIMUM OF 10' FROM ALL UTILITIES, UNLESS APPROVED BY CITY.
6. LOCATIONS OF TREES/SHRUBS TO BE STAKED AND REVIEWED CITY PRIOR TO PLANTING.
7. CONTRACTOR TO NOTIFY CITY 48 HOURS PRIOR TO PLANT MATERIAL BEING DELIVERED TO THE SITE.
8. NOTIFY CITY FOR INSPECTION AND/OR APPROVAL OF LANDSCAPE MATERIALS AND IRRIGATION PRODUCTS PRIOR TO INSTALLATION.
9. FIELD ADJUST PLANTINGS FOR TRANSFORMERS, CURB CUTS, AND OTHER FUTURE IMPROVEMENTS. STAKE LOCATIONS FOR APPROVAL BY CITY PRIOR TO ANY INSTALLATION.
10. IF THERE IS A DISCREPANCY BETWEEN THE PLANT COUNTS ON THE CALL-OUTS ON THE PLANS & THE ACTUAL NUMBER OF PLANTS DEPICTED ON THE PLANS, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE ACTUAL NUMBER OF PLANTS AS DEPICTED ON THE PLANS.
11. ALL AREAS DISTURBED OUTSIDE THE ORIGINAL GRADING/SEEDING LIMITS, SHOWN ON DRAWING, TO BE RESEEDED, REGRADED AND REPAIRED AS APPROPRIATE AT CONTRACTOR'S EXPENSE.
12. ALL SHRUB BEDS TO BE CONTAINED BY A CONCRETE EDGE (&/OR A CONCRETE CURB OR WALK, AS PER PLANS) & HAVE A MIN. OF 4" DEPTH OF SHREDDED CEDAR MULCH. GROUNDCOVER BEDS WILL HAVE 3" OF CEDAR MULCH.
13. THE CONTRACTOR SHALL WARRANTY ALL PLANT MATERIALS, WORKMANSHIP, & IRRIGATION SYSTEM FOR A PERIOD OF TWO YEARS. ALL NATIVE SEED SHALL BE GUARANTEED FOR TWO FULL GROWING SEASONS. ALL WARRANTY ITEMS PER CITY OF SALIDA STANDARDS.
14. THE CONTRACTOR SHALL INSTALL WILDLIFE PROTECTION AROUND ALL TREE PLANTINGS. WILDLIFE PROTECTION FENCING INSTALLED TO PROTECT TREES SHALL BE MAINTAINED THROUGHOUT THE WARRANTY PERIOD. SEE DETAILS.
15. ALL AREAS TO BE PLANTED WILL HAVE 6" DEPTH TOPSOIL INSTALLED. THE TURF AREAS WILL THEN BE TILLED TO A MINIMUM 8" DEPTH INCORPORATING A-1 ORGANICS BIOCOMP CLASS 1 COMPOST (OR APPROVED EQUAL) AT A MINIMUM RATE OF 4 C.Y. PER 1000 S.F. THE DISTURBED AREAS OF THE SITE WILL THEN BE FINE GRADED IN PREPARATION FOR SEEDING, SODDING OR PLANTING AS SPECIFIED IN THE PLANS AND SPECIFICATIONS. SOIL PREPARATION AND AMENDMENTS WILL NOT BE MEASURED SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE PLANTS. NATIVE SEEDED AREAS WILL HAVE TOPSOIL BUT DO NOT REQUIRE ORGANIC SOIL AMENDMENT.
16. IF THERE ARE DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT APPLIES.

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

REVISIONS:

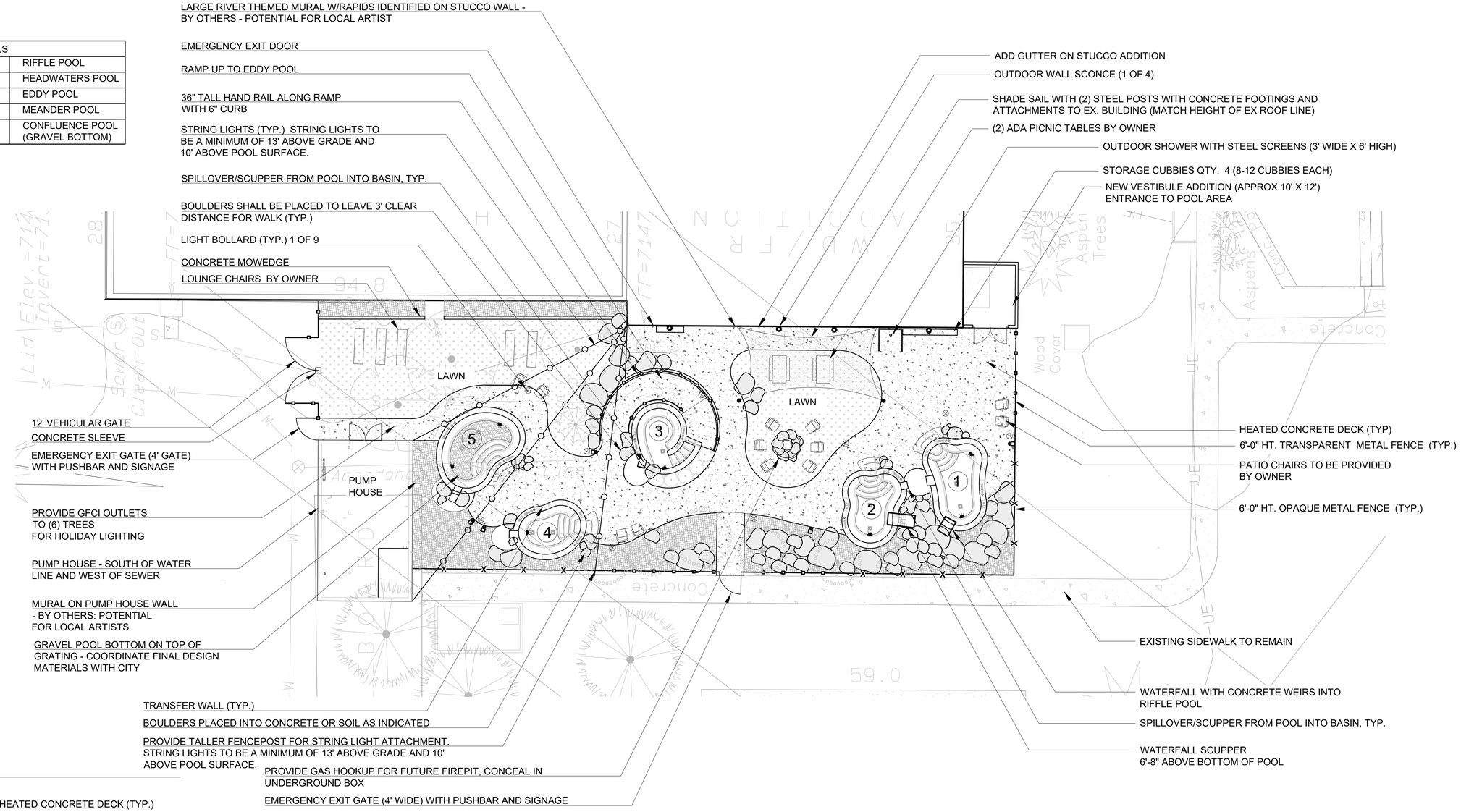
JOB DESCRIPTION:
100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
L1.0

SHEET_____OF_____

POOLS	
1	RIFFLE POOL
2	HEADWATERS POOL
3	EDDY POOL
4	MEANDER POOL
5	CONFLUENCE POOL (GRAVEL BOTTOM)



KEY

- HEATED CONCRETE DECK (TYP.)
- TURF (TYP.)
- CEDAR BARK MULCH IN SHRUB BEDS (TYP.)
- 6'-0" HT. OPAQUE METAL FENCE (TYP.)
- 6'-0" HT. TRANSPARENT METAL FENCE (TYP.)
- BOULDER PLACED IN CONCRETE AND/OR SOIL AS INDICATED (TYP.)
- LOUNGE CHAIRS (PROVIDED BY OWNER)
- ADA PICNIC TABLE (PROVIDED BY OWNER)
- PATIO CHAIRS (PROVIDED BY OWNER)

10 5 0 10

SCALE: 1" = 10'

NOTES:
1. WATERFALL SIGN TO BE LOCATED BY HIGHWAY IN THE FUTURE.
2. ALL CROSS SLOPES TO BE LESS THAN 2% TO MEET ADA.
3. ALL RAMPS TO BE LESS THAN 5% LONGITUDINAL SLOPE WITHOUT HANDRAIL. RAMPS TO BE 8.3% MAX WITH HANDRAIL. SEE CIVIL FOR GRADING.
4. LIGHT BOLLARDS TO BE A MINIMUM OF 5' FROM THE POOL'S EDGE.
5. CHAIRS, FLOWER POTS, & OTHER MOVEABLE SITE FURNISHINGS TO BE BY OWNER.

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools

Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

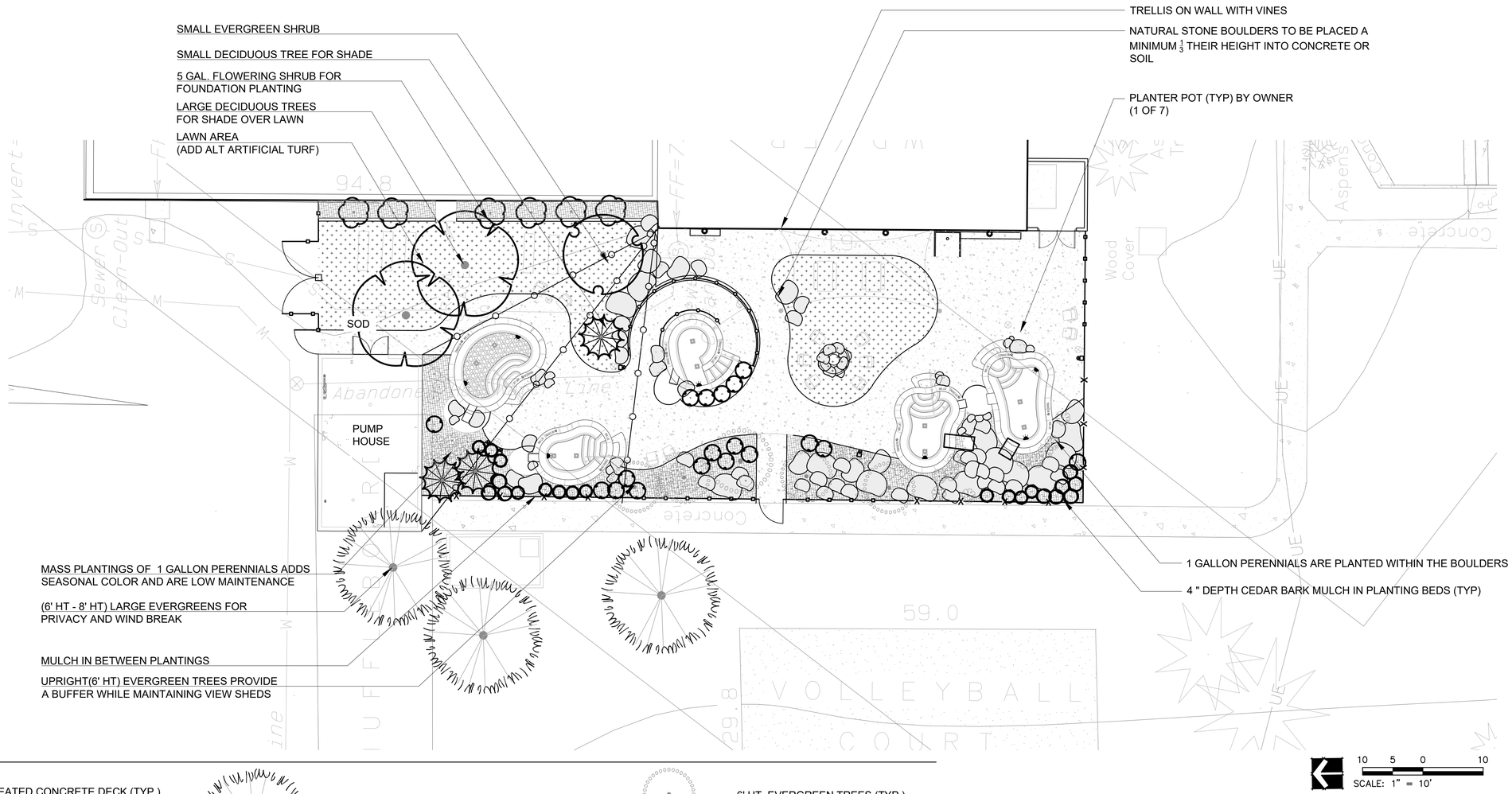
REVISIONS:

JOB DESCRIPTION:
100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE:
LAYOUT PLAN

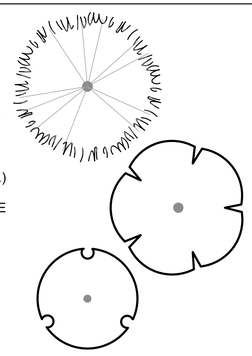
SHEET NUMBER:
L1.1

SHEET_____OF_____

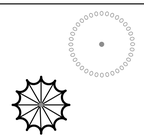


KEY

- HEATED CONCRETE DECK (TYP.)
- TURF (TYP.)
- CEDAR BARK MULCH IN SHRUB BEDS (TYP.)
- 6'-0" HT. OPAQUE METAL FENCE (TYP.)
- 6'-0" HT. TRANSPARENT METAL FENCE (TYP.)
- BOULDER PLACED IN CONCRETE AND/OR SOIL AS INDICATED (TYP.)
- LOUNGE CHAIRS (PROVIDED BY OWNER)
- ADA PICNIC TABLE (PROVIDED BY OWNER)
- PATIO CHAIRS (PROVIDED BY OWNER)



- LARGE EVERGREEN TREE (TYP.)
- LARGE DECIDUOUS TREE (TYP.)
- SMALL DECIDUOUS TREE (TYP.)



- 6' HT. EVERGREEN TREES (TYP.)
- SMALL EVERGREEN SHRUB (TYP.)
- 5 GAL. FLOWERING SHRUB FOR FOUNDATION PLANTING (TYP.)
- 1 GALLON PERENNIAL SHRUBS (TYP.)

NOTES:
1) REPAIR TURF AND ADJUST IRRIGATION IN PARK FOR FENCE REALIGNMENT.
2) ALL LANDSCAPE TO BE IRRIGATED BY PERMANENT UNDERGROUND SYSTEM.
3) ADD 6" OF TOPSOIL AND 4CY/1,000 SF OF SOIL AMENDMENT TO ALL PLANTING BEDS & LAWN AREA.

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

REVISIONS:

JOB DESCRIPTION:
100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE:
PLANTING PLAN

SHEET NUMBER:
L1.2

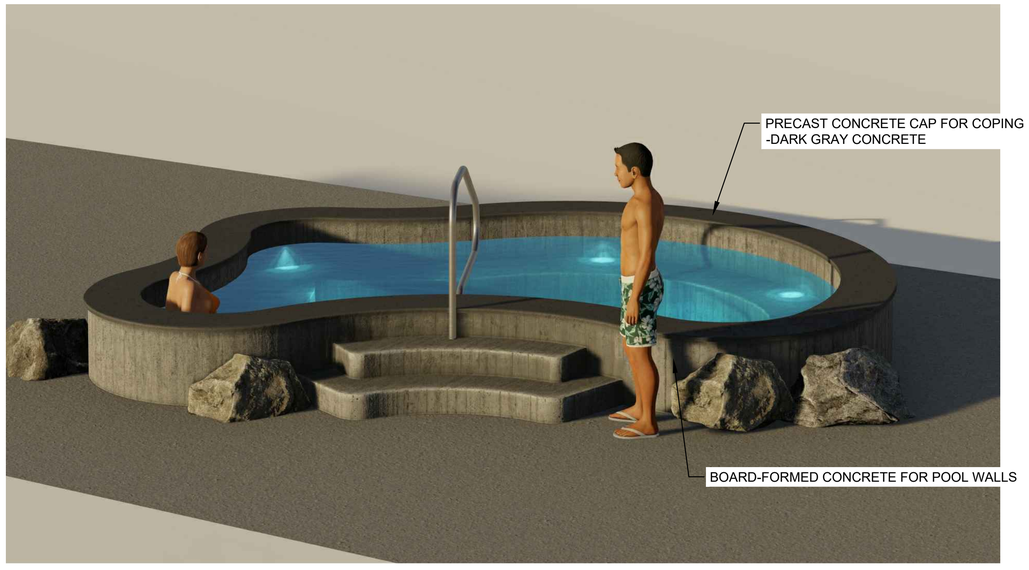
SHEET_____OF_____

1 L2.1 POOL MATERIALS – OPTION 1
–NATURAL SANDSTONE VENEER ON SHOTCRETE POOL SHELL
–FIELD FIT STONE VENEER BY DESIGN BUILD CONTRACTOR.

NOT TO SCALE

2 L2.1 WALL SCONCE

OPTION: ARCHITECTURAL AREA LIGHTING
MODEL: CYPHER, DARK SKIES COMPLIANT
WWW.HUBBELL.COM/ARCHITECTURALAREALIGHTING



3 L2.1 POOL MATERIALS – OPTION 2
–SEE AQUEOUS DRAWING FOR POOL DETAILS.

NOT TO SCALE

OPTION: ARCHITECTURAL AREA LIGHTING
MODEL: SPECTRA
COLOR: CORTEN (CTN)
UNITS: 9
WWW.HUBBELL.COM/ARCHITECTURALAREALIGHTING

4 L2.1 BOLLARD OPTIONS (36" – 42" HT)

NOT TO SCALE

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

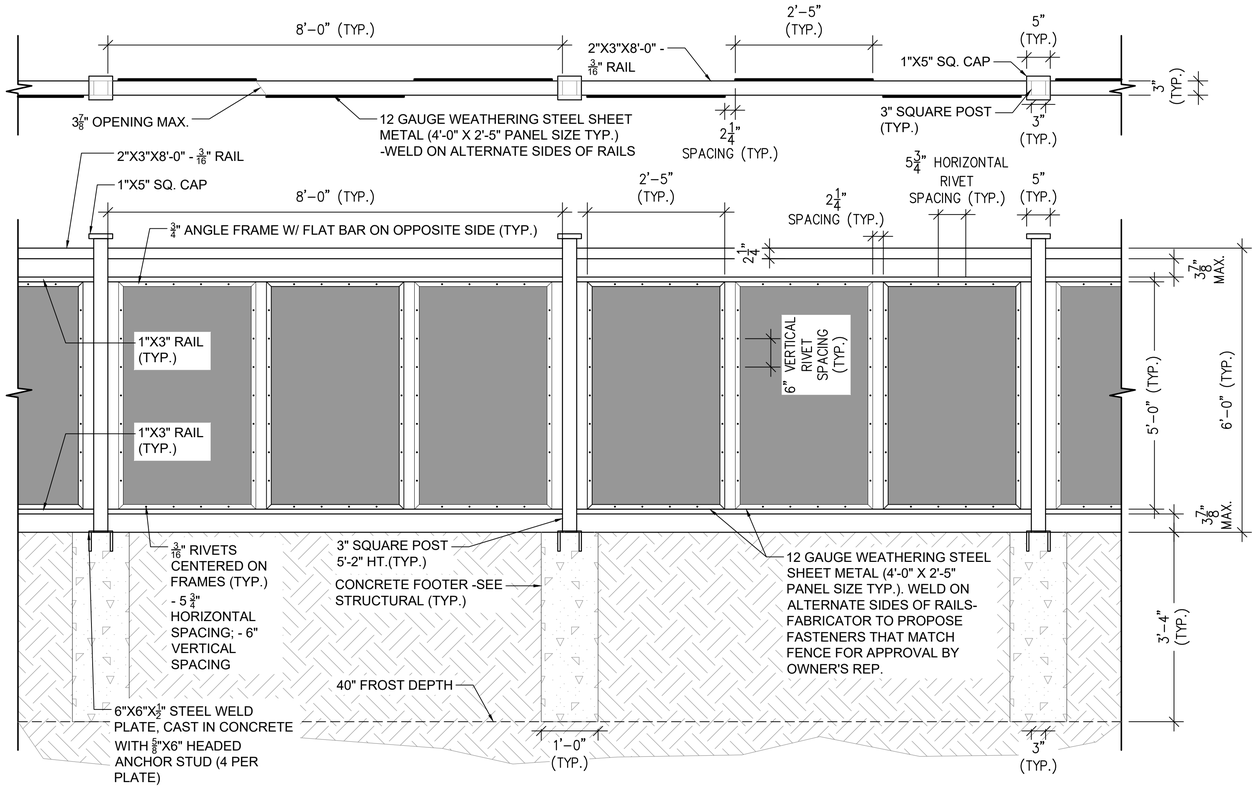
REVISIONS:

JOB DESCRIPTION:
100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE:
LIGHTING & CHASE DETAILS

SHEET NUMBER:
L2.1

SHEET_____OF_____



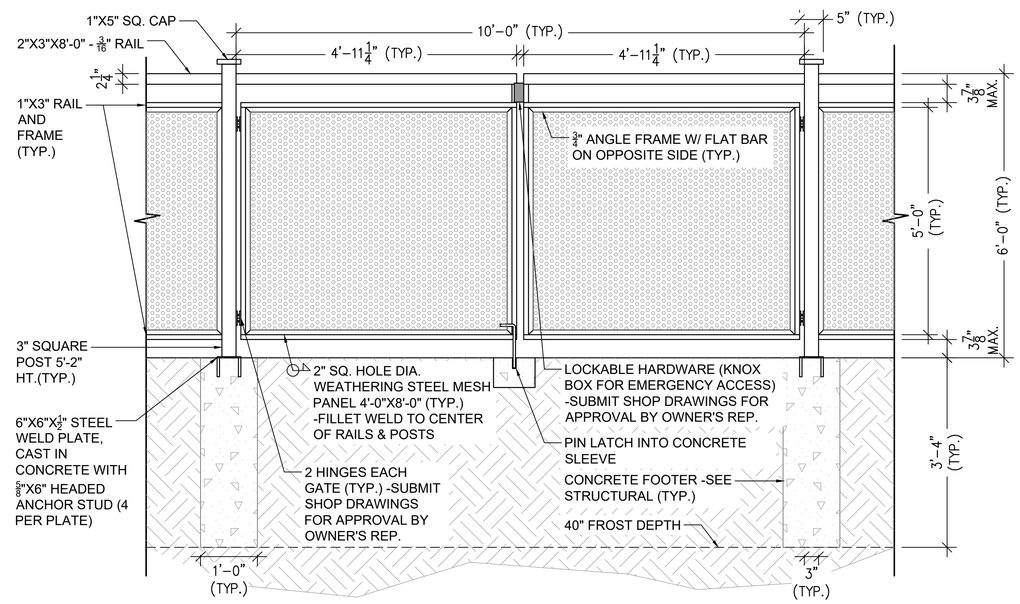
1 L2.2 FENCE (WEATHERING STEEL PANELS)

NOT TO SCALE

PERFORATED STEEL PANEL, TYP

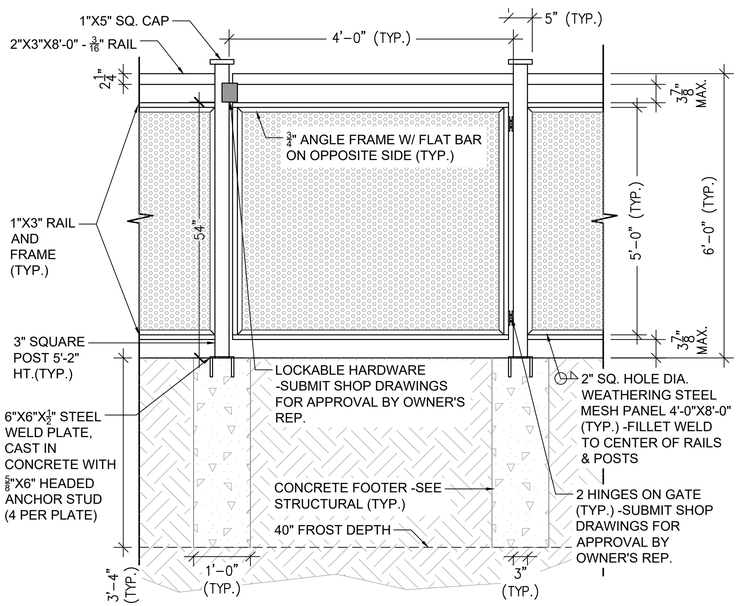
SOLID STEEL PANEL, TYP

PROVIDE SHOP DRAWINGS FOR ALL FENCES, GATES, RAILINGS, & METAL FABRICATIONS FOR CITY APPROVAL



3 L2.2 VEHICULAR GATE (WIRE MESH)

NOT TO SCALE



4 L2.2 4' WIDE PEDESTRIAN GATE (WIRE MESH)

INCLUDE EMERGENCY PUSH BAR AND SIGNAGE

NOT TO SCALE

SUPPLIED BY: HARDWARE SOURCE
CONTACT: (877) 944-6437
MODEL: TRU-CLOSE SPRING HINGE
SKU: 928000
COLOR: FLAT BLACK
QTY: (2)

INSTALL PER MANUFACTURER'S RECOMMENDATIONS. FINAL COLOR TO BE APPROVED BY OWNER PRIOR TO ORDERING.

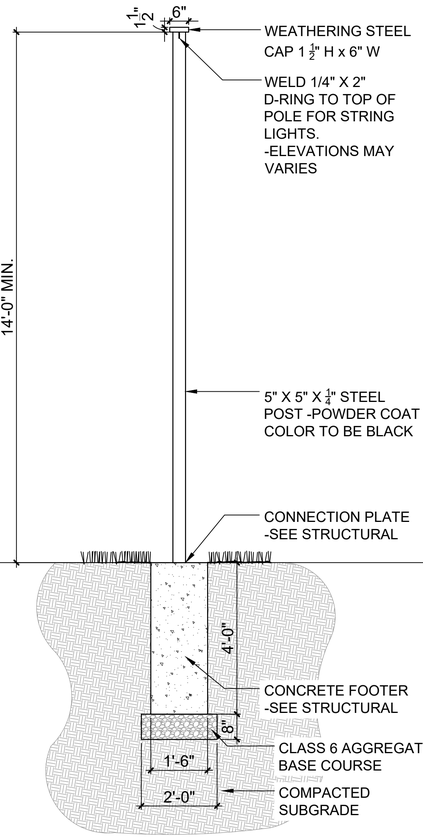
SUPPLIED BY: HARDWARE SOURCE
CONTACT: (877) 944-6437
MODEL: LOKK LATCH COMBO
SKU: 928032
COLOR: FLAT BLACK
QTY: (2)

INSTALL PER MANUFACTURER'S RECOMMENDATIONS. FINAL COLOR TO BE APPROVED BY OWNER PRIOR TO ORDERING.

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

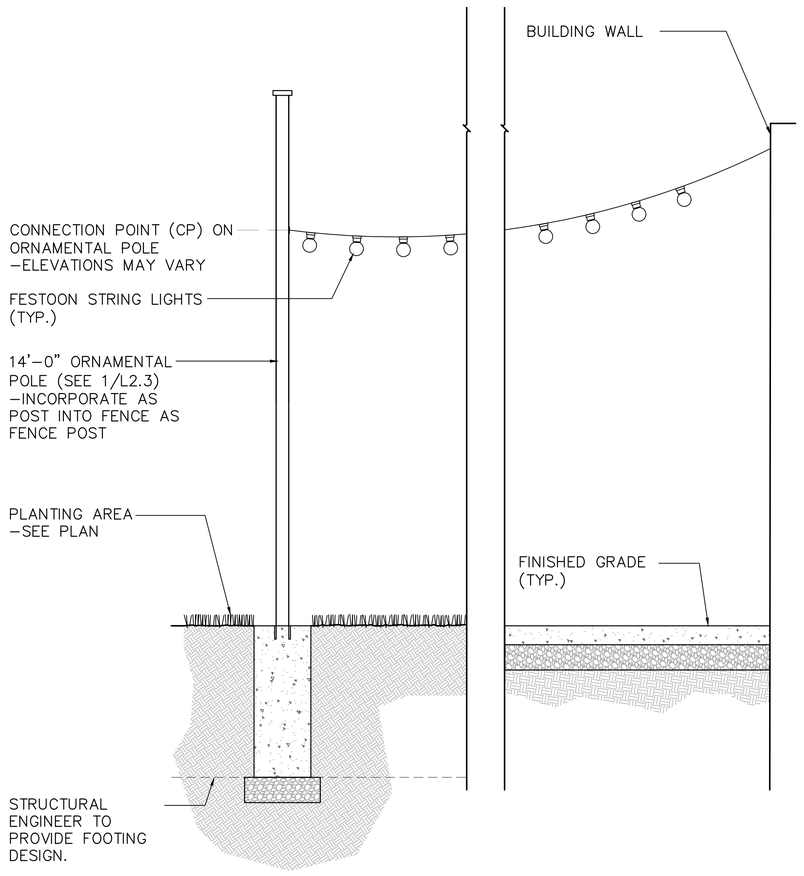
Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:
REVISIONS:
JOB DESCRIPTION: 100% DESIGN/BUILD CONSTRUCTION SET
SHEET TITLE: FENCE DETAILS
SHEET NUMBER: L2.2
SHEET_____OF_____



1 L2.3 ORNAMENTAL STRING LIGHT POLE

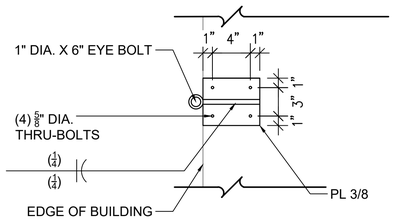
NOT TO SCALE



2 L2.3 FESTOON STRING LIGHTS OVER CONCRETE PLAZA

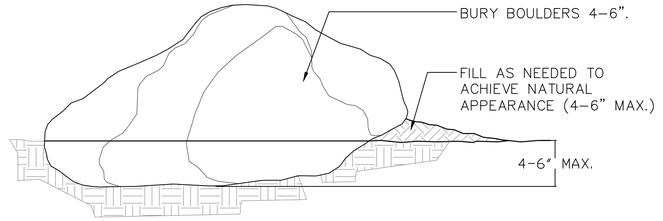
NOTES:
1) ALL LIGHTING TO BE 12' HT MIN ABOVE WATER SURFACE.
2) INCORPORATE POSTS AS PART OF FENCING.

NOT TO SCALE



3 L2.3 FESTOON LIGHT CONNECTION AT BUILDING

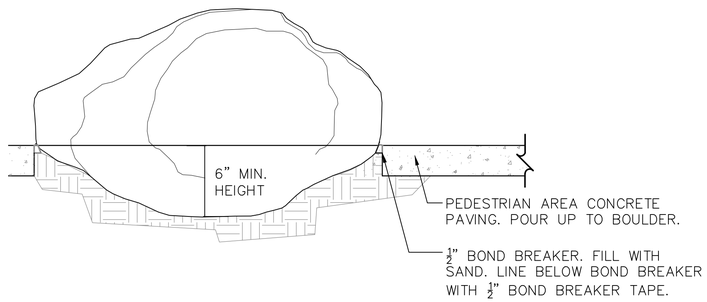
NOT TO SCALE



4 L2.3 BOULDERS IN LANDSCAPE

NOT TO SCALE

NOTES:
1. PLACE BOULDERS TO CONFIGURATIONS AND LOCATIONS SHOWN ON PLAN. COMPLETE AN AREA WITH 5–10 BOULDERS FOR REVIEW BY OWNER'S REP. PRIOR TO COMMENCING PLACEMENT OF REMAINING BOULDERS.
2. BURY BOULDERS 4"–6" MAX.
3. WASH OFF BOULDERS COMPLETELY AFTER PLACEMENT.
4. BOULDERS TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT.
5. DO NOT FRACTURE BOULDER DURING PLACEMENT. SUCH ACTION WILL BE CAUSE FOR REJECTION.
6. CHOOSE AND PLACE BOULDERS SO THAT A MINIMUM OF EXCAVATION SCARS ARE VISIBLE.



5 L2.3 BOULDERS ADJACENT TO HARDSCAPE

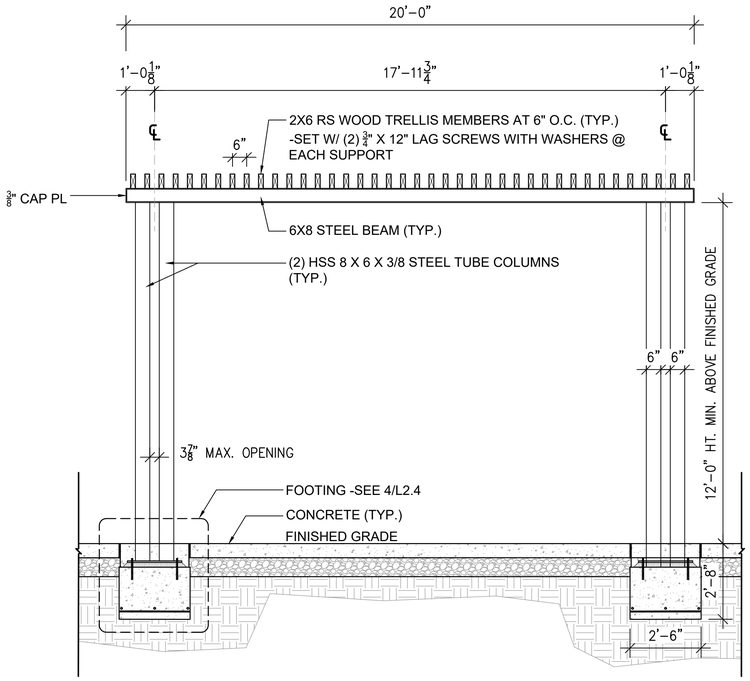
NOT TO SCALE

NOTES:
1. PLACE BOULDERS TO CONFIGURATIONS AND LOCATIONS SHOWN ON PLAN. COMPLETE A SAMPLE AREA WITH BOULDERS IN CONCRETE FOR REVIEW BY OWNER'S REP, PRIOR TO PLACING OTHER BOULDERS.
2. BURY BOULDERS 6" MINIMUM.
3. WASH OFF BOULDERS COMPLETELY AFTER PLACEMENT.
4. BOULDERS TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT.
5. DO NOT FRACTURE BOULDER DURING PLACEMENT. SUCH ACTION WILL BE CAUSE FOR REJECTION.
6. CHOOSE AND PLACE BOULDERS SO THAT A MINIMUM OF EXCAVATION SCARS ARE VISIBLE.

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

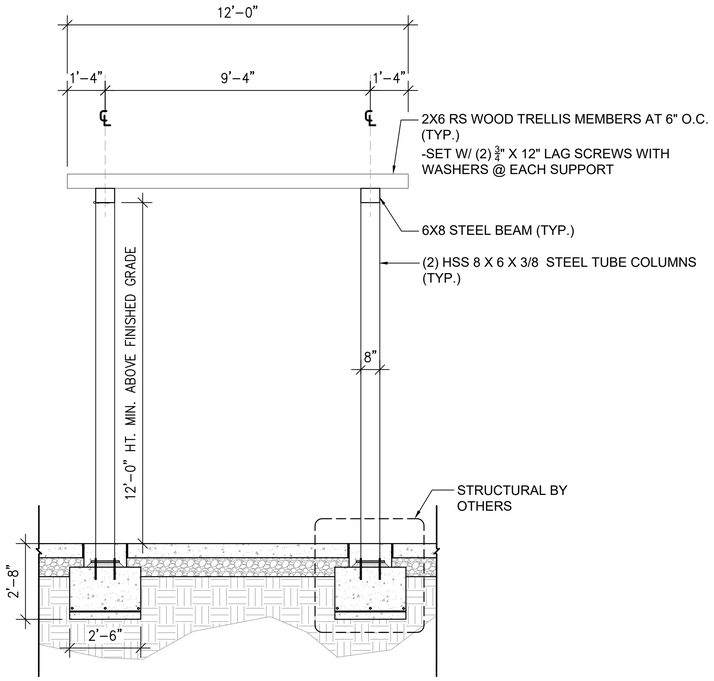
Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:
REVISIONS:
JOB DESCRIPTION: 100% DESIGN/BUILD CONSTRUCTION SET
SHEET TITLE: STRING LIGHT POST DETAILS
SHEET NUMBER: L2.3
SHEET_____OF_____



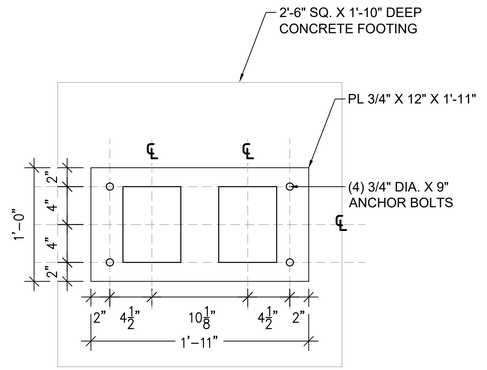
1 L2.4 PERGOLA SHADE STRUCTURE – SECTION A

NOT TO SCALE



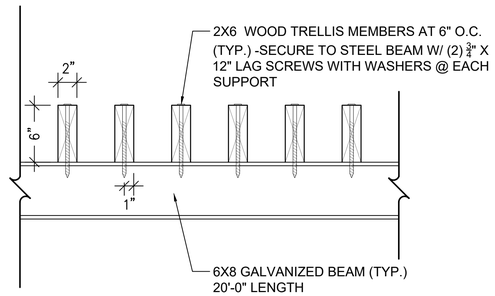
2 L2.4 PERGOLA SHADE STRUCTURE – SECTION B

NOT TO SCALE



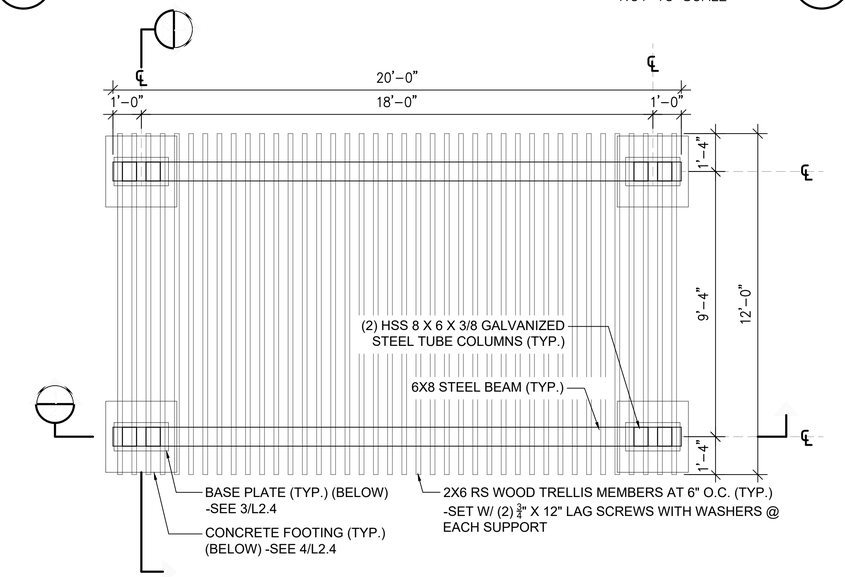
3 L2.4 PERGOLA BASE PLATE PLAN

NOT TO SCALE



4 L2.4 WOOD TRELLIS MEMBER TO BEAM CONNECTION

NOT TO SCALE



5 L2.4 PERGOLA SHADE STRUCTURE – PLAN

NOTE:
1) STRUCTURAL ENGINEERING OF SHELTER/FOOTINGS BY OTHERS; DIMENSIONS /SIZING FOR PRICING.

NOT TO SCALE

CURRENTLY NOT IN CONTRACT
SHADE SAIL – BASE BID

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

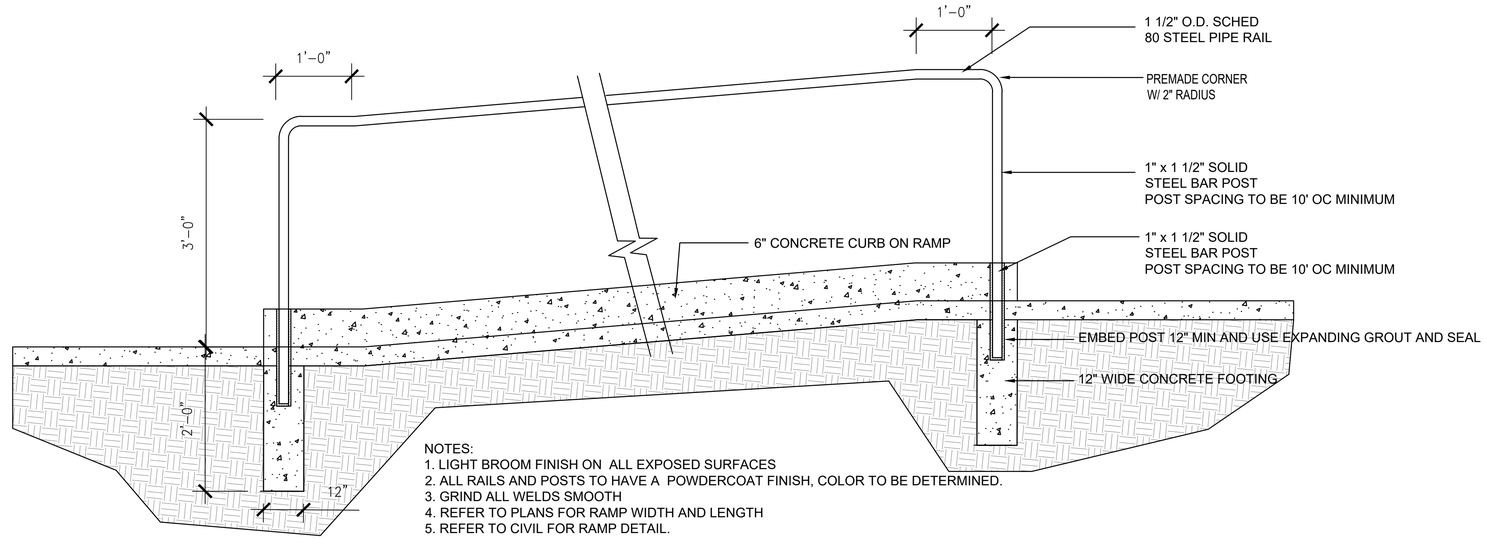
REVISIONS:

JOB DESCRIPTION:
100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE:
PERGOLA STRUCTURE DETAILS

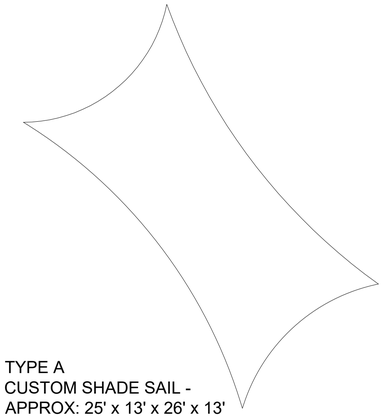
SHEET NUMBER:
L2.4

SHEET_____OF_____

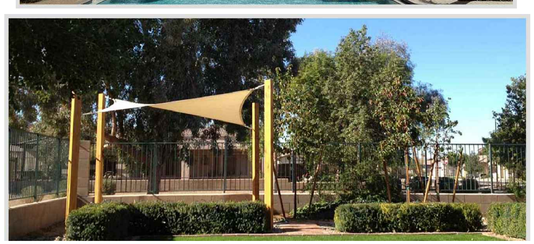


NOTES:
1. LIGHT BROOM FINISH ON ALL EXPOSED SURFACES
2. ALL RAILS AND POSTS TO HAVE A POWDERCOAT FINISH, COLOR TO BE DETERMINED.
3. GRIND ALL WELDS SMOOTH
4. REFER TO PLANS FOR RAMP WIDTH AND LENGTH
5. REFER TO CIVIL FOR RAMP DETAIL.

1 L2.5 HANDRAIL AT RAMP



TYPE A
CUSTOM SHADE SAIL -
APPROX: 25' x 13' x 26' x 13'



SHADE SAIL SCHEDULE

TYPE	MANUFACTURER	SIZE	MODEL	QTY
TYPE A	TENSHON	APPROX: 25' x 13' x 26' x 13'	CUSTOM	1

NOTES:
1. COLOR TO BE SELECTED BY OWNER FROM STANDARD COLORS. CONTRACTOR TO SUPPLY SAMPLES FOR REVIEW.
2. ALL SAILS SHALL HAVE PERIMETER WIRE ROPE AND ROPE CLAMPS.
3. INSTALL USING GALVANIZED WIRE ROPE $\frac{3}{16}$" AND COMMERCIAL BRACKETS AS SUPPLIED BY MANUFACTURER.
4. POLES TO BE SPECIFIED BY STRUCTURAL ENGINEER AND INSTALLED BY CONTRACTOR. CONTRACTOR TO TAKE AS-BUILT MEASUREMENTS OF POLE INSTALLATION AND ATTACHMENT POINTS TO USE FOR FINAL ORDERING OF SHADE SAILS. ATTACHMENTS TO POLES SHOULD BE ORIENTED TOWARD THE CENTER POINT OF THE SHADE SAIL. DO NOT OVERLAP ATTACHMENTS; EACH SAIL SHOULD HAVE ITS OWN ATTACHMENT TO THE POLE. ATTACHMENTS TO BE SPACED A MIN. OF 1" APART.
5. EYELETS ON SHADE SAILS TO BE 1" MIN.
6. SEE STRUCTURAL FOR POLE DETAILS.
7. SQUARE SHADE SAILS TO HAVE 1:5 SLOPE RATIO MIN. TRIANGULAR SHADE SAILS TO HAVE 10% SLOPE RATIO MIN.
8. CUSTOM SHADE SAIL BRACKET FOR SHADE SAILS CONNECTED TO PUMP HOUSE & PICNIC SHELTER TO BE DETERMINED BY SHADE SAIL COMPANY.

2 L2.5 SHADE SAILS (10' – 14' HEIGHT – STEEL POSTS)

NOT TO SCALE

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

REVISIONS:

JOB DESCRIPTION: 100% DESIGN/BUILD CONSTRUCTION SET

SHEET TITLE: SHADE SAIL DETAILS

SHEET NUMBER: L2.5

SHEET_____OF_____

PRIMUS LIGHTING

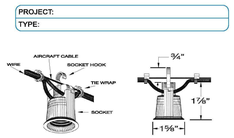
DECOSTRING SERIES

LED / INCANDESCENT

SUSPENDED DECORATIVE STRINGLIGHT SYSTEMS

PROJECT:

TYPE:



SOCKET, WIRE & CABLE DETAILS

Decostrings are a perfect accent lighting solution to add a personal ambience to patios, courtyards, atriums, restaurants, amusement parks and any open area. The "festoon" lighting system is typically strung between two anchorage points with optional intermediary support and electrically fed from one end. The sockets can be either symmetrically spaced or randomly spaced to suit the application. Optional shades, guards and lenses complete the architectual design.

SPECIFICATIONS

LAMPHOLDER	Black phenolic, medium base UL weatherproof with hook for optional mounting.
WIRE	12/2 G. Black flexible wire rated for 25A max, uv rated for outdoor use and long lasting.
SUPPORT CABLE	1/16" aircraft catenary cable supports the system, 480# test. Heavier cable available. (*See Page ?*)
LAMPS	LED and incandescent medium base A, G or S style lamps. (*See Page 3 for Lamp Options*)
ACCESSORIES	Optional brass, aluminum and acrylic shades. (*See Page 4 & 5 for Shade Options*) Consult factory for custom shades not shown in catalog.
GUIDELINES	Many ways to install and create a design. (*See Page 6 & 7*)
PHOTOMETRY	Bare lamp and shielded "BUG" rated .IES files available. (*See Page 8*) (Consult Factory or Visit Website)
CERTIFICATION	ETL listed for dry or wet and permanent installation. ETL 2001431 MADE IN THE USA
VOLTAGE	120V system (1920 watts max load). No driver or transformer required. (Consult Factory for 12V/24V)
DIMMING	Dimmable down to 10% with leading or trailing edge type dimmers.

PART NUMBER

SERIES	SPACING	VOLTS	LAMP	SHADE-FINISH	LENGTH
DSD DECOSTRING DRY	**12** 12"O/C	**120** 120V	SELECT FROM LAMP PAGE	**OPTIONAL** SELECT SHADE AND FINISH OR LEAVE BLANK	SPECIFY
DSW DECOSTRING WET	**18** 18"O/C				
	24 24"O/C				
	36 36"O/C				
	48 48"O/C (OTHER, SPECIFY)				

PRIMUS LIGHTING

DECOSTRING LAMPS

LED / INCANDESCENT

LED FILAMENT STYLE LAMPS

STOCK
PLED-S14F-24K-150
PLED-S14F-27K-150
FROSTED-CONSULT FACTORY
1.5W | 150L

STOCK
PLED-G16.5F-3.5W-24K
PLED-G16.5F-3.5W-27K
3.5W | 320L

PLED-G16.5F-2W-24K
PLED-G16.5F-2W-27K
2W | 200L

A15 & A19
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)

S14F VARIOUS COLORS
CONSULT FACTORY (SPECIAL ORDER)
(SUBJECT TO AVAILABILITY)

S25
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)

** NOTE: LED LAMPS DIM DOWN TO 10% WITH A TRAILING EDGE (ELV) DIMMER.*

INCANDESCENT LAMPS

LE
A15 CLEAR 120V 15W
LF
A15 CLEAR 120V 25W

LS
S14 CLEAR 120V 11W
COLORS AVAILABLE

LH-C
G16.5 CLEAR 120V 25W
LH-W
G16.5 WHITE 120V 25W

LG
S11 CLEAR 120V 7.5W
COLORS AVAILABLE

FULL SPECIFICATION SHEETS AVAILABLE AT PRIMUSLIGHTING.COM.
PHOTOMETRY: BARE LAMP AND SHELDED "BUG" RATED IES FILES AVAILABLE - CONSULT FACTORY

PRIMUS LIGHTING

DECOSTRING SHADES & GUARDS

DSC7	7" W X 3" H CONE SHADE	
DSC10	10" W X 3" H CONE SHADE	
DSC12	12" W X 4" H CONE SHADE	
FINISH:	RAW, ACID ETCHED BRASS OR POWDER COAT	
DSH4	4" W X 1 7/8" H HAT SHADE	
DSH6	6" W X 2 1/4" H HAT SHADE	
DSH8	8" W X 2 3/4" H HAT SHADE	
FINISH:	RAW, ACID ETCHED BRASS OR POWDER COAT	
DSRW4	4" W X 1 7/8" H RADIAL WAVE SHADE	
DSRW6	6" W X 2 1/4" H RADIAL WAVE SHADE	
DSRW8	8" W X 2 3/4" H RADIAL WAVE SHADE	
FINISH:	RAW, ACID ETCHED BRASS OR POWDER COAT	
DST6P	6" W X 8" H PERFORATED TUBE SHADE	
FINISH:	RAW, ACID ETCHED BRASS OR POWDER COAT	
DST6C	6" W X 8" H WIRE CAGE TUBE	
FINISH:	RAW, ACID ETCHED BRASS OR POWDER COAT	
DSRG	6" W X 5 1/8" H ROUND SHADE WITH GUARD	
FINISH:	RAW, ACID ETCHED BRASS OR POWDER COAT	
DSWG	3 7/8" W X 5 5/8" H WIRE GUARD	
FINISH:	CAD PLATED OR POWDER COAT CAN BE USED WITH CONE SHADE DSC10, DSC12	
DSSLG	3 1/2" W X 4 1/2" H ALUMINUM SQUARE LAMP GUARD	
FINISH:	POWDER COAT ONLY	

PRIMUS LIGHTING

DECOSTRING SHADES & GUARDS

DSRLG	5" W X 4" H METAL ROUND LAMP GUARD	
FINISH:	POWDER COAT ONLY	
DST6A	6" W X 8" H ACRYLIC TUBE SHADE	
FINISH:	OPAL WHITE, CLEAR OR FROSTED	
DSS8	8" DIAMETER ACRYLIC SPHERE	
DSS10	10" DIAMETER ACRYLIC SPHERE	
DSS12	12" DIAMETER ACRYLIC SPHERE	
FINISH:	OPAL WHITE, CLEAR OR FROSTED	

SHADES & GUARDS FINISH CODES

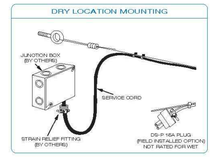
RAW & ACID ETCHED FINISHES	POWDER COAT FINISHES	ACRYLIC FINISHES
RB – RAW BRASS	**PCW** – POWDER COAT WHITE	**O** – OPAL WHITE
AB – AGED BRASS	**PCB** – POWDER COAT BLACK	**C** – CLEAR
VB – VERDE BRASS	**PCS** – POWDER COAT SILVER	**F** – FROSTED
BA – BRUSHED ALUM	**PCC** – POWDER COAT (CUSTOM) PROVIDE RAL COLOR	

SHADES & GUARDS FINISH NOTES

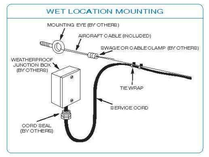
- Decostring shades are hand crafted from solid brass or aluminum and feature either chemical etched or powder coat finishes.
- Most shades are shipped separately and attached to cable system by means of a tool-less keeper ring.
- All shades and guards dimensions are nominal.
- Please contact us for material, finish and shape variations or custom designs.

DECOSTRING MOUNTING

DRY LOCATION MOUNTING



WET LOCATION MOUNTING



1 L2.6 STRING LIGHTS

NOT TO SCALE

OPTION: PRIMUS LIGHTING
MODEL: DECOSTRING SERIES
UNITS: 37 (3 STRINGS)
SHADES, GUARDS, AND FINISHES TO BE DETERMINED BY OWNER
WWW.PRIMUSLIGHTING.COM

DHM DESIGN
1309 East 3rd Avenue
Room 23
Durango, CO 81301
970.385.4219
www.dhmdesign.com

Salida Hot Springs - Outdoor Pools
Salida Hot Springs Aquatic Center
410 W Rainbow Blvd, Salida, CO 81201

PROJECT NUMBER: 18397.00
DATE: 12/13/2019
DESIGNED:
DRAWN:
CHECKED:

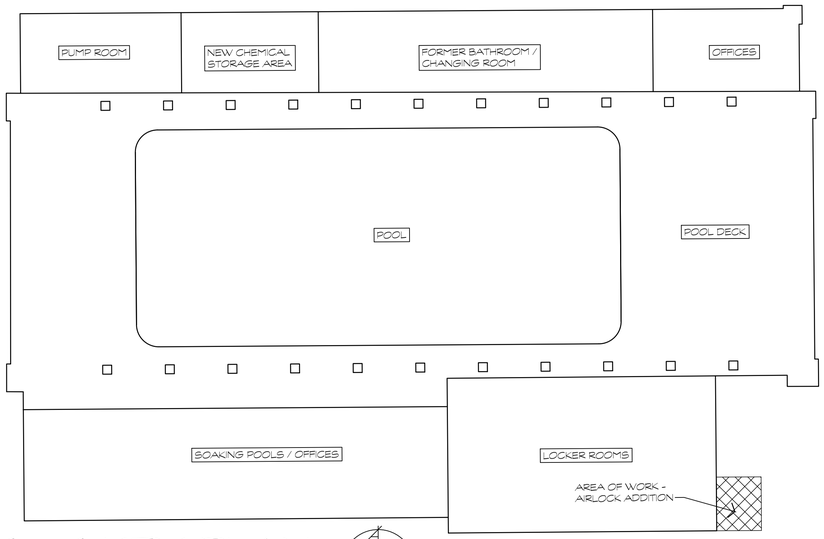
REVISIONS:

JOB DESCRIPTION: 100% DESIGN/BUILD CONSTRUCTION SET

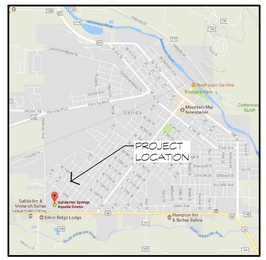
SHEET TITLE: STRING LIGHTING

SHEET NUMBER: L2.6

SHEET_____OF_____

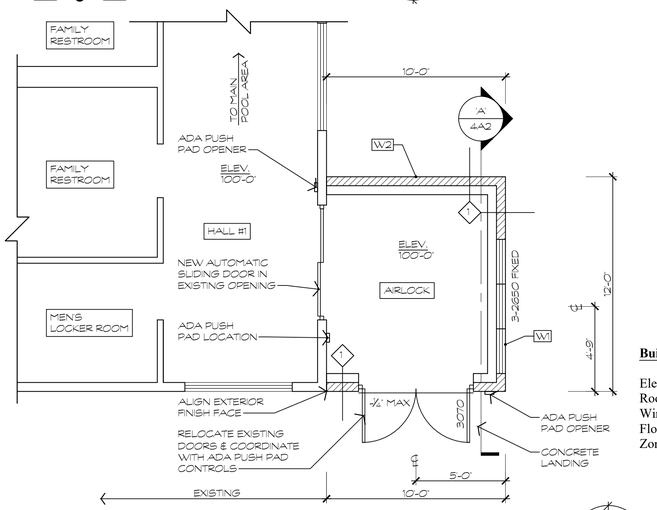


1.1 KEY PLAN
N.T.S.

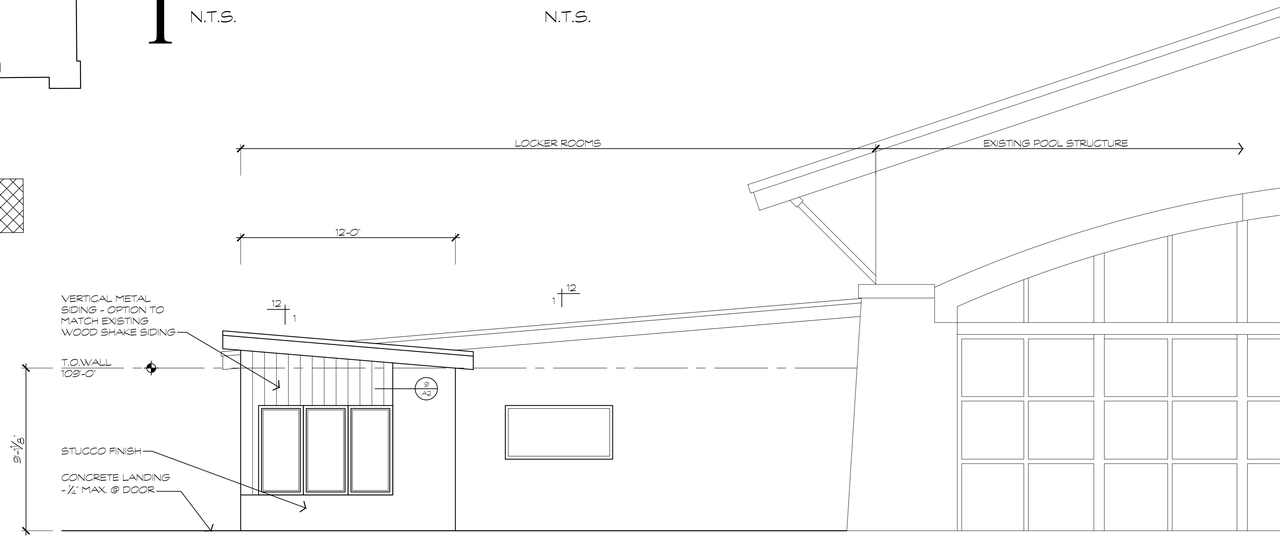


1 VICINITY MAP
N.T.S.

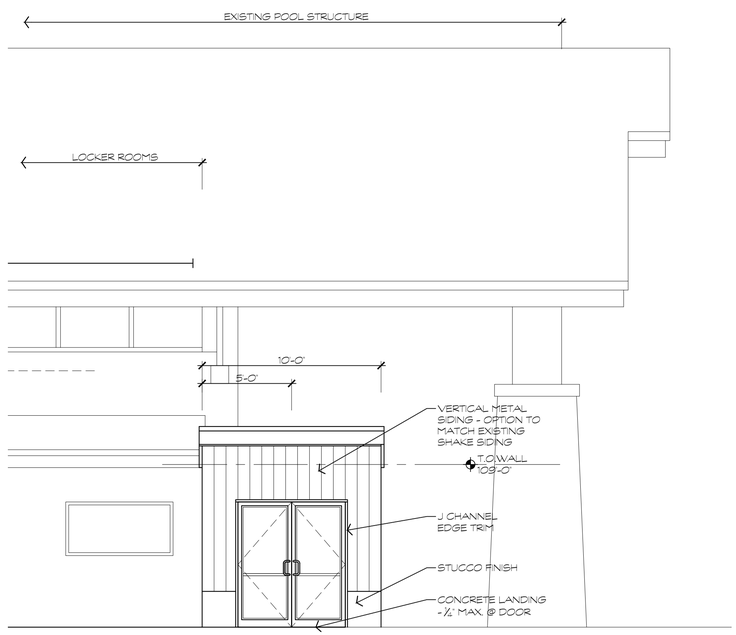
SOUTHWEST ELEVATION
N.T.S.



2 PARTIAL FLOOR PLAN
¼" = 1'-0"
RE: 1A1



4 SOUTH ELEVATION
¼" = 1'-0"
RE: 2A1



5 WEST ELEVATION
¼" = 1'-0"
RE: 2A1

EXTERIOR WALLS

GA FILE NO. WP 8130	PROPRIETARY*	1 HOUR FIRE

GYPSUM WALLBOARD, GLASS MAT GYPSUM SUBSTRATE, WOOD STUDS

EXTERIOR SIDE: One layer 5/8" proprietary type X glass mat gypsum substrate (sheathing) applied parallel or at right angles to 2 x 4 wood studs 16" o.c. with galvanized roofing nails, 1-3/4" long, 0.128" shank, 7/16" head, 7" o.c. Exterior surface covered with weather exposed cladding or finish system.

INTERIOR SIDE: One layer 5/8" proprietary type X glass mat gypsum substrate, glass mat water-resistant gypsum backing board, gypsum wallboard, water-resistant gypsum backing board, or gypsum veneer base applied parallel or at right angles to studs with 6d coated nails, 1-7/8" long, 0.0915" shank, 1/4" heads, 7" o.c.

Joints staggered on opposite sides. **(LOAD-BEARING)**

PROPRIETARY GYPSUM PANEL PRODUCTS

American Gypsum Company LLC ..... 5/8" FireBloc® Type X Gypsum Board
5/8" M-Glass® Type X Exterior Gypsum Sheathing
CertainTeed Gypsum Inc. ..... 5/8" CertainTeed® Type X Gypsum Board
5/8" GlasRoc® Sheathing Type X Gypsum Panels
Continental Building Products ..... 5/8" Firecheck® Type X
5/8" Weather Defense® Platinum Sheathing
Georgia-Pacific Gypsum LLC ..... 5/8" DensArmor Plus® Fireguard® Interior Panel
5/8" DensGlass® Fireguard® Sheathing
National Gypsum Company ..... 5/8" Gold Bond® Brand FIRE-SHIELD® Gypsum Board
5/8" Gold Bond® Brand eXP® FIRE-SHIELD® Gypsum Sheathing
PABCO Gypsum ..... 5/8" FLAME CURB® Type X
5/8" PABCO GLASS® Sheathing Type X

Thickness: 4-3/4"
Approx. Weight: 7.5 psf
Fire Test: WHI-495-0702, 8-7-85; WHI-495-0703, 8-8-85; UL R2717, 89NK3419, 8-29-89; UL R3501, 07NK17992, 12-12-07; UL R6937, 06NK17692, 9-19-08; UL R15187, 02NK31412, 7-17-02; UL R14196, 11NK04002, 3-3-11; UL Designs U337 & U305

1 1 HOUR EXTERIOR WALL

3 FIRE ASSEMBLIES
N.T.S.

Building Design Criteria

Elevation: 7,036' ±
Roof Live Load: 40 psf.
Wind Load: 120 mph.
Floor Load: 50 psf.
Zoning: C-1 Commercial

General Notes

1. Contractor shall verify all dimensions and conditions at job site, if discrepancies occur, Contractor shall notify Architect before proceeding with the work. Dimensions take precedence over drawings. **Drawings are not to be scaled.**
2. All design work and construction work shall conform to all applicable codes and standards required by the City of Salida and Chaffee County.
3. All mechanical, plumbing, and electrical design and installation shall be performed by licensed contractors in accordance with all applicable codes and industry standards. Contractor shall coordinate all work.
4. Contractor shall protect all existing areas during construction and is required to replace any areas which are damaged, whether intentionally or unintentionally, due to new construction.
5. The Contractor shall coordinate all interior finishes with the Owner.

2015 International Building Code
Salida Hot Springs Aquatic Center
Outdoor Pool Project
New Airlock addition
Pool Equipment Room

I. Occupancy Classification: Chapter 3
a. Assembly Group A-3

II. Building Areas
a. Existing Main Building: 19,262 sq. ft.
b. Airlock Addition: 120 sq. ft.
c. New Equipment Room: 540 sq. ft.

III. Type of Construction: Chapter 6
Type - VA
a. Exterior wall fire rating: Table 602
Occupancy A-3/Type VA X >/= 30'-0" = 0 hour

IV. Fire-Resistive-Rated Construction: Chapter 7
a. Exterior walls: Section 705
i. Projections: 705.2.2 - any approved material
ii. Fire-resistive ratings: 705.5 per Table 601 Type VA: 1 hour exterior & interior bearing walls, floor and roof construction.

V. Means of Egress: Chapter 10
a. Occupant Load: Table 1004.1.1
Existing Building: **554 occupants**

Pools: per pool consultant 47 occupants
Pool deck: 1875/ 15 gross = 125 occupants

b. Number of Exits: Outdoor pool area
Table 1006.2.1: 2 exits required
c. Door arrangement: 1007.1.1
Addition: 2 doors > ½ diagonal distance

IV. Accessibility: Chapter 11
Existing Building and Addition:
1. Accessible route provided
Parking area
Accessible facilities
2. Accessible entrance
3. Accessible facilities
4. Accessible parking space
5. Accessible pools
6. Signage

IX. Energy Efficiency: Chapter 13 to 2006 IECC
a. Airlock Addition and Equipment Room:
Walls - Mass: R-9.5 CI or better
Roof -Other: R-30
Slab - Unheated: NR
Windows: U.35

X. Plumbing Fixtures: Chapter 29
a. Minimum number of required fixtures: Table 2902.1
Total Existing Building Occupancy Load: 554 occ.
Outdoor Pool Area: 167 occ.
TOTAL: 721 occupants
721/2 = 361 occupants/sex
Water Closets:
Women: 1/65 = 361/65 = 6 water closets
4 water closets provided at Women's Locker Room + 1 Women's ADA restroom at indoor hot pool area + 1 unisex ADA restroom at indoor hot pool area
Men: 1/125 = 361/125 = 3 water closets
4 water closets at Men's Locker

Additional: 2 unisex family facilities
12 fixtures provided in facility
Lavatories:
1/200 = 277/200 = 2 lavatory / sex required

Project Contact List

Architect:
Architectural Services
Sarah F. Whittington, RA
129 ½ West 3rd St. Suite #5
Salida, CO 81201
719-539-5461
(email) swhittington@bresnan.net

Mechanical Engineer:
J.K. Mechanical Design
Kirk L. Roberts, PE
P.O. Box 1554
Buena Vista, CO 81201
719-530-1104
(email) kirklroberts@gmail.com

Electrical Engineer:
Front Range Electrical Engineering
Carl Fretwell
3333 S. Wadsworth Blvd. - Suite D324
Lakewood, CO 80227
(303)985-0548
carl@freengineer.com

Structural Engineer:
Hachmann Design and Engineering
Abe Hachmann, P.E.
24050 CR 301A
Buena Vista, CO 81211
720-201-6303
ahachmann@gmail.com

DATE: 12/9/2019

DRAWN BY: P.G.
CHECKED BY: S.W.

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES

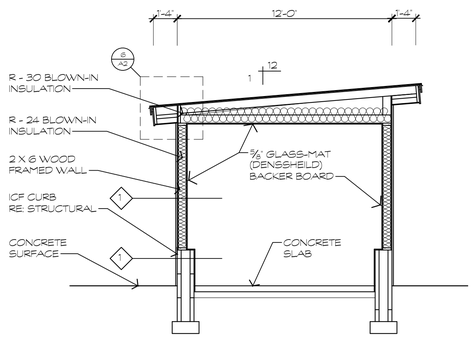
BID SET

Salida Hot Springs Aquatic Center
Outdoor Soaking Pool Project
Airlock Addition and Equipment Room
410 West Highway 50 - Salida, CO 81201

KEY PLAN
FLOOR PLAN
FIRE ASSEMBLIES
CODE ANALYSIS

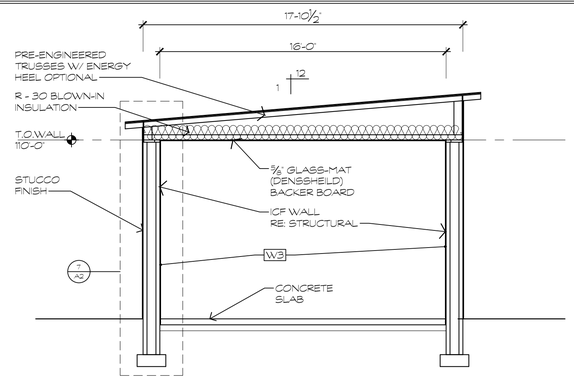
A1
1 OF 2

JOB # 19033.55



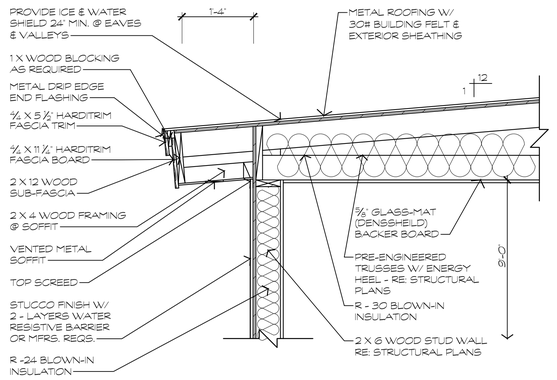
4 BUILDING SECTION 'A'

¼" = 1'-0"
RE: 2A1



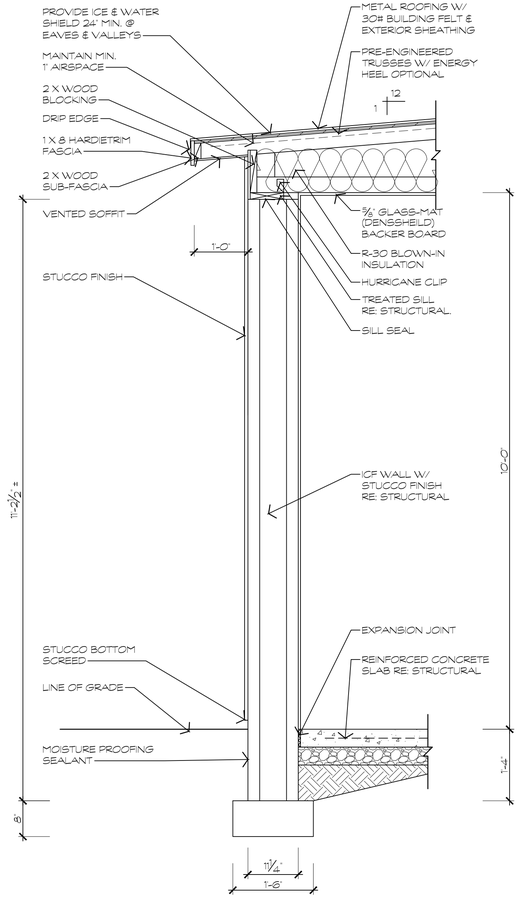
5 BUILDING SECTION 'B'

¼" = 1'-0"
RE: 2A1



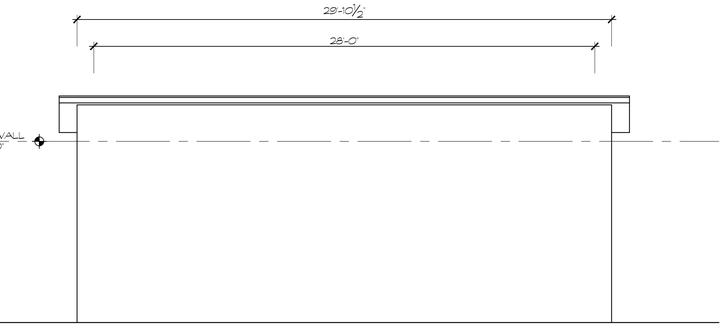
6 ROOF DETAIL

¾" = 1'-0"
RE: 4A2



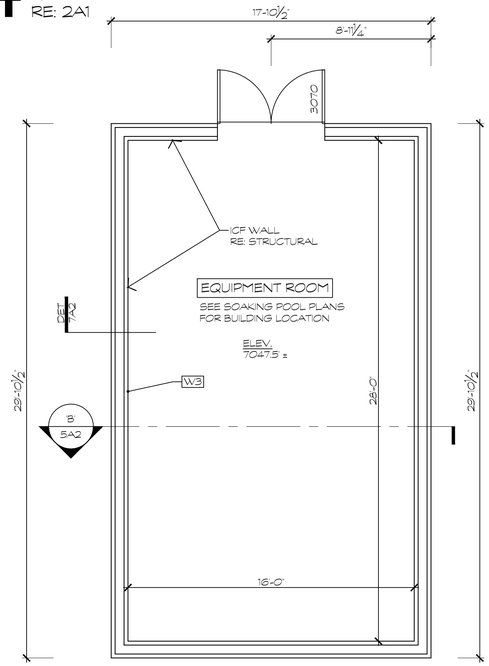
7 WALL DETAIL

¾" = 1'-0"
RE: 5A2



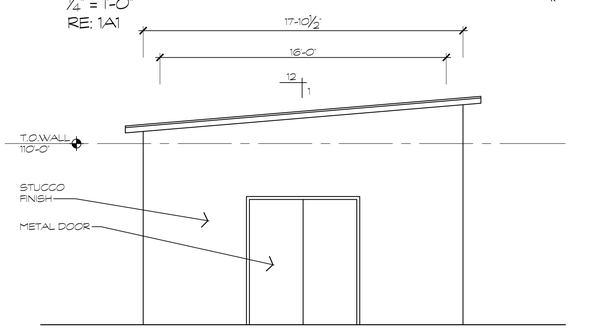
3 NORTH ELEVATION - SOUTH SIMILAR

¼" = 1'-0"
RE: 2A1



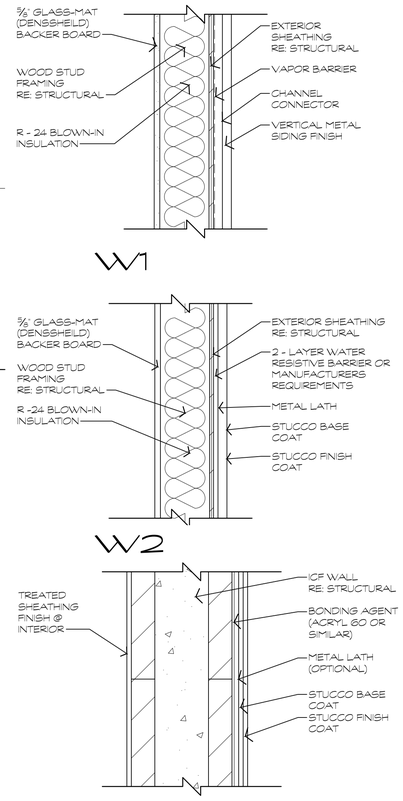
1 EQUIPMENT ROOM FLOOR PLAN

¼" = 1'-0"
RE: 1A1



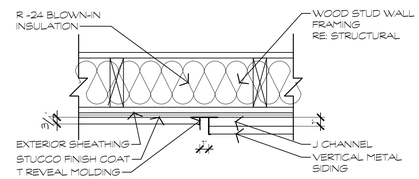
2 EAST ELEVATION

¼" = 1'-0"
RE: 2A1



8 WALL TYPES

1½" = 1'-0"
RE: 2A1, 1A2, 4A2, 5A2



9 VERTICAL FINISH TRANSITION

1½" = 1'-0"
RE: 5A2

DATE: 12/9/2019

DRAWN BY: P.G.
CHECKED BY: S.W.

SARAH F. WHITTINGTON ARCHITECTURAL SERVICES

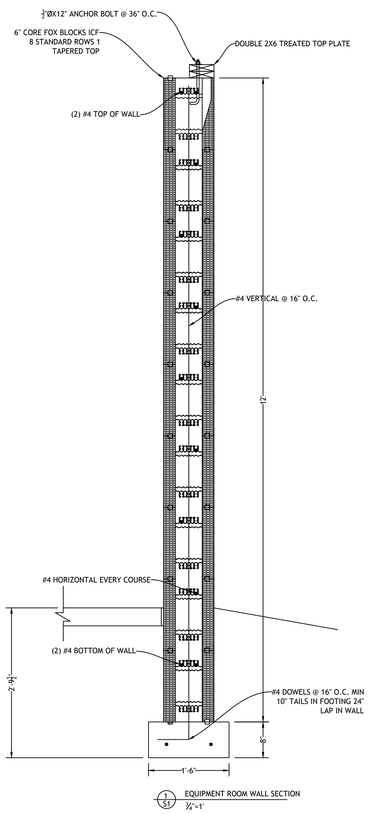
BID SET

Salida Hot Springs Aquatic Center
Outdoor Soaking Pool Project
Airlock Addition and Equipment Room
410 West Highway 50 - Salida, CO 81201

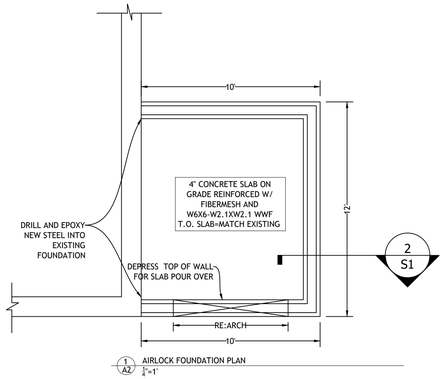
EQUIPMENT ROOM
EAST ELEVATION
SOUTH ELEVATION
BUILDING SECTIONS A & B

A2
2 OF 2

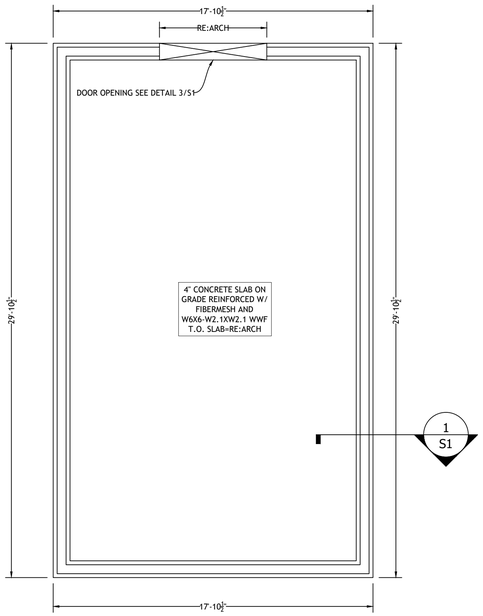
JOB # 19033.55



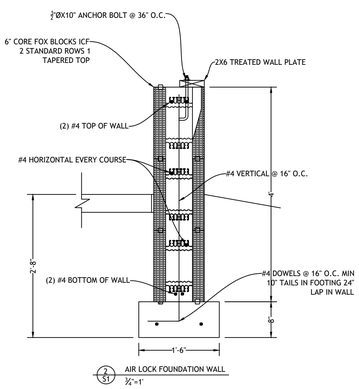
1 / S1 EQUIPMENT ROOM WALL SECTION
¾"=1'



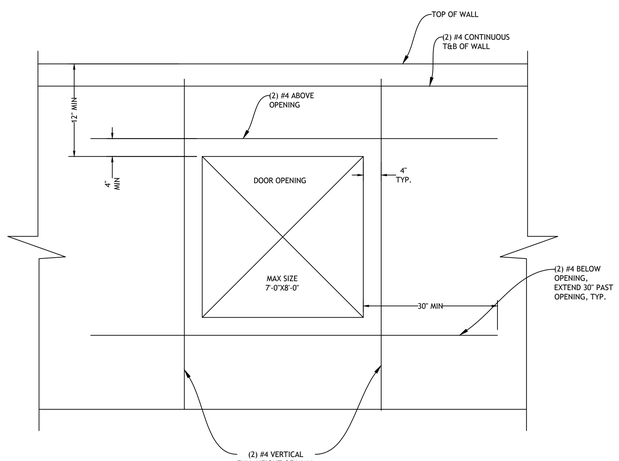
1 / A2 AIRLOCK FOUNDATION PLAN
¾"=1'



1 / A2 EQUIPMENT ROOM FOUNDATION
¾"=1'



2 / S1 AIR LOCK FOUNDATION WALL
¾"=1'



3 / S1 DOOR OPENING
¾"=1'

HACHMANN
DESIGN AND ENGINEERING
15994 Eagle Ln.
Buena Vista, CO 81211
(720) 201-6303

SALIDA HOT SPRINGS AQUATIC CENTER
410 WEST HWY 50
SALIDA, COLORADO 81201

DATES:
10-20-19 90% COORDINATION
12-13-19 BID SET

PROJECT # B19-156
DRAWN BY: AH
FOUNDATION PLAN
SCALE ¼"=1'

S1

FRAMING NOTES:

1. LUMBER

a. ALL LUMBER, SHEATHING, AND ENGINEERED WOOD COMPONENTS SHALL CONFORM TO GUIDELINES FROM THE AWC, NDS
b. ALL STRUCTURAL FRAMING INCLUDING; HEADERS, TOP PLATES, JOISTS, AND RAFTERS SHALL BE HEM FIR #2 OR BETTER.
c. ALL STUDS LESS THEN OR EQUAL TO 10'-0" SHALL BE HEM FIR STUD GRADE OR BETTER. ALL STUDS MORE THAN 10'-0" SHALL BE HEM FIR #2 OR BETTER.
d. ALL HEAVY TIMBER MEMBERS 6" AND GREATER SHALL BE DF-L #1 OR BETTER
e. WOOD "I" JOISTS ARE TO BE INSTALLED ACCORDING TO THE MANUFACTURES INSTRUCTIONS. IF VARIATIONS BETWEEN THOSE SPECIFICATIONS AND THIS PLAN ARE FOUND CONTACT ENGINEER FOR CLARIFICATION. SUBSTITUTIONS OF "I" JOISTS BETWEEN MANUFACTURES ARE ALLOWED BUT MUST BE AN APPROVED EQUAL.
f. ALL LUMBER IN CONTACT WITH CONCRETE OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED.
g. ALL EXTERIOR GLU-LAM BEAMS TO BE ALASKAN CEDAR 20F-V12
h. ALL OTHER GLU-LAM BEAMS TO BE DOUGLAS FIR 24F-V4

2. STEEL

a. ALL STEEL BEAMS TO BE ASTM A992 STEEL SHAPES (Fy=50 ksi).
b. ALL ROUND STEEL POSTS TO BE ASTM A53 (GRADE B) STEEL COLUMNS. NOMINAL COLUMN DIAMETERS ARE LISTED (3"Ø=3 ½"OD, 3 ½"Ø=4" OD , 4"Ø=4 ½"OD, 5"Ø=5 ½"O.D.)
c. ALL SQUARE TUBE SHAPES SHALL BE ASTM A500 (GRADE B)
d. ENDS OF POSTS SHALL HAVE PLATES WELDED TO THE POST. THE BASE WILL BE BOLTED TO THE CONCRETE WITH A MIN OF (1) ½"Ø EXPANSION BOLT
e. ALL OTHER SHAPES (PLATES, ANGLES, CHANNELS) TO BE ASTM A36
f. ALL STEEL TO STEEL CONNECTIONS SHALL BE FULLY WELDED AT ALL CONTACT SURFACES WITH A MIN OF A 3/16" FILLET WELD OF E70xx ELECTRODE.
g. STEEL BEAM SUPPLIER IS TO FURNISH BEAM BOLT TOGETHER CONNECTIONS WITH A MIN OF ¾" PLATE AND (8) ¾" Ø A325 BOLTS.
h. MINIMUM BEARING FOR STEEL BEAMS IS 3".
i. GROUT ALL BEAM POCKETS SOLID AFTER BEAM HAS BEEN SET AND SHIMMED.
j. ALL BOLTS, NUTS AND WASHERS TO BE MINIMUM OF A307.

3. CONNECTIONS

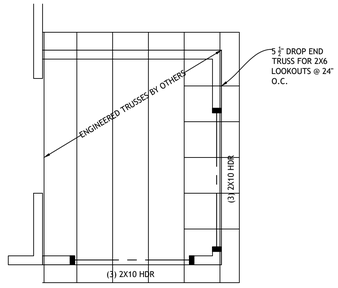
a. ALL HANGER CALL OUTS CORRESPOND TO PRODUCTS MANUFACTURED BY SIMPSON STRONG-TIE CORPORATION
b. HANGERS FOR "I" JOISTS TO BE SIZED PER MANUFACTURER RECOMMENDATIONS
c. PROVIDE MIN. OF H2.5T TRUSS CLIPS AT ALL TRUSS BEARING POINTS, PROVIDE DOUBLE CLIPS AT MULTIPLE PLY TRUSSES. OTHER ATTACHMENT MAY BE REQUIRED BY THE TRUSS DESIGNER.
d. SILL PLATES SHALL BE ATTACHED W/ ½"Ø ANCHOR BOLTS AT FOUR FEET MAXIMUM ON CENTER, 12" FROM ALL CORNERS, MINIMUM 2 BOLTS PER PLATE.
e. TO PROVIDE LATERAL SUPPORT, TIE ALL WOOD PLATES, WHICH REST ON STEEL BEAMS, TO THE STEEL BEAM WITH X-ZF 47 P8S23 POWDER ACTUATED PINS AT 32" O.C., OR 5/16" THRU BOLTS @ 36" O.C. INTO THE TOP FLANGE OF THE BEAMS.

4. MINIMUM MEMBER SIZES

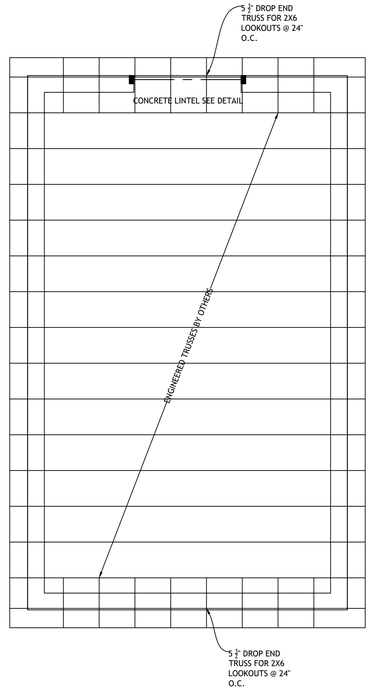
a. ALL LOAD BEARING HEADERS ARE TO BE (2) 2x10'S UNLESS NOTED OTHERWISE.
b. FOR 2X4 WALLS ALL HEADERS ARE TO BE SUPPORTED BY A MINIMUM OF (1) 2x4 TRIMMER AND (1) 2x4 KING STUD AT EACH JAMB, U.N.O. PROVIDE MINIMUM (2) 2x4 TRIMMERS AND (2) 2x4 KING STUDS AT EACH JAMB FOR OPENINGS 6'-0" TO 10'-0".
c. FOR 2X6 WALLS ALL HEADERS ARE TO BE SUPPORTED BY A MINIMUM OF (1) 2x6 TRIMMER AND (1) 2x6 KING STUD AT EACH JAMB, U.N.O. PROVIDE MINIMUM (2) 2x6 TRIMMERS AND (2) 2x6 KING STUDS AT EACH JAMB FOR OPENINGS 6'-0" TO 10'-0".
d. ALL WALLS SHALL BE FRAMED IN ACCORDANCE WITH TABLE R602.3.1. ALL RAKE WALLS SHALL BE FRAMED FULL HEIGHT TO THE BOTTOM OF EITHER LOOKOUT RAFTERS OR GABLE END TRUSS WITH 1 PIECE STUDS. BLOCKING MAY BE REQUIRED ON WALLS TALLER THAN 10'-0".
e. ALL POINT LOADS SHALL BE CARRIED DOWN AND BEAR DIRECTLY ON THE FOUNDATION WALL OR BEAM. EACH POST MUST INCREASE BY ONE PLY FOR EACH LEVEL CARRYING THE POINT LOAD. SQUASH BLOCKS ARE REQUIRED BETWEEN FLOORS
f. ALL BEARING LENGTHS FOR WOOD BEAMS SHALL NEVER BE LESS THAN 1½" AT THE ENDS OF BEAMS. BEARING ACROSS THE FULL WIDTH OF THE BEAM IS REQUIRED.
g. TYPICAL ROOF OVER FRAMING SHALL BE 2x6 AT 24" ON CENTER AND BE POSTED DIRECTLY TO TRUSSES OR RAFTERS BELOW. MAX. SPAN FOR THE 2x6 MEMBERS IS 6'
h. ALL MULTIPLE MEMBER LVL'S SHALL BE ASSEMBLED ACCORDING TO THE SUPPLIERS RECOMMENDATIONS.
i. 2-PLY POSTS SHALL BE NAILED TOGETHER W/ TWO ROWS OF 16d NAILS @ 16" O.C. ADJACENT NAILS SHALL BE DRIVEN FROM OPPOSITE SIDES OF THE COLUMN.
j. 3-PLY POSTS SHALL BE NAILED THE SAME AS THE 2-PLY W/ THE THIRD PLY NAILED TO THE 2-PLY W/ (2) 16d NAILS @ 6" O.C.
k. 4 & 5-PLY POSTS SHALL BE NAILED THE SAME AS THE 3-PLY W/ CS16 STRAPS TOP & BOTTOM.
l. 6 & 7-PLY POSTS SHALL BE NAILED THE SAME AS THE 3-PLY W/ CS16 STRAPS TOP, CENTER, & BOTTOM.
m. EXTERIOR WALL SHEATHING SHALL BE 7/16" OSB NAILED WITH 8d NAILS, OR 15ga. x 1½"LONG x 7/16" WIDE STAPLES AT 12" O.C. IN FIELD AND 6" O.C. AT EDGE. ALL EDGES MUST BE BLOCKED AND NAILED
n. ROOF SHEATHING SHALL BE 7/16" OSB W/ 8d NAILS AT 6" O.C. EDGE AND 10" O.C. FIELD NAILING.
o. FLOOR SHEATHING SHALL BE MINIMUM ¾" OSB W/ 8d NAILS AT 6" O.C. EDGE AND 12" O.C. FIELD NAILING.
p. INTERIOR WALL SHEATHING SHALL BE ½" DRYWALL W/ 1½"x#6 DRYWALL SCREWS AT 8" O.C.
q. ALL NAILING SHALL BE IN CONFORMANCE WITH IRC TABLE R602.3

5. GENERAL

a. FRAMING CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATION OF PLUMBING IN REFERENCE TO FLOOR FRAMING.
b. AT FIRST FLOOR AND STRUCTURAL FLOOR, WHERE JOISTS RUN PARALLEL TO THE FOUNDATION WALLS, PROVIDE PERPENDICULAR SOLID BLOCKING AT 4'-0" ON CENTER FOR THE FIRST 3 BAYS.
c. PROVIDE SOLID BLOCKING AT SUPPORTS BETWEEN TRUSSES TO PREVENT ROTATION.
d. PROVIDE SOLID BLOCKING AT ALL TRUSS RIDGES, HIPS, VALLEYS, AND EVES.
e. THE GENERAL CONTRACTOR SHALL VERIFY THE DIMENSIONS AND SITE CONDITIONS PRIOR TO START OF WORK. THE ARCHITECT AND STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR ERRORS.
f. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
g. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL ENGINEER OF RECORD.
h. NO CHANGE IN SIZE OR DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL ENGINEER OF RECORD.
i. OPENINGS 1'-4" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SUCH OPENINGS.
j. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
k. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/ OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
l. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
m. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
n. THE CONTRACTOR SHALL INFORM THE PROFESSIONAL OF RECORD IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY OF SUCH DEVIATION BY THE PROFESSIONAL OF RECORD REVIEW OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE PROFESSIONAL OF RECORD OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE PROFESSIONAL OF RECORD HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.



1 A2 AIRLOCK ROOF FRAMING PLAN
¼"=1'



1 A2 EQUIPMENT ROOM ROOF FRAMING PLAN
¼"=1'

FOUNDATION NOTES:

1.) ALL FOOTINGS MUST BE BE PLACED ON VIRGIN SOIL OR STRUCTURAL APPROVED FILL AS DETERMINED BY THE SOILS ENGINEER
2.) ALL FOOTINGS MUST BE FREE OF LOOSE SOIL
3.) 28 DAY MINIMUM CONCRETE STRENGTH
  i. FOOTINGS = 3000 psi
  ii. WALLS = 3500 psi
  iii. SLABS = 4000 psi
4.) REBAR SHALL MAINTAIN A MINIMUM COVER OF:
  i. 3" IN ALL AREAS WHERE CAST AGAINST EARTH
  ii. 1½" WHEN CAST AGAINST FORMS
  iii. 1" FOR SLABS
5.) REBAR SHALL BE A MINIMUM OF GRADE 60
6.) MINIMUM REBAR SPLICE LENGTH OF 40 BAR DIAMETERS
7.) THIS PLAN WAS DESIGNED USING ASSUMED VALUES AS FOLLOWS CONTACT ENGINEER TO VERIFY SOIL CONDITION AT TIME OF EXCAVATION
  i. MAXIMUM BEARING CAPACITY 2400 PSF
  ii. EQUIVALENT FLUID PRESSURE 35 PCF
8.) ALL FOOTING AND WALL CONCRETE SHALL BE PLACED CONTINUOUSLY AND BE MECHANICALLY CONSOLIDATED NO HORIZONTAL COLD JOINTS ARE ALLOWED
9.) ANCHOR BOLTS TO BE PLACED AT 4'-0" O.C. AND HAVE A MIN EMBEDMENT LENGTH OF 8" MINIMUM OF 2 BOLTS PER PLATE.
10.) CEMENT SHALL BE TYPE II MODIFIED
11.) MAXIMUM SLUMP OF 5"
12.) ALL CONCRETE SHALL BE PROTECTED FROM FREEZING FOR A MINIMUM OF 36 HOURS
13.) CONCRETE SLAB SHALL HAVE CONTROL JOINTS CUT 1" DEEP @ 12'-0" O.C. MAX. WHERE POSSIBLE, ALIGN CONTROL JOINTS WITH COLUMN CENTERLINES AND RE-ENTRANT CORNERS.

DESIGN CRITERIA:

FLOOR LOADS	ROOF LOADS
40 PSF LIVE	45 PSF SNOW (ELEV.)
20 PSF DEAD	15 PSF DEAD
60 PSF TOTAL	60 PSF TOTAL
DECK LOADS	
40 PSF LIVE	WIND LOADS
10 PSF DEAD	120 MPH (V_{ult})
50 PSF TOTAL	EXPOSURE "C"

SEISMIC DESIGN CATEGORY C

FROST DEPTH 24"

CODE REFERENCES:

IBC 2015
IRC 2015
AISC 9th EDITION
ACI 318-05
AWC, NDS 2001

HACHMANN
DESIGN AND ENGINEERING
15994 Eagle Ln.
Buena Vista, CO 81211
(720) 201-6303

SALIDA HOT SPRINGS AQUATIC CENTER
410 WEST HWY 50
SALIDA, COLORADO 81201

DATES:
10-20-19 90% COORDINATION
12-13-19 BID SET

PROJECT # B19-156
DRAWN BY: AH
FLOOR FRAMING PLAN
SCALE ¼"=1'

S2

DIVISION 15 - MECHANICAL & PLUMBING SPECIFICATIONS

I. BASIC MECHANICAL REQUIREMENTS

FURNISH ALL LABOR AND MATERIALS AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FUNCTIONING MECHANICAL SYSTEMS, AS SPECIFIED AND AS REQUIRED BY CODE.

INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.

COORDINATE AND ORDER THE PROGRESS OF MECHANICAL WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRADES.

COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS AND/OR DOCUMENTS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.

APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THIS DIVISION OF WORK.

COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AND ORDINANCES. COMPLY WITH REQUIREMENTS OF THE UTILITY COMPANIES. IN THE CASE OF DIFFERENCES BETWEEN THESE REQUIREMENTS AND ORDINANCES, THE MOST STRINGENT SHALL GOVERN. CALL FOR INSPECTIONS REQUIRED BY LOCAL BUILDING INSPECTION AUTHORITY.

SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT SHOWING ANY CHANGES REQUIRED IN PIPING, DUCTING, ELECTRICAL WIRING, SPACE ALLOCATION, ETC.

CONTRACTOR SHALL PREPARE 4 COPIES OF SUBMITTALS FOR APPROVAL BY THE DESIGN TEAM OF THE FOLLOWING: EXHAUST FAN, DIFFUSERS AND GRILLES, HEAT RECOVERY VENTILATORS, PUMPS, BOILERS, EXPANSION TANKS, VENTILATION HOODS, FAN POWERED BOXES, VAV BOXES, MAKE UP AIR UNITS, PLUMBING PIPING, PLUMBING FIXTURES, WATER HEATERS, TRAINING CERTIFICATES FOR POLYETHYLENE PIPING SYSTEMS AND TEST AND BALANCE.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

MAINTAIN ONE SET OF REDLINED DRAWINGS ON THE JOB SITE INDICATING ALL CHANGES AND DEVIATIONS FROM THE WORK SHOWN ON THE DRAWINGS.

PRIOR TO FINAL ACCEPTANCE, THOROUGHLY CLEAN ALL WORK.

AT COMPLETION OF WORK, DELIVER COMPLETED PROJECT RECORD DOCUMENTS MARKED WITH FIELD CHANGES TO OWNER'S REPRESENTATIVE.

PROVIDE A WRITTEN WARRANTY TO THE OWNER COVERING THE ENTIRE MECHANICAL WORK TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE.

II. BASIC MATERIALS AND METHODS

THE MECHANICAL DRAWINGS INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF PIPING, EQUIPMENT, SYSTEMS, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT INDICATE EVERY REQUIRED OFFSET, FITTING, ETC.

THE LOCATIONS OF THE ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE INSTALLATION. DO NOT SCALE THE DRAWINGS (UNLESS NOTED OTHERWISE).

USE ADJUSTABLE PIPE HANGERS ON SUSPENDED PIPE. PROVIDE HANGERS TO SUPPORT THE SYSTEMS WITHOUT SAGGING. INCLUDE HANGERS AT EACH OFFSET OR CHANGE IN DIRECTION AND AT ENDS OF BRANCHES OVER FIVE FEET IN LENGTH.

WHERE HORIZONTAL DUCTS AND PIPE PASS THROUGH WALLS AND VERTICAL DUCTS AND PIPES PASS THROUGH FLOORS OR ROOFS, SEAL OFF VOID BETWEEN OPENING AND DUCT OR PIPE.

PROVIDE ALL EXCAVATING AND BACKFILLING REQUIRED BY THE WORK IN THIS DIVISION.

PROVIDE SHUT-OFF VALVES AND UNIONS SUITABLY LOCATED TO ISOLATE EACH ITEM OF EQUIPMENT.

TEST PIPING AND DUCTWORK SYSTEMS PRIOR TO CONCEALMENT.

VALVES AND CLEANOUTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY CODE.

ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.

ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.

INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.

ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.

ALL CLEANOUTS SHALL BE FULL SIZE OF PIPE FOR PIPE SIZES 4 INCHES AND SMALLER.

PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO GENERAL CONTRACTOR FOR INSTALLATION.

ALL CONDENSATE DRAIN LINES SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH A P-TRAP, AND PIPED TO NEAREST DRAIN. CONDENSATE FROM CONDENSING GAS EQUIPMENT SHALL BE ROUTED THROUGH A ACID NEUTRALIZER BEFORE ENTERING THE BUILDING DRAINAGE SYSTEM.

ALL DUCTWORK AND PIPING SHALL CLEAR DOORS AND WINDOWS.

ALL PIPING INSTALLED IN THE FIRST FLOOR EXPOSED CEILING SPACE TO BE SUPPORTED IN CABLE TRAY. COORDINATE EXACT PLUMBING AND MECHANICAL PIPE ROUTING WITH THE CABLE TRAY INSTALLER.

III. INSULATION (REFER TO 2015 IECC C403.2.9)

FURNISH AND INSTALL INSULATION FOR ALL PIPING AND DUCTWORK SYSTEMS AS FOLLOWS:

DUCTWORK: SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND WHERE LOCATED OUTSIDE THE BUILDING WITH A MINIMUM OF R-12 INSULATION

DUCTWORK OUTSIDE THE BUILDING OR DUCTWORK FOR OUTSIDE AIR INTAKES: EXTERIOR DUCT WRAP AND/OR DUCT LINER WITH A MINIMUM R-VALUE OF 12 PER THE 2015 IECC.

PIPING:

ALL COLD PIPING AND EQUIPMENT INSULATION SHALL INCLUDE A VAPOR BARRIER.

PROVIDE PIPING INSULATION AS INDICATED IN 2015 IECC TABLE C403.2.10

FLUID OPERATING TEMP °F	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE				
	CONDUCTIVITY BTU · IN./(H · FT2 · °F)	MEAN TEMP °F	<1	1 TO <1-1/2	1-1/2 TO < 4	4 TO < 8	=>8
>350	0.32 – 0.34	250	4.5	5	5	5	5
251 – 350	0.29 – 0.32	200	3	4	4.5	4.5	4.5
201 – 250	0.27 – 0.30	150	2.5	2.5	2.5	3	3
141 – 200	0.25 – 0.29	125	1.5	1.5	2	2	2
105 – 140	0.21 – 0.28	100	1	1	1.5	1.5	1.5
40 – 60	0.21 – 0.27	75	0.5	0.5	1	1	1
< 40	0.20 – 0.26	50	0.5	1	1	1	1.5

PIPING INSULATION EXPOSED TO THE WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE,EQUIPMENT MAINTENANCE AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED

INSULATE MAINS, ALL EXPOSED HOT WATER SUPPLY AND P-TRAPS ON ACCESSIBLE LAVATORIES AND SINKS.

ABOVE GRADE PIPE INSULATION: HEAVY-DENSITY, ONE-PIECE INSULATION MADE FROM INORGANIC GLASS FIBERS BONDED WITH A THERMOSETTING RESIN WITH A FACTORY-APPLIED JACKET. THE JACKET IS A WHITE PAPER BONDED TO ALUMINUM FOIL, AND IS REINFORCED WITH A FIBERGLASS SCRIM. ALL INSULATED PIPING IN THE MECHANICAL ROOM SHALL HAVE ALUMINUM JACKETING UP TO THE 8' LEVEL.

IV. PIPING

HYDRONIC PIPING MATERIALS:

TYPE L COPPER TUBING, HARD DRAWN WITH ASME B16.18, CAST BRASS, OR ASME B16.22, WROUGHT COPPER FITTINGS AND SOLDER, LEAD FREE, ASTM B 32, 95-5 TIN-ANTIMONY, OR TIN AND SILVER, WITH MELTING RANGE 430 TO 535 DEGREES F. JOINTS. AND/OR AQUATHERM POLYPROPYLENE PIPING OR EQUAL WITH A WALL THICKNESS OF SDR-11 AND FUSED JOINTS AND FITTINGS. POLYPROPYLENE HYDRONIC PIPING SHALL BE FROM ONE MANUFACTURER.

PRE INSULATED PEX: CROSSLINKED POLYETHYLENE (PEX) MANUFACTURED TO PEX-A OR ENGEL METHOD STANDARD AND NSF-CERTIFIED SDR-9 MANUFACTURED IN ACCORDANCE WITH ASTM F876,F877, CSA B137.5 AND NSF-PW. WITH AN OUTER JACKET OF CORRUGATED SEAMLESS HIGH-DENSITY POLYETHYLENE (HDPE) THAT IS EXTRUDED DIRECTLY OVER THE INSULATION AND ENCOMPASSES AND PROTECTS THE INSULATION FROM MOISTURE AND DAMAGE.

WATER PIPING MATERIALS:

ABOVE GRADE, TYPE "L" HARD DRAWN COPPER, WROUGHT COPPER FITTINGS AND 95-5 (TIN/ANTIMONY), 96-4 OR CROSS-LINKED POLYETHYLENE (PEX) WITH A PRESSURE AND TEMPERATURE RATING OF 160 PSI AT 73°F, 100 PSI AT 180°F AND 80 PSI AT 200°F TUBING SHALL HAVE A MINIMUM OF 6 MONTHS UV PROTECTION MANUFACTURED IN ACCORDANCE WITH ASTM F876 AND ASTM F877 AND TESTED FOR COMPLIANCE BY AN INDEPENDENT THIRD-PARTY AGENCY. FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F1807 OR ASTM F2159 AND/OR COMPLY WITH ASTM F877 SYSTEM STANDARD AS IDENTIFIED ON THE FITTING. CRIMP SYSTEMS SHALL BE LISTED TO ASTM F877, WITH COPPER CRIMP RING LISTED TO ASTM F1807 AND/OR ASTM F877

FOR BURIED LINES, TYPE "K", HARD DRAWN COPPER. ABOVE GRADE, TYPE "L", HARD DRAWN COPPER, WROUGHT COPPER FITTINGS AND 95-5 (TIN/ANTIMONY), 96-4 OR PEX PIPING AS DESCRIBED ABOVE.

WATER SERVICE: PROVIDE METER, VALVES, BYPASS, AND REDUCED PRESSURE BACKFLOW PREVENTER AS INDICATED, INSTALLED IN ACCORDANCE WITH THE LOCAL WATER AUTHORITY'S REGULATIONS.

RUN PIPING AS DIRECT AS POSSIBLE TO REQUIRED CONNECTIONS, AND SLOPE TO DRAIN VALVES AT LOW POINTS FOR COMPLETE DRAINING OF SYSTEM. LOCATE DRAIN VALVES AT ACCESSIBLE POINTS WITHIN THE SYSTEM.

HOT WATER MATERIAL:

ABOVE GRADE, TYPE "L", HARD DRAWN COPPER, WROUGHT COPPER FITTINGS AND 95-5 (TIN/ANTIMONY), 96-4 OR CROSS-LINKED POLYETHYLENE (PEX) WITH A PRESSURE AND TEMPERATURE RATING OF 160 PSI AT 73°F, 100 PSI AT 180°F AND 80 PSI AT 200°F TUBING SHALL HAVE A MINIMUM OF 6 MONTHS UV PROTECTION MANUFACTURED IN ACCORDANCE WITH ASTM F876 AND ASTM F877 AND TESTED FOR COMPLIANCE BY AN INDEPENDENT THIRD-PARTY AGENCY. FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F1807 OR ASTM F2159 AND/OR COMPLY WITH ASTM F877 SYSTEM STANDARD AS IDENTIFIED ON THE FITTING. CRIMP SYSTEMS SHALL BE LISTED TO ASTM F877, WITH COPPER CRIMP RING LISTED TO ASTM F1807 AND/OR ASTM F877.

COATED SERVICE WEIGHT CAST IRON WITH BELL AND SPIGOT FITTINGS WITH ELASTOMERIC JOINTS OR COATED SERVICE WEIGHT HUBLESS CAST IRON WITH GASKET AND CLAMP FITTINGS IN AREAS ABOVE BEDROOMS AND OTHER AREAS WITH ACOUSTICAL CONCERNS AS NOTED. PVC PIPE MAY BE USED BELOW AND ABOVE GRADE.

ALL SANITARY WASTE PIPING 3" AND LARGER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT.

HORIZONTAL VENT PIPING SHALL BE GRADED TO DRIP BACK TO THE SOIL OR WASTE PIPE BY GRAVITY.

PRESSURE RELIEF PIPING: TYPE "L" DRAWN-TEMPER COPPER TUBING WITH SOLDERED JOINTS

CONDENSATE DRAIN MATERIAL: TYPE "L" DRAWN-TEMPER COPPER TUBING WITH SOLDERED JOINTS OR SCHEDULE 40, PVC PIPE WITH SOLVENT-WELDED JOINTS.

GAS PIPING MATERIALS:

UNDERGROUND GAS PIPING: PE SDR-11 MANUFACTURERED TO ASTM D 2513 STANDARDS WITH ASTM D 2683 SOCKET-FUSION OR ASTM D 3261, BUTT FUSION TYPE FITTINGS. INSTALL UNDERGROUND PER ASTM D 2774.

PIPE AND FITTINGS: SCHEDULE 40 BLACK STEEL PIPE AND MALLEABLE IRON FITTINGS OR CORRUGATED STAINLESS STEEL TUBING MANUFACTURED FROM ASTM A240 TYPE 304 STAINLESS STEEL WITH A MINIMAL NOMINAL WALL THICKNESS OF 0.010". TUBING JACKET TO BE UV-RESISTANT POLYETHYLENE MEETING THE REQUIREMENTS OF ASTM E84 FOR FLAME SPREAD AND SMOKE DENSITY. ALL MECHANICAL TUBE FITTINGS ARE TO BE MANUFACTURED FROM ASTM B16 TYPE 360 BRASS WHOSE DESIGN INCORPORATES A DOUBLE WALL FLARE FOR GAS-TIGHT SEALING AND MECHANICAL CAPTURE OF THE JACKET FOR ENHANCED TUBING PROTECTION.

THE TUBING, FITTING, AND STRIKE-PROTECTION ARE TO BE INSTALLED PER THE CURRENT VERSION OF THE MANUFACTURER'S DESIGN & INSTALLATION GUIDE AND PER THE BUILDING CODE. MANUFACTURER DESIGNATED TRAINING SHALL BE OBTAINED BY ALL INSTALLERS PRIOR TO INSTALLATION. THE GAS-PIPING SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH ALL LOCAL REQUIREMENTS, ANSI LC-1 AND THE MOST CURRENT EDITION OF THE MANUFACTURER'S DESIGN & INSTALLATION GUIDE

PLUMBING FIXTURES:

ALL FIXTURES AND TRIM SHALL BE NEW. ALL FIXTURES AND TRIM SHALL BE APPROVED BY ARCHITECT.

VALVES:

GENERAL-DUTY VALVES:

NPS 2 AND SMALLER: COPPER-ALLOY BALL VALVES, GENERAL: MSS SP-110 CAUTION: ONE-PIECE, COPPER-ALLOY BALL VALVES: BRASS OR BRONZE BODY WITH CHROME-PLATED BRONZE BALL, PTFE OR TFE SEATS, AND 250-PSIG MINIMUM CWP RATING.

V. TEMPERATURE CONTROLS SYSTEMS

GENERAL: PROVIDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY FOR COMPLETE AND FULLY OPERATIONAL TEMPERATURE CONTROL SYSTEM. THE SYSTEM SHALL BE COMPLETE IN EVERY RESPECT AND SHALL BE PUT INTO OPERATION, TESTED, AND ADJUSTED UNDER OPERATING CONDITIONS. THE CONTROL SYSTEM SHALL INCLUDE ALL CONTROL DEVICES, VALVES, DAMPERS, OPERATORS, THERMOSTATS, CONTROL PANELS, CONTROL WIRING AND CONDUIT AS SPECIFIED AND REQUIRED TO FULFILL THE INTENT OF THE SPECIFICATIONS AND THE SEQUENCE OF OPERATION. COORDINATE ALL WORK WITH THE EQUIPMENT SUPPLIERS AND THE DIVISION 16 INSTALLER.

EXECUTION: ALL WORK, MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE RULES AND REGULATIONS OF APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES. CONTRACTOR SHALL CONTINUALLY MONITOR THE FIELD INSTALLATION FOR CODE COMPLIANCE AND QUALITY OF WORKMANSHIP. ALL WIRING IN MECHANICAL, ELECTRICAL OR SERVICE ROOMS OR WHERE SUBJECT TO MECHANICAL DAMAGE SHALL BE INSTALLED IN RACEWAY OR CONDUIT AT LEVELS BELOW 10 FEET. MAXIMUM ALLOWABLE VOLTAGE FOR CONTROL WIRING SHALL BE 120V.

CONTROL SYSTEM DEMONSTRATION AND ACCEPTANCE: DEMONSTRATE COMPLIANCE WITH SEQUENCES OF OPERATION THROUGH ALL MODES OF OPERATION. ANY TESTS THAT FAIL TO DEMONSTRATE THE OPERATION OF THE SYSTEM SHALL BE REPEATED AT A LATER DATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY REPAIRS OR REVISIONS TO SUCCESSFULLY COMPLETE ALL TESTS.

REPRESENTATIVE SHALL PROVIDE ADDITIONAL QUESTION AND ANSWER BY TELEPHONE FOR A TOTAL 4 HOURS ON AN AS NEEDED BASIS.

ALL CONTROL WORK TO BE PER THE SEQUENCE OF OPERATION. PROVIDE ALL NECESSARY TRANSFORMERS FOR LOW VOLTAGE CONTROL CIRCUITS. LOW VOLTAGE (24 V) WIRING TO BE BY THIS CONTRACTOR. PROVIDE ALL MOTOR DISCONNECTS AND CONTACTORS.

INSTALL ALL THERMOSTATS AND SWITCHES WHERE SHOWN ON PLANS AT 54 INCHES A.F.F. COORDINATE LOCATIONS WITH THE ELECTRICAL CONTRACTOR.

ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE.

TRAINING: CONTRACTOR TO PROVIDE ONE 8 HOUR OWNER TRAINING WITH THE OWNER AND HIS REPRESENTATIVE. TRAINING SHALL INCLUDE SYSTEM OVERVIEW, SYSTEM OPERATION INSTRUCTION, SYSTEM ALARMS AND PREVENTATIVE MAINTENANCE. IN ADDITION THE CONTRACTOR SHALL INCLUDE ANOTHER 4 HOURS OF QUESTION AND ANSWER BY PHONE.

VI SEQUENCE OF OPERATION:

THE PUMP P-1 SHALL CIRCULATE GLYCOL SOLUTION IN THE SPRING WATER HEAT REJECTION LOOP BETWEEN THE HEAT EXCHANGER HX-1 AND COOLING TOWER CT-1. THE COOLING TOWER (CT-1) FAN SHALL START AND RAMP THE FAN SPEED UP OR DOWN BASED TO MAINTAIN 102°F (ADJ.) SPRING WATER LEAVING TEMPERATURE FROM THE HX-1 S2 PORT. IF THE FAN SPEED REACHES 80% SPEED THE COOLING TOWER SPRAY PUMP SHALL START AND BEGIN SPRAYING THE HEAT REJECTION COIL. THE CT-1 FAN SHALL CONTINUE TO MODULATE TO MAINTAIN THE DESIRED SPRING WATER LEAVING TEMPERATURE. THE TOWER INTERNAL CONTROLS SHALL PROVIDE THE REQUIRED SUMP FREEZE PROTECTION, DRAIN DOWN AND FILL PER THE MANUFACTURERS REQUIREMENTS.

IF THE DECK AREA TEMP SENSOR SENSES A SURFACE TEMPERATURE BELOW 65°F THE PUMP P-2 SHALL START AND CIRCULATE GLYCOL SOLUTION THROUGH THE DECK. IF THE SURFACE TEMPERATURE RISES ABOVE 70°F THE PUMP SHALL STOP UNTIL THE TEMPERATURE FALLS BELOW 65°F.

EF-1: FAN SHALL START WHEN THE SPACE TEMPERATURE RISES ABOVE 79°F(ADJ.) IN THE EQUIPMENT ROOM SPACE AND SHALL CONTINUE TO OPERATE UNTIL THE INDOOR TEMPERATURE FALLS BELOW SET POINT TEMPERATURE AS DETERMINED BY THE REVERSE ACTING LINE VOLTAGE THERMOSTAT.

LV-1: LOUVER DAMPER SHALL OPEN WHEN EF-1 IS ENERGIZED AND SHALL CLOSE WHEN EF-1 IS DE-ENERGIZED.

DATE: 12/13/19

JK MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES
129 1/2 W. 3rd Suite #5
Salida, CO 81201
ph/fax: 719-539-5461
sarah@salidaarchitect.com

Salida Hot Springs Aquatic Center
Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

MECHANICAL SPECIFICATIONS

M0

1 OF 6

JOB # 1924

CLOSED CIRCUIT COOLING TOWER SCHEDULE

PLAN CODE	MFR.	MODEL	SERVES	DESIGN CONDITIONS						MODEL INFORMATION									PHYSICAL INFORMATION					APPROX. OPERATING WEIGHT (LBS)	REMARKS
				FLUID TYPE	ENT. FLUID TEMP (F)	LEAV. FLUID TEMP (F)	FLUID FLOW RATE (GPM)	FLUID PRES. DROP PSI	LOCAL WET BULB F	COIL TYPE	COIL FINNING	FAN TYPE	FAN MOTOR HP	FAN MOTOR VFD	FAN CFM	PUMP MOTOR HP	SPRAY GPM	SUMP HEAT KW	LENGTH IN	WIDTH IN	HEIGHT IN	COIL VOLUME GAL	CONNECTION SIZE IN		
CT-1	BAC	VF-1-027-21K	SPRING WATER COOLING	50%PG	115	88.48	80	0.69	63	STANDARD	NONE	STANDARD	10	YES	17,710	0.75	115	3KW	118.25	47.5	99.25	71.0	4.0	4860.0	NOTES 1& 2

NOTES: 1. PROIVDE WITH ABB VARIABLE FREQUENCY DRIVE ACH550-BCR-031A-2+B057+F267 WITH NEMA 4 ENCLOSURE. 2. PROVIDE INTAKE SCREENS TO PREVENT COTTONWOOD SEED ENTRAPMENT IN THE TOWER SUMP

PLATE AND FRAME HEAT EXCHANGER

PLAN CODE	MFR.	MODEL	SERVES	SIDE A					SIDE B					SPECS							APPROX. OPERATING WEIGHT (LBS)	REMARKS
				FLUID TYPE	ENT. FLUID TEMP (F)	LEAV. FLUID TEMP (F)	FLUID FLOW RATE (GPM)	PRESS. DROP (PSI)	FLUID TYPE	ENT. FLUID TEMP (F)	LEAV. FLUID TEMP (F)	FLUID FLOW RATE (GPM)	PRESS. DROP (PSI)	LENGTH IN	WIDTH IN	HEIGHT IN	LMT DIFF (F)	GASKET MATERIAL	PLATE MATERIAL	ARRANGEMENT		
HX-1	ALFA LAVAL	TL6-BFG	SPRING WATER COOLING	SPRING WATER	126	102	80	3.5	50%PG	88.5	115	80	4.7	24.2	12.6	51.1	12.2	NBRP	ALLOY 316	COUNTER CURRENT	576.0	

PUMP SCHEDULE

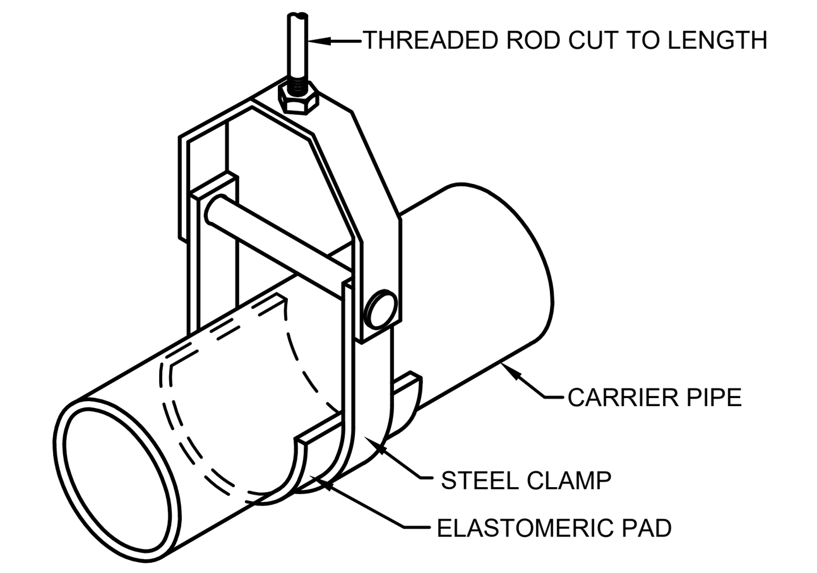
PLAN CODE	MFR.	MODEL	TYPE	GPM	TDH FT.	FLUID	MOTOR			CONNECTIONS		REMARKS
							HP	RPM	VOLT/PH	SUCT	DISC SIZE	
P-1	TACO	1635	INLINE	80	20	50%PG	1.00	1750	208/1/60	3.0	3.0	NOTE 1
P-2	TACO	1635	INLINE	23	25	50% PG	0.50	1750	208/1/60	2.0	2.0	NOTE 1 & 2

NOTES: 1. PUMP SHALL BE OF STAINLESS STEEL CONSTRUCTION. 2. PUMP TO BE USED AS THE BASIS FOR PRICING BUT MAY CHANGE TO MATCH THE REQUIRED PUMP SPECIFICATIONS AS DETERMINED BY THE DECK HEATING LAYOUT.

ELECTRIC HEATER SCHEDULE

PLAN CODE	MFR.	MODEL	WATTS	AMPS	VOLTAGE	LENGTH (IN.)	WIDTH (IN.)	HEIGHT (IN.)	REMARKS
EUH-1	MARKEL	F3FUH03C03	3300	9.2	208/3/60	20	11	13	NOTES 1 & 2
ECH-1	MARKEL	CV110YX	1100	6	208/1/60	108	3.1	4.1	NOTE 3

NOTES: 1. PROVIDE UHB-1 CEIING BRACKET. 2. PROVIDE CA1F OPTION AND LOW VOLTAGE TRANSFORMER AND REMOTE THERMOSTAT SET AT 50°F



CLEVIS TYPE PIPE SUPPORT FOR NONMETALLIC PIPE

NOT TO SCALE

STRUCTURAL MEMBER

EXPANSION TANK SCHEDULE

PLAN CODE	MFR.	MODEL	TYPE	CAPACITY GAL	ACCEPTANCE VOLUME GAL	REMARKS
ET-1	AMTROL	AX-40V ASME	VERTICAL	21.7	11.3	

LOUVER SCHEDULE

PLAN CODE	MFR.	MODEL	DIMENSIONS			BIRD SCREEN	FREE AREA (S.F.)	DAMPER	ACTUATOR				REMARKS
			WIDTH (IN.)	HEIGHT (IN.)	DEPTH (IN.)				TYPE	MANUFACTURER	MODEL	POWER	
LV-1	GREENHECK	ESD-403	17	18	4	YES	0.77	VCD-23	FAIL CLOSED	HONEYWELL	11-1FIL-0	115/1/60	NOTE 1

NOTES: 1. COORDINATE COLOR WITH ARCHITECT.

AIR SEPARATOR SCHEDULE

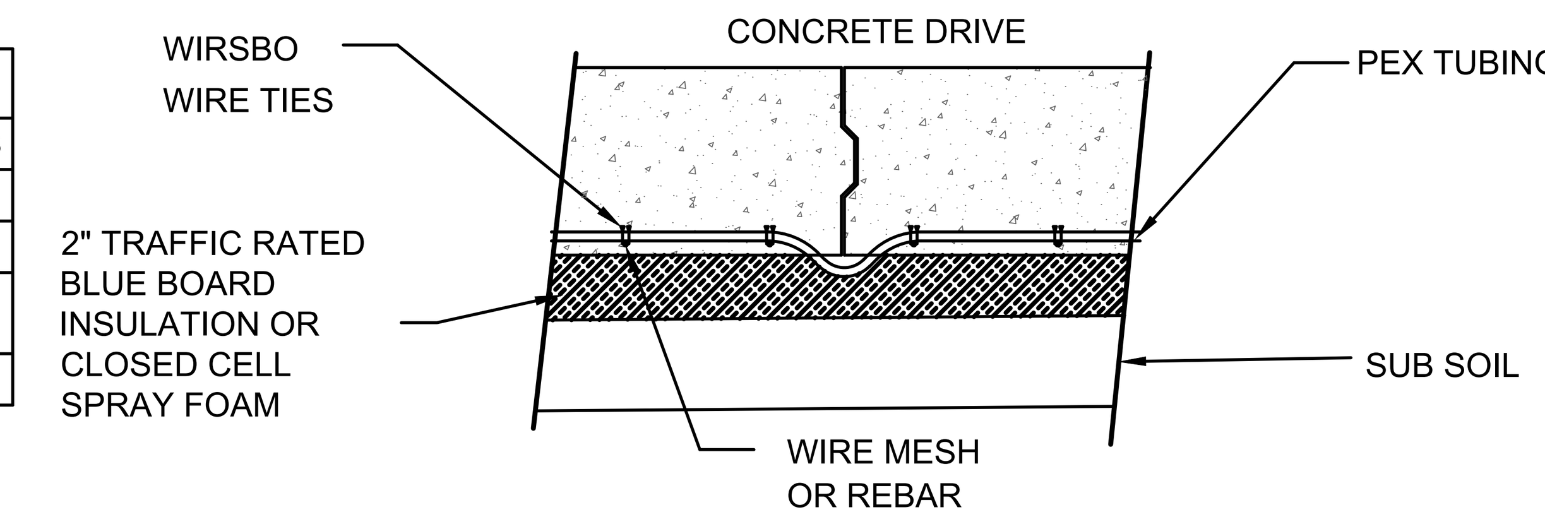
PLAN CODE	MFR.	MODEL	TYPE	GPM	SIZE IN NPT	REMARKS
AS-1	CALEFFI	NA546080AM	INLINE	80	3"	

PROVIDE WITH INSULATED SHELL.

FAN SCHEDULE

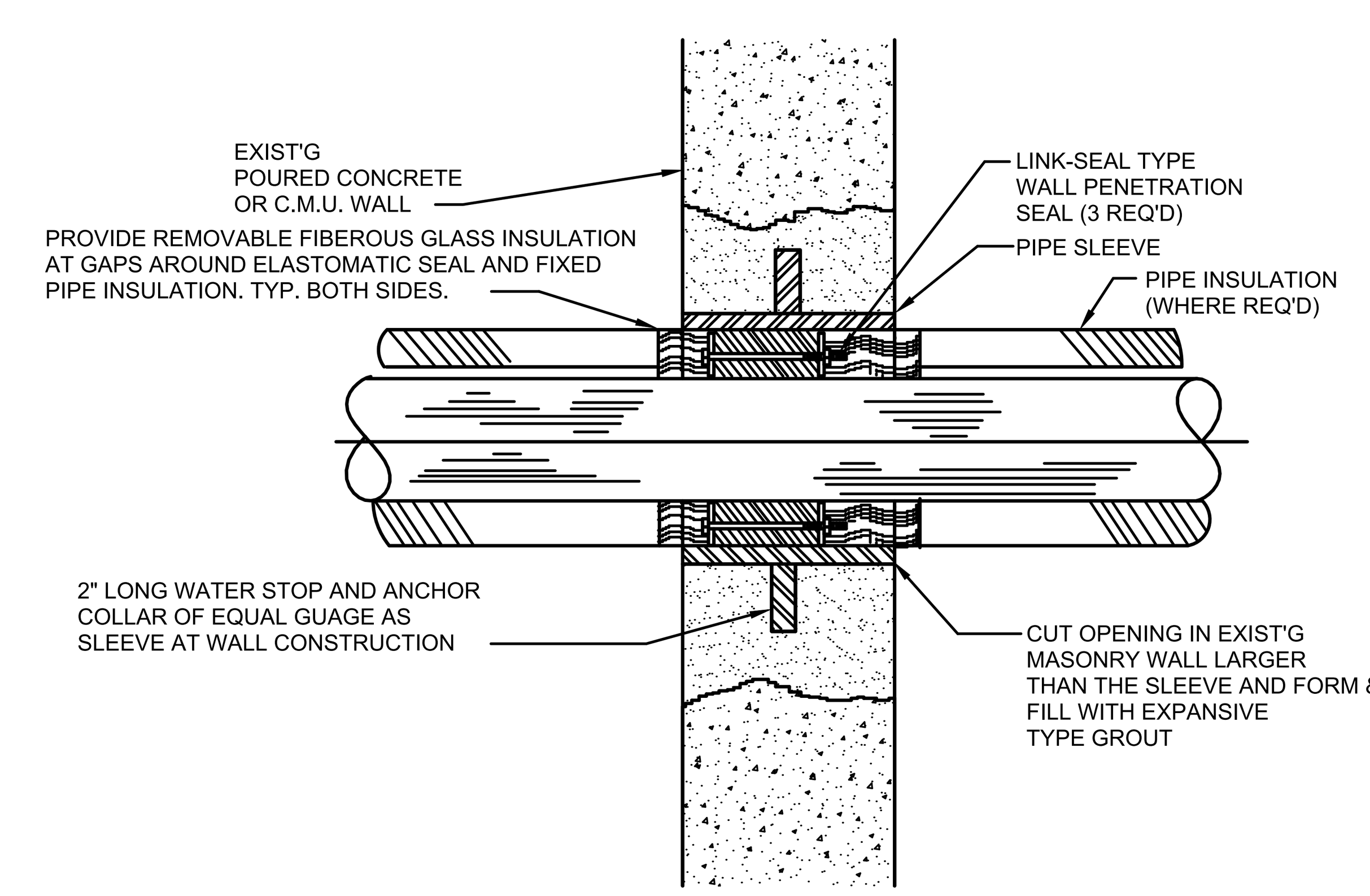
PLAN CODE	MFR.	MODEL	SYSTEM	FAN TYPE	CFM @ ALT.	S.P. IN. W.C.	FAN RPM	DRIVE TYPE	MOTOR POWER	DAMPER TYPE	DIMENSION L	DIMENSION W	DIMENSION H	WEIGHT LBS	SONES	ELEC VOLT/PH.	REMARKS
EF-1	GREENHECK	CUE-099-VG	EQUIPMENT ROOM	CENTRIFUGAL	400	25.0	959	BELT	1/4	WD-330	28	25	25	43	4.7	115/1/60	NOTE 1

NOTES: 1. PROVIDE WITH UNIT MOUNTED SPEED CONTROLLER, WD-33 BACKDRAFT DAMPER AND AUTO BELT TENSIONER.



SNOWMELT SYSTEM INSTALLATION DETAIL (SLAB ON GRADE)

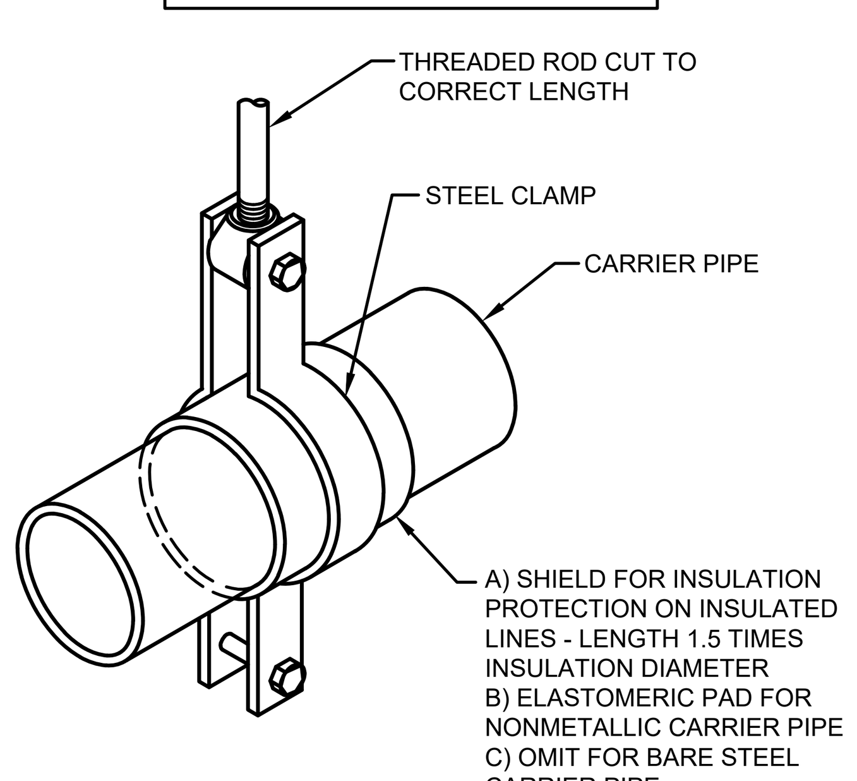
NOT TO SCALE



PIPE SLEEVE THROUGH WALL DETAIL

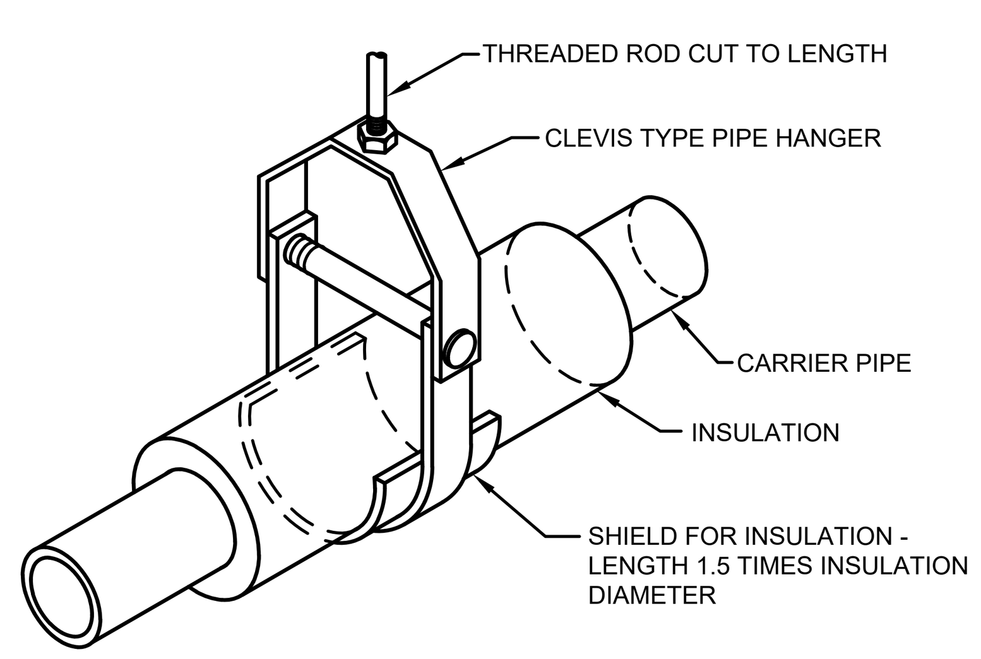
NOT TO SCALE

NOTE: SIMILAR CLAMP IS TO BE USED FOR SUPPORT OF VERTICAL CARRIER PIPE AT FLOORS.



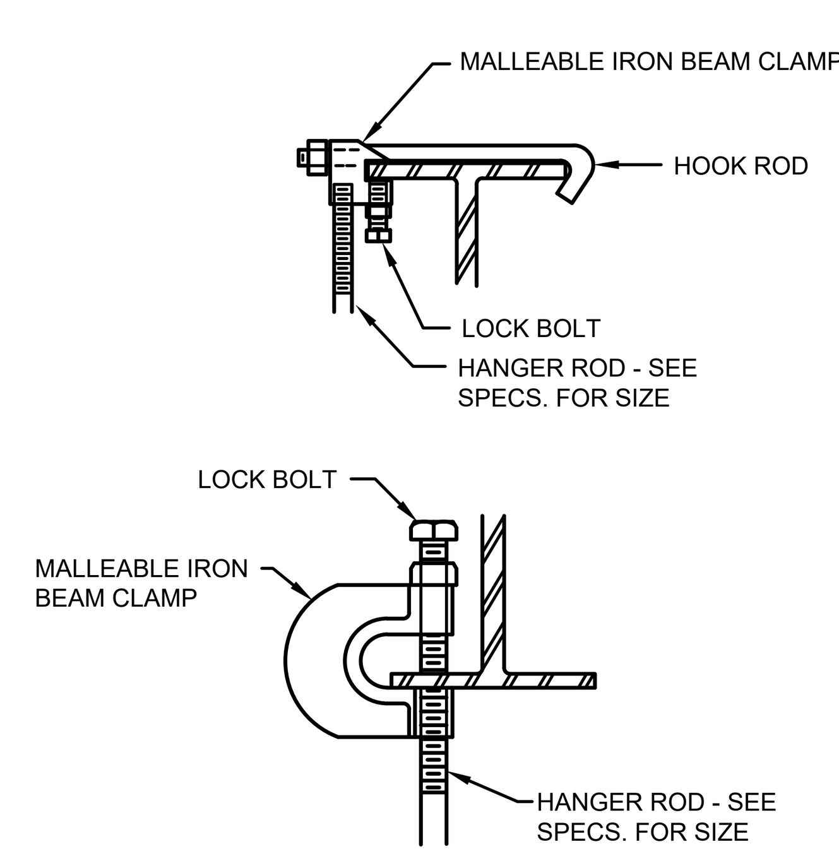
CLAMP TYPE PIPE HANGER

NOT TO SCALE



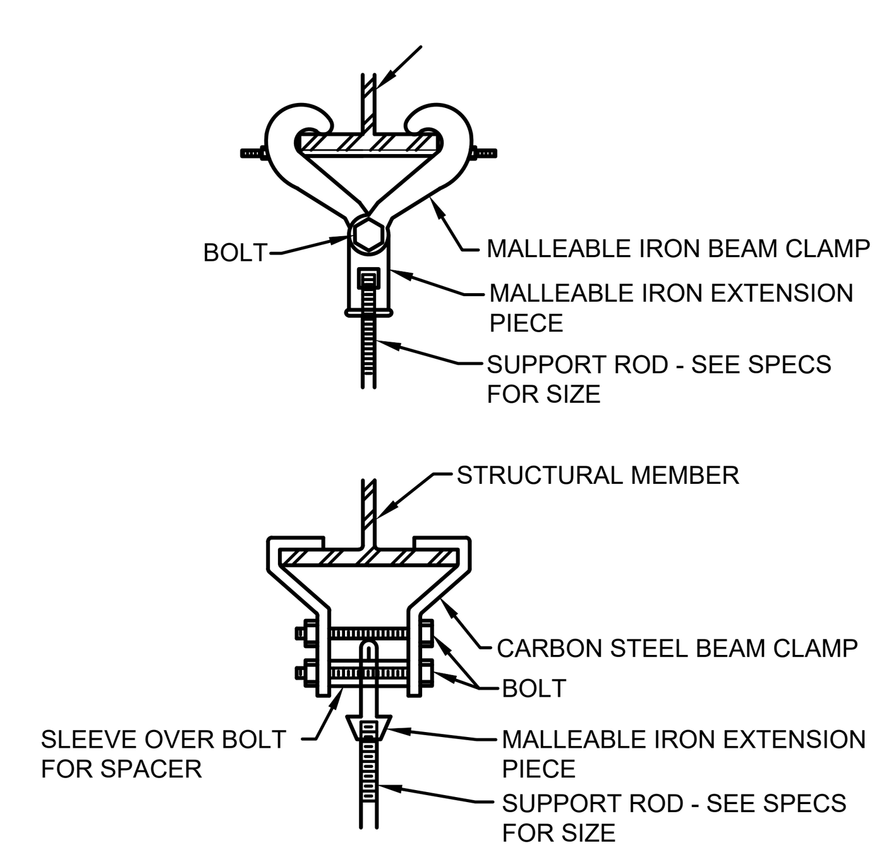
CLEVIS TYPE PIPE HANGER FOR INSULATED PIPE

NOT TO SCALE



SIDE BEAM CLAMPS FOR EQUIPMENT OR PIPE SUPPORT

NOT TO SCALE



BEAM CLAMPS FOR PIPE OR EQUIPMENT SUPPORT

NOT TO SCALE

DATE: 12/13/19

JK MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES
129 1/2 W. 3rd Suite #5
Salida, CO 81201
ph/fax: 719-539-5461
sarah@salidaarchitect.com

Salida Hot Springs Aquatic Center

Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

MECHANICAL SCHEDULES & DETAILS

M1

JOB # 1924

SNOW MELTING SYSTEM DESIGN BUILD SPECIFICATIONS

FOR THE EXTENT AND AREAS TO BE SNOW MELTED SEE DRAWINGS M2.

IT IS THE INTENT OF THIS SPECIFICATION THAT THE M/P CONTRACTOR TO WORK WITH A RADIANT SUPPLY REPRESENTATIVE TO PROVIDE A SNOW MELT SYSTEM LAYOUT INCLUDING LOOPS, SENSORS, ACCESS BOXES, MAIN ROUTING, MATERIAL AND EQUIPMENT SUBMITTALS FOR THE PROJECT.

PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT AS NECESSARY TO COMPLETE WORK AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.

SLAB PREPARATION

PREPARATION SHALL INCLUDE ALL SLAB INSULATION, SNOW MELT TUBING, MANIFOLD, SNOW/ICE SENSOR SLEEVE AND EMBEDDED CONDUIT, OUTDOOR ACCESS BOXES AND COVERS, PATIO PAVER SUPPORT PEDESTALS.

SYSTEM DESCRIPTION – SNOW MELTING SYSTEM

SYSTEM SHALL BE OF HYDRONIC TYPE, FIELD-ASSEMBLED. SYSTEM SHALL CONSIST OF CIRCULATING PUMP, TEMPERATURE AND PRESSURE GAUGES, BALANCING VALVE, VALVES AND FITTINGS, SUPPLY AND RETURN MAIN, MANIFOLDS AND FITTINGS, DISTRIBUTION LOOPS, AND CONTROLS.

SNOW MELT SYSTEM DESIGN CRITERIA:

- HEAT OUTPUT: MIN. 123 BTU/HR-SQ FT
- HWH SUPPLY TEMPERATURE & TEMP DIFFERENTIAL MAX. 115°F/25°F. PROPYLENE GLYCOL/WATER SOLUTION 50.00%
- OUTDOOR DESIGN TEMPERATURE: 4°F, 23 MPH WIND
- MELTING TEMPERATURE 35°F

SUBMITTALS:

SHOP DRAWINGS FOR SNOW MELT SYSTEM: INCLUDE OUTDOOR ACCESS BOX, PEX TUBING, MANIFOLD, SENSOR SOCKET AND SENSOR, PERFORMANCE DATA, COMPONENTS AND ACCESSORIES, WIRING DIAGRAMS, DIMENSIONS, WEIGHTS AND LOADINGS, FIELD CONNECTIONS, AND REQUIRED CLEARANCES.

WARRANTY

MANUFACTURER SHALL FURNISH, AT THE COMPLETION OF INSTALLATION, AS DESCRIBED HEREIN, A CERTIFICATE OF INSPECTION SIGNED BY HIS AUTHORIZED REPRESENTATIVE. THE MINIMUM FIVE (5) YEAR SYSTEM WARRANTY SHALL BE PROVIDED TO THE OWNER BY THE CONTRACTOR.

PRODUCTS FOR SLAB PREPARATION

MANUFACTURERS

ACCEPTABLE MANUFACTURERS OF SNOW MELTING SYSTEMS ARE

UPONOR
HEATLINK
WIRSBO CO.
SNOW TECHNOLOGY INC.
WATTS RADIANT

PIPES AND FITTINGS

UNDERGROUND DISTRIBUTION LOOP SHALL BE CROSS-LINKED POLYETHYLENE, PEX-A, RATED AT MINIMUM 180 DEG. F. AND 100 PSI WORKING PRESSURE, CONFORM TO ASTM STANDARDS F876/F877, AND MARKED "SNOW MELT SYSTEM". MINIMUM TUBING SIZE IS 5/8" NOMINAL ID. TUBING SHALL HAVE A MINIMUM BEND RADIUS OF NOT MORE THAN SIX TIMES THE TUBING OD AT 68 DEGREE F. TUBING SHALL BE UV STABILIZED.

TUBING SHALL CARRY A TWENTY-FIVE (25) YEAR WARRANTY. WARRANTY TO BE INCLUDED WITH SUBMITTALS.

OUTDOOR ACCESS BOX

OUTDOOR MANIFOLD ACCESS BOXES SHALL BE EQUAL TO A QUAZITE MODEL PG BOX, CONSTRUCTED OF POLYMER CONCRETE, WITH A MODEL CA BOLTED COVER. BOX DEPTH SHALL BE 18". BOX WIDTH AND LENGTH SHALL BE SUITABLE FOR ACTUAL MANIFOLD SIZE, INCLUDING SPACE FOR MANIFOLD ISOLATION AND BALANCING VALVES. ADDITIONAL ACCESS BOXES SHALL BE PROVIDED AS NECESSARY FOR ACCESS TO ANY UNDERGROUND MAIN PIPING JOINTS..

MANIFOLDS

1-1/4"" AISI 304 STAINLESS STAINLESS STEEL MANIFOLDS IN 1 TO 12-BRANCH PAIRS FOR EASY ASSEMBLY IN THE FIELD. MANIFOLDS ARE SOLD SHALL BE SOLD IN PAIRS WITH BALANCING VALVES ON THE RETURN AND FLOW INDICATORS ON THE SUPPLY.

SLAB SENSOR

TEKMAR SLAB SENSOR 079 INSTALLED IN CONDUIT ROUTED TO JUNCTION BOX INSTALLED IN THE SLAB. SENSOR SHALL BE 3/16"OD X 1-1/2", SHALL BE CSA C US APPROVED, WITH AN OPERATING RANGE FROM -58°F TO 140°F. UNIT SHALL BE A NTC THERMISTER WITH 10 KOHMS AT 77°F AND 3 YEAR WARRANTY.

CONTROLS

CONTROLS SHALL INCLUDE SLAB TEMP SENSOR FOR OVERHEAT PROTECTION. SYSTEM SHALL BE TURNED ON AND OFF AUTOMATICALLY. THE SYSTEM SHALL BE AN IDLING TYPE CONTROL TO MAINTAIN THE SLAB AT 65°F.

SEQUENCE OF OPERATION: THE SYSTEM SHALL BE AN IDLING TYPE SYSTEM TO PROVIDE FIRST STAGE HEAT REJECTION FROM THE COOLING TOWER LOOP. WHEN THE SLAB TEMPERATURE FALLS BELOW 45°F THE PUMP SHALL START TO CIRCULATE THE WORKING FLUID THROUGH THE SLAB LOOPS. IF THE SLAB TEMPERATURE RISES TO 70°F THE PUMP SHALL STOP UNTIL THE SLAB TEMPERATURE FALLS BELOW 65°F.

WATER TREATMENT

INHIBITED PROPYLENE GLYCOL AND CORROSION INHIBITOR SHALL BE PROVIDED BY THE CONTRACTOR. SOLUTION TO BE PRE-MIXED AT 50%. HEAT TRANSFER FLUID SHALL HAVE A GOSSELIN RATING OF 1.

EXECUTION

INSTALLATION

SLAB PREPARATION AND SNOW MELT SYSTEM

A COMPLETE SNOW MELT SYSTEM INCLUDING TUBING LOOP, MANIFOLDS, FITTINGS, AND SENSORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. THE CONTRACTOR SHALL FOLLOW THE SHOP DRAWINGS FOR TUBE LAYOUT, TUBE SPACING, AND MANIFOLD AND SENSOR LOCATIONS.

STAMP "SNOW MELT SYSTEM" ALL ALONG THE EDGE OF THE HEATED SURFACE. REVIEW LAYOUT WITH PROJECT REPRESENTATIVE PRIOR TO STAMPING.

DISTRIBUTION MANIFOLDS, ATTACHED TO SUPPLY AND RETURN MAINS, SHALL BE LOCATED INSIDE A YARD BOX ADJACENT TO THE HEATED SLAB SECTION. IF HEATED SLAB IS ADJACENT TO A MECHANICAL ROOM OR ACCESSIBLE TUNNEL, THE MANIFOLD CAN BE LOCATED THERE.

A MINIMUM OF ONE SUPPLY AND ONE RETURN MANIFOLD IS REQUIRED FOR EACH 1,600 SQUARE FOOT AREA AND FOR ALTERNATE EXPANSION/CONSTRUCTION JOINTS. LOCATE MAIN PIPING UNDER THE WALK AS MUCH AS POSSIBLE. MAIN PIPING LOCATED OUTSIDE THE WALK SHALL BE AT LEAST 36" BELOW GROUND, AND SHALL BE PROTECTED BY INDICATOR WARNING TAPE. PROVIDE FLOW BALANCE FOR ENTIRE SYSTEM.

REINFORCING STEEL (6 X 6 – W1.4 X W1.4 MINIMUM) SHALL BE FURNISHED BY THE CONTRACTOR AND SUPPORTED AS REQUIRED OVER ENTIRE HEATED AREA.

5/8"- INCH PIPE CIRCUITS SHALL BE ATTACHED TO REINFORCING STEEL ON 9" CENTERS USING 12 INCH MINIMUM RETURN BENDS WITHOUT FITTINGS. ALL CIRCUITS SHALL BE APPROXIMATELY 100 FEET IN LENGTH AND FORM A CONTINUOUS CONDUIT WITHOUT JOINTS FROM SUPPLY TO RETURN MANIFOLDS. MAXIMUM LOOP LENGTH SHALL NOT EXCEED 300 FT. ALL LOOPS SHALL BE OF SIMILAR LENGTH WITH NO MORE THAN +/- 10% VARIATION FROM AVERAGE LOOP LENGTH.

NO PIPE SHALL EXTEND THROUGH EXPANSION, CONSTRUCTION OR WORKING JOINTS IN CONCRETE SLAB. PIPES AND CONTINUOUS STEEL MAY EXTEND THROUGH CONTRACTION JOINTS (SURFACE TOOL MARKS). PIPE CIRCUITS SHALL BE EMBEDDED IN CONCRETE AND SHALL PROVIDE 2" OF MINIMUM COVER. ALL PIPE CONNECTIONS, FITTINGS AND DISTRIBUTION MANIFOLDS SHALL BE FREE OF CONCRETE AND ARRANGED SO AS TO BE EASILY SERVICED BY REMOVAL OF ACCESS BOX COVER.

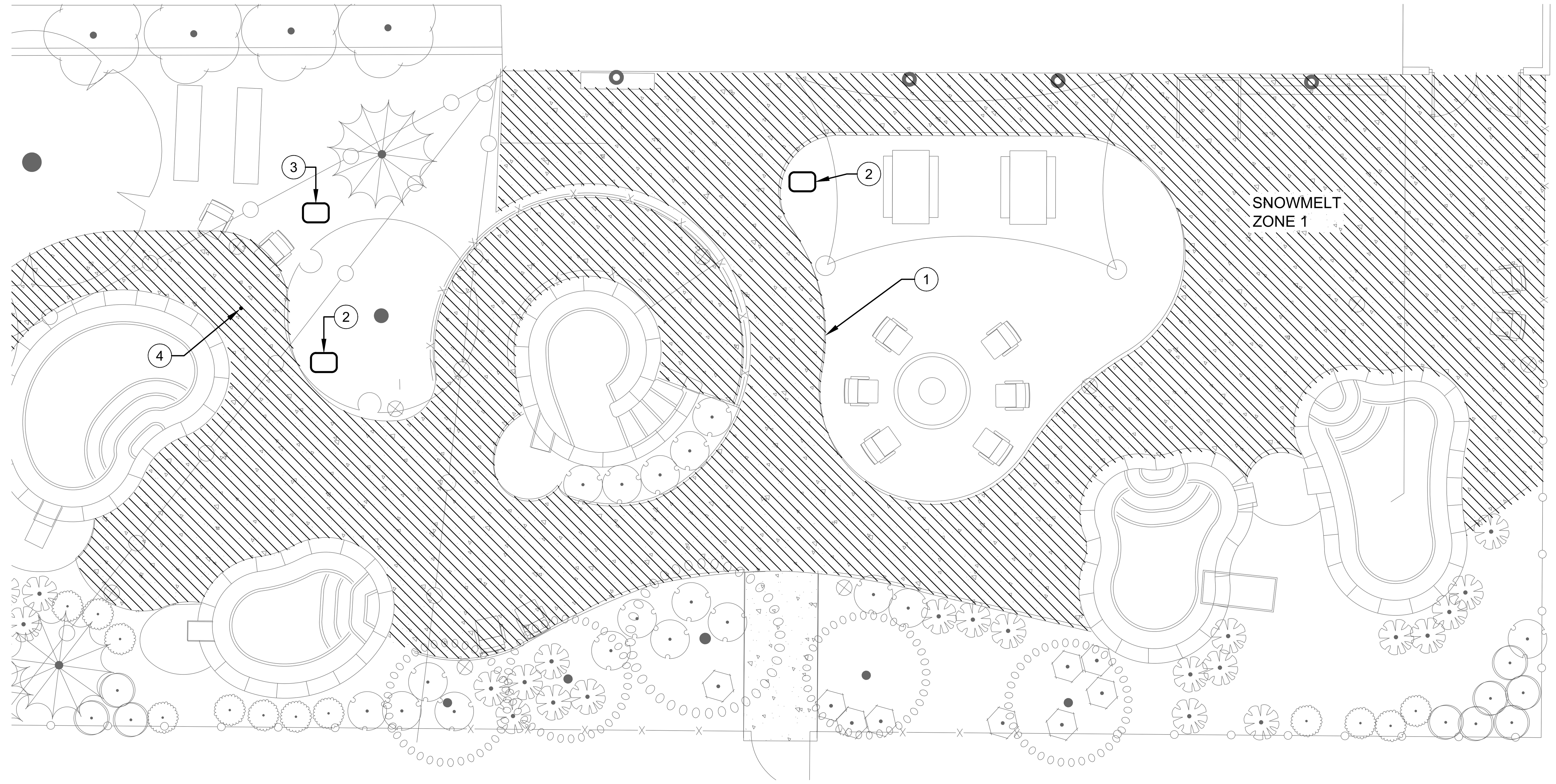
DISTRIBUTION LOOP SHALL BE PRESSURE TESTED WITH WATER OR AIR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS PRIOR TO CONCRETE COVER. THE SYSTEM SHALL REMAIN AT THIS PRESSURE DURING THE CONCRETE INSTALLATION AND FOR A MINIMUM OF 24 HOURS THEREAFTER TO INSURE SYSTEM INTEGRITY.

OUTDOOR SENSOR SHALL BE INSTALLED ON THE NORTH OR WEST WALL WITH SHIELD.

FIELD QUALITY CONTROL

MANUFACTURER SHALL PROVIDE INSPECTION SERVICE AND TECHNICAL ASSISTANCE FOR THE INSTALLATION, SITE PREPARATION, TESTING START-UP AND BALANCE

ANNUAL MAINTENANCE SHALL BE AVAILABLE FOR INSPECTION, ADJUSTMENT AND LUBRICATION OF SYSTEM EQUIPMENT.



DECK SLAB HEATING PLAN

SCALE: 3/16"=1'-0"

KEYNOTES

1. AREA OF CONCRETE/PATIO TO RECEIVE SNOW MELT SYSTEM. REFER TO SPECIFICATIONS ON THIS SHEET FOR SYSTEM REQUIREMENTS.
2. PROVIDE MANIFOLD ACCESS BOX IN LANDSCAPED AREAS FOR ACCESS TO SNOW MELT LOOP DISTRIBUTION MANIFOLDS.
3. PROVIDE AN ACCESS BOX FOR ACCESS TO UNDERGROUND SNOWMELT MAIN PIPING ROUTED TO MANIFOLD BOXES DISCUSSED IN NOTE 2. BOX SHALL BE USED TO ALLOW ACCESS TO FITTINGS AND PIPING TRANSITIONS AS SHOWN ON SHEET M5.
4. LOCATION OF SLAB TEMPERATURE SENSOR.

SNOWMELT AREA SCHEDULE

ROOM	HEATING	ZONE #	HEATED AREA (SQ. FT.)	CONSTRUCTION	ATTACHMENT METHOD	UNDERSLAB R -VALUE (°F-SQ.FT.-HR./BTU)	TUBE TYPE	TUBE SPACING (IN.)	LOOP LENGTH (FT.)	# LOOPS	ROOM LOAD (BTU/SF)	SURFACE TEMP (°F)	DESIGN TEMP DROP (°F)	FLOW RATE TOTAL (GPM)	HEAD LOSS (FT. H2O)	FLUID TEMP REQ. (°F)	FLUID TEMP SUPPLIED (°F)
ZONE 1	SNOWMELT	1	2244	CONCRETE EMBEDDED	EMBEDDED	14	HEPEX 5/8"	6	288	17	123	35	25	24	14	102	115

DATE: 12/13/19

JK MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES
129 1/2 W. 3rd Suite #5
Salida, CO 81201
ph/fax: 719-539-5461
sarah@salidaarchitect.com

Salida Hot Springs Aquatic Center
Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

DECK HEATING PLAN

M2

JOB # 1924

MECHANICAL LEGEND

(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF MECHANICAL DRAWINGS)

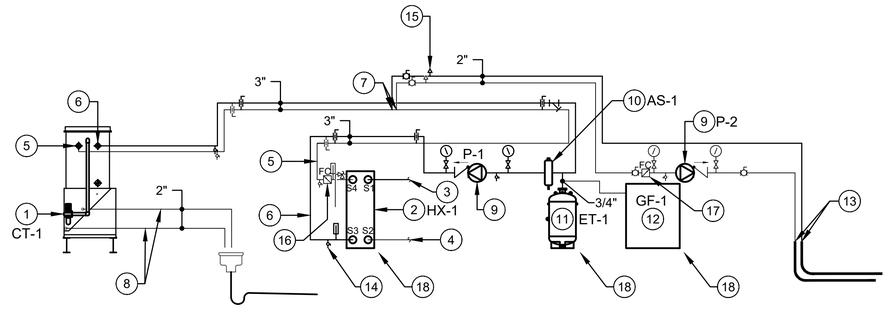
SYMBOL	ABBR	DESCRIPTION
HVAC:		
		DIFFUSER- 4-WAY THROW
		DIFFUSER- 3-WAY THROW
		DIFFUSER- 2-WAY THROW
	RA	RETURN AIR GRILLE
		RETURN OR EXHAUST DUCT UP
	SA	SUPPLY DUCT UP
		SUPPLY DUCT DOWN
		RETURN OR EXHAUST DUCT DOWN
		ROUND DUCT DOWN
		ROUND DUCT UP
		FLEXIBLE DUCT CONNECTION
		VANED ELBOW
	MVD	MANUAL VOLUME DAMPER WITH LOCKING QUADRANT
	MD	MOTORIZED DAMPER
		EXISTING DUCTWORK NO CHANGE
		LOW PRESSURE FLEXIBLE DUCT
		HIGH PRESSURE FLEX DUCT
		CONICAL TAP
		CONICAL SPIN-IN FITTING W/ MANUAL VOLUME DAMPER

SYMBOL	ABBR	DESCRIPTION
FITTINGS:		
	CR	CONCENTRIC REDUCER
	P & T	PRESSURE/ TEMPERATURE PORT TAPS
	ER	ECCENTRIC REDUCER
	EJ	EXPANSION JOINT
	U	UNION
	AG	ALIGNMENT GUIDE
	FC	FLEXIBLE PIPE CONNECTOR
		THERMOMETER W/THERMOWELL
	AV	AIR VENT
FS	FS	FLOW SWITCH
PS	PS	PRESSURE SWITCH
	PG	PRESSURE GAUGE W/GAUGE COCK
PIPING:		
(XX)	(XX)	EXISTING PIPING XX=CALLOUT
HWS	HWS	HEATING WATER SUPPLY
HWR	HWR	HEATING WATER RETURN
RS	RS	REFRIGERANT SUCTION
RL	RL	REFRIGERANT LIQUID
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		PIPE CAP OR PLUG
VALVES:		
	CV	CHECK VALVE
	PRV	PRESSURE REDUCING VALVE
FC	FCV	AUTO FLOW CONTROL VALVE W/ TEST PORTS
	BV	BALANCING VALVE WITH PRESSURE PORTS

SYMBOL	ABBR	DESCRIPTION
	DV	DRAIN VALVE W/ HOSE END CONN.
	TCV	AUTOMATIC TEMP. CONTROL VALVE, 2-WAY
	TCV	AUTOMATIC TEMP. CONTROL VALVE, 3-WAY
(PLAN) (ELEV)	TPR	TEMPERATURE/ PRESSURE RELIEF VALVE
		VALVE IN RISER
	STR	STRAINER W/ BLOW-OFF VALVE & CAPPED HOSE-END CONNECTION
SYMBOLS:		
1 / 1 2		SECTION NO. / SECTION VIEW SHEET NO. / SECTION PLAN VIEW SHEET NO.
F 1	F-1	EQUIPMENT DESIGNATION
1		SHEET KEY NOTES
	POC	POINT OF CONN. (CONN. NEW TO EXISTING)
A NECK CFM (X)		AIR DEVICE CALL OUT TYP. OF (X) DEVICES.
		STEAM TRAP
		ARROW INDICATES DIRECTION OF FLOW
DN		PITCH DOWN
(E)	(E)	EXISTING (PARENTHESIS AROUND ITEM INDICATES IT IS EXISTING)
(N)	(N)	NEW
T	T	NEW THERMOSTAT
T	T	EXIST. THERMOSTAT
UC	UC	DOOR UNDERCUT
(R)	(R)	REMOVE OR RELOCATE
	GLV	GLOBE VALVE (STRAIGHT PATTERN)
	GLV	GLOBE VALVE (ANGLE PATTERN)
	BFV	BUTTERFLY VALVE
	BV	BALL VALVE
	PV	PLUG VALVE

NOTES

1. NEW DUCTWORK IS HEAVY LINE WEIGHT.



NORTH

SPRING WATER HEAT REJECTION SYSTEM SCHEMATIC

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

KEYNOTES

1. PROVIDE CLOSED CELL COOLING TOWER PER SCHEDULE AND INSTALL ON A 6" HOUSEKEEPING PAD WITH STRUCTURAL SUPPORT RAILS PER THE MANUFACTURERS INSTRUCTIONS. TOWER SHALL INCLUDE A UNIT MOUNTED VFD FOR FAN SPEED CONTROL. SEE SEQUENCE OF OPERATIONS FOR CONTROL.
2. PROVIDE A PLATE AND FRAME HEAT EXCHANGER PER SCHEDULE AND INSTALL ON A 4" HOUSEKEEPING PAD PER THE MANUFACTURERS INSTRUCTIONS.
3. 3" CONNECT SPRING WATER SUPPLY PIPING TO THE HEAT EXCHANGER (S1) PORT.
4. ROUTE 3" COOLED SPRING WATER TO THE POOLS AS INDICATED ON THE POOL EQUIPMENT DRAWINGS.
5. ROUTE 3" HEAT REJECTION LOOP SUPPLY PIPING TO THE COOLING TOWER AS INDICATED. ALL PIPING WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED PER THE IECC AND SHALL HAVE ALUMINUM JACKETING UP TO THE 8' AFF LEVEL.
6. ROUTE 3" HEAT REJECTION LOOP RETURN PIPING FROM THE COOLING TOWER TO P-1 AND ONTO HX-1 AS INDICATED. ALL PIPING WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED PER THE IECC AND SHALL HAVE ALUMINUM JACKETING UP TO THE 8' AFF LEVEL.
7. ROUTE 2" BRANCH PIPING FROM HEAT REJECTION PRIMARY LOOP TO THE DECK HEATING LOOPS. BRANCH PIPE TEE(S) SHALL BE NO FURTHER THAN 2-1/2 PIPE DIAMETERS APART.
8. ROUTE 2" COOLING TOWER SUMP OVERFLOW AND DRAIN TO THE FLOOR SINK IN THE MECHANICAL EQUIPMENT ROOM. DO NO PROVIDE TRAPS IN THE OUTDOOR PIPING. MAINTAIN 1/4" PER FOOT POSITIVE SLOPE TOWARDS THE FLOOR SINK AND CONSTRUCT DRAIN OF SOLID WALL PVC.
9. PROVIDE PUMP PER THE SCHEDULE AND RACK TO THE EQUIPMENT ROOM WALL PER THE MANUFACTURERS RECOMMENDATIONS. SEE SEQUENCE OF OPERATIONS FOR CONTROL.
10. PROVIDE AIR SEPARATOR PER SCHEDULE AND INSTALL PER THE MANUFACTURERS INSTRUCTIONS.
11. PROVIDE EXPANSION TANK PER THE SCHEDULE AND INSTALL PER THE MANUFACTURERS RECOMMENDATIONS.
12. PROVIDE AN ARMSTRONG GLA-S-HP-1 GLYCOL FEED SYSTEM WITH HOA SWITCH. GLYCOL FEED SYSTEM SHALL START WHEN THE SYSTEM PRESSURE FALLS BELOW 22PSI AND SHALL STOP WHEN THE PRESSURE RISES ABOVE 30PSI. SYSTEM SHALL HAVE A SINGLE PUMP, 53 GALLON CAPACITY AND A MAXIMUM WORKING PRESSURE OF 125PSI. INSTALL ON 4" HOUSEKEEPING PAD PER THE MANUFACTURERS INSTRUCTIONS.
13. TRANSITION DECK HEATING PIPING TO 2" INSULATED PEX AND ROUTE TO BRANCH PIPING AND MANIFOLD ACCESS BOXES AS REQUIRED.
14. PROVIDE 3/4" DRAIN VALVE WITH HOSE CONNECTION. TYPICAL
15. PROVIDE AUTOMATIC AIR VENTS AT THE SYSTEM HIGH POINT. TYPICAL
16. PROVIDE FLOW CONTROL VALVE SET TO 80GPM FOR A 50%PG WORKING FLUID.
17. PROVIDE FLOW CONTROL VALVE SET TO GPM DETERMINED BY DECK HEATING REQUIREMENTS FOR A 50%PG WORKING FLUID.
18. PROVIDE 4" HOUSEKEEPING PAD UNDER ALL FLOOR MOUNTED MECHANICAL EQUIPMENT.

DATE: 12/13/19

JK MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES

Salida Hot Springs Aquatic Center

Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

SPRING WATER COOLING SYSTEM SCHEMATIC

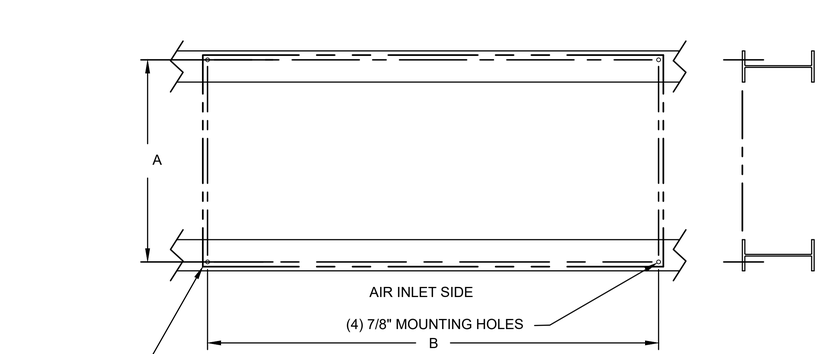
M3

4 OF 6

JOB # 1924

KEYNOTES

1. PROVIDE CLOSED CELL COOLING TOWER PER SCHEDULE AND INSTALL ON A 6" HOUSEKEEPING PAD WITH STRUCTURAL SUPPORT RAILS PER THE MANUFACTURERS INSTRUCTIONS. TOWER SHALL INCLUDE A UNIT MOUNTED VFD FOR FAN SPEED CONTROL. SEE SEQUENCE OF OPERATIONS FOR CONTROL.
2. PROVIDE A PLATE AND FRAME HEAT EXCHANGER PER SCHEDULE AND INSTALL ON A 4" HOUSEKEEPING PAD PER THE MANUFACTURERS INSTRUCTIONS.
3. 3" CONNECT SPRING WATER SUPPLY PIPING TO THE HEAT EXCHANGER (S1) PORT.
4. ROUTE 3" COOLED SPRING WATER TO THE POOLS AS INDICATED ON THE POOL EQUIPMENT DRAWINGS.
5. ROUTE 3" HEAT REJECTION LOOP SUPPLY PIPING TO THE COOLING TOWER AS INDICATED. ALL PIPING WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED PER THE IECC AND SHALL HAVE ALUMINUM JACKETING UP TO THE 8' AFF LEVEL.
6. ROUTE 3" HEAT REJECTION LOOP RETURN PIPING FROM THE COOLING TOWER TO P-1 AND ONTO HX-1 AS INDICATED. ALL PIPING WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED PER THE IECC AND SHALL HAVE ALUMINUM JACKETING UP TO THE 8' AFF LEVEL.
7. ROUTE 2" BRANCH PIPING FROM HEAT REJECTION PRIMARY LOOP TO THE DECK HEATING LOOPS. BRANCH PIPE TEE(S) SHALL BE NO FURTHER THAN 2-1/2 PIPE DIAMETERS APART.
8. ROUTE 2" COOLING TOWER SUMP OVERFLOW AND DRAIN TO THE FLOOR SINK IN THE MECHANICAL EQUIPMENT ROOM. DO NO PROVIDE TRAPS IN THE OUTDOOR PIPING. MAINTAIN 1/4" PER FOOT POSITIVE SLOPE TOWARDS THE FLOOR SINK AND CONSTRUCT DRAIN OF SOLID WALL PVC.
9. PROVIDE PUMP PER THE SCHEDULE AND RACK TO THE EQUIPMENT ROOM WALL PER THE MANUFACTURERS RECOMMENDATIONS. SEE SEQUENCE OF OPERATIONS FOR CONTROL.
10. PROVIDE AIR SEPARATOR PER SCHEDULE AND INSTALL PER THE MANUFACTURERS INSTRUCTIONS.
11. PROVIDE EXPANSION TANK PER THE SCHEDULE AND INSTALL PER THE MANUFACTURERS RECOMMENDATIONS.
12. PROVIDE AN ARMSTRONG GLA-S-HP-1 GLYCOL FEED SYSTEM WITH HOA SWITCH. GLYCOL FEED SYSTEM SHALL START WHEN THE SYSTEM PRESSURE FALLS BELOW 22PSI AND SHALL STOP WHEN THE PRESSURE RISES ABOVE 30PSI. SYSTEM SHALL HAVE A SINGLE PUMP, 53 GALLON CAPACITY AND A MAXIMUM WORKING PRESSURE OF 125PSI. INSTALL ON 4" HOUSEKEEPING PAD PER THE MANUFACTURERS INSTRUCTIONS.
13. TRANSITION DECK HEATING PIPING TO 2" INSULATED PEX AND ROUTE TO BRANCH PIPING AND MANIFOLD ACCESS BOXES AS REQUIRED.
14. PROVIDE 4" HOUSEKEEPING PAD UNDER ALL FLOOR MOUNTED MECHANICAL EQUIPMENT.
15. SEE SHEET M3 FOR SYSTEM SCHEMATIC.
16. PROVIDE ELECTRIC UNIT HEATER PER SCHEDULE AND HANG FROM CEILING USING THE MANUFACTURERS CEILING MOUNT BRACKET.
17. PROVIDE WALL MOUNTED EXHAUST FAN PER SCHEDULE AND INSTALL 8' AFF ON WALL PER THE MANUFACTURERS RECOMMENDATIONS. EXTEND DUCT FULL SIZE FROM FAN INLET INTO THE EQUIPMENT ROOM AND TERMINATE WITH AN OPEN END WITH ¾" WIRE MESH FIXED OVER THE INLET. CONTROL FAN USING A REVERSE ACTING LINE VOLTAGE THERMOSTAT SET TO 79°F.
18. PROVIDE LOUVER PER SCHEDULE AND INSTALL IN WALL PER THE MANUFACTURERS RECOMMENDATIONS AT 6' AFF. LOUVER DAMPER SHALL OPEN WHEN EF-1 IS ENERGIZED.



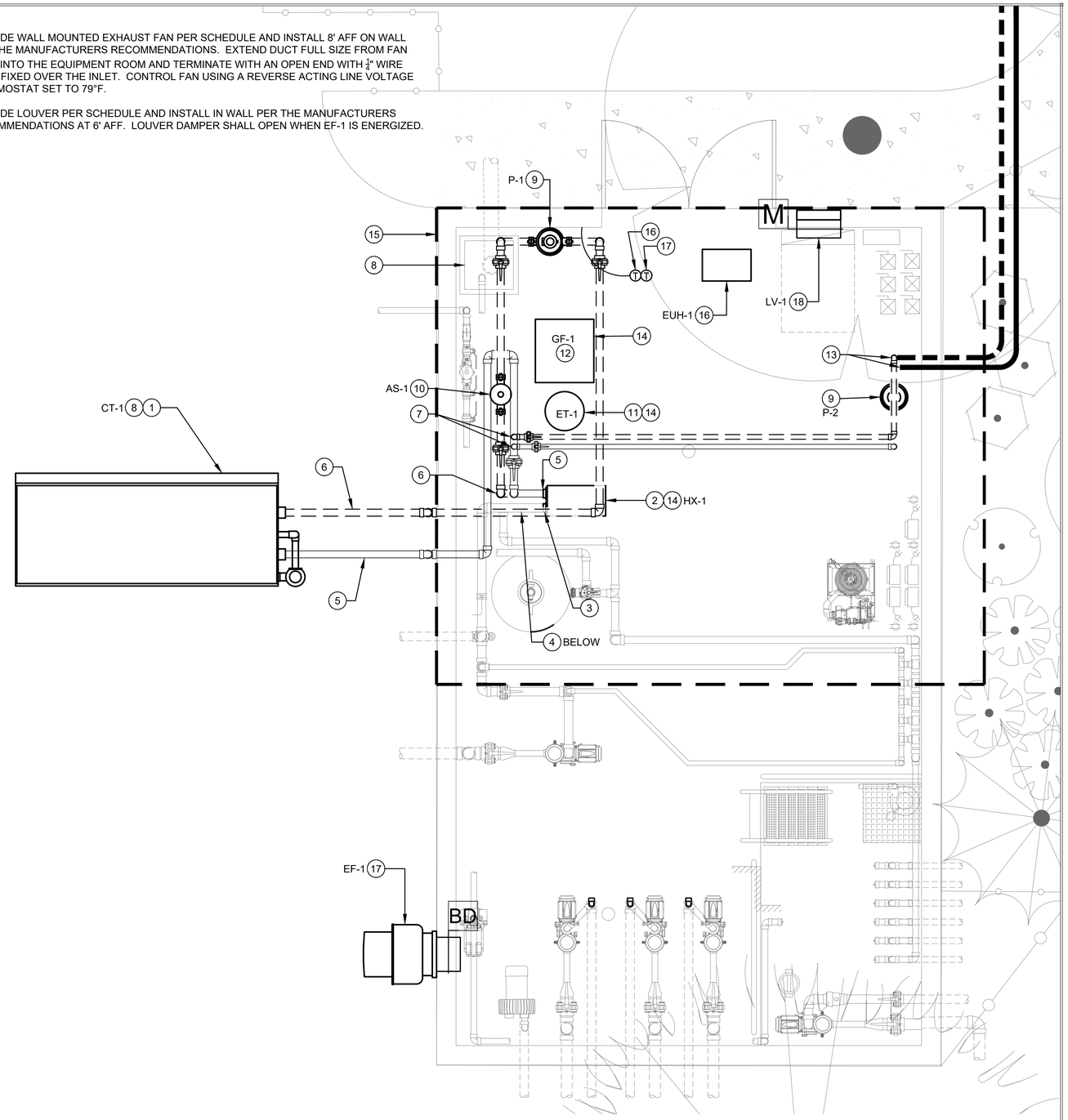
MODEL NO.	DIMENSION A	DIMENSION B	(SEE NOTE 3)
VF1-027-21 VF1-027-22 VF1-027-31 VF1-027-32 VF1-027-41 VF1-027-42	45 3/8"	101 1/4"	5/16"

NOTES:

1. THE RECOMMENDED SUPPORT ARRANGEMENT FOR VF1 UNITS CONSISTS OF TWO PARALLEL I-BEAMS EXTENDING THE FULL LENGTH OF THE UNIT. SUPPORTS AND ANCHOR BOLTS ARE TO BE DESIGNED AND FURNISHED BY OTHERS.
2. ALL SUPPORTING BEAMS ARE TO BE FLUSH AND LEVEL AT TOP AND MUSTBE ORIENTED RELATIVE TO GAGE LINE AS SHOWN.
3. RECOMMENDED DESIGN LOADS FOR EACH BEAM SHOULD BE 70% OF THE TOTAL UNIT OPERATING WEIGHT APPLIED AS A UNIFORM LOAD TO EACH BEAM. BEAMS SHOULD BE DESIGNED IN ACCORDANCE WITH STANDARD STRUCTURAL PRACTICE. THE MAXIMUM ALLOWABLE DEFLECTION OF BEAMS UNDER THE UNIT SHALL BE REFER TO CHART) OF AN INCH.
4. ALL MOUNTING HOLES ARE 7/8" DIAMETER. AT THE LOCATIONS SHOWN.
5. IF VIBRATION ISOLATORS ARE USED, A RAIL OR CHANNEL MUST BE PROVIDED BETWEEN THE UNIT AND THE ISOLATORS TO PROVIDE CONTINUOUS UNIT SUPPORT. ADDITIONALLY THE SUPPORT BEAMS MUST BE DESIGNED TO ACCOMMODATE THE OVERALL LENGTH AND MOUNTING HOLE LOCATION OF THE ISOLATORS WHICH MAY DIFFER FROM THOSE OF THE UNIT. REFER TO VIBRATION ISOLATOR DRAWINGS FOR THESE DATA.

TOWER SUPPORT INFORMATION

SCALE: NONE



NORTH

ENLARGED EQUIPMENT ROOM PLAN

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

MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DATE: 12/13/19

DRAWN BY: KLR
CHECKED BY: KLR

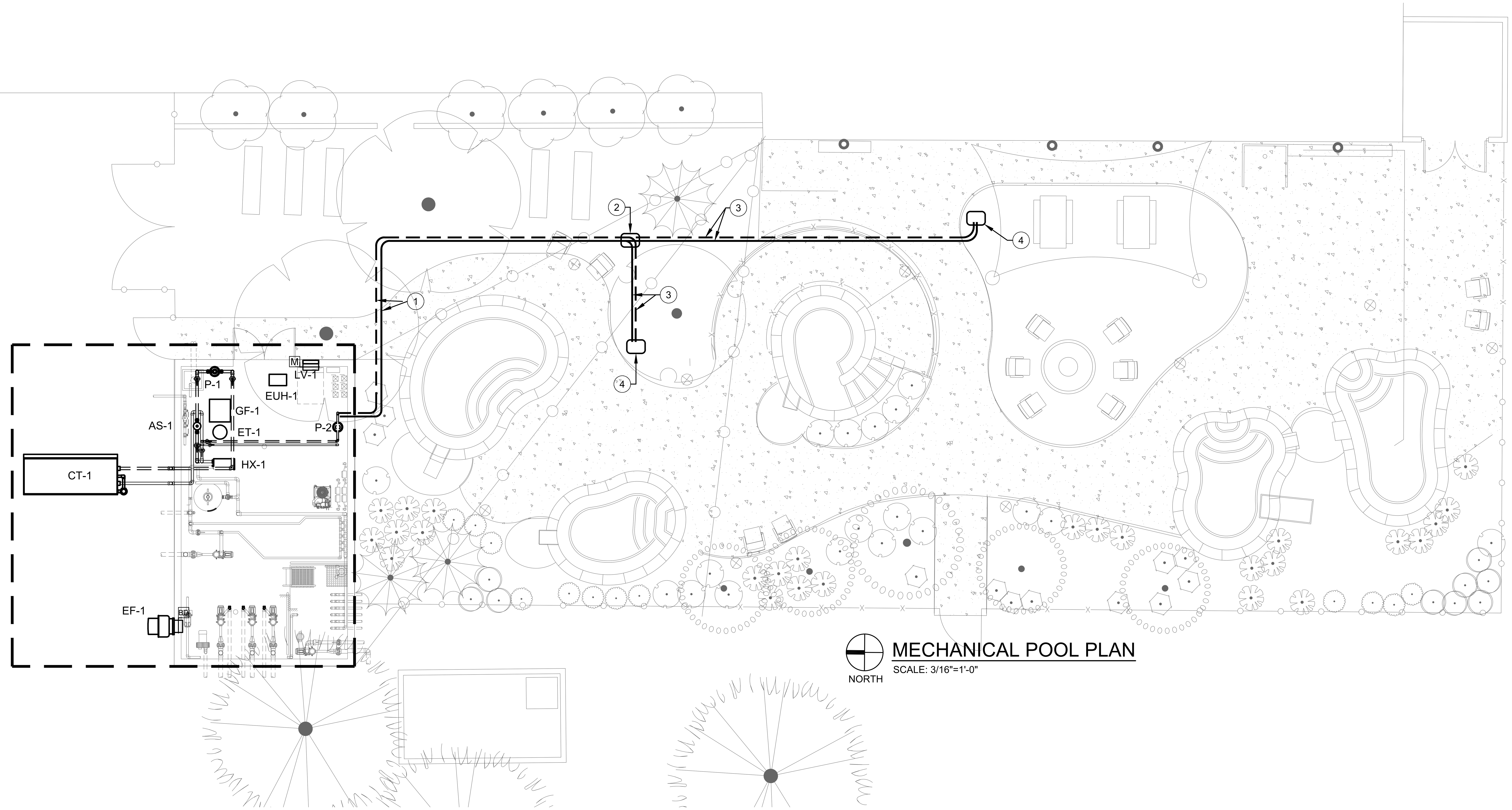
SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES

Salida Hot Springs Aquatic Center
Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

ENLARGED EQUIPMENT ROOM PLAN

M4
5 OF 6

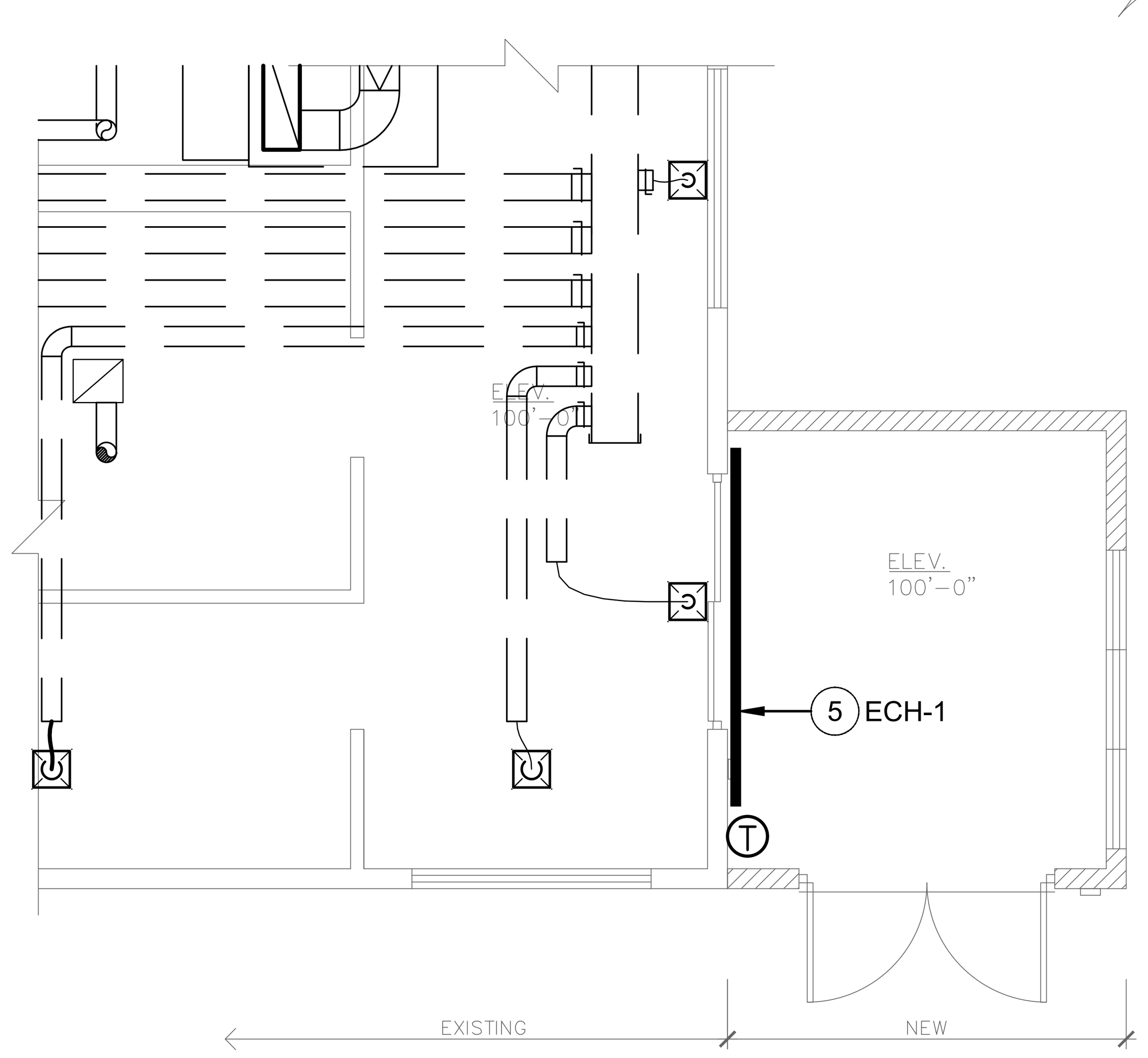
JOB # 1924



MECHANICAL POOL PLAN

NORTH

SCALE: 3/16"=1'-0"



AIR LOCK MECHANICAL PLAN

NORTH

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

KEYNOTES

1. 2" PRE-INSULATED PEX PIPING ROUTED UNDERGROUND TO THE BRANCH PIPING FITTING ACCESS BOX. EXTEND PIPING UP INTO BOX AND CONNECT THE BRANCHES AND CONTINUE UNDERGROUND TO MANIFOLD ACCESS BOXES.
2. BRANCH PIPING ACCESS BOX INSTALLED IN LANDSCAPED AREA. COORDINATE EXACT LOCATION WITH THE GENERAL CONTRACTOR.
3. ROUTE 1-1/2" PRE INSULATED PEX PIPING TO THE MANIFOLD ACCESS BOXES. PIPING SHOWN FOR PRICING PURPOSES ONLY. COORDINATE LOCATION OF THE MANIFOLD BOXES AND PIPING REQUIREMENTS WITH THE DECK HEATING SYSTEM VENDOR.
4. PROVIDE DECK HEATING MANIFOLD ACCESS BOX. COORDINATE THE NUMBER AND LOCATION OF BOXES WITH THE DECK HEATING SYSTEM VENDOR.
5. PROVIDE ELECTRIC COVE HEATER PER SCHEDULE AND INSTALL HIGH ON THE WALL PER THE MANUFACTURERS RECOMMENDATIONS. CONTROL UNIT USING A DIGITAL LINE VOLTAGE PROGRAMMABLE THERMOSTAT.

DATE: 12/13/19

JK MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES
129 1/2 W. 3rd Suite #5
Salida, CO 81201
ph/fax: 719-539-5461
sarah@salidaarchitect.com

Salida Hot Springs Aquatic Center

Outdoor Pools Project

410 West Highway 50

Salida, CO 81201

MECHANICAL POOL PLAN

M5

6 OF 6

JOB # 1924

PLUMBING LEGEND

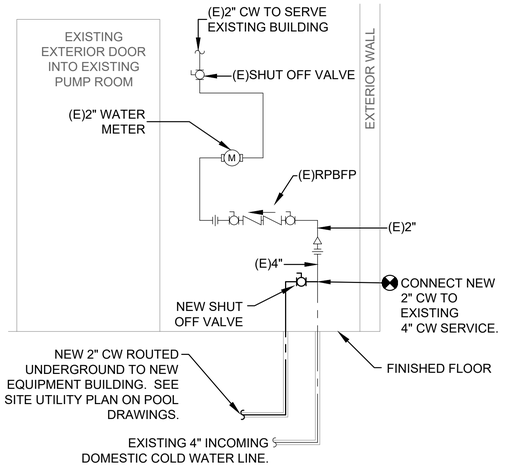
(NOT ALL SYMBOLS LISTED BELOW ARE BEING USED IN THIS SET OF PLUMBING DRAWINGS)

SYMBOL	ABBR	DESCRIPTION	SYMBOL	ABBR	DESCRIPTION	SYMBOL	ABBR	DESCRIPTION
——	CW	DOMESTIC COLD WATER			VALVE IN RISER		WCO	WALL CLEANOUT
- - -	HW	DOMESTIC HOT WATER			ARROW INDICATES DIRECTION OF FLOW		BFP	BACKFLOW PREVENTOR
- - - -	HWC	DOMESTIC HOT WATER CIRCULATING		U	UNION		PRV	PRESSURE REDUCING VALVE
—SS—	SS	SANITARY SEWER (BLACK WATER)		GV	GATE VALVE			TEMPERATURE AND PRESSURE RELIEF VALVE
—SW—	SW	SANITARY WASTE (GREY WATER)		CV	CHECK VALVE			PRESSURE GAUGE
— — —	V	SANITARY VENT		TMV	THERMOSTATIC MIXING VALVE		STR	STRAINER W/ BLOW-OFF VALVE & CAPPED HOSE-END CONNECTION
—G—	G	NATURAL GAS		BV	BALL VALVE	(#)		SHEET KEY NOTES
		UNDERGROUND PIPING		GC	GAS COCK		POC	POINT OF CONN. (CONN. NEW TO EXISTING)
		TEE DOWN		DV	HOSE END DRAIN VALVE		(E)	EXISTING
		ELBOW UP		HB WH	HOSE BIBB, WALL HYDRANT		(N)	NEW
		ELBOW DOWN					DN	DOWN
		TEE UP		FD AD	FLOOR DRAIN OR AREA DRAIN		FF	FINISHED FLOOR
		SIZE INCREASE/DECREASE		FCO GCO	FLOOR CLEANOUT GRADE CLEANOUT		I.E.	INVERT ELEVATION
		PIPE CAP OR PLUG					VTR	VENT THRU ROOF

PLUMBING FIXTURE CONNECTION SCHEDULE

PLAN MARK	DESCRIPTION	MANUFACTURER/MODEL NO. (OR EQUAL)	MAX FLOW RATE	CONNECTION SIZES				NOTES
				SS/SW	V	CW	HW	
HB-1	LOCKABLE FREEZELESS HOSE BIBB	WOODFORD 68				3/4"		1,2
SV-1	GAS SOLENOID VALVE-NORMALLY CLOSED	ASCO 8214 G261-120V/60HZ (1-1/4")						1,3
TMV-1	THERMOSTATIC MIXING VALVE	WATTS LFMMV				1/2"	1/2"	1,6
SH-1	OUTDOOR SHOWER	SYMMONS SHOWEROFF EXPOSED METERING SHOWER SYSTEM MODEL 3-330-1.5 GPM	2 GPM			1/2"	1/2"	4
RPBFP-1	REDUCED PRESSURE BACKFLOW PREVENTOR	WATTS LF 009M2QTS & 909 AG AIR GAP				2"		1,5
RPBFP-2	REDUCED PRESSURE BACKFLOW PREVENTOR	WATTS LF 009M2QTS & 909 AG AIR GAP				1"		1,5

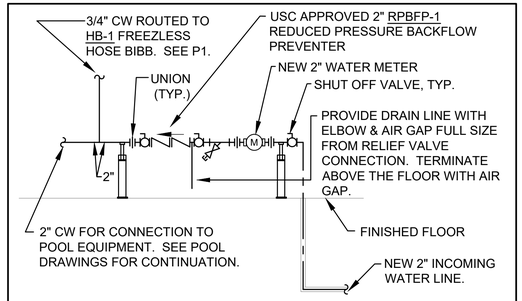
NOTES:
1. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. COORDINATE INSTALLATION FOR APPROPRIATE WALL THICKNESS AND INLET TYPE. COORDINATE MOUNTING HEIGHT WITH OWNER.
3. SOLENOID VALVE COMES WITH NEMA 4 ENCLOSURE. COORDINATE SWITCH LOCATION AND CONTROLS WITH ELECTRICAL. SEE P1.
4. PROVIDED WITH METERING VALVE, 20" RISER, AND 1.5 GPM SHOWERHEAD. COORDINATE RUN TIME WITH OWNER. INSTALL SO THAT THE SHOWER CAN BE EASILY REMOVED FOR WINTER DRAIN DOWN.
5. PROVIDE QUARTER TURN VALVES, STRAINER AND AIR GAP.
6. INSTALL IN WALL ACCESS PANEL WITH THE BALL VALVES FOR THE CW AND HW STUB OUTS FOR THE OUTDOOR SHOWER. SET TO 110 DEGREES MAXIMUM.



NOTES:
1. NEW 2" CW MUST CONNECT TO THE 4" PORTION OF THE PIPE AS INDICATED. FIELD VERIFY AND FIELD COORDINATE EXACT CONNECTION LOCATION AND NEW FLOOR PENETRATION. COORDINATE REQUIRED FLOOR SAWCUTS WITH G.C.
2. NEW 2" REDUCED PRESSURE BACKFLOW PREVENTOR AND NEW 2" WATER METER TO BE INSTALLED IN NEW EQUIPMENT ROOM.

EXISTING DOMESTIC WATER SERVICE DETAIL IN EXISTING PUMP ROOM

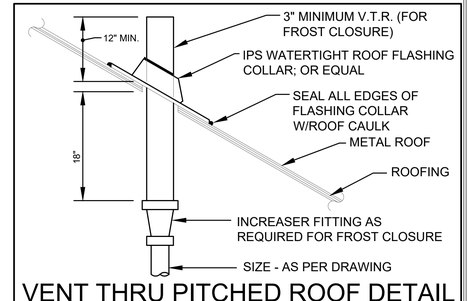
NOT TO SCALE



NOTES:
1. MAINTAIN REQUIRED SERVICE CLEARANCES AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND ALL REQUIREMENTS OF THE LOCAL JURISDICTION.
2. DOMESTIC METER AND REDUCED PRESSURE BACKFLOW PREVENTER TO BE INSTALLED IN A HORIZONTAL POSITION.
3. SEE SITE UTILITY PLAN ON POOL DRAWINGS FOR UNDERGROUND UTILITY LOCATIONS.
4. LABEL ALL PIPING CLEARLY WITH TYPE, DIRECTION OF FLOW & AREA OF SERVICE.
5. DO NOT DOWNSIZE CW MAIN, METER, OR REDUCED PRESSURE BACKFLOW PREVENTER.
6. PROVIDE BACKFLOW CERTIFICATION ON THE BACKFLOW DEVICE UPON INSTALLATION.
7. SUPPORT ALL PIPING PER SPECIFICATIONS. SEE MECHANICAL DRAWINGS.
8. CAREFULLY COORDINATE CW ROUTING UP THROUGH THE SLAB TO NOT INTERFERE WITH THE FOUNDATION OR THE POOL & MECHANICAL EQUIPMENT.

NEW DOMESTIC WATER SERVICE DETAIL IN NEW EQUIPMENT ROOM

NOT TO SCALE



VENT THRU PITCHED ROOF DETAIL

NOT TO SCALE

GAS NOTES:
1. TRANSITION GAS SIZE TO INLET SIZE OF EQUIPMENT AS REQUIRED.

2. SIZES BASED ON 7 IN. W.C., 0.67 SPECIFIC GRAVITY AND 900 BTUH/CFH FOR SCHEDULE 40 METALLIC PIPE (TABLE 402.4(1) OF THE IFGC). SIZES SHOULD BE RECALCULATED FOR OTHER PIPE MATERIAL. DO NOT DOWNSIZE ANY PIPES WITHOUT PRIOR APPROVAL FROM ENGINEER.

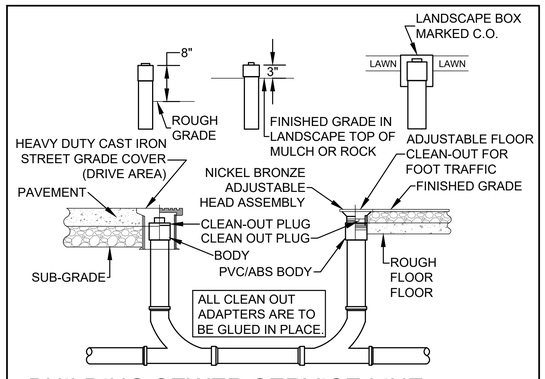
3. COORDINATE EXACT BTUH AND PRESSURE REQUIRED TO EACH PIECE OF EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE REGULATORS AS REQUIRED FOR PROPER OPERATION.

4. FIELD VERIFY EXACT DISTANCE TO FURTHEST PIECE OF EQUIPMENT. DISTANCE SHOWN IS APPROXIMATE ONLY AND HAS 20% ADDED FOR EQUIVALENT LENGTH OF FITTINGS AND VALVES.

5. COORDINATE NEW GAS LOADS WITH ATMOS ENERGY.

6. PAINT ALL EXPOSED GAS PIPING.

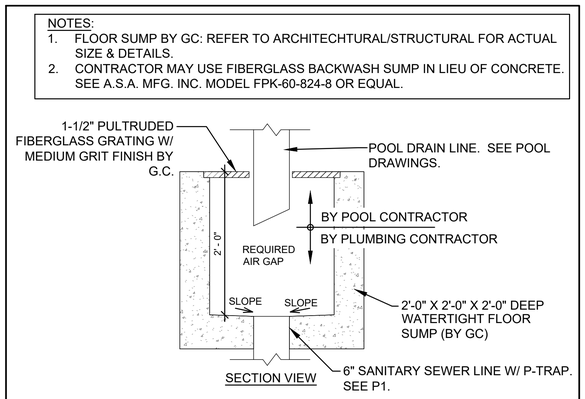
7. SUPPORT ALL GAS PIPING PER MECHANICAL SPECIFICATIONS.



BUILDING SEWER SERVICE LINE CLEANOUT DETAIL

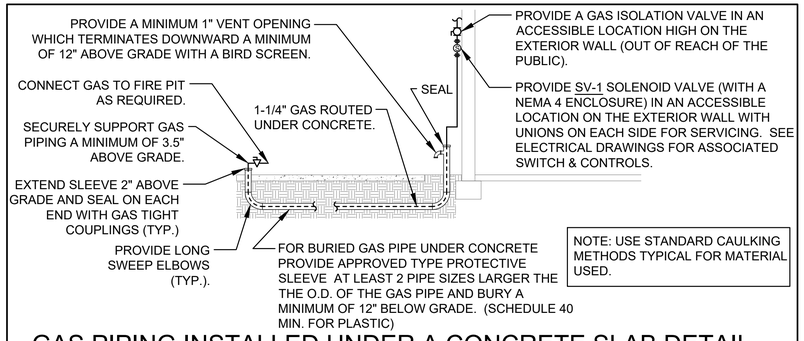
NOT TO SCALE

NOTES:
1. FLOOR SUMP BY GC: REFER TO ARCHITECHTURAL/STRUCTURAL FOR ACTUAL SIZE & DETAILS.
2. CONTRACTOR MAY USE FIBERGLASS BACKWASH SUMP IN LIEU OF CONCRETE. SEE A.S.A. MFG. INC. MODEL FPK-60-824-8 OR EQUAL.



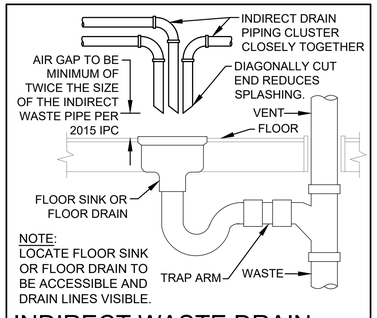
FLOOR SUMP DETAIL

NOT TO SCALE



GAS PIPING INSTALLED UNDER A CONCRETE SLAB DETAIL

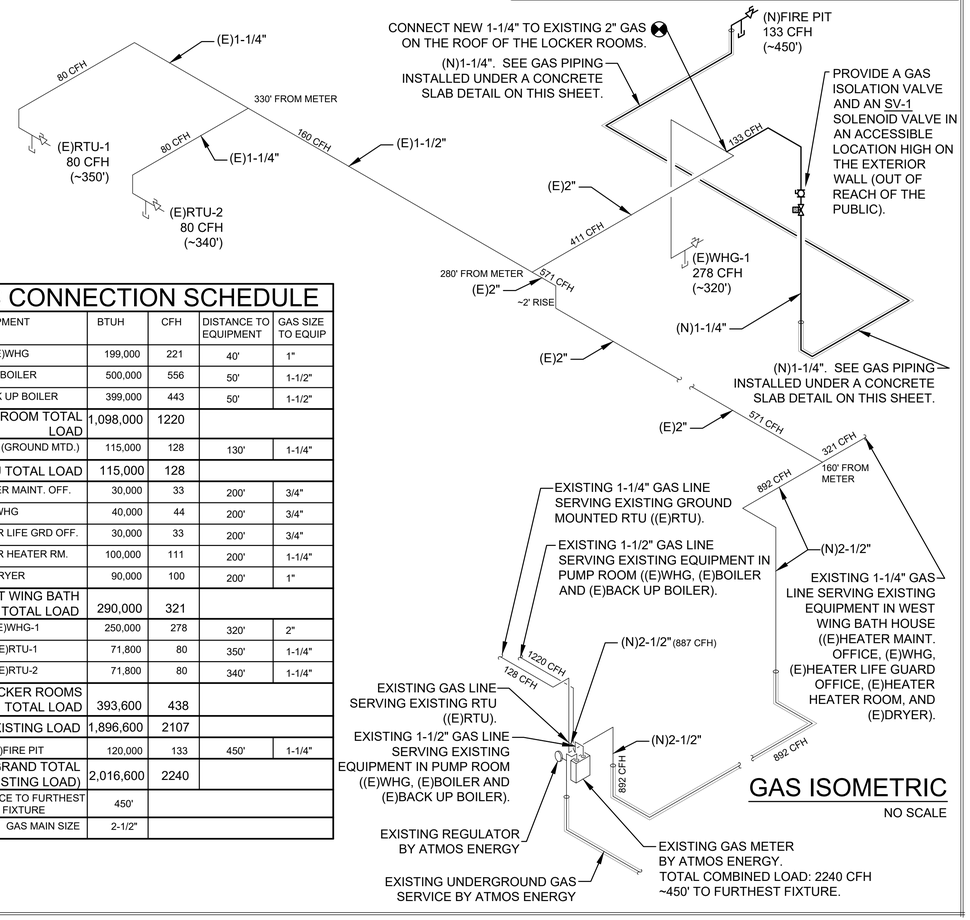
NOT TO SCALE



NOTE:
LOCATE FLOOR SINK OR FLOOR DRAIN TO BE ACCESSIBLE AND DRAIN LINES VISIBLE.

INDIRECT WASTE DRAIN DETAIL

NOT TO SCALE



GAS ISOMETRIC

NO SCALE

GAS CONNECTION SCHEDULE

EQUIPMENT	BTUH	CFH	DISTANCE TO EQUIPMENT	GAS SIZE TO EQUIP
(E)WHG	199,000	221	40'	1"
(E)BOILER	500,000	556	50'	1-1/2"
(E) BACK UP BOILER	399,000	443	50'	1-1/2"
EXISTING PUMP ROOM TOTAL LOAD	1,098,000	1220		
(E)RTU (GROUND MTD.)	115,000	128	130'	1-1/4"
EXISTING RTU TOTAL LOAD	115,000	128		
(E)HEATER MAINT. OFF.	30,000	33	200'	3/4"
(E)WHG	40,000	44	200'	3/4"
(E)HEATER LIFE GRD OFF.	30,000	33	200'	3/4"
(E)HEATER HEATER RM.	100,000	111	200'	1-1/4"
(E)DRYER	90,000	100	200'	1"
EXISTING WEST WING BATH HOUSE TOTAL LOAD	290,000	321		
(E)WHG-1	250,000	278	320'	2"
(E)RTU-1	71,800	80	350'	1-1/4"
(E)RTU-2	71,800	80	340'	1-1/4"
EXISTING LOCKER ROOMS TOTAL LOAD	393,600	438		
TOTAL EXISTING LOAD	1,896,600	2107		
(N)FIRE PIT	120,000	133	450'	1-1/4"
GRAND TOTAL (NEW + EXISTING LOAD)	2,016,600	2240		
DISTANCE TO FURTHEST FIXTURE	450'			
GAS MAIN SIZE	2-1/2"			

MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

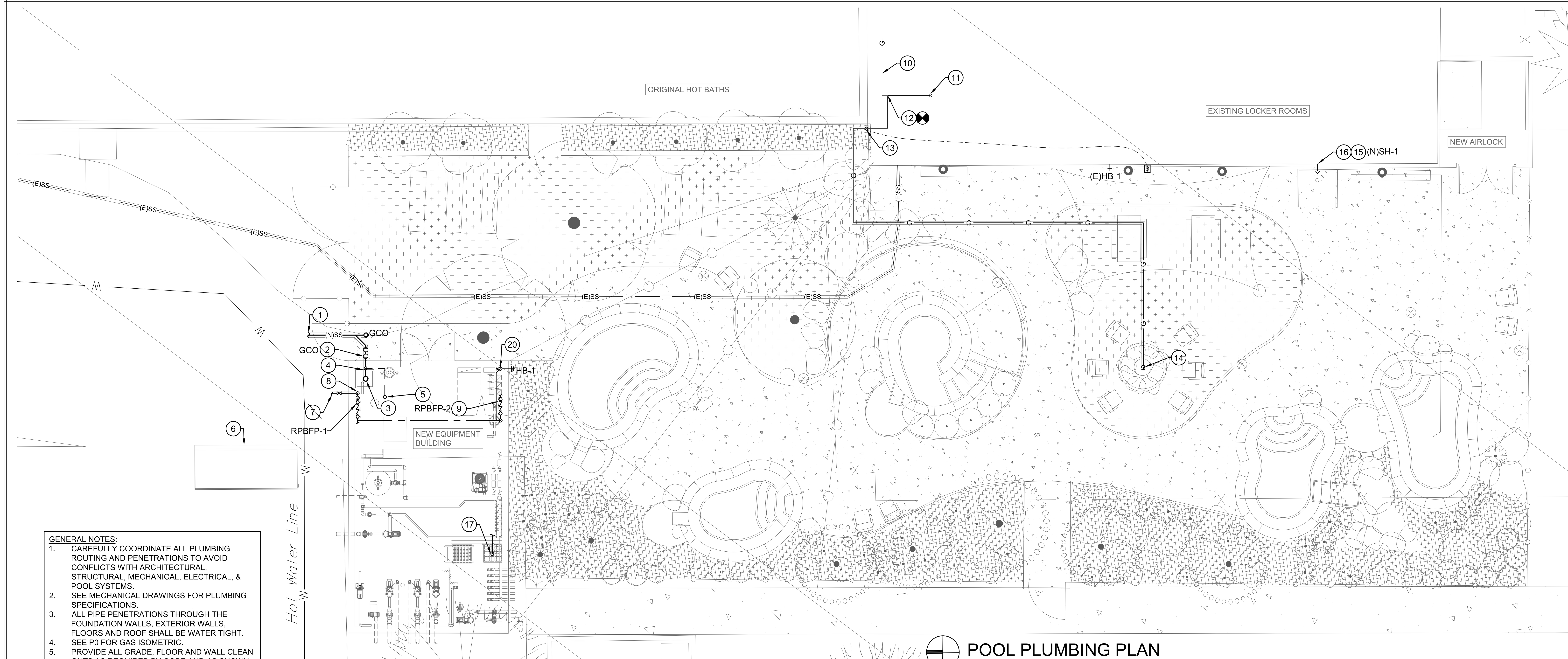
SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES

Salida Hot Springs Aquatic Center
Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

PLUMBING LEGEND, DETAILS, & SCHEDULES

P0
1 OF 2

JOB # 1924



POOL PLUMBING PLAN

SCALE: 3/16"=1'-0"

NORTH

GENERAL NOTES:

1. CAREFULLY COORDINATE ALL PLUMBING ROUTING AND PENETRATIONS TO AVOID CONFLICTS WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, & POOL SYSTEMS.
2. SEE MECHANICAL DRAWINGS FOR PLUMBING SPECIFICATIONS.
3. ALL PIPE PENETRATIONS THROUGH THE FOUNDATION WALLS, EXTERIOR WALLS, FLOORS AND ROOF SHALL BE WATER TIGHT.
4. SEE P0 FOR GAS ISOMETRIC.
5. PROVIDE ALL GRADE, FLOOR AND WALL CLEAN OUTS AS REQUIRED BY CODE AND AS SHOWN ON THE PLANS. COORDINATE LOCATIONS AND ACCESS WITH G.C.
6. SLOPE ALL SANITARY SEWER/WASTE PIPING 3" AND LARGER INSIDE BUILDING AT A MINIMUM OF 1/8" PER FOOT. SLOPE ALL 2-1/2" SANITARY SEWER/WASTE PIPING AND SMALLER AND ALL HORIZONTAL VENT PIPING AT 1/4" PER FOOT.
7. RUN ALL PLUMBING TIGHT TO STRUCTURE AND ALONG BEAMS WHERE POSSIBLE. COORDINATE WITH STRUCTURE.
8. FIELD VERIFY AND COORDINATE EXACT LOCATIONS, SIZE AND INVERT ELEVATIONS FOR NEW PIPING CONNECTIONS SHOWN.
9. COORDINATE ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR.
10. MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS.
11. SEE PLUMBING FIXTURE CONNECTION SCHEDULE ON P0 FOR INDIVIDUAL PIPE SIZES TO EACH NEW FIXTURE SHOWN.
12. PLUMBING COORDINATED TO 5 FEET OUTSIDE THE BUILDING FOOTPRINT. ALL PLUMBING SHOWN BEYOND THAT IS FOR REFERENCE ONLY. COORDINATE WITH SITE UTILITY PLAN ON THE POOL DRAWINGS.
13. CONTRACTOR MUST KEEP A REDLINED SET OF DRAWINGS ON SITE SHOWING ANY PLUMBING/PIPING DEVIATIONS.
14. CAREFULLY COORDINATE PLUMBING INSTALLATION REQUIREMENTS OF ALL EQUIPMENT WITH EQUIPMENT SPECIFICATIONS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
15. ALL DOMESTIC WATER VALVES SHALL MEET NSF 61.
16. LABEL ALL PIPING PER ANSI 13.1 (INCLUDE TYPE AND DIRECTION OF FLOW).
17. FIRE SEAL ALL PIPE PENETRATIONS ROUTED THROUGH FIRE RATED WALLS AND FLOORS PER FIRE SEALING UL RATING. COORDINATE WITH ARCHITECTURAL DRAWINGS. (TYPICAL)

KEYNOTES

(1) SEE SITE UTILITY PLAN ON THE POOL DRAWINGS FOR THE ROUTING OF THE NEW 6" SANITARY SEWER (AND ASSOCIATED CLEANOUTS) FROM THE EXISTING MANHOLE TO THE BUILDING. LOCATION SHOWN IS FOR REFERENCE ONLY.

(2) PROVIDE FULL SIZE DOUBLE CLEAN OUTS EXTENDED TO GRADE WITHIN 10 FEET OF THE BUILDING. COORDINATE LOCATION TO MAINTAIN CLEAR ACCESS. CAREFULLY COORDINATE EXACT LOCATION AND INVERT ELEVATION. SEE BUILDING SEWER SERVICE LINE CLEANOUT DETAIL ON P0.

(3) ROUTE 6" SANITARY SEWER PIPING WITH A P-TRAP TO SERVE NEW 24X24X24 FLOOR SUMP. CAREFULLY COORDINATE FLOOR SUMP WITH G.C., POOL DRAWINGS, AND STRUCTURAL DRAWINGS. SEE FLOOR SUMP DETAIL ON P0.

(4) 3" FIXTURE VENT ROUTED UP TIGHT TO THE INTERIOR WALL FROM FIXTURE DRAIN. ROUTE UP TIGHT TO THE UNDERSIDE OF THE CEILING AND OFFSET AS INDICATED.

(5) CONTINUE 3" VENT UP TO 3" VENT THROUGH ROOF. TERMINATE A MINIMUM OF 12" ABOVE ROOF AND SEAL ROOF PENETRATION WATER TIGHT. MAINTAIN 10'-0" FROM ANY MECHANICAL INTAKES AND 3'-0" CLEAR FROM THE ROOF EDGE. SEE VENT THROUGH ROOF DETAIL ON P0.

(6) MECHANICAL EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE MECHANICAL DRAWINGS. (TYPICAL)

(7) SEE SITE UTILITY PLAN ON THE POOL DRAWINGS AND OVERALL SITE PLUMBING PLAN ON THIS SHEET FOR ROUTING OF NEW 2" CW ROUTED FROM THE MECHANICAL ROOM AT THE MAIN POOL BUILDING UNDERGROUND TO THE NEW EQUIPMENT BUILDING. LOCATION (AND GATE VALVE) SHOWN FOR REFERENCE ONLY.

(8) ROUTE NEW 2" CW UP INTO THE NEW EQUIPMENT BUILDING. COORDINATE EXACT FLOOR PENETRATION LOCATION TO NOT INTERFERE WITH POOL AND MECHANICAL EQUIPMENT. INSTALL A NEW 2" WATER METER AND A RPBFP-1 REDUCED PRESSURE BACKFLOW PREVENTER WITH STRAINER. SEE POOL DRAWINGS FOR CONTINUATION OF 2" CW.

(9) ROUTE A 1" CW BRANCH FROM THE 2" CW MAIN AFTER THE RPBFP-1 AND ROUTE UP TIGHT TO THE UNDERSIDE OF THE CEILING AS INDICATED. ROUTE 1" CW DOWN TIGHT TO THE INTERIOR WALL AND PROVIDE A SHUT OFF VALVE, AN APPROVED 1" RPBFP-2 HORIZONTAL REVERSE PRESSURE BACKFLOW PREVENTER WITH STRAINER AND A CAPPED 1" CONNECTION FOR IRRIGATION CONNECTION BY THE LANDSCAPE CONTRACTOR. COORDINATE ACTUAL CW SIZE REQUIRED WITH LANDSCAPE CONTRACTOR. CAREFULLY COORDINATE LOCATION TO NOT INTERFERE WITH OTHER EQUIPMENT. SEE ELECTRICAL DRAWINGS FOR IRRIGATION CONTROLLER LOCATION. IRRIGATION TO OCCUR ON OFF HOURS ONLY.

(10) EXISTING 2" GAS ROUTED ACROSS THE ROOF OF THE EXISTING LOCKER ROOMS.

(11) EXISTING 2" GAS ROUTED DOWN THROUGH THE ROOF INTO THE WATER HEATER CLOSET IN THE EXISTING LOCKER ROOMS (SERVING THE WATER HEATER).

(12) CONNECT A NEW 1-1/4" GAS TO THE 2" GAS ON THE ROOF AND ROUTE ON THE ROOF AS INDICATED. SUPPORT GAS PIPING 12" ABOVE THE ROOF WITH MAPA PRODUCTS ROOFTOP PIPE SUPPORTS.

(13) ROUTE NEW 1-1/4" DOWN TIGHT TO THE EXTERIOR WALL OF THE LOCKER ROOMS AS INDICATED. PROVIDE A GAS ISOLATION VALVE AND AN SV-1 SOLENOID VALVE (IN A NEMA 4 ENCLOSURE) ON THE VERTICAL PORTION OF THE GAS PIPE IN AN ACCESSIBLE LOCATION HIGH ON THE EXTERIOR WALL. SV-1 TO BE CONTROLLED BY A SWITCH ON A TIMER. SWITCH LOCATION SHOWN FOR REFERENCE ONLY. COORDINATE EXACT SWITCH LOCATION WITH ELECTRICAL DRAWINGS AND OWNER. SEE ELECTRICAL DRAWINGS FOR CONTROLS. CONTINUE 1-1/4" GAS DOWN THROUGH THE GRADE UNDER THE CONCRETE AND OVER TO FIRE PIT AS INDICATED. IN AREAS WHERE GAS PIPE AND FITTINGS ARE ROUTED UNDER CONCRETE THEY MUST BE IN A PROTECTIVE PIPE SLEEVE AND BE LISTED FOR USE IN A CONCEALED LOCATION. SEE GAS PIPING INSTALLED UNDER A CONCRETE SLAB DETAIL ON P0.

(14) 1-1/4" GAS CONNECTION FOR FIRE PIT ROUTED UP FROM UNDERGROUND TO STUB OUT WITH A SHUT OFF VALVE. COORDINATE WITH OWNER SELECTED FIRE PIT AND CONNECT AS REQUIRED. SEE GAS PIPING INSTALLED UNDER A CONCRETE SLAB DETAIL ON P0.

(15) INSTALL A NEW TMV-1 THERMOSTATIC MIXING VALVE IN THE INTERIOR WALL ACCESS PANEL THAT CONTAINS THE BALL VALVES FOR THE CW AND HW STUB OUTS FOR THE OUTDOOR SHOWER. SET TO A MAXIMUM OF 110 DEGREES. VERIFY THAT TEMPERED WATER IS ROUTED TO THE NEW OUTDOOR SHOWER VALVE.

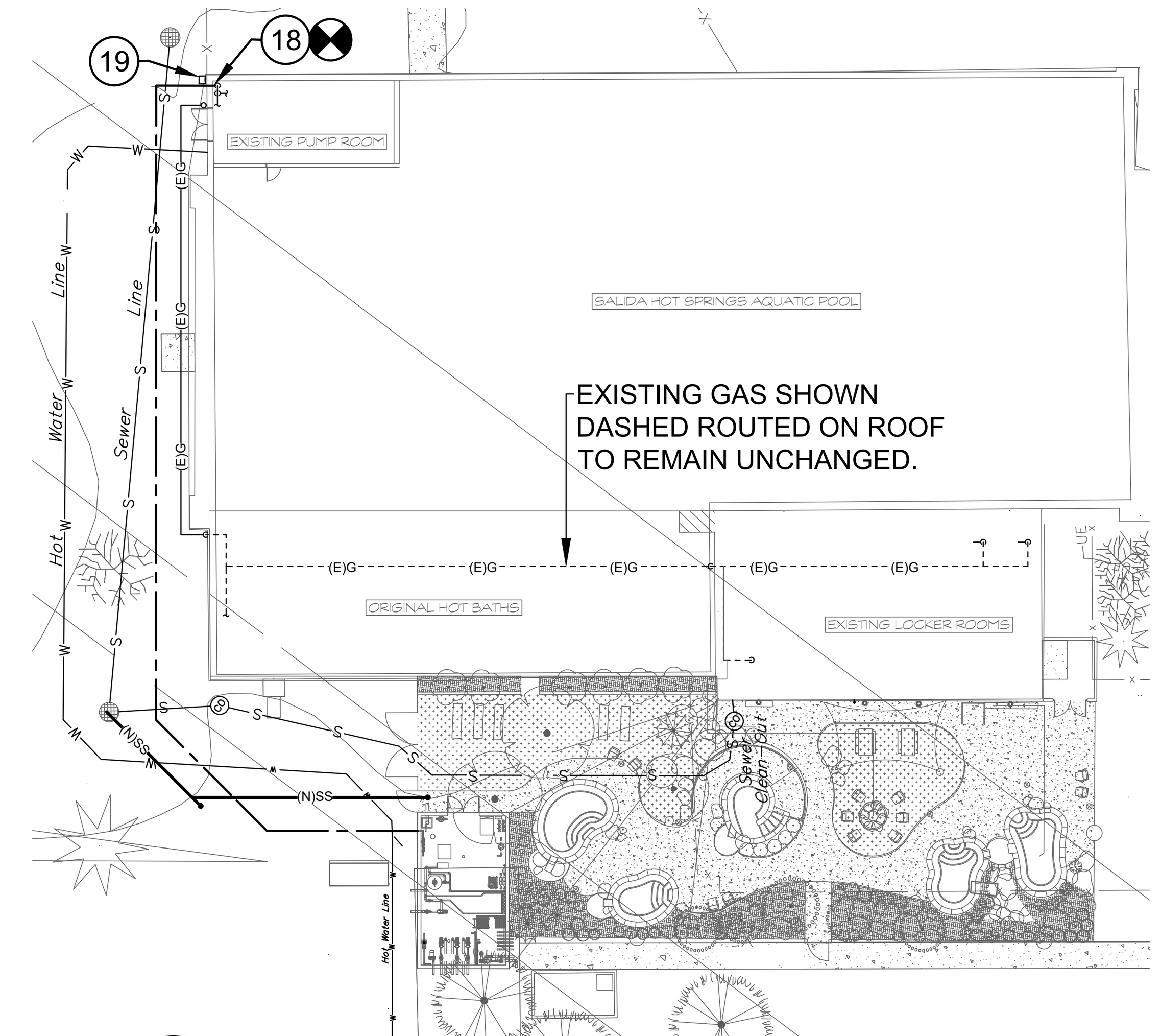
(16) FIELD VERIFY AND CONNECT NEW SH-1 OUTDOOR METERING SHOWER TO EXISTING PLUMBING STUB OUTS AS REQUIRED. INSTALL TO ACCOMMODATE EASY REMOVAL OF OUTDOOR SHOWER FOR WINTER DRAIN DOWN. CAP AND REMOVE ANY UNUSED PLUMBING.

(17) ROUTE 1-1/2" DISCHARGE FROM SUMP PUMP UP TIGHT TO UNDERSIDE OF THE CEILING AND OVER TO TERMINATE WITH AN AIR GAP AT THE FLOOR SUMP. FIELD VERIFY PUMP DISCHARGE SIZE.

(18) CONNECT A NEW 2" CW SERVICE TO THE EXISTING 4" CW SERVICE IN THE EXISTING PUMP ROOM. NEW 2" CW SERVICE MUST CONNECT TO THE 4" PORTION OF THE PIPE. ROUTE UNDERGROUND OVER TO THE NEW EQUIPMENT ROOM AS INDICATED. SEE SITE UTILITY PLAN ON THE POOL DRAWINGS. NEW 2" WATER METER AND 2" RPBFP-1 TO BE LOCATED IN NEW EQUIPMENT ROOM. SEE POOL PLUMBING PLAN ON THIS SHEET. SEE EXISTING DOMESTIC WATER SERVICE IN EXISTING PUMP ROOM DETAIL ON P0.

(19) EXISTING GAS METER AND ASSOCIATED GAS PIPING TO REMAIN UNCHANGED.

(20) ROUTE A 3/4" CW BRANCH FROM THE 1" CW AND ROUTE DOWN TIGHT TO THE INTERIOR WALL TO SERVE HB-1 FROSTPROOF HOSEBIBB. PROVIDE A BALL VALVE IN AN ACCESSIBLE LOCATION. COORDINATE MOUNTING HEIGHT WITH OWNER.



OVERALL SITE PLUMBING PLAN

NO SCALE

NORTH

DATE: 12/13/19

JK MECHANICAL DESIGN LLC
P.O. BOX 1554 BUENA VISTA, CO 81211
719.966.7570 303.952.0244
JKMECHANICALDESIGN@GMAIL.COM

DRAWN BY: KLR
CHECKED BY: KLR

SARAH F. WHITTINGTON
ARCHITECTURAL SERVICES
129 1/2 W. 3rd Suite #5
Salida, CO 81201
ph/fax: 719-539-5461
sarah@salidaarchitect.com

Salida Hot Springs Aquatic Center

Outdoor Pools Project
410 West Highway 50
Salida, CO 81201

POOL PLUMBING PLAN

P1

2 OF 2

JOB # 1924

GENERAL PROJECT NOTES

NOTE: SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL CONSTRUCTION REQUIREMENTS

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE, OPERATIONAL AND PROPERLY FUNCTIONING ELECTRICAL SYSTEM
2. MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION.
3. MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA OR ANOTHER RECOGNIZED TESTING LAB. ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED.
4. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS REQUIRED BY THESE AGENCIES FOR APPROVAL. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK. THIS CONTRACTOR SHALL SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THIS CONTRACT, SHALL BE RESPONSIBLE FOR WORKER'S IDENTIFICATION AND BADGING, SAFETY, AND LIABILITY INSURANCE. PROVIDE BARRICADES, WARNING SIGNS, AND TRASH REMOVAL FOR THE SAFETY OF THE WORKERS UNDER THIS CONTRACTOR'S EMPLOY.
5. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
6. THE CONTRACTOR SHALL PREPARE THE DOCUMENTS, INCLUDING DRAWINGS, REQUIRED TO OBTAIN APPROVAL OF THE EQUIPMENT AND LOCATIONS OF THE DEVICES THAT COMPRISE THE BUILDING FIRE ALARM LIFE SAFETY SYSTEM. THE DRAWINGS AND CUT SHEETS SHALL BE PROVIDED TO A PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL. THE APPROVED DRAWINGS WILL BE STAMPED, SIGNED AND RETURNED TO E.C. TO SUBMIT TO THE BUILDING DEPARTMENT.
7. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS, LOCAL JURISDICTIONAL CODES AND REQUIREMENTS, AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT. SUBMISSION OF PROPOSAL IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE, NO EXTRA CHARGE WILL BE ALLOWED FOR CHANGES AS A RESULT FROM FAILURE TO EXAMINE THE JOB SITE.
8. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND WIRING FOR THE PERFORMANCE OF ALL TRADES, FOR THE ENTIRE PERIOD OF CONSTRUCTION AND SHALL REMOVE ALL TEMPORARY WIRING AT THE COMPLETION OF CONSTRUCTION.
9. THE EXISTING POWER, SIGNAL AND COMMUNICATION SYSTEMS ARE TO REMAIN IN SERVICE TO PROVIDE FOR THE OWNER'S FUNCTION. SHOULD IT BECOME NECESSARY TO SHUT-DOWN ANY SYSTEM OR PORTION OF A SYSTEM, APPROVAL IN WRITING MUST BE OBTAINED FROM THE OWNER AND SHALL ONLY APPLY FOR THE PERIOD AND TIME AGREED UPON. THE BID IS TO INCLUDE THE COST OF ANY TEMPORARY WIRING AND PREMIUM TIME REQUIRED FOR THE SHUTDOWN.
10. ALL MATERIALS AND EQUIPMENT SHALL BE ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
11. ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT HIS WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL FIXTURES AND ELECTRICAL DEVICES. MOUNTING HEIGHTS SHALL CONFORM TO ADA/ICC/ANSI STANDARDS.
13. ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE BUILDING STANDARDS.
14. PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL WIRING THROUGHOUT THE EXTENT OF THE REQUIRED SYSTEM.
15. ALL TELE/ DATA BOXES SHALL BE PROVIDED WITH A 1/2" CONDUIT AND BUSHING WITH PULL STRING RUN 6" ABOVE FINISHED CEILING OR CEILING GRID. ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED FOR ALL WALL OUTLETS & TELEPHONE WIRING RUNNING BELOW RAISED FLOOR OR ABOVE HARD CEILINGS.
16. ALL RECEPTACLES NOTED AS ISOLATED GROUND (IG) OR DEDICATED OR CIRCUITED AS DEDICATED SHALL BE PROVIDED WITH A DEDICATED GROUND AND NEUTRAL.
17. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE INDICATED. CONDUITS LARGER THAN 2" DIAMETER OR CONDUITS OF ANY SIZE ROUTED OUTDOORS SHALL BE INTERMEDIATE METAL CONDUIT (IMC).
18. FLEXIBLE CONDUIT CONNECTIONS TO RECESSED LIGHTING FIXTURES SHALL BE MADE WITH FLEXIBLE STEEL CONDUIT, 3/8 INCH MINIMUM.
19. FINAL CONNECTIONS TO MOTORS SHALL BE MADE WITH LIQUID TIGHT FLEXIBLE STEEL CONDUIT, 1/2 INCH MINIMUM.
20. WIRE NO. 8 AND SMALLER INSTALLED IN DRY LOCATIONS SHALL BE TYPE THWN OR THHN THERMOPLASTIC 600V INSULATED COPPER CONDUCTORS. NO WIRE SMALLER THAN NO.12 SHALL BE USED FOR LIGHTING OR POWER WIRING. WIRE NO. 8 AND LARGER SHALL BE STRANDED. ALL CONDUCTORS INSTALLED IN EXTERIOR OR WET LOCATIONS SHALL BE TYPE THWN 600V INSULATED COPPER CONDUCTORS.
21. ALL NEW CIRCUIT BREAKERS FOR NEW OR EXISTING PANELBOARDS SHALL MATCH EXISTING OR NEW BUILDING STANDARD PANELBOARD MANUFACTURER AND BREAKER TYPE. THE CONTRACTOR SHALL PROVIDE NEW ACCURATE AND DETAILED TYPE WRITTEN PANEL DIRECTORIES PER NEC 408.4 FOR ALL NEW OR MODIFIED PANELS. NUMBERED CIRCUITS ARE FOR CONVENIENCE OF DESIGN ONLY. E.C. TO FIELD VERIFY ACTUAL CIRCUIT NUMBERS USED AND CORRECTLY INDICATE ON "AS-BUILT" DRAWINGS. THE E.C. SHALL REMOVE ALL ABANDONED CIRCUITS.
22. PROVIDE MINIMUM #10 FOR BRANCH CIRCUITS OVER 75' AT 120V AND OVER 150' AT 277V. E.C. TO FIELD VERIFY BRANCH CIRCUIT LENGTHS AND INCREASE CONDUCTOR SIZES AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP.
23. EACH SWITCH, LIGHT, RECEPTACLE AND ALL OTHER DEVICES SHALL BE PROVIDED AND INSTALLED WITH A GALVANIZED OR SHERARDIZED PRESSED STEEL JUNCTION BOX OF NOT LESS THAN NO. 14 U.S. GAUGE STEEL. CONDUITS SHALL BE FASTENED WITH LOCKNUTS AND BUSHINGS AND ALL UNUSED KNOCKOUTS MUST BE LEFT SEALED. THERE MUST BE SUFFICIENT ROOM FOR WIRES AND BUSHINGS AND DEEP BOXES SHALL BE INSTALLED WHERE REQUIRED. BOXES SHALL BE SECURELY AND ADEQUATELY SUPPORTED.
24. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SPECIAL OUTLET BOXES THAT MAY BE REQUIRED TO ENCLOSE RECEPTACLES.
25. IN SUSPENDED CEILINGS SUPPORT CONDUIT AND JUNCTION BOXES DIRECT FROM THE STRUCTURAL SLAB, DECK, OR FRAMING PROVIDED FOR THAT PURPOSE. LIGHTING BRANCH CIRCUIT CONDUITS SHALL NOT BE CLIPPED TO THE CEILING SUPPORT WIRES OR SPLINE UNLESS THE CEILING SYSTEM HAS BEEN SPECIFICALLY DESIGNED FOR THAT PURPOSE.
26. PROVIDE LOCAL DISCONNECT SWITCHES FOR ALL MOTORS (PLENUM APPROVED WHERE REQUIRED).
27. THE E.C. SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT THAT IS NOT TO BE REUSED DISCARD ALL EQUIPMENT AS REQUIRED. E.C. SHALL BE RESPONSIBLE FOR DISCONNECTING PRIMARY SERVICE AND TEMPORARY POWER.
28. PROVIDE WARRANTY GUARANTEED FOR A PERIOD OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE. REPLACE ALL DEFECTIVE WORKMANSHIP, EQUIPMENT AND MATERIALS WITHOUT ADDITIONAL CHARGES.
29. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS/HER OWN PROPERTY ON THE JOB SITE. THE OWNER OR TENANT ASSUMES NO RESPONSIBILITY FOR PROTECTION OF THIS CONTRACTOR'S PROPERTY AGAINST FIRE, THEFT, OR ENVIRONMENTAL CONDITIONS.
30. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS, WALLS, OR PARTITIONS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS U.L. LISTED (EQUAL TO DOW CORNING) AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THE SERVICE. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS IN ORDER TO MAINTAIN THE FIRE RATING OF THE PENETRATED WALL, FLOOR, OR PARTITION. INSTALLATION SHALL BE A THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM AND UL . THE FIRE RATING SHALL MATCH THE RATING OF THE BARRIER BEING PENETRATED.
31. SUBMIT AN ELECTRONIC COPY OR SIX (6) SETS OF SHOP DRAWINGS, CONTROL DIAGRAMS, AND EQUIPMENT CUTS TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING RELATED WORK. SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
32. UPON COMPLETION OF CONSTRUCTION, SUPPLY THE ENGINEER WITH ONE COMPLETE SET OF FULL SIZE AS-BUILT DRAWINGS. PROVIDE THE OWNER WITH THREE (3) SETS OF OPERATION AND MAINTENANCE MANUALS FOR EACH TYPE OF EQUIPMENT INSTALLED.
33. THIS CONTRACTOR SHALL ASSUME ALL ADDED EXPENSES TO ALL TRADES ASSOCIATED WITH THE INSTALLATION OF SUBMITTED AND APPROVED ALTERNATE EQUIPMENT.
34. THE CONTRACTOR SHALL COORDINATE THE LAYOUT OF THE FIRE ROOM WITH ALL OTHER DISCIPLINES, ESPECIALLY THE FIRE ALARM AND FIRE PROTECTION DESIGN-BUILD CONTRACTORS PRIOR TO ANY WORK.
35. IF ANY CHANGES ARE MADE TO ACCOMMODATE FIELD CONDITIONS NOTIFY THE ENGINEER IMMEDIATELY OF WHAT THE CHANGES WERE, THE REASON FOR THE CHANGES, AND THE COST IMPACTS.
36. LOCATE ALL ELECTRICAL SWITCHBOARDS, PANELBOARDS AND ELECTRICAL DISTRIBUTION EQUIPMENT IN DEDICATED SPACES AND PROTECTED FROM DAMAGE WITH ADEQUATE WORKING CLEARANCE ACCORDANCE WITH NEC 110 REQUIREMENTS. PROVIDE PROTECTION FROM ANY FOREIGN SYSTEM INSTALLED ABOVE THE DEDICATED EQUIPMENT SPACE PER NEC 110.26(E).
37. SERVICE EQUIPMENT SHALL BE MARKED TO IDENTIFY IT AS BEING SUITABLE FOR USE AS SERVICE EQUIPMENT PER NEC 230.66.
38. ELECTRICAL ROOM DOORS SHALL BE EQUIPPED WITH PANIC BARS, PRESSURE PLATES, OR OTHER DEVICES THAT ARE NORMALLY LATCHED BUT OPEN UNDER SIMPLE PRESSURE IN ACCORDANCE WITH NEC 110.26(C)(3).

FIRE ALARM SYSTEM NOTES

FIRE ALARM SYSTEM IS TO BE DESIGN/BUILD BY THE CONTRACTOR.

CODE COMPLIANCE STATEMENT

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES:

- 2017 NATIONAL ELECTRIC CODE (NEC)
- 2006 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

ELECTRICAL LEGEND

NOTE: NOT ALL ITEMS APPEAR ON DRAWINGS. SYMBOLS MAY DIFFER FROM EXISTING AND DEMO WORK OR DEVICES REFERENCED OR SYMBOLS USED FROM DRAWINGS BY OTHERS.

POWER AND LIGHTING

- GROUNDED SWITCHED DUPLEX RECEPTACLE
- GROUNDED SPLIT-WIRED RECEPTACLE
- GROUNDED DUPLEX RECEPTACLE
- GROUNDED QUADRAPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE
- FLOOR/CEILING MOUNTED RECEPTACLE
- JUNCTION BOX
- WALL MOUNTED JUNCTION BOX
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- THERMAL OVERLOAD SWITCH
- ELECTRICAL PANEL BOARD
- TRANSFORMER
- CIRCUIT '##' HOMERUN TO PANEL 'X' (ARROWS NOT USED IF CIRCUIT NUMBERS APPEAR NEXT TO DEVICES)
- PORCELAIN LAMP HOLDER
- RECESSED FLUORESCENT LIGHT FIXTURE
- SURFACE MOUNTED FLUORESCENT FIXTURE
- CEILING FIXTURE
- WALLWASHER or ADJUSTABLE DOWNLIGHT
- SINGLE POLE SWITCH, OR 4-POLE
- DIMMER SWITCH
- EXIT SIGN
- EMERGENCY FIXTURE - SHADED
- BATTERY PACK EMERGENCY LIGHT or COMBO EXIT - SEE SCHEDULE
- MOTOR

LOW VOLTAGE SYSTEMS

- TELEPHONE TERMINAL BOARD
- FLOOR/CEILING MOUNTED DATA OUTLET
- FLOOR/CEILING MOUNTED TELEPHONE OUTLET
- DATA OUTLET
- TELEPHONE/DATA OUTLET PROJECT STANDARD
- TELEPHONE OUTLET
- CATV/MONITOR A/V OUTLET
- SPEAKER
- FACP — FIRE ALARM PANEL
- FAA — FIRE ALARM REMOTE ANNUNICATOR PANEL
- S-SMOKE, T-HEAT DETECTOR
- DUCT FIRE DETECTOR

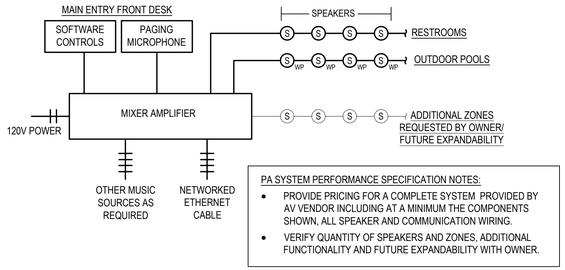
ABBREVIATIONS

EWC	ELECTRIC WATER COOLER
EF	EXHAUST FAN
GFI	GROUND FAULT INTERRUPTING
AFI	ARC FAULT INTERRUPTING
CCT	CIRCUIT
E.C.	ELECTRICAL CONTRACTOR
AG	ABOVE COUNTER GFI - VERIFY HEIGHT
AC	ABOVE COUNTER - VERIFY HEIGHT
WP	WEATHER PROOF
TTB	TELEPHONE TERMINAL BOARD
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
(E)	EXISTING TO REMAIN
(EX)	EXISTING TO BE REMOVED
(ER)	EXISTING TO BE RELOCATED
(R) (RL)	RELOCATE/RELOCATED LOCATION

REFERENCE SYMBOLS

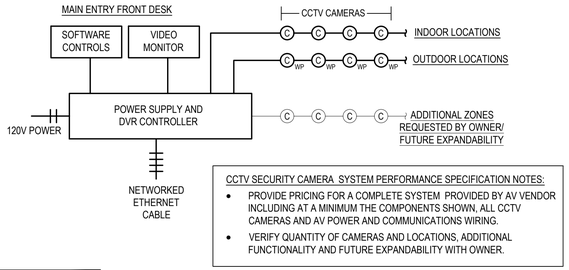
- KEYED NOTE
- EQUIPMENT - SEE SCHEDULE
- #W — FEEDER - SEE SCHEDULE
- TRANSFORMER WITH GROUNDING AND OVERCURRENT DEVICES SEE TRANSFORMER SCHEDULE

Feeder Schedule		Feeder Schedule - Aluminum	
3000/W	8[W-500kcmil, 400kcmil, 3-1/2"C]	3000/W	10[W-500kcmil, 3-1/2"C]
2000/W	6[W-400kcmil, 250kcmil, 3"C]	2000/W	7[W-500kcmil, 400kcmil G, 3-1/2"C]
1600/W	5[W-400kcmil, 4/0G, 3"C]	1600/W	8[W-250kcmil, 350kcmilG, 3"C]
1200/W	4[W-350kcmil, 3/0G, 3"C]	1200/W	4[W-500kcmil, 250kcmil G, 3-1/2"C]
1000/W	3[W-400kcmil, 2/0G, 3"C]	1000/W	4[W-350kcmil, 4/0G, 3"C]
800/W	3[W-300kcmil, 1/0G, 3"C]	800/W	3[W-400kcmil, 3/0G, 3"C]
750/W	3[W-250kcmil, 1/0G, 3"C]	750/W	3[W-350kcmil, 3/0G, 3"C]
600/W	2[W-350kcmil, #1G, 3"C]	600/W	2[W-500kcmil, 2/0G, 3-1/2"C]
500/W	2[W-250kcmil, #2G, 3"C]	500/W	2[W-350kcmil, 1/0G, 3"C]
400/W	2[W-3/0, #3G, 2"C]	400/W	2[W-250kcmil, #1G, 3"C]
350/W	2[W-2/0, #3G, 2"C]	350/W	2[W-4/0, #1G, 2-1/2"C]
300/W	W-350kcmil, #4G, 3"C	300/W	W-500kcmil, #2G, 3-1/2"C
250/W	W-250kcmil, #4G, 3"C	250/W	W-350kcmil, #2G, 3"C
225/W	W-4/0, #4G, 2"C	225/W	W-300kcmil, #2G, 3"C
200/W	W-3/0, #6G, 2"C	200/W	W-250kcmil, #4G, 2-1/2"C
175/W	W-2/0, #6G, 2"C	175/W	W-4/0, #4G, 2"C
150/W	W-1/0, #6G, 2"C	150/W	W-3/0, #4G, 2"C
125/W	W#1, #6G, 1-1/2"C	125/W	W-2/0, #4G, 2"C
100/W	W#1, #6G, 1-1/2"C	100/W	W-1/0, #6G, 2"C
90/W	W#2, #8G, 1-1/4"C	90/W	W-1/0, #6G, 2"C
80/W	W#3, #8G, 1-1/4"C	80/W	W#1, #6G, 1-1/2"C
70/W	W#4, #8G, 1-1/4"C	70/W	W#2, #6G, 1-1/4"C
60/W	W#4, #8G, 1-1/4"C	60/W	W#2, #8G, 1-1/4"C
50/W	W#6, #10G, 1"C	50/W	W#4, #8G, 1-1/4"C
40/W	W#8, #10G, 1" C	40/W	W#6, #8G, 1" C
30/W	W#10, #10G, 3/4"C	30/W	W#6, #10G, 3/4"C
20/W	W#12, #12G, 3/4"C	20/W	W#10, #10G, 3/4"C
This table indicates minimum conductor size for feeders of the ampacity indicated where #/W indicates the #-Ampacity and W-numbers of wire, #S/W indicates no ground. All conductors shall be Copper unless noted as Aluminum 'Al'		This table indicates minimum conductor size for feeders of the ampacity indicated where #/W indicates the #-Ampacity and W-numbers of wire, #S/W indicates no ground. All conductors shall be Aluminum unless noted otherwise.	
*Conductor Ampacities shall be based on table 310.15(B)(16) 60 degree column up to 100 Amps and 75 degree column above 100 Amps unless otherwise permitted by NEC. Ampacity rating shall be selected in accordance NEC 110.14 (C).		*conductor Ampacities shall be based on table 310.15(B)(16) 60 degree column up to 100 Amps and 75 degree column above 100 Amps unless otherwise permitted by NEC. Ampacity rating shall be selected in accordance NEC 110.14 (C).	
The master electrician shall be responsible for ensuring that no feeders or branch circuits are installed in a manner or sized in such a way as to violate the NEC.		The master electrician shall be responsible for ensuring that no feeders or branch circuits are installed in a manner or sized in such a way as to violate the NEC.	
Service Ground Table	Equipment Ground Table	Service Ground Table	Equipment Ground Table
150G #6	20EG #12	150G #4	20EG #10
200G #4	60EG #10	200G #2	60EG #8
300G #2	100EG #8	300G 1/0	100EG #6
500G 1/0	200-1200A per Above	500G 3/0	200-1200A per Above
800G 2/0	1600EG 4/0	1000G 4/0	1600EG 350kcmil
>800G 3/0	2000EG 250kcmil	>1000G 250	2000EG 400kcmil
Service Ground Conductors sized Per NEC Table 250.66 Equipment Ground Conductors sized Per NEC Table 250.122 All conductors shall be Copper unless noted as Aluminum 'Al'		Service Ground Conductors sized Per NEC Table 250.66 Equipment Ground Conductors sized Per NEC Table 250.122 All conductors shall be Aluminum unless noted otherwise.	
The service ground chart indicates the minimum Service Ground Conductor based on #G where # is the ampacity from the chart above, and the equipment ground chart indicates the minimum equipment grounding conductor size #EG where # is the rating/ setting of the overcurrent device protecting the conductors and equipment.		The service ground chart indicates the minimum Service Ground Conductor based on #G where # is the ampacity from the chart above, and the equipment ground chart indicates the minimum equipment grounding conductor size #EG where # is the rating/ setting of the overcurrent device protecting the conductors and equipment.	
Where discrepancies occur between the Feeder Schedule Schedule and the Grounding Tables, the larger conductor shall be used unless otherwise permitted by the NEC.		Where discrepancies occur between the Feeder Schedule Schedule and the Grounding Tables, the larger conductor shall be used unless otherwise permitted by the NEC.	
The installation shall meet all NEC 250 grounding and bonding requirements including 250.4 Path for Fault Current. Provide complete raceway systems metallically joined, connected, and fittings as required for electrical continuity per NEC 300.10		The installation shall meet all NEC 250 grounding and bonding requirements including 250.4 Path for Fault Current. Provide complete raceway systems metallically joined, connected, and fittings as required for electrical continuity per NEC 300.10	



PA SYSTEM PERFORMANCE SPECIFICATION NOTES:

- PROVIDE PRICING FOR A COMPLETE SYSTEM PROVIDED BY AV VENDOR INCLUDING AT A MINIMUM THE COMPONENTS SHOWN, ALL SPEAKER AND COMMUNICATION WIRING.
- VERIFY QUANTITY OF SPEAKERS AND ZONES, ADDITIONAL FUNCTIONALITY AND FUTURE EXPANDABILITY WITH OWNER.



CCTV SECURITY CAMERA SYSTEM PERFORMANCE SPECIFICATION NOTES:

- PROVIDE PRICING FOR A COMPLETE SYSTEM PROVIDED BY AV VENDOR INCLUDING AT A MINIMUM THE COMPONENTS SHOWN, ALL CCTV CAMERAS AND AV POWER AND COMMUNICATIONS WIRING.
- VERIFY QUANTITY OF CAMERAS AND LOCATIONS, ADDITIONAL FUNCTIONALITY AND FUTURE EXPANDABILITY WITH OWNER.

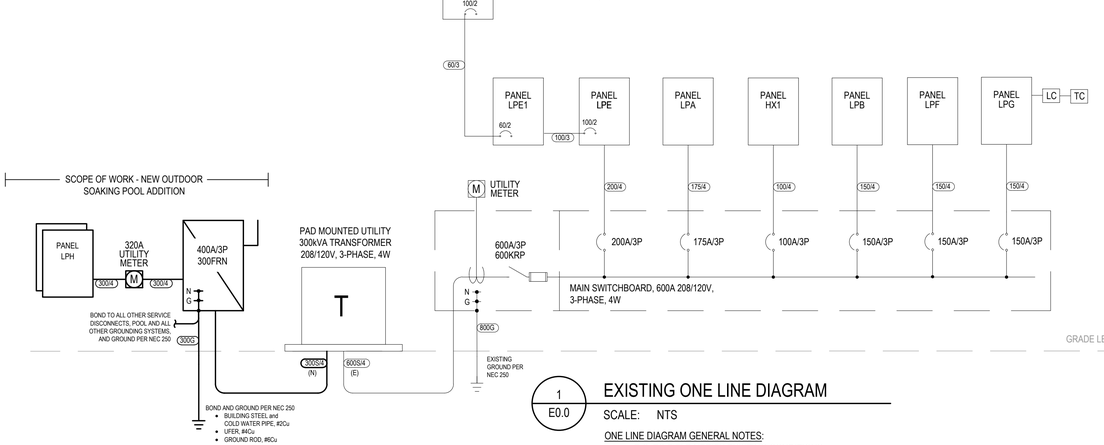
2 E0.0 PROXIMITY PLAN

SCALE: 1" = 50'-0"

GENERAL NOTES:

1. PLAN SHOWN FOR REFERENCE ONLY. E.C. SHALL FIELD VERIFY EXISTING CONDITIONS.

PROJECT NORTH



1 E0.0 EXISTING ONE LINE DIAGRAM

SCALE: NTS

ONE LINE DIAGRAM GENERAL NOTES:

1. E.C. TO FIELD VERIFY EXISTING CONDITIONS
2. ALL EQUIPMENT IS (E) EXISTING UNLESS UNLESS NOTED AS (N)NEW.
3. ALL EXTERIOR EQUIPMENT TO BE WEATHERPROOF
4. FIELD VERIFY INSTALLATION REQUIREMENTS WITH UTILITY PRIOR TO ANY ROUGH-IN.
5. THE E.C. SHALL PROVIDE LABELING OF ALL DISCONNECTING MEANS IN ACCORDANCE WITH NEC 110.22:
   - 5.a. PROVIDE LABEL ON EACH DISCONNECTING MEANS PER NEC 110.22(A)
   - 5.b. SERVICE EQUIPMENT SHALL BE LABELED WITH THE MAXIMUM AVAILABLE FAULT CURRENT AND DATE PER NEC 110.24(A).
   - 5.c. WHERE ANY SERIES RATED COMBINATION SYSTEMS ARE UTILIZED, PROVIDE LABEL ON EQUIPMENT CLOSURE INDICATING THE SERIES RATED SYSTEM COMPONENTS INCLUDING FUSE AND BREAKER TYPES AND RATINGS IN ACCORDANCE WITH NEC 110.22(B) AND 110.22(C): CAUTION -- SERIES COMBINATION SYSTEM RATED ____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.

FAULT CURRENT CALCULATION TABLE — September 12, 2019

300 kVA Utility Transformer; VOLTAGE 208; AVAILABLE FAULT CURRENT (F) 52,000

LOCATION (n)	# of RUNS	CONDUCTOR	VOLTAGE	L(ft)	C	Total C	f	M	F
600A Main	2	350	208	35	19,704	39,408	0.38	0.72	**37,569**
Panel LPG	1	1/0	208	75	8,925	8,925	2.63	0.28	**10,362**
400A Main	2	500	208	215	21,391	42,782	2.17	0.32	**16,386**
Panel LPH	2	500	208	40	18,756	37,512	0.15	0.87	**14,307**

NOTES:

1. All Calculations use Bussman "Point-To-Point" Method.
2. Variables: L=Feeder Length (LF); C=Conductor "C" Value; M(n) =1 ÷ ((1+f(n)); f(n) = (1.73 x L x F(n-1))/(C x # of runs x Voltage) in Amperes; F(n)=F(n-1) x M(n)
3. The E.C. shall report any discrepancies to the Engineer.
4. Conductor lengths shall not be less than the values listed. The E.C. shall field verify conductor lengths and contact engineer immediately if conductor lengths are less than the values shown.
5. Conductor Lengths listed in this table are for fault study purposes only and shall not be used for bidding or other calculations.
6. All in-line Utility Meters shall be protected to limit the Fault Current to no more than 10kA at the Meter per the Utility Company requirements.
7. Label and date available fault current value at the main service disconnect per NEC 110.24(A)
8. Provide Arc-Flash Hazard study and labeling for personnel and protective equipment prior to energizing equipment per NEC 110.16 and NFPA 70E.

PRELIMINARY PLANS NOT FOR CONSTRUCTION

SALIDA HOT SPRINGS - OUTDOOR POOLS
410 WEST RAINBOW BOULEVARD
SALIDA, COLORADO, 81201

Front Range Electrical Engineering
3333 South Wadsworth Boulevard - Suite D210
Lakewood, CO 80227 | Phone: 303.983.0548
www.FREEngineer.com

ISSUED FOR:	DATE:
90% REVIEW	9/13/19
BID SET	12/13/19

PROJECT: 19-127

ONELINE, NOTES, AND SCHEDULES

E0.0

EQUIPMENT SCHEDULE

September 13, 2019

Key	Equipment	Equipment Load kW	HP	Amps	Volt	Ø	Branch Circuit Conductors	Conduit	Disconnect Switch	Disconnect Fuse	Panel-Circuit	Comment
Closed Circuit Cooling Tower												
CT-1	Cooling Tower											1
	Fan Motor		10	30.8 A	208	3	4#8,#10G	1"	60A/3P	--	LPH - 1,3,5	
	Pump Motor		.75	3.5 A	208	3	4#12,#12G	3/4"			LPH - 7,9,11	
	Sump Heat	3.0		8.3 A	208	3	4#10,#10G	3/4"			LPH - 13,15,17	
Exhaust Fan												
EF-1	Exhaust Fan		1/4	5.8 A	120	1	2#12,#12G	3/4"	Sto	NA	LPH - 61	
Louver												
LV-1	Louver			15A CKT	120	1	2#12,#12G	3/4"	Sto	NA	LPH - 63	
Pumps												
P-1	Pump		1	8.8 A	208	1	3#10,#10G	3/4"	Sto	NA	LPH - 2,4	
P-2	Pump		1/2	5.4 A	208	1	3#12,#12G	3/4"	Sto	NA	LPH - 6,8	
Electric Heat												
EUH-1	Unit Heater	3.3		9.2 A	208	3	3#10,#10G	3/4"	Sto	NA	LPH - 14,16,18	
ECH-1	Cabinet Heater	1.1		6.0 A	208	1	3#12,#12G	3/4"	Sto	NA	LPG - 33,35	

Notes: (Apply to all equipment where applicable)

1. Field verify final location and confirm electrical requirements of all equipment with provider prior to any work. Confirm all breaker sizes with nameplate data before ordering any materials and provide all work necessary for a complete and code compliant installation.
2. Provide line voltage controls and wiring as required for proper operation of equipment. Field verify control requirements with equipment provider and field verify final location of controls with owner. Controls shall be installed in an accessible location.
3. Provide HACR breakers for all dedicated circuits serving equipment and provide local disconnecting means in accordance with NEC 430 Part IX.
4. Verify integral thermal/overload protection for fractional horsepower motors. Provide separate overload device where required in accordance with NEC 430 Part III.

Comments:

1. Provide unit mounted VFD for fan speed control. RE: M0

POOL EQUIPMENT SCHEDULE

September 12, 2019

Key	Equipment Description	Qty.	Load Amps	kW	HP	Volt	Ø	Connection Plug	Connection Direct	Connection NEMA	Rough-In Location	Branch Circuit Conductors	Conduit	Panel-Circuit	Comments
A	Hot Water Booster Pump	1	16.0			230 Note 5	1		Verify		Verify	3#10,#10G	3/4"	LPH - 24,26	Note 5
B	Effluent Discharge Pump VERIFY	1	60A CKT			230 Note 5	1		Verify		Verify	3#3,#8G	1-1/4"	LPH - 28,30	Note 5
E	Tablet Style Chlorinator	1	20A CKT			120	1	X (2)		Verify	Verify	2#10,#10G	3/4"	LPH - 36	
H	Flow Meters	6	20A CKT			120	1	X		Verify	Verify	2#10,#10G	3/4"		
K	Water Level Controller	1	20A CKT			120	1	X		Verify	Verify	2#10,#10G	3/4"	LPH - 38	
O	Pool 1 Waterfall Booster Pump	1	16.0			230 Note 5	1		Verify		Verify	3#10,#10G	3/4"	LPH - 23,25	Note 5
P	Pool 2 Waterfall Booster Pump	1	16.0			230 Note 5	1		Verify		Verify	3#10,#10G	3/4"	LPH - 27,29	Note 5
Q	Pool 1 Wall Jets Booster Pump	1	20.0			208	1		Verify		Verify	3#10,#10G	3/4"	LPH - 31,33	
R	Spa Blower	1	13.0			230 Note 5	1			X		3#10,#10G	3/4"	LPH - 35,37	Note 5
S	Pipe Pigging Booster Pump	1	12.0			208	1			X		3#10,#10G	3/4"	LPH - 39,41	

Notes(Apply to all equipment where applicable)

1. Field verify device locations and mounting heights and equipment requirements with provider prior to rough-in. Field verify outlet, J-Box or hardwire, number of wires, wire and circuit size requirements with provider prior to rough-in.
2. Equipment numbers coordinate with Equipment Schedule on Architectural/Kitchen drawings, reference for additional information.
3. All outlets serving equipment designated with NEMA 5-15 plugs shall be 20A duplex receptacles on a 20A branch circuit breaker in In accordance with NEC 210.21(B)(3) and shall be GFI per NEC 210.8(B).
4. Notes 1-3 apply to all equipment.
5. 230V EQUIPMENT - Provide Buck-Boost transformers as required for any equipment that requires 240V and is not designed to run on 208V system voltage. Field verify with equipment providers and provide buck boost transformers and all work necessary for a complete installation.

LUMINAIRE SCHEDULE

September 12, 2019

Label	Light Fixture Description	Specification	Lamping	Voltage	Mounting	Comment
Interior Lighting						
D	6" LED Downlight 675 Lumen LED, White Trim	Eaton Halo or Equal, Match Building Standard SLD6068330WH	12.5W LED	120	Surface Verify Mounting	1
S	4' Lensed LED strip light In Stock 4100lumen wide distribution 0-10v dimming driver	Eaton Metalux 4SNLED-LD4-41SL-LW-UNV-L83S-CD1-U	41W LED 3500K/82CRI	120	Surface/Suspended Verify Mounting	
Emergency Lighting						
EM	Emergency Light Fixture, Dual Head LED with 90-Minute Battery Pack	Eaton Sure-Lites or Equal, Matching Building Standard APEL	(2) 3.6V, .78W LED Included	120	Surface Verify Mounting	
X	LED Exit Sign with 90-Minute Battery Pack	Eaton Sure-Lites or Equal, Matching Building Standard APX7X	1.33W Max. LED Included	120	Surface Verify Mounting	
XR	Exterior Emergency Egress Light 90-Minute Battery Pack	Eaton Sure-Lites or Equal, Matching Building Standard AEL2SD	(3) 6V, 6W Xenon Included	120	Surface Verify Mounting	
Exterior Lighting						
PL	Pool Light	Pentair or Equal Intellibrite 5G	18W LED	12V	Ground Verify Mounting	1,3
SB	Site Bollard	Hubbel Lighting or Equal SPB-12LED-WW-XX-XXX	12W LED	120	Ground Verify Mounting	1,2
SL	String Lights	Primus Lighting or Equal DSW-48-120-PLED-G16.5F-2W-XXX-XX	2W LED Bulb Every 4'	120	Suspended Verify Mounting	1,2
WS	Wall Sconce	Hubbel Lighting or Equal CY1-25-3K7-1-3-UNV-XX-R	25W LED 3000K	120	Surface Verify Mounting	1,2

GENERAL LIGHT FIXTURE NOTES: Apply to all fixtures wherever applicable.

1. EMERGENCY FIXTURES - All Fixtures Indicated as Emergency shall be provided with a 90-Minute Battery Pack with minimum 1300 Lumen output.
2. VERIFY VOLTAGES - The E.C. shall verify voltages on drawings prior to ordering or any work, the engineer shall be notified of any discrepancies in the voltage of the circuiting on the drawings and the luminaire schedule prior to any purchase or work.
3. VERIFY LAMPING - The E.C. shall verify lamping with the manufacturer prior to ordering and notify the engineer of any lamping discrepancies.
4. PROVIDE A COMPLETE INSTALLATION - The E.C. shall provide all labor and material to provide a complete and functional system per the design intent as dictated by the switching type and location (including dimmer switches and compatible drivers, ballasts or transformers), ceiling type and location, circuiting, voltages, and lamping types.
5. BALLAST DISCONNECT - All electric discharge luminaires shall comply with NEC 410.130 and shall have a means of disconnect for the ballast.
6. DUAL LEVEL SWITCHING - For fixtures with more than one switch designation shown on plans provide fixtures with additional ballasts for dual level light control by separate switching of inboard and outboard lamps as required to conform to IECC Requirements.
7. OWNER APPROVAL - Approve all light fixture types with tenant/owner before ordering any materials or any work.
8. EXTERIOR LIGHTING - Fixtures installed outdoors shall be U.L. listed Wet Location and provided with cold weather drivers/ballast/battery as required for proper operation.
9. DIMMING COMPATIBILITY - Fixtures noted as dimmable on plans shall be provided with dimmable drivers paired with compatible dimming controls approved by the fixture manufacturer. The E.C. shall be responsible for providing compatible LED Drivers and dimming control devices rated for connected load.

SPECIFIC FIXTURE COMMENTS: Apply to specific fixture types as noted on schedule

1. WET LOCATION - Provide fixture with U.L. Wet Location Label.
2. COLD WEATHER - Provide fixture with Cold-Weather Driver/Ballasts/Battery for fixtures installed outdoors.
3. EC to provide low voltage tranformer(s) to provide a complete operating system.

PANEL SCHEDULE: LPG

September 12, 2019

BUS RATING: 150 Amperes 3Ø, 4-WIRE
MAIN C.B.: ____ or M.L.O: 150A
MOUNTING: Flush
COMMENTS: Existing Panelboard

VOLTAGE L-L: 208
VOLTAGE L-G: 120
S.C.RMS RATING (AIC): 22,000

NO.	AMPS	POLE	LOAD (VA)	NEC Demand	LOAD DESCRIPTION	Phase	LOAD DESCRIPTION	NEC Demand	LOAD (VA)	POLE	AMPS	NO.
1	*20*	*1*	*360*	*1.00*	*Corridor Recepts*	*A*	*Corridor/Women's Lighting*	*1.25*	**605**	*1*	*20*	2
3	*20*	*1*	*360*	*1.00*	*Family Bathroom Recepts*	*B*	*Corridor/Men's Lighting*	*1.25*	*550*	*1*	*20*	4
5	*20*	*1*	*720*	*1.00*	*Men's Locker Recepts*	*C*	*Men's Hand Dryer*	*1.00*	*1800*	*1*	*20*	6
7	*20*	*1*	*540*	*1.00*	*Women's Locker Recepts*	*A*	*Men's Hand Dryer*	*1.00*	*1800*	*1*	*20*	8
9	*20*	*1*	**208**	*1.25*	*Night Lights*	*B*	*Men's Swimsuit Dryer*	*1.00*	*1800*	*1*	*20*	10
11					*Bussed Space*	*C*	*Women's Hand Dryer*	*1.00*	*1800*	*1*	*20*	12
13					*Bussed Space*	*A*	*Women's Hand Dryer*	*1.00*	*1800*	*1*	*20*	14
15					*Bussed Space*	*B*	*Women's Swimsuit Dryer*	*1.00*	*1800*	*1*	*20*	16
17					*Bussed Space*	*C*	*RTU-1*	*1.00*	*2160*	*3*	*25*	18
19					*Bussed Space*	*A*	*RTU-1*	*1.00*	*2160*	*3*	*25*	20
21					*Bussed Space*	*B*	*RTU-1*	*1.00*	*2160*	*3*	*25*	22
23					*Bussed Space*	*C*	*RTU-2*	*1.00*	*2160*	*3*	*25*	24
25					*Bussed Space*	*A*	*RTU-2*	*1.00*	*2160*	*3*	*25*	26
27	**15**	**1**	**250**	**1.00**	**Auto Door Controls**	*B*	*RTU-2*	*1.00*	*2160*	*3*	*25*	28
29	**20**	**1**	**1176**	**1.00**	**Automatic Door**	*C*	*HRV-1*	*1.00*	*635*	*2*	*15*	30
31	**20**	**1**	**1176**	**1.00**	**Automatic Door**	*A*	*HRV-1*	*1.00*	*635*	*2*	*15*	32
33	**15**	**2**	**551**	**1.00**	**ECH-1**	*B*	*WHG-1*	*1.00*	*500*	*1*	*20*	34
35	**15**	**2**	**551**	**1.00**	**ECH-1**	*C*	*P-1*	*1.00*	*60*	*1*	*15*	36
37	*20*	*1*			*Spare*	*A*	*Spare*			*1*	*20*	38
39	*20*	*1*			*Spare*	*B*	*Spare*			*1*	*20*	40
41	*20*	*1*			*Spare*	*C*	*Spare*			*1*	*20*	42

CONNECTED LOAD:
PHASE A (VA): 11,236
PHASE B (VA): 10,339
PHASE C (VA): 11,062
TOTAL LOAD (VA): 32,637

CALCULATED DEMAND LOAD:
PHASE A (VA): 11,387
PHASE B (VA): 10,529
PHASE C (VA): 11,062
CALCULATED DEMAND LOAD (VA): 32,978 **91.54 A**

NOTES:

1. **New work shown in BOLD**

PANEL SCHEDULE: LPH

December 13, 2019

BUS RATING: 400 Amperes 3Ø, 4-WIRE
MAIN C.B.: ____ or M.L.O: 400A
MOUNTING: Surface
COMMENTS: New Panelboard

VOLTAGE L-L: 208
VOLTAGE L-G: 120
S.C.RMS RATING (AIC): 22,000

NO.	AMPS	POLE	LOAD (VA)	NEC Demand	LOAD DESCRIPTION	Phase	LOAD DESCRIPTION	NEC Demand	LOAD (VA)	POLE	AMPS	NO.
1	40	3	3696	1.00	CT-1 - Fan Motor	*A*	P-1	1.00	915	2	20	2
3	40	3	3696	1.00	CT-1 - Fan Motor	*B*	P-1	1.00	915	2	20	4
5	40	3	3696	1.00	CT-1 - Fan Motor	*C*	P-2	1.00	562	2	15	6
7	15	3	420	1.00	CT-1 - Pump Motor	*A*	P-2	1.00	562	2	15	8
9	15	3	420	1.00	CT-1 - Pump Motor	*B*	Spare			1	20	10
11	15	3	420	1.00	CT-1 - Pump Motor	*C*	Spare			1	20	12
13	20	3	996	1.00	CT-1 - Sump Heat	*A*	EUH-1	1.00	1104	3	20	14
15	20	3	996	1.00	CT-1 - Sump Heat	*B*	EUH-1	1.00	1104	3	20	16
17	20	3	996	1.00	CT-1 - Sump Heat	*C*	EUH-1	1.00	1104	3	20	18
19	20	1			Spare	*A*	Spare			1	20	20
21	20	1			Spare	*B*	Spare			1	20	22
23	25	2	1664	1.00	Pool 1 Waterfall Pump - O	*C*	A - Hot Water Booster	1.00	1664	2	25	24
25	25	2	1664	1.00	Pool 1 Waterfall Pump - O	*A*	A - Hot Water Booster	1.00	1664	2	25	26
27	25	2	1664	1.00	Pool 2 Waterfall Pump - P	*B*	B - Discharge Pump	1.00	4992	2	60	28
29	25	2	1664	1.00	Pool 2 Waterfall Pump - P	*C*	B - Discharge Pump	1.00	4992	2	60	30
31	25	2	2080	1.00	Pool 1 Jet Boost Pump - Q	*A*	Lights - Equipment Room	1.25	246	1	20	32
33	25	2	2080	1.00	Pool 1 Jet Boost Pump - Q	*B*	Spare			1	20	34
35	20	2	1352	1.00	Spa Blower - R	*C*	E - Chlorinator	1.00	1176	1	20	36
37	20	2	1352	1.00	Spa Blower - R	*A*	K - Water Levek Control	1.00	1176	1	20	38
39	20	2	1248	1.00	Pipe Boost Pump - S	*B*	Bussed Space					40
41	20	2	1248	1.00	Pipe Boost Pump - S	*C*	Bussed Space					42
43	20	1	360	1.00	Exterior Recept	*A*	Exterior Lighting	1.25	450	1	20	44
45	20	1	360	1.00	Exterior Recept	*B*	Exterior Lighting	1.25	450	1	20	46
47	20	1	360	1.00	Exterior Recept	*C*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	48
49	20	1	180	1.00	Flow Meter Recept	*A*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	50
51	20	1	180	1.00	Flow Meter Recept	*B*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	52
53	20	1	180	1.00	Flow Meter Recept	*C*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	54
55	20	1			Spare	*A*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	56
57	20	1			Spare	*B*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	58
59	20	1			Spare	*C*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	60
61	15	1	696	1.00	EF-1	*A*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	62
63	15	1	250	1.00	LV-1	*B*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	64
65	20	1			Spare	*C*	*Future Recir Pumps*	*1.00*	*1019*	*2*	*15*	66
67	20	1	1500	1.00	CCTV System	*A*	Bussed Space					68
69	20	1	1500	1.00	PA System	*B*	Bussed Space					70
71	20	1			Spare	*C*	Bussed Space					72
73	20	1			Spare	*A*	Bussed Space					74
75	20	1			Spare	*B*	Bussed Space					76
77	20	1			Spare	*C*	Bussed Space					78
79					Bussed Space	*A*	Bussed Space					80
81					Bussed Space	*B*	Bussed Space					82
83					Bussed Space	*C*	Bussed Space					84

CONNECTED LOAD:
PHASE A (VA): 22,118
PHASE B (VA): 22,913
PHASE C (VA): 25,154
TOTAL LOAD (VA): 70,186

CALCULATED DEMAND LOAD:
PHASE A (VA): 22,292
PHASE B (VA): 23,025
PHASE C (VA): 25,154
CALCULATED DEMAND LOAD (VA): 70,472 **195.62 A**

NOTES:

1. Not Used.

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SALIDA HOT SPRINGS - OUTDOOR POOLS
410 WEST RAINBOW BOULEVARD
SALIDA, COLORADO, 81201

Front Range Electrical Engineering
3333 South Wadsworth Boulevard - Suite D210
Lakewood, CO 80227 | Phone: 303.985.0548
www.FREEngineer.com

ISSUED FOR:	DATE:
90% REVIEW	9/13/19
BID SET	12/13/19

PROJECT: 19-127

ELECTRICAL SCHEDULES

E0.1

ELECTRICAL PLAN GENERAL NOTES:

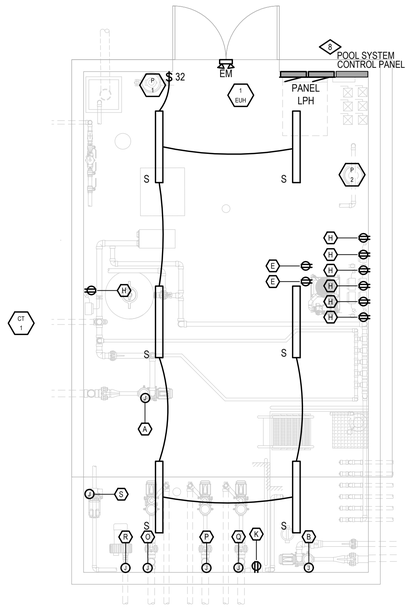
1. PROVIDE OUTLET WITHIN 25' OF EQUIPMENT IN ACCORDANCE WITH NEC 210-63. PROVIDE WEATHERPROOF GFI OUTLET ON ROOFTOPS WITHIN 25' OF ROOFTOP EQUIPMENT.
2. ALL EXTERIOR RECEPTACLES SHALL BE WEATHER RESISTANT AND ENCLOSED IN A WEATHERPROOF EXTRA DUTY ENCLOSURE WHILE IN USE IN ACCORDANCE WITH NEC 406.9(B).
3. FIELD VERIFY FINAL LOCATION OF ALL EQUIPMENT WITH PROVIDER PRIOR TO ROUGH-IN.
4. ALL RECEPTACLES IN BATHROOMS, KITCHENS, ROOFTOPS, EXTERIOR, AND WITHIN 6FT. OF A SINK, AND ALL OTHER REQUIRED LOCATIONS SHALL BE GFCI (OR SERVED BY A GFI CIRCUIT BREAKER) PER NEC 210.8(B) AND 422.5. THE E.C. SHALL PROVIDE GFCI OUTLETS (OR CIRCUIT BREAKERS) IN ALL LOCATIONS REQUIRED BY THE NEC. PROVIDE GFCI TEST SWITCH (OR GFCI BREAKER) IN READILY ACCESSIBLE LOCATION PER NEC.
5. PROVIDE ALL DEMOLITION WORK AS REQUIRED TO ACCOMMODATE THE NEW WORK AS INDICATED ON THE ELECTRICAL PLANS. FIELD VERIFY EXISTING CONDITIONS. PROVIDE ANY ADDITIONAL WORK NECESSARY AS REQUIRED TO PRESERVE EXISTING DEVICES AND BRANCH CIRCUIT COMPONENTS TO REMAIN. REFER TO THE ARCHITECTURAL PLANS FOR DEMOLITION SCOPE OF WORK AND VISIT THE SITE PRIOR TO BID TO DETERMINE THE ELECTRICAL SCOPE OF WORK REQUIRED.
6. CONNECT EGRESS LIGHTING FIXTURES AND EXIT SIGNS TO AREA LIGHTING CIRCUIT AHEAD OF ANY SWITCH PER NEC 700-12(F) INCLUDING ANY NIGHT LIGHTS. FIXTURES SHOWN SHADED OR LABELED ARE EMERGENCY EGRESS (EM) WITH BATTERY PACK, NIGHT LIGHT (NL) OR BOTH (EM/NL).
7. 2x4 LIGHT FIXTURES ARE TYPE 'A' AND DOWNLIGHTS ARE TYPE 'D' UNLESS NOTED.
8. EXIT SIGNS TYPE 'X' AND/OR 'XEM' AND EGRESS LIGHTS TYPE 'EM' SHALL BE NEW WITH EMERGENCY BATTERY PACK, MATCH EXISTING BUILDING STANDARD FIXTURES.
9. PROVIDE NEUTRAL AND GROUND CONDUCTORS THROUGHOUT ALL LIGHTING BRANCH CIRCUITS INCLUDING ALL SWITCH OR LIGHTING CONTROL DEVICE LOCATIONS IN ACCORDANCE WITH NEC.

E ELECTRICAL PLAN KEYED NOTES:

1. EXTERIOR LIGHTING CONTROLS - PROVIDE PHOTOCELL ON/TIMECLOCK OFF CONTROLS AND MULTIPOLE LIGHTING CONTACTOR, PHOTOCELL ON ROOF AND PROGRAMMABLE TIME CLOCK AS REQUIRED. FIELD VERIFY REQUIREMENTS WITH TENANT AND LANDLORD. CIRCUIT TO LPH-44 or 46.
2. AUTOMATIC DOOR OPERATOR - PROVIDE POWER CONNECTION FOR AUTOMATIC DOOR OPERATOR. PROVIDE DEDICATED CIRCUIT WITH DEDICATED GROUND AND NEUTRAL CONDUCTOR. FIELD VERIFY REQUIREMENTS WITH PROVIDER PRIOR TO ROUGH-IN OR ANY WORK.
3. AUTOMATIC DOOR CONTROL BOX - PROVIDE J-BOX AND DATA RACEWAY AT EACH EXTERIOR DOOR, ONE INSIDE AND ONE OUTSIDE, FOR AUTOMATIC DOOR OPERATOR, CONTROLS AND HARDWARE. FIELD VERIFY REQUIREMENTS WITH TENANT/PROVIDER PRIOR TO INSTALLATION.
4. AUTOMATIC DOOR - PROVIDE POWER CONNECTION TO DOOR MOTOR AND ADDITIONAL POWER AND CONTROL WIRING AS REQUIRED FOR CONTROLS. FIELD VERIFY REQUIREMENTS WITH PROVIDER PRIOR TO ROUGH-IN OR ANY WORK.
5. GAS FIREPLACE - PROVIDE POWER FOR IGNITOR AND WALL SWITCH CONTROLS. FIELD VERIFY FINAL LOCATION AND REQUIREMENTS WITH TENANT AND PROVIDER.
6. EPO SWITCH - PROVIDE EPO SWITCH (EMERGENCY SHUT OFF) WITH AUDIBLE ALARM TO SHUT DOWN CIRCUITS TO POOL PUMPS, AIR BLOWERS, UNDERWATER LIGHTS AND ALL ASSOCIATE EQUIPMENT SO THEY ARE NO LONGER OPERATING AND ACTIVATE AN AUDIBLE ALARM AND LIGHT NEAR SPA. FIELD VERIFY FINAL LOCATION OF DEVICES AND WIRING REQUIREMENTS WITH PROVIDER PRIOR TO ROUGH-IN OR ANY WORK.
7. GAS FIRE PIT VALVE - PROVIDE SWITCH TO CONTROL SOLENOID VALVE ON GAS LINE. SWITCH TO BE LOCATED ON EXTERIOR WALL FOR USE. SWITCH TO BE CONNECTED TO TIMECLOCK. PROVIDE CONTROL WIRING AS REQUIRED. PROVIDE LOCKABLE WEATHERPROOF COVER. FIELD VERIFY FINAL LOCATION AND WIRING REQUIREMENTS WITH PROVIDER PRIOR TO ANY ROUGH-IN OR ANY WORK.
8. POOL SYSTEM CONTROL PANEL - PROVIDE ALL POWER AND CONTROL WIRING NECESSARY FOR A COMPLETE INSTALLATION, FIELD VERIFY REQUIREMENTS WITH PROVIDER. POOL EQUIPMENT MAY BE POWERED DIRECTLY FROM THIS PANEL OR CONTAIN RELAYS FOR LOW VOLTAGE CONTROLS. INCLUDE IN BID ROUTING OF ALL CONTROLLED LINE VOLTAGE POWER THROUGH THIS PANEL IF NECESSARY AND VERIFY REQUIREMENTS WITH PROVIDER.

NEC 680 SUMMARY - SWIMMING POOL REQUIREMENTS: THE REQUIREMENTS FOR SWIMMING POOLS, FOUNTAINS, AND SIMILAR INSTALLATIONS AREAS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 680 AND CAN NOT BE OVERRIDDEN BY NOTES, SCHEDULES OR ANY OTHER LABELING OF CIRCUITS OR CONDUCTORS THAT MAY APPEAR ON THESE DRAWINGS OR DRAWINGS PROVIDED BY OTHERS.

1. Overhead conductors shall be ten feet (10') horizontally from the inside edge of the pool in accordance with NEC 680.8.
2. Underground wiring shall not be permitted under the pool or under the area extending five feet (5') horizontally from the inside wall of pools in accordance with NEC Section 680.10.
3. Receptacles on the property must be at least six feet (6') from the inside walls of the pool in accordance with NEC 680.22(A)(2).
4. Receptacles that provide power for the water pump motor or for other loads directly related to the circulation and sanitation system, shall be single and of the locking and grounding type, protected by a GFCI in accordance with 680.22(A)(1).
5. All 15- and 20-ampere, single-phase, 125-volt receptacles located within 6.0 m (20 ft) of the inside walls of a pool shall be protected by a ground-fault circuit interrupter in accordance with NEC 680.22(A)(4).
6. Outlets supplying pool pump motors from branch circuits with short-circuit and ground-fault protection rated 15 or 20 amperes, 125 volt or 240 volt, single phase, whether by receptacle or direct connection, shall be provided with ground-fault circuit-interrupter protection for personnel in accordance with NEC 680.22(B)
7. For installations in indoor pool areas, the clearances shall be the same as for outdoor areas unless modified as provided in this paragraph. If the branch circuit supplying the equipment is protected by a ground-fault circuit interrupter, the following equipment shall be permitted at a height not less than 2.3 m (7 ft 6 in.) above the maximum pool water level: (1) Totally enclosed luminaires (2) Ceiling-suspended (paddle) fans identified for use beneath ceiling structures such as provided on porches or patios in accordance with NEC 680.22(C)(2)
8. Luminaires, lighting outlets, and ceiling-suspended (paddle) fans installed in the area extending between 1.5 m (5 ft) and 3.0 m (10 ft) horizontally from the inside walls of a pool shall be protected by a ground-fault circuit interrupter unless installed not less than 1.5 m (5 ft) above the maximum water level and rigidly attached to the structure adjacent to or enclosing the pool in accordance with NEC 680.22(C)(4)
9. Cord-and-Plug-Connected Luminaires. Cord-and-plug-connected luminaires shall comply with the requirements of 680.7 where installed within 4.9 m (16 ft) of any point on the water surface, measured radially in accordance with NEC 680.22(C)(5)
10. Switching Devices. Switching devices shall be located at least 1.5 m (5 ft) horizontally from the inside walls of a pool unless separated from the pool by a solid fence, wall, or other permanent barrier. Alternatively, a switch that is listed as being acceptable for use within 1.5 m (5 ft) shall be permitted in accordance with NEC 680.22(D)
11. Grounding. An equipment grounding conductor shall be installed with the feeder conductors between the grounding terminal of the pool equipment panelboard and the grounding terminal of the applicable service equipment or source of a separately derived system. For other than (1) existing feeders covered in 680.25(A), Exception, or (2) feeders to separate buildings that do not utilize an insulated equipment grounding conductor in accordance with 680.25(B)(2), this equipment grounding conductor shall be insulated in accordance with NEC 680.25(B)
12. All perimeter surfaces around the pools must be bonded in accordance with NEC 680.26 - the equipotential bonding required by this section shall be installed to reduce voltage gradients throughout the pool area.

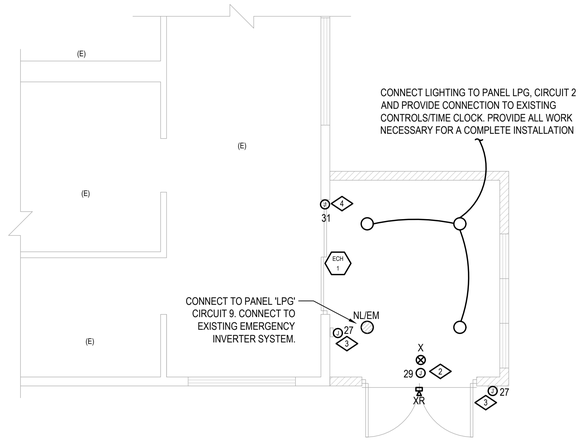


3 E1.0 EQUIPMENT ROOM - ELECTRICAL PLAN

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

NUMBERS NEXT TO DEVICES REFER TO CIRCUIT DESIGNATION IN PANEL 'LPH' UNLESS NOTED.

Project North

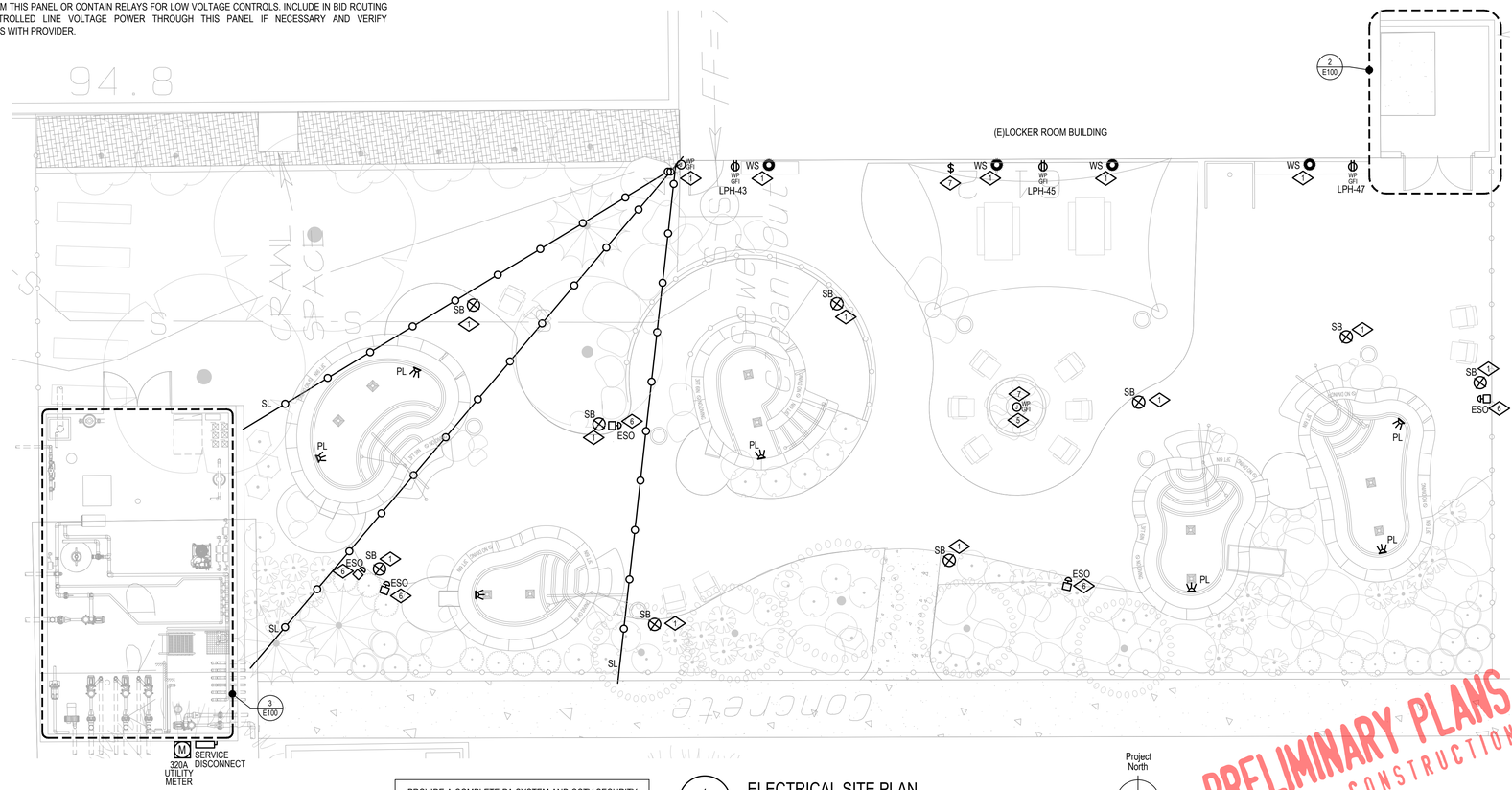


2 E1.0 PARTIAL FLOOR PLAN - ELECTRICAL PLAN

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

NUMBERS NEXT TO DEVICES REFER TO CIRCUIT DESIGNATION IN PANEL 'LPG' UNLESS NOTED.

Project North



PROVIDE A COMPLETE PA SYSTEM AND CCTV SECURITY CAMERA SYTEM - SEE NOTES ON SHEET E0.0.

1 E1.0 ELECTRICAL SITE PLAN

SCALE: 3/16" = 1'-0"

Project North

PRELIMINARY PLANS NOT FOR CONSTRUCTION

SALIDA HOT SPRINGS - OUTDOOR POOLS
410 WEST RAINBOW BOULEVARD

SALIDA, COLORADO, 81201

Front Range Electrical Engineering
3333 South Wadsworth Boulevard - Suite D210
Lakewood, CO 80227 | Phone: 303.985.0548
www.FREEngineer.com

ISSUED FOR:	DATE:
90% REVIEW	9/13/19
BID SET	12/13/19

PROJECT: 19-127

ELECTRICAL PLAN

E1.0

GENERAL POOL REQUIREMENTS

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, THE REFERENCE DOCUMENTS AND STANDARD SPECIFICATIONS FOR THIS PROJECT SHALL BE:

   1.1. THE STATE OF COLORADO CODE OF REGULATIONS - DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENTAL; WATER QUALITY CONTROL DIVISION; SWIMMING POOLS AND MINERAL BATHS TITLE 5CCR 1003-5
   1.2. THE 2015 INTERNATIONAL SWIMMING POOL AND SPA CODE (2015 ISPSC)
   1.3. THE 2018 MODEL AQUATIC HEALTH CODE (THE MODEL AQUATIC HEALTH CODE HAS NOT BEEN ADOPTED BY THE STATE OF COLORADO AT THIS TIME, BUT WAS UTILIZED WHEN THE 5 CCR 1003-5 AND 2015 ISPSC HAD NO REQUIREMENTS).

2. WATER DEPTH AND POOL DIMENSIONS ARE SHOWN TO FINAL PLASTER OR TILE FINISH. ADD 3/8" TO EACH DIMENSION FOR DISTANCE TO STRUCTURAL CONCRETE. STRUCTURAL DETAILS ARE MEASURED TO FINISHED CONCRETE.
3. POOL CONTRACTOR TO PROVIDE A WATER-TIGHT STRUCTURE AT THE CONCLUSION OF THE PROJECT.
4. POOL FLOOR SLOPES ARE SHOWN ON PLANS, BUT FLOOR SLOPES SHALL NOT EXCEED 1:12 (8.33%).
5. POOL DECK SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE POOL RIM . POOL DECK SLOPES MAY NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION IN ORDER TO SATISFY THE REQUIREMENTS OF THE AMERICANS WITH DISABILITY ACT (ADA) AND ALL COLORADO ACCESSIBILITY STANDARDS.
6. REFER TO CIVIL DRAWINGS FOR DECK DIMENSIONS AND LANDSCAPE ARCHITECT FOR DECK FINISHES.
7. AN EXPANSION JOINT IS DENOTED BY 'EJ' BETWEEN THE BACK OF POOL/SPA COPING AND THE CONCRETE DECKS. ALL POOL/SPA EXPANSION JOINTS SHALL BE SEALED WITH SELF-LEVELING URETHANE. REFER TO OTHERS FOR ADDITIONAL EXPANSION AND SAWED CONTROL JOINTS. DECK INSTALLER SHALL INSTALL EXPANSION JOINT MATERIALS.
8. ALL CORNERS PROTRUDING INTO POOLS SHALL HAVE A RADIUS OF 2" OR LARGER.
9. CLEAR SPACING BETWEEN MAIN DRAINS MUST BE A MINIMUM OF 3'-0".
10. ALL WORK SHALL BE DONE IN CONFORMANCE WITH INTERNATIONAL BUILDING CODE AS REVISED AND ADOPTED BY THE CITY OF SALIDA/CHAFFEE COUNTY.
11. PRIOR TO BEGINNING CONSTRUCTION OF THE POOLS, THE POOL CONTRACTOR MUST OBTAIN ALL REQUIRED PERMITS FROM THE CITY/COUNTY.
12. A HOSE BIB SHALL BE PROVIDE FOR WASHING DOWN THE POOL DECK (REFER TO M&P DRAWINGS).
13. WRITTEN DIMENSIONS GOVERN OVER SCALED DIMENSIONS.
14. GENERAL NOTES ON THIS SHEET DO NOT DEFINE ALL WORK REQUIRED IN THE PROJECT. CONTRACTORS SHALL REFER TO ALL PLANS AND SPECIFICATIONS FOR FULL DEFINITION OF WORK FOR THE PROJECT.
15. POOL DIMENSIONAL TOLERANCE FOR WATER DEPTH AND STAIR RISERS IS TO BE +/- 1/4".
16. TESTING FOR WORK & MATERIALS ON THE PROJECT MUST BE PERFORMED PER CITY STANDARDS. IF THE MATERIAL BEING TESTED FAILS IN ANY WAY THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURTHER TESTING AND ANY ADDITIONAL WORK TO MEET THE DESIGN REQUIREMENTS.
17. WATER PROOF, WATERTIGHT, IMPERVIOUS, AND/OR IMPERMEABLE AS SPECIFIED FOR THIS PROJECT ARE ALL DEFINED AS A COMPLETED AND FILLED WATER VESSEL WITH A MEASURABLE LOSS OF LESS THAN 25GPD PER 1,000 SQUARE FEET OF WATER SURFACE AREA, EXCLUSIVE OF EVAPORATION.
18. WATER LOSSES FROM ALL SOURCES SHALL BE MEASURED BY THE POOL CONTRACTOR USING A METHOD APPROVED BY THE ENGINEER. THE POOL CONTRACTOR SHALL RECORD AND SEND RESULTS OF THE LOSS TESTING TO THE ENGINEER. IF TESTING INDICATES EXCESSIVE LOSSES THEN THE POOL CONTRACTOR SHALL SUBMIT TO THE ENGINEER A REMEDIATION PLAN FOR APPROVAL AND, ONCE APPROVED, PROCEED TO REMEDIATE WATER LOSSES.

POOL SAFETY EQUIPMENT:

1. A PHONE CAPABLE OF IMMEDIATELY SUMMONING EMERGENCY HELP MUST BE INSTALLED AT THE POOL SITE WITHIN 200 FT OF THE POOL'S WATER EDGE. IF ENCLOSURE FOR POOL WILL BE LOCKED AT ANY TIME, THE PHONE MUST BE ACCESSIBLE TO ALL POOL USERS AND FREE OF CHARGE. CONFIRM ALL EXISTING EMERGENCY PHONES WITH THE AQUATIC CENTER.
2. LIFESAVING EQUIPMENT SHALL BE PROVIDED AND MEET THE MINIMUM REQUIREMENTS 2015 INTERNATIONAL SWIMMING POOL AND SPA CODE.
3. EACH SET OF LIFESAVING EQUIPMENT SHALL CONSIST OF 12-FOOT (MINIMUM) CORROSION RESISTANT,NON-CONDUCTIVE, NON-TELESCOPING REACHING POLE INCLUDING A BODY HOOK, 1/4" - 3/8" THROWING ROPE THAT HAS A LENGTH OF AT LEAST 1-1/2 TIMES THE MAXIMUM WIDTH OF THE BODY OF WATER (OR 50-FEET) WHICHEVER IS LESS WITH A USCG APPROVED RING BUOY (15"-24" DIAMETER) ATTACHED.
4. PROVIDE FIRST AID EQUIPMENT INCLUDING A FIRST AID KIT.

POOL SIGNAGE NOTES

1. OWNER IS RESPONSIBLE FOR PROVIDING ALL SPECIFIC SIGNAGE REQUIRED. SIGNAGE MUST BE EASILY SEEN FROM ALL AREAS OF THE POOLS AND THE POOL DECKS.
2. GENERAL SIGNAGE SHALL BE INSTALLED IN PLAIN VIEW OF POOLS AS FOLLOWS:

   2.1. "WARNING - NO LIFEGUARD ON DUTY" SIGN WITH 4-INCH TALL LETTERS (ONLY APPLIES IF A LIFEGUARD WILL NOT BE ON DUTY WHEN THE SOAKING POOLS ARE OPEN TO THE PUBLIC).
   2.2. "CHILDREN SHOULD NOT USE POOL WITHOUT ADULT SUPERVISION" SIGN WITH 2-INCH TALL LETTERS.
   2.3. "NO DIVING" SIGN WITH AN INTERNATIONAL WARNING SYMBOL FOR NO DIVING. LETTERS SHALL BE 4-INCHES TALL
   2.4. SIGN DESCRIBING THE LOCATION OF EMERGENCY PHONE.
   2.5. GENERAL POOL RULES SIGNAGE SHALL BE POSTED.
   2.6. MAXIMUM POOL USER LIMITS SHALL BE POSTED.

3. PROVIDE SIGNAGE INDICATING THE LOCATION OF THE EMERGENCY PHONE AT ALL POOL ENCLOSURE ENTRIES/EXITS. (LETTERS SHALL BE A MINIMUM OF 1-INCH TALL.)
4. AT THE EMERGENCY PHONE LOCATION, PROVIDE SIGNAGE STATING "FOR EMERGENCY, DIAL 9-1-1" IN 1-INCH LETTERS (MIN) OR OTHER APPROPRIATE SIGNAGE INDICATING PROPER OPERATING INSTRUCTIONS FOR THE EMERGENCY PHONE. PROVIDE SIGNAGE INDICATING THE PHYSICAL ADDRESS OF THE FACILITY AND PHONE NUMBER AT THIS LOCATION.
5. PROVIDE SIGANGE AT EACH EMERGENCY SHUTOFF SWITCH CLEARLY IDENTIFYING THE PUMP EMERGENCY SHUTOFF SWITCH.
6. PROVIDE SIGNAGE ON POOL CHEMICAL STORAGE ENCLOSURE STATING "DANGER POOL CHEMICALS".
7. PROVIDE NFPA 704 MARKING SYSTEM IDENTIFICATION PLACARD ON ENTRY/EXIT OF ALL POOL EQUIPMENT ENCLOSURES.
8. PROVIDE ANY ADDITIONAL SIGNAGE NECESSARY FOR THE NATURAL HOT SPRING SOAKING POOLS THAT MEETS OR EXCEEDS THE REQUIREMENTS OF THE 5 CCR 1003-5 BY THE STATE OF COLORADO.

POOL ENCLOSURE NOTES

1. REFER TO LANDSCAPE DRAWINGS FOR ALL POOL ENCLOSURE DETAILS AND REQUIREMENTS.
2. ALL POOL ENCLOSURES SHALL MEET THE MINIMUM REQUIREMENTS OF SECTION 3.24 OF 5 CCR 1003-5 AND SECTION 305 OF THE 2015 ISPSC.
3. BUILDINGS ADJACENT TO POOL AREA SHALL NOT HAVE OPERABLE WINDOWS THAT ALLOW UNSUPERVISED ACCESS ONTO POOL DECK.
4. ANY BUILDING DOORS THAT OPEN ONTO THE POOL DECK MUST BE SUPERVISED OR HAVE SELF-CLOSING, SELF-LATCHING HARDWARE THAT DOES NOT ALLOW SMALL CHILDREN ACCESS INTO THE POOL AREA WITHOUT SUPERVISION.
5. ALL GATES AND DOORS MUST HAVE SELF-CLOSING, SELF-LATCHING HARDWARE, CAPABLE OF BEING LOCKED, AND OPEN AWAY FROM THE BODY OF WATER.
6. FENCING THAT IS PART OF THE POOL ENCLOSURE SHALL NOT HAVE OPENINGS THAT PERMIT PASSAGE OF A 4-INCH DIAMETER SPHERE.
7. ANY FENCE USED AS AN ENCLOSURE MUST HAVE A MINIMUM EFFECTIVE PERPENDICULAR HEIGHT OF 4 FEET.
8. GATE HARDWARE MUST BE MOUNTED A MINIMUM OF 42" ABOVE WALKING SURFACE.
9. FENCE SHALL BE OF "CLIMB-RESISTANT" CONSTRUCTION.
10. GATE HANDLES/ENTRY DEVICES SHOULD BE MOUNTED OUT OF REACH OF SMALL CHILDREN.

PLASTER NOTES

1. PROVIDE DIAMOND BRITE QUARTZ BASED PLASTER BY SOUTHERN GROUTS AND MORTARS. REFER TO OWNER/LANDSCAPE ARCHITECT FOR COLOR.
2. PRIOR TO PLASTERING, THE CONCRETE SURFACE OF EACH POOL SHALL BE THOROUGHLY CLEANED TO REMOVE ANY FOREIGN MATERIAL THAT WILL HINDER THE BOND BETWEEN THE PLASTER AND CONCRETE SHELL.
3. INSTALL PLASTER THICKNESS AS SHOWN ON THE PLANS. PLASTER SHALL NOT BE INSTALLED WITH A THICKNESS LESS THAN 3/8" OR GREATER THAN 3/4".
4. PLASTERING MAY ONLY BE PERFORMED WITH THE AMBIENT TEMPERATURE IS BETWEEN 40°F TO 90° F.
5. PLASTER SHALL NOT BE WORKED ONCE THE FINISH HAS PAST ITS FINAL SET.
6. THE PLASTERED STRUCTURE SHALL BE FILLED WITH WATER IMMEDIATELY AFTER PLASTER HAS SET UP.
7. PLASTERING SHALL NOT TAKE PLACE DURING WINDY CONDITIONS OR WHEN OTHER CONSTRUCTION IS TAKING PLACE THAT MAY CONTAMINATE THE PLASTER (SUCH AS PAINTING OR LANDSCAPE INSTALLATION NEARBY THE POOL).
8. THE POOL SHALL BE IMMEDIATELY FILLED WITH POTABLE WATER AT THE CONCLUSION OF PLASTERING.
9. THE POOL SHALL BE BRUSHED TWICE DAILY TO REMOVE LAITANCE FOR AT LEAST TWO WEEKS FOLLOWING PLASTERING AND FILLING. THE POOL FILTER SHALL BE BACKWASHED REGULARLY DURING THIS TIME TO RESTORE CLARITY TO THE WATER.

WALL TILE IN SWIMMING POOL BODY NOTES

1. THE POOL STRUCTURE SHALL BE PREPARED, LEVELED, AND CURED PER MANUFACTURER'S SPECIFICATIONS BEFORE MORTAR BEDS AND TILE ARE INSTALLED.
2. ALL LOCATIONS OF TILE APPLICATION SHALL BE TREATED WITH LATTICRETE HYDROBAN OR EQUAL WATERPROOFING. PRODUCT TO ADHERE TO ANSI A108.13 AND ANSI A108.17.
3. ENVIRONMENTAL CLASSIFICATION FOR TILE AT A POOL INSTALLATION IS CLASS 3 OR 5 COMMERCIAL PER TCNA INSTALLATION PRACTICE HANDBOOK (LATEST ADDITION).
4. CERAMIC TILE SHALL BE ANSI A137 AND RECOMMENDED IN WRITING FOR THE USE IN POOLS AND OTHER WATER FEATURES.
5. TILE BOND COAT COVERAGE SHALL BE A MINIMUM 95% CONTACT WITH TILE AND SUBSTRATE.
6. THIN BED TILE INSTALLATION (TNCA P601TB-14) IS PERMISSIBLE FOR ALL POOLS EXCEPT COMPETITION LAP POOLS. USE LATTICRETE 254 PLATINUM POLYMER FORTIFIED THIN-SET MORTAR.
7. GLASS TILE SHALL BE ANSI A137.2 AND RECOMMENDED IN WRITING FOR THE USE IN POOLS AND OTHER WATER FEATURES.
8. REFER TO DETAILS FOR TILE MATERIAL DEFINITION. IF NOT INDICATED ON DETAILING - CERAMIC TILE SHALL BE ASSUMED DALTILE INDUSTRIAL PARK LINE OR EQUAL.
9. CEMENTITIOUS GROUT SHALL BE ANSI A118.6 OR BETTER OR ISO CG1 OR BETTER. LATTICRETE PERMACOLOR GROUT OR EQUAL.
10. EPOXY GROUT SHALL BE ANSI A118.3 OR ISO RG COMPLIANT AND EQUAL TO OR GREATER THAN LATTICRETE SPECTRALOCK PRO GROUT.
11. CEMENTITIOUS BOND COAT SHALL COMPLY WITH ANSI A118.15 OR BETTER OR ISO C2S1 OR BETTER.
12. TILE JOINTS SHALL BE EVEN HORIZONTAL JOINTS IN THE WALL. TILE SHALL BE PARALLEL TO THE WATER SURFACE OF THE POOL. HORIZONTAL JOINTS SHALL NOT DEVIATE FROM HORIZONTAL BY MORE THAN +/- 1/8".
13. TILE SHALL BE INSTALLED WITH NO PROTRUDING SHARP CORNERS OR EDGES.
14. WALL TILE JOINTS AROUND CORNERS SHALL ALIGN WITH NO OFFSET.
15. TILE SHALL BE INSTALLED PLANAR WITH NO DEVIATION FROM A 10' STRAIGHT-EDGE EXCEEDING +/- 1/8" ON STRAIGHT SECTIONS OF WALL.

UTILITY NOTES

1. CONTACT THE APPROPRIATE AUTHORITIES WITH RESPECT TO LOCATION OF EXISTING UTILITIES AT LEAST 48 HOURS PRIOR TO WORK IN THE AREA.
2. ONE CALL: 1-800-669-8344
3. IT'S THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

811

CAUTION!! UNDERGROUND UTILITIES INSTALLED NEAR POOL DECK AND EQUIPMENT LOCATION. (REF. CIVIL FOR LOCATION)

EQUIPMENT AND PLUMBING NOTES

WATER QUALITY NOTES

1. REQUIREMENTS OF THE 5 CCR 1003-5 SHALL BE FOLLOWED AT ALL TIMES.
2. PER ARTICLE V OF THE 5 CCR 1003-5, THE WATER SHALL BE EXCHANGED BY FLOW-THROUGH UNUSED WATER SUCH THAT THE BASIN CAPACITY IS PROVIDED WITH A COMPLETE CHANGE IN WATER EVERY TWO HOURS OR LESS.
3. THE BACTERIAL QUALITY OF THE WATER IN THE POOLS SHALL NOT HAVE A FECAL COLIFORM DENSITY IN EXCESS OF 1 PER 100 mL SAMPLE.
4. ANY WATER SAMPLE SHALL NOT CONTAIN MORE THAN 200 BACTERIA PER mL AS DETERMINED BY THE STANDARD (35 DEGREES CELSIUS) PLATE COUNT PER THE 18TH EDITION OF STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER.
5. A MAXIMUM OF 235 ESCHERICHIA COLI PER 100 mL SAMPLE.
6. ALL CHEMICALS USED FOR ALGAE CONTROL SHALL BE APPROVED BY THE COLORADO DEPARTMENT OF HEALTH.

WATER QUALITY TESTING REQUIREMENTS

FREQUENCY:	TEST
2 HOUR INTERVAL	TEMPERATURE
DAILY	FLOWMETER READINGS
WEEKLY/AS REQUIRED	Ph, SATURATION INDEX, CALCIUM HARDNESS, TOTAL ALKALINITY
MONTHLY	SCBA OR CANISTER TYPE RESPIRATOR CHECK RESPIRATOR CANISTER EXPIRATION

GENERAL POOL ELECTRICAL NOTES

1. ALL ELECTRICAL INSTALLATIONS MUST COMPLY WITH THE 2014 N.E.C. OR MOST CURRENT EDITION OF THE (NEC).
2. GFCI PROTECTION IS REQUIRED FOR ALL RECEPTACLES WITHIN 20-FEET OF THE WATER'S EDGE AND FOR LIGHTING OUTLETS WITHIN 10-FEET OF THE WATER'S EDGE PER THE NEC 680.22
3. ALL CONDUIT TO BE WATERTIGHT SCHEDULE 40 PVC UNLESS NOTED OTHERWISE.
4. AN ELECTRICIAN LICENSED IN THE STATE OF COLORADO SHALL CONDUCT A MINIMUM OF TWO INSPECTIONS DURING AND AFTER CONSTRUCTION.
5. POOL CONTRACTOR TO RUN LIGHTING CONDUIT AND CONDUCTORS TO JUNCTION BOX. JUNCTION BOX IS BY ELECTRICIAN AND NOT BY POOL CONTRACTOR. CIRCUITING FROM JUNCTION BOX TO PANEL BY ELECTRICIAN AND NOT BY POOL CONTRACTOR.
6. ALL JUNCTION BOXES FOR IN-POOL LIGHTING SHALL BE INSTALLED AT THE CODE REQUIRED DISTANCE AT OR ABOVE THE POOL RIM ELEVATION. ELECTRICIAN TO LOCATE ALL JUNCTION BOXES.
7. ELECTRICIAN SHALL WIRE POOL PUMPS AND OTHER EQUIPMENT TO THE PANEL (PANEL DESIGNED AND PROVIDED BY OTHERS). BREAKERS PROVIDED BY ELECTRICAL CONTRACTOR.
8. ELECTRICAL CONTRACTOR TO PROVIDE LIGHTING, VENTILATION, CONVENIENCE OUTLETS AND GENERAL POWER DISTRIBUTION WITHIN THE POOL MECHANICAL ROOM, SITE, AND NATATORIUM AS SHOWN IN THIS PLAN SET. NOT BY POOL CONTRACTOR.
9. LOW VOLTAGE WIRING BY POOL CONTRACTOR.
10. POOL CONTRACTOR TO PROVIDE ELECTRICAL EQUIPOTENTIAL BONDING FOR ALL METAL PARTS PER NEC ARTICLE 680. THE FOLLOWING LIST IS INTENDED TO ASSIST THE CONTRACTOR BUT IS NOT NECESSARILY ALL INCLUSIVE. REFER TO N.E.C. THE FOLLOWING ITEMS MUST BE BONDED:
    METAL LADDERS, HAND RAILS, AND THEIR ANCHORAGE SLEEVES
    METAL LIGHT NICHES, LUMINAIRES
    POOL EQUIPMENT, MOTORS, HEATERS, AND OTHER METAL COMPONENTS
    DECK REINFORCING STEEL GRID
    POOL AND SPA REINFORCING STEEL GRID
    METAL DOORS, WINDOWS, STEEL STRUCTURES WITHIN 5'-0" OF THE POOL WATER
    GRAB BARS FOR THE HANDICAPPED TRANSFER SYSTEMS
    ANY OTHER METAL PART WITHIN 5'-0" OF THE WATER IN EXCESS OF 4 SQUARE INCHES OR PROJECTING INTO THE POOL BY MORE THAN 1"
11. FOR THIS PROJECT THE BONDING GRID IS THE REINFORCING STEEL IN THE POOL SHELL.
12. CONNECT ALL METAL PARTS TO THE BONDING GRID WITH #8 BARE COPPER WIRE. CLAMP TO REINFORCING STEEL WITH U.L. LISTED COMPRESSION SCREW CLAMPS. WRAPPING WIRE IS NOT ACCEPTABLE.
13. BOND THE POOL REINFORCING STEEL TO THE DECK IN AT LEAST SIX EVENLY SPACED LOCATIONS WITH WIRE AND CLAMPS. TIE WIRE IS NOT SUFFICIENT.
14. ANY ELECTRICAL WORK NOT SPECIFICALLY REQUIRED OF THE POOL CONTRACTOR IS THE RESPONSIBILITY OF THE BUILDING ELECTRICAL CONTRACTOR. IT IS THE INTENT OF THE CONSTRUCTION DOCUMENTS THAT ALL ELECTRICALLY POWERED DEVICES BE BOTH POWERED AND PROPERLY GROUNDED AND WORKING PROPERLY.
15. RIGID CONDUIT BURY DEPTH REQUIREMENTS: REF. TABLE 300.5 OF THE NEC

LOCATION	DIRECT BURY	METAL	SCH 80 PVC
BELOW PARKING, DRIVEWAYS	24"	24"	24"
AT POOL DECK WITH CONC. >4" THICK	18"	4"	4"
IN BUILDING	0"	0"	0"
LANDSCAPING, SODDED, GRASS, AREAS	24"	6"	18"

BONDING NOTES

1. ALL METAL COMPONENTS OF EACH POOL (INCLUDING BUT NOT LIMITED TO LADDERS, REINFORCING STEEL, HANDRAILS, LIGHT NICHES, FOUNTAIN NOZZLES, AND MECHANICAL EQUIPMENT) TO BE ELECTRICALLY BONDED PER SECTION 680 OF THE NATIONAL ELECTRICAL CODE (NEC) BONDED PER NEC ARTICLE 680 2014.
2. CONNECTIONS TO BONDED PARTS OF THE BONDING GRID FOR THE POOL SHALL BE MADE WITH UL LISTED BONDING CONNECTORS OR OTHERWISE AS REQUIRED BY SECTION 250.8 OF THE NATIONAL ELECTRIC CODE (N.E.C.).
3. PROVIDE CONTINUOUS BONDING LOOP CONNECTING THE METAL COMPONENTS OF THE POOL. BONDING WIRE SHALL BE 8 GA. (OR LARGER) COPPER.
4. BONDING SHALL BE WITH UL LISTED BONDING CONNECTORS AND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH SECTION 250.8 OF THE N.E.C.
5. PERIMETER SURFACES EXTENDING 3 FT (1-METER) BEYOND THE INSIDE WALL OF THE POOL SHALL BE BONDED USING METHODS COMPLIANT WITH 680.26(B)(2) OF THE N.E.C.
6. ALL FIXED METAL COMPONENTS WITHIN 5-FEET OF THE WATER'S EDGE SHALL BE BONDED AS REQUIRED BY THE NEC 680.26(B)(1).
7. ALL LIGHT FIXTURES WITHIN 10 FT OF THE WATER'S EDGE AND ALL ELECTRICAL RECEPTACLES WITHIN 20 FT OF THE WATER'S EDGE SHALL COMPLY WITH REQUIRED GFCI PROTECTION PER 680.22 OF THE N.E.C.

PLUMBING NOTES

1. ALL BURIED PIPING IN THE POOL SYSTEM SHALL MEET AT A MINIMUM U.S. ASTM D-1785-2006 TYPE 1, GRADE 1, SCHEDULE 40 STANDARDS UNLESS OTHERWISE NOTED. ALL PLUMBING (PIPE AND FITTINGS) SHALL BE CHARLOTTE PIPE, JM EAGLE, SPEARS, MUELLER OR EQUAL MANUFACTURER.
2. ALL HOT WATER SUPPLY LINES BETWEEN THE EQUIPMENT ROOM AND SOAKING POOLS SHALL BE 2" IPS DR 11 HDPE (CONFORMING TO ASTM D 3350) WITH FUSION WELDED FITTINGS. ALL HDPE PIPE AND FITTINGS TO BE JM EAGLE.
3. BURIED POOL PLUMBING TO BE A MINIMUM OF 6" BELOW FROST LEVEL (30" MIN BELOW FINISH GRADE). ALL PIPE SYSTEMS SHALL BE PRESSURED CHECK TO A PRESSURE OF 25 PSI FOR 30 MINUTES TO ENSURE A WATERTIGHT SYSTEM. PRESSURE IN THE PIPE SYSTEM MUST BE MAINTAINED THROUGHOUT THE CONCRETE SHELL PLACEMENT AND DECK PLACEMENT.
4. PLUMBING MAY BE BURIED IN COMMON TRENCHES WHEN POSSIBLE.
5. PLUMBING LOCATIONS MAY VARY SLIGHTLY FROM THOSE SHOWN ON THIS DRAWING.
6. ALL PIPE SIZES ARE STATED IN NOMINAL PIPE SIZES
7. VALVES SHALL BE PROPORTIONAL FLOW TYPE VALVES (BALL), GATE VALVES ARE NOT ACCEPTABLE.
8. ALL VALVES 3" AND SMALLER SHALL BE SPEARS TRUE UNION VALVES OR EQUAL. ALL VALVES 4" AND GREATER SHALL BE ASAHI EPDM BUTTERFLY VALVES OR EQUAL
9. WATER SUPPLY LINES TO POOL AUTO-FILL UNITS SHALL HAVE REDUCED PRESSURE ZONE (RPZ) OR OTHER APPROVED BACKFLOW PREVENTION DEVICE REFER TO OTHERS FOR RPZ'S, WATER LINES AND BACKWASH DRAIN LINES TO BE EXTENDED TO EACH POOL EQUIPMENT ROOM.
10. ALL PLUMBING PENETRATIONS THROUGH CONCRETE POOL STRUCTURES OR BASINS HOLDING WATER SHALL HAVE NO-LEAK FLANGES INSTALLED. LINK SEAL GASKETS SHALL BE INSTALLED ON ALL PENETRATIONS THAT ARE CORED OR CLEEVED.
11. PIPE LAYOUT SHOWN IS SCHEMATIC IN NATURE AND INDICATES THE GENERAL PIPE ROUTING. OUTSIDE OF MINOR REALIGNMENTS AS REQUIRED BY FIELD CONDITIONS, IT IS ASSUMED PIPING INSTALLATION WILL FOLLOW THE DESIGNED LAYOUT. PIPE SYSTEMS SHALL BE INSTALLED IN SUCH A WAY TO REDUCE THE AMOUNT OF FITTINGS USED. CONTRACTOR SHALL REQUEST ANY CHANGE TO THE LAYOUT AND PROVIDE REDLINE DOCUMENTATION ON PLUMBING SHEETS TO AQUEOUS ENGINEERING FOR APPROVAL BEFORE PIPING IS INSTALLED.
12. ALL INDIVIDUAL POOL INLET BRANCH LINES TO BE 1.5" UNLESS NOTED OTHERWISE.
13. ALL INDIVIDUAL SKIMMER BRANCH LINES TO BE 2" UNLESS NOTED OTHERWISE.
14. ALL POOL MAIN DRAIN SUMPS, FRAMES, AND GRATES MUST COMPLY WITH VIRGINIA GRAEME BAKER ACT. SUCTION DEVICES SHALL COMPLY WITH ANSI/APSP-16 VGB STANDARD.
15. POOL PLUMBING LOCATED BENEATH THE POOL FLOOR SHALL BE CONCRETE ENCASED SO IT IS INTEGRAL WITH THE POOL/SPA STRUCTURE. PLUMBING BENEATH POOL FLOOR SHALL NOT ENCROACH IN THE NORMAL THICKNESS OF THE FLOOR.
16. ALL UNDERWATER POOL LIGHT MUST BE INSTALLED WITH GFCI PROTECTION IN ACCORDANCE TO ARTICLE 680.22(B)(4) OF THE NATIONAL ELECTRICAL CODE (N.E.C.)
17. ALL POOL LIGHTING SHALL HAVE PHOTOCELL AND TIMER. LIGHTS SHALL ALSO HAVE A MANUAL OVERRIDE SWITCH. SWITCH LOCATION TO BE COORDINATED WITH ARCHITECT/ LANDSCAPE ARCHITECT.

EQUIPMENT ROOM NOTES

1. ALL POOL MECHANICAL EQUIPMENT MUST BE NSF-50 APPROVED WHERE APPLICABLE.
2. FIELD CONDITIONS MAY DICTATE ADJUSTMENTS TO POOL EQUIPMENT ARRANGEMENT SHOWN ON THE PLANS. POOL EQUIPMENT LAYOUT SHOWN IS ONE OF MANY FEASIBLE ARRANGEMENTS. POOL CONTRACTOR TO INSTALL ALL EQUIPMENT IN REGARDS TO MANUFACTURER INSTALLATION REQUIREMENTS.
3. ALL PIPE SIZES ARE STATED IN NOMINAL PIPE SIZES
4. ALL PUMPS SHALL HAVE A SUCTION (VACUUM) AND DISCHARGE GAUGE.
5. ALL EXPOSED POOL PLUMBING ON THE OUTLET SIDE OF THE HEAT EXCHANGERS/COOLING TOWER IN EQUIPMENT ROOM TO BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED.
6. ALL PLUMBING CARRYING NATURAL HOT SPRING WATER TO BE SCH.80 CPVC.
7. ALL EXPOSED PLUMBING IN THE EQUIPMENT ROOM TO BE INSULATED WITH 1.5" THICK (MIN) PIPE INSULATION WITH A CONDUCTIVITY RANGE OF 0.22-0.28 (BTU-INCH PER HOUR PER SQUARE FOOT) PER THE 2015 INTERNATIONAL ENERGY CODE REQUIREMENTS (IECC)
8. ALL FILTERS SHALL HAVE INLET AND OUTLET PRESSURE GAUGES.
9. ALL OVERHEAD PLUMBING SHALL BE SUPPORTED BY UNISTRUT BRACING OR OTHER GROUND-SUPPORTED PIPE STANDS. OVERHEAD PIPING SHALL BE A MINIMUM OF 7'-6" ABOVE EQUIPMENT ROOM FLOOR. PIPE SUPPORTED THROUGH CEILING STRAPS MUST FIRST BE COORDINATED WITH THE PROJECTS STRUCTURAL ENGINEER.
10. ALL PUMP STRAINERS TO BE PROVIDED WITH SPARE STRAINER BASKET.
11. POOL EQUIPMENT FLOOR AND PUMP PIT SHALL BE SLOPED TO DRAIN TO A FLOOR DRAIN OR FLOOR SUMP (REFER TO OTHERS). IF A SUMP IS REQUIRED, CONTRACTOR SHALL FURNISH A SUMP PUMP, DISCHARGE PIPING AND ELECTRICAL REQUIRED TO OPERATE PUMP.
12. ALL CIRCUITS FOR THE TANK DISHCHARGE PUMP SHALL BE INTERLOCKED WITH CIRCUITS FOR THE PRIMARY HOT WATER PUMP FOR THE SOAKING POOLS. WHEN THE COLLECTION TANK PUMP FAILS TO TURN ON, THE PRIMARY HOT WATER PUMP SHALL SHUTS DOWN AS WELL AS ANY ADDITIONAL EQUIPMENT.
13. IF POOL OPERATOR CANNOT SEE THE FILTER BACKWASH DISCHARGE WHILE OPERATING THE FILTERS INSIDE THE EQUIPMENT ROOM, A SIGHT GLASS WILL NEED TO BE INSTALLED ON THE FILTER BACKWASH LINE(S).
14. CONCRETE HOUSEKEEPING PADS REQUIRED BENEATH ALL PUMPS AND HEATERS (NOT SHOWN FOR CLARITY). HOUSEKEEPING PADS TO BE 6" HIGH (MIN.) BUT MAY VARY IN HEIGHT TO ALIGN PLUMBING BETWEEN EQUIPMENT AND CORRESPONDING PLUMBING.
15. A FLOW METER SHALL BE INSTALLED ON EACH SUPPLY LINE TO SOAKING POOLS THE TURNOVER CAN BE VERIFIED FOR EACH POOL. FLOW METERS SHALL BE ACCURATE WITHIN 10% OF TRUE FLOW AND CAPABLE OF MEASURING FLOW AT LEAST 1.5 TIMES GREATER THAN THE DESIGN FLOW OF THE SYSTEM.
16. ALL EXPOSED POOL PLUMBING IN EQUIPMENT ROOM AREA SHALL BE LABELED TO IDENTIFY THE PIPING FUNCTION AND DIRECTION OF FLOW.
17. MOTORS FOR POOL PUMPS SHALL BE PREMIUM EFFICIENT MOTOR DESIGN AS DEFINED BY NEMA PREMIUM PROGRAM.
18. VENTILATION INSIDE POOL EQUIPMENT ROOM BY OTHERS (NOT SHOWN ON THIS DRAWINGS).
19. PLUMBER SHALL EXTEND A BACKWASH DRAIN LINE TO THE POOL EQUIPMENT AREA (COORDINATE LOCATION WITH POOL CONTRACTOR). DRAIN LINE SHALL BE TRAPPED AND VENTED BY PLUMBER PER PLUMBING CODE. LINE CAPACITY OF DRAIN LINE MUST BE 100-120 GPM (MINIMUM).

STRUCTURAL NOTES

STRUCTURAL NOTES

1. CONCRETE:

   1.1. POOL SHELLS SHALL BE INSTALLED WITH PNEUMATICALLY PLACED CONCRETE (SHOTCRETE) OR CAST IN PLACE CONCRETE. REFER TO SPECIFICATIONS FOR CONCRETE MIX AND COMPRESSIVE STRENGTH REQUIREMENTS.
   1.2. SHOTCRETE MIX AND INSTALLATION SHALL CONFIRM TO THE LATEST ACI (ACI 506) AND ASTM STANDARDS FOR SHOTCRETE CONSTRUCTION.
   1.3. AN ACI CERTIFIED NOZZLEMAN IS REQUIRED TO INSTALL ALL SHOTCRETE MATERIAL. IT IS THE RESPONSIBILITY OF THE POOL CONTRACTOR TO ENSURE THE NOZZLEMAN IS PROPERLY TRAINED PRIOR TO POOL SHELL PLACEMENT.
   1.4. ALL CONCRETE TO BE CURED AND PLACED IN ACCORDANCE TO THE LATEST ACI STANDARDS.
   1.5. ALL CONCRETE RELATED TO THE DESIGN SHOWN ON THESE PLANS SHALL BE TESTED TO ENSURE QUALITY CONTROL AND ASSURANCE THAT THE ACTUAL CONCRETE/SHOTCRETE PLACED MEETS OR EXCEEDS THE SPECIFICATION'S OF THE PROJECT. ALL TESTING TO BE DONE BY CERTIFIED ACI TECHNICIANS OF A THIRD PARTY COMPANY.
   1.6. FORM OILS OR CURING AGENTS SHALL NO BE USED ON SURFACES RECEIVING ANY TYPE OF FINISH. WATER BASED CURING COMPOUNDS ARE ALLOWED ONLY IF THE SURFACE IS TREATED WELL AND SAND OR WATER BLASTED PRIOR TO THE APPLICATION OF POOL FINISH
   1.7. MAXIMUM AGGREGATE SIZE SHALL BE AS FOLLOWS:
      - 1-1/2" --- CAST-IN-PLACE FOOTINGS AND SLABS ON GRADE.
      - 1" --- CAST-IN-PLACE GRADE BEAMS, STRUCTURAL SUSPENDED SLABS AND WALLS.
      - 1" --- SHOTCRETE/GUNITE STRUCTURES (SUCH AS POOL SHELLS)

2. REINFORCED STEEL:

   2.1. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 DEFORMED BARS MANUFACTURED IN THE USA. BAR PLACEMENT AND DETAILING SHALL BE IN ACCORDANCE WITH ACI 318 (LATEST EDITION).
   2.2. WELDED WIRE FABRIC TO BE FLAT SHEETS AND IN ACCORDANCE WITH ASTM A185 WITH 10 GAGE (MIN) AND 6" WIRE SPACING. 6" MINIMUM LAP SPACING FOR WELDED WIRE FABRIC.
   2.3. REINFORCING DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THE MAIN BARS THEY ADJOIN (MIN. LAP = 30*BAR DIAM.) THE MINIMUM SPLICE OF ALL CONTINUOUS BARS SHALL BE 40*BAR DIAM. (2'-0" MIN).
   2.4. MINIMUM SPLICE LENGTH SHALL BE 50 TIMES THE BAR DIAMETER OR 18 INCHES, WHICHEVER IS GREATER.
   2.5. CLEAR MINIMUM COVER OF CONCRETE OVER REINFORCING BARS SHALL BE IN ACCORDANCE WITH ACI 318 AND AS FOLLOWS:
      - 1-1/2" --- FORMED CONCRETE AGAINST EARTH
      - 3" --- CAST-IN-PLACE CONCRETE AGAINST EARTH
      - 3/4" --- TOP OF SLABS-ON-GRADE
      - 2" --- CAST-IN-PLACE CONCRETE RETAINING WATER
      - BE CAREFUL TO MAINTAIN MINIMUM CLEARANCES ON ALL SHOTCRETE/GUNITE STRUCTURES SUCH AS POOL SHELLS. CONCRETE CLEARANCES LISTED ARE CRITICAL.

   3.4. CONCRETE REINFORCING SHALL BE SECURED IN POSITION PRIOR TO PLACEMENT. IT IS RECOMMENDED FLOOR STEEL BE SUPPORTED WITH PLASTIC CHAIRS OR METAL (SPIDER) CHAIRS WITH PLASTIC BEARING PLATES. DO NOT SUPPORT FLOORS WITH CHUNKS OF WOOD OR BROKEN BRICK PIECES.

CONCRETE SPECIFICATION:

LOCATION:	COMPRESSIVE STRENGTH (PSI)	W.C. RATIO*	MIX
CAST-IN-PLACE STRUCTURES (INCLUDING BUT NOT LIMITED TO FLOOR SLABS, POOL FLOORS, CAISSONS, POOL WALLS, RETAINING WALLS, ETC)	4,000	0.45-0.49	5.5 SACKS/C.Y. OR 517#/C.Y.
SHOTCRETE FOR POOLS (WET PROCESS)	4,000	0.45-0.59	7 SACKS/C.Y. OR 658#/C.Y.
CAST-IN-PLACE FOOTINGS, GRADE BEAMS, SLABS ON GRADE, HOUSEKEEPING PADS, ETC.	4,000	0.45-0.49	5.5 SACKS/C.Y. OR 517#/C.Y

* CONCRETE SUPPLIER MAY SUBMIT DOCUMENTATION TO ENGINEER FOR REVIEW AND APPROVAL OF MIX DESIGNS THAT UTILIZE A DIFFERENT W/C RATION TO MEET THE SAME STRENGTH REQUIREMENT.

SOIL SUBGRADE NOTES

1. SOIL PREPARATION:
   - THE GEOTECHNICAL REPORT BY MOUNTAIN ENGINEERING & TESTING, INC. (NO. 15012, DATED 03/09/2015) PREDICTS THE TOP 3.5-FEET OF SUBGRADE CONSISTS OF FILL MATERIAL UNDERLAIN BY LIGHT BROWN, MEDIUM DENSE, MOIST GRAVEL WITH SAND AND COBBLES TO AT LEAST 8-FEET BELOW EXISTING GROUND LEVEL.
   - UPON EXCAVATION FOR THE POOLS, THE SUBGRADE SHALL BE PROOF-ROLLED AND INSPECTED FOR ANY WEAK AREAS. ALL WEAK AREAS TO BE OVER-EXCAVATED AND REPLACED WITH COMPACTED SELECT FILL MATERIAL (REFER SELECT FILL NOTES BELOW)
   - IF THE POOL EXCAVATION PENETRATES A ROCK LAYER, A 6" LAYER OF CLEAN GRAVEL SHALL BE INSTALLED BETWEEN THE NATIVE ROCK MATERIAL AND THE POOL SHELL.
   - POSITIVE DRAINAGE AWAY FROM THE POOL STRUCTURE MUST BE PROVIDED DURING CONSTRUCTION AND MAINTAINED THROUGH THE LIFE OF THE POOL TO HELP PREVENT THE POSSIBILITY OF PONDING BELOW THE PROPOSED POOL.

   1.1. SOILS BEING USED AS FILL MATERIAL SHALL BE CONSIDERED "SELECT FILL" WITH THE FOLLOWING CHARACTERISTICS:
      - PLASTICITY INDEX (PI) OF 10 OR LESS AND A LIQUID LIMIT OF 30 OR LES.
      - SELECT FILL SHALL BE FREE OF ORGANIC MATERIAL
      - SELECT FILL SHALL HAVE NO PARTICLES MEASURING GREATER THAN 2-INCHES IN ANY DIRECTION, A PERCENT PASSING U.S. STANDARD SIEVE No.4 BETWEEN 30% AND 70% AND SIEVE No.50 PASSING SHOULD BE IN BETWEEN 10% AND 50%
      - THE PERCENT PASSING SIEVE No.200 SHOULD BE LESS THAN 20%
      - SELECT FILL SHALL BE INSTALLED IN 8-INCH LIFTS AND COMPACTED TO 95% OF THE MODIFIED PROCTOR DENSITY (ASTM D1557) AT ±3% OF OPTIMUM MOISTURE.

2. BACKFILL:

   2.1. UNLESS OTHERWISE NOTED, USE SELECT FILL MATERIAL MEETING THE "FOUNDATIONS" NOTES ABOVE FOR BACKFILL BEHIND WALLS. BACKFILL SHALL BE COMPACTED BY "HAND-TAMPING." DO NOT USE MECHANICAL EQUIPMENT TO COMPACT BACKFILL BEHIND STRUCTURAL WALLS AS WALLS HAVE NOT BEEN DESIGNED FOR SURCHARGE LOADS OR SUCH MACHINERY.

aqueous engineering
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701
Ph: 903.266.9089
www.aqueousengineering.com
Colorado CoA#: 20161409501

COLORADO LICENSED J. BRYAN ZIEGLER 41520 PROFESSIONAL ENGINEER
12.13.2019

SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	DEM
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
GENERAL NOTES

Sheet No.:
SP0.0

FULL PATH: S:\project Files\2019\19.055 - Shsac Soaking Pools & Splashpad\01-drawings\01-currentS:\project Files\2019\19.055 - Shsac Soaking Pools & Splashpad\01-drawings\01-current\SP0-GENERAL NOTES
PLOTTER: _AutoCAD PDF (General Documentation).pc3
PLOT TIME: 10:55:30 AM
PLOT DATE: Friday, December 13, 2019
PLOTTED BY: Ben
FILENAME: SP0-GENERAL NOTES.dwg

INSTALL (1) 2" 90° BEND

INSTALL 10± LF 2" WATER LINE; CONNECT TO EX WATER LINE IN EQUIPMENT ROOM (REFER MEP PLANS FOR EXACT LOCATION)

EXISTING GAS LINE

INSTALL 116± LF 2" WATER LINE

EXISTING HOT WATER SUPPLY LINE TO BUILDING

EXISTING GAS LINE

5' MIN

EXISTING TRANSFORMER

CONNECT TO EX SS MANHOLE FIELD VERIFY DEPTH AND SIZE OF EX SS PRIOR TO CONSTRUCTION TOP MH EL=46.85±

INSTALL (1) 2" 45° BEND

INSTALL NDS 6" POP-UP EMITTER

INSTALL 35± LF 2" WATER LINE

INSTALL 50± LF 6" SS @ 1.0% MIN SLOPE

INSTALL 5± LF 6" SS @ 1.0% MIN SLOPE (REF AQUATIC PLANS FOR EXACT LOCATION)

INSTALL 130± LF 4" STORM SEWER @ 1.00% MIN SLOPE

EXISTING ELECTRICAL BOX; CONTRACTOR TO DETERMINE IF BOX IS LIVE/WHAT IT IS SERVICING AND COORDINATE WITH AQUATIC CENTER STAFF

GAS LINE EXTENDED TO FIREPIT (REFER M&P&E PLANS)

EXTEND UNDERGROUND ELECTRICAL LINE TO POOL EQUIPMENT ROOM (REFER ELECTRICAL PLANS)

EXISTING STUB-OUT; USE IF POSSIBLE

INSTALL 6" WYE & CLEANOUT

INSTALL 10± LF 4" STORM SEWER @ 1.00% MIN SLOPE

INSTALL FLO-WELL DRY WELL WITH GRATE INLET (OR ENGINEER APPROVED EQUIVALENT)

MAINTAIN AT LEAST 24" BETWEEN UNDERGROUND ELECTRICAL LINES AND PLUMBING LINES

INSTALL FLO-WELL DRY WELL WITH GRATE INLET (OR ENGINEER APPROVED EQUIVALENT)

INSTALL 18± LF 6" SS @ 1.0% MIN SLOPE

INSTALL 6" WYE & CLEANOUT

INSTALL (1) 2" 45° BEND

INSTALL 25± LF 2" WATER LINE

INSTALL (1) 2" GATE VALVE

TAP & INSTALL (2) 6"X3" TEES IN EXISTING HOT WATER SUPPLY LINE FOR HOT WATER SUPPLY AND RETURN

INSTALL FLO-WELL DRY WELL WITH GRATE INLET (OR ENGINEER APPROVED EQUIVALENT)

INSTALL 4± LF 4" STORM SEWER @ 1.00% MIN SLOPE

EXISTING HOT WATER BY-PASS LINE

TAP & INSTALL 6" TEE AT BY-PASS LINE FOR COLLECTION TANK OVERFLOW DISCHARGE (FIELD VERIFY/COORDINATE SIZE & LOCATION)

INSTALL 106± LF 6" GRAVITY DRAIN LINE FROM COLLECTION TANK (1% MIN SLOPE)

INSTALL (1) 6" GATE VALVE TO BE CLOSED DURING HOT WATER BY-PASS

COLLECTION TANK (REF SP3.4)

NOTE: REFER TO 4/C1.1 FOR UTILITY SPECIFICATIONS AND INSTALLATION NOTES.

811

0 5' 10' 20'
SCALE: 1"=10'-0"

1 **SITE UTILITY PLAN**

aqueous engineering
Ph: 903.266.9089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-22A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

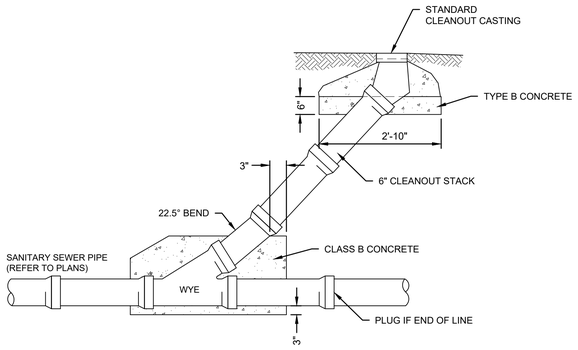
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
SITE UTILITY PLAN

Sheet No.:
C1.0

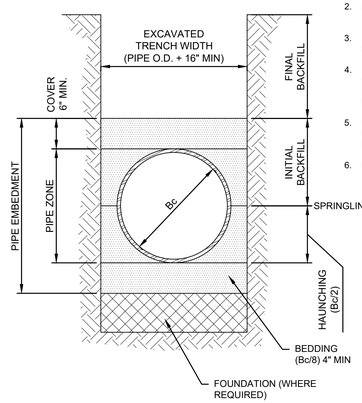


1 CLEANOUT DETAIL

NOT TO SCALE

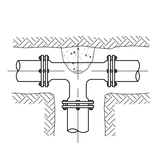
GENERAL NOTES:

1. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-89.
2. BEDDING & HAUNCHING SHALL BE WORKED BY HAND TO ELIMINATE VOIDS.
3. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698.
4. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES.
5. CONTRACTOR IS RESPONSIBLE FOR PRODUCING EVIDENCE THAT COMPACTION MINIMUMS ARE MET FOR INITIAL AND FINAL BACKFILL.
6. EXTENSION OF SPRING WATER TO EQUIPMENT ROOM TO BE INSULATED (REFER SP3.5)

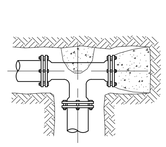


2 UTILITY TRENCH DETAIL

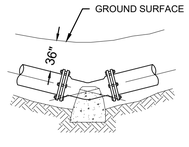
NOT TO SCALE



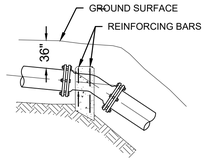
BLOCKING FOR TEE

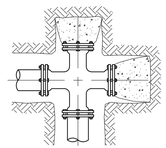


SPECIAL BLOCKING FOR TEE w/PLUG (When Directed by Engineer)

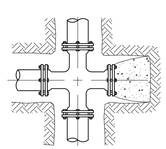


TYP. BLOCKING FOR VERTICAL BENDS

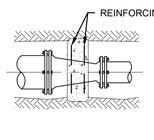




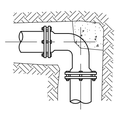
TYP. SECTION OF CROSS, 2 PLUGS & BLOCKING (When Directed by Engineer)



TYP. SECTION OF CROSS & BLOCKING (When Directed by Engineer)



THRUST SUPPORT FOR REDUCER (Size to be Determined by Engineer)



TYP. BLOCKING FOR HORIZONTAL BEND

THRUST BLOCKING DETAILS

NOT TO SCALE

GENERAL NOTES FOR THRUST BLOCKING:

1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED HAND DUG SOIL.
2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE BLOCKING OVER JOINTS, THE ENDS OF THE ADJACENT PIPES MUST HAVE A KICKER BLOCK TO RESIST MOVEMENT OF THESE JOINTS
3. WEIGHT CALCULATIONS TO BE BASED ON THRUST DUE TO STATIC PRESSURE + 50% THRUST = 2 AP SIN (1/20) WHERE:
   A = AREA OF PIPE
   P = WATER PRESSURE
4. WHERE BLOCKING OVER PLUG, PLUG SHOULD BE COVERED WITH PAPER TO PREVENT BINDING OF CONCRETE.
5. WHERE SHEAR BECOMES A PROBLEM, PROPER REINFORCING MUST BE INSTALLED INTO THE BLOCKING.
6. CLEARANCE SHALL BE A MINIMUM OF 6" BETWEEN PIPE AND OBSTRUCTION.
7. CLEARANCE ON PIPES BELONGING TO OIL & GAS COMPANIES SHALL BE 18" UNLESS SPECIAL PERMISSION IS GIVEN BY THESE COMPANIES
8. PROVIDE MINIMUM BEARING AREA IN S.E. AS FOLLOWS BASED ON 150 PSI TEST PRESSURE AND 2000 PSF 50:1 BEARING

3 THRUST BLOCK DETAIL

NOT TO SCALE

UTILITY NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION AND SHALL NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD OF ANY CONFLICTS DISCOVERED. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN) WITHIN THE AREA OF CONSTRUCTION. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UNDERGROUND FACILITIES IS APPROXIMATE AND BASED ON INFORMATION FURNISHED BY THE OWNERS OF SUCH UNDERGROUND FACILITIES OR ON PHYSICAL APPURTENANCES OBSERVED IN THE FIELD. THE OWNER AND ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA, FOR LOCATING ALL UNDERGROUND FACILITIES, FOR COORDINATION OF THE WORK WITH THE OWNERS OF SUCH UNDERGROUND FACILITIES DURING CONSTRUCTION, FOR THE SAFETY AND PROTECTION THEREOF, AND REPAIRING ANY DAMAGE THERETO RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE.
2. CONTRACTOR SHALL, IN BASE BID, PROVIDE ALL NECESSARY FITTINGS AND APPURTENANCES REQUIRED TO COMPLETE ALL CONNECTIONS, RESOLVE UTILITY CONFLICTS AND OTHER INCIDENTAL UTILITY WORK SHOWN ON THE PLANS OR CONTAINED IN THE SPECIFICATIONS OR REQUIRED BY GOVERNING AGENCIES TO INCLUDE, BUT NOT LIMITED TO TEMPORARY SERVICES OR THE REPAIR OR REPLACEMENT OF ANY EXISTING IRRIGATION SYSTEM. CONTRACTOR SHALL RAISE/LOWER OR ADJUST ALL EXISTING UTILITY MAINS IN CONFLICT WITH PROPOSED UTILITIES AS PART OF THE BASE BID FOR ALL KNOWN OR UNKNOWN LINES.
3. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 1 WEEK PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND MAKE ARRANGEMENTS FOR ANY AND ALL TEMPORARY UTILITIES, PERMITS, AND AGREEMENTS.
4. THE CONTRACTOR SHALL PROTECT ALL UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL GIVE THE CITY, RESIDENTS AND BUSINESSES AFFECTED BY ANY ANTICIPATED WATER OR SEWER SERVICE DISRUPTIONS AT LEAST FORTY-EIGHT (48) HOURS PRIOR NOTICE.
5. ALL MATERIALS, CONSTRUCTION METHODS, WORKMANSHIP, EQUIPMENT, SERVICES AND TESTING FOR ALL IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE COVERING AUTHORITIES' ORDINANCES, REGULATIONS, REQUIREMENTS, STATUTES, SPECIFICATIONS AND DETAILS, LATEST PRINTING AND AMENDMENTS THERETO, UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL EXERCISE CAUTION AND MAINTAIN ADEQUATE CLEAR ZONE BETWEEN THE CONTRACTOR'S EQUIPMENT AND ANY POWER LINES.
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, UTILITIES, ETC. DURING ALL CONSTRUCTION PHASES. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACEMENT OF ANY DAMAGED ITEMS AND RESTORATION OF ANY SERVICES THAT HAVE BEEN DISTURBED.
8. ALL UTILITIES WITHIN 5' OF PROPOSED BUILDING(S) SHALL ADHERE TO THE MEP RECOMMENDATIONS AND/OR REQUIREMENTS. CIVIL UTILITIES (WATER & SANITARY SEWER) LIMITS BEGIN 5' OUTSIDE THE BUILDING. IN THE EVENT OF OF A CONFLICT WITH THE MEP PLANS WITHIN THIS AREA, THE MEP REQUIREMENTS SHALL GOVERN.
9. TRENCHES SHALL BE BACKFILLED WITH MATERIAL IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' STANDARD SPECIFICATIONS AND DETAILS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A TRENCH SAFETY SYSTEM PLAN PREPARED IN ACCORDANCE WITH OSHA REQUIREMENTS BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF COLORADO FOR THE IMPLEMENTATION OF TRENCH SAFETY CONTROL MEASURES THAT WILL BE IN EFFECT DURING THE CONSTRUCTION OF THE PROJECT.
10. THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF ALL UTILITY LINES, MANHOLES, SERVICES, APPURTENANCES, ETC. THE CONTRACTOR SHALL PROVIDE A COPY OF THE RECORDS TO THE ENGINEER FOR PREPARATION OF THE "RECORD DRAWING" PLANS FOR SUBMITTAL TO THE GOVERNING AUTHORITY PRIOR TO ACCEPTANCE OF THE IMPROVEMENTS.
11. ALL SANITARY SEWER MAINS SHALL BE PVC SDR 35, ASTM D 3034, UNLESS NOTED OTHERWISE. ALL WATER MAINS SHALL BE PVC AWWA C900 DR 18, CLASS 150, UNLESS NOTED OTHERWISE.
12. WHERE SEWER LINES CROSS WATER MAINS OR WHERE THEY COME WITHIN 10 HORIZONTAL FEET OF EACH OTHER, THE SEWER PIPE SHALL BE A MINIMUM OF 18 INCHES CLEAR DISTANCE VERTICALLY BELOW THE WATER MAIN. ALL SANITARY SEWER MAINS SHALL HAVE ONE (1) 20-FOOT JOINT CENTERED ON EITHER SIDE OF UTILITY CROSSING.
13. ALL VALVES, CLEANOUTS AND OTHER APPURTENANCES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' STANDARDS AND SPECIFICATIONS. ALL WATER LINES AND APPURTENANCES SHALL BE STERILIZED AND TESTED IN ACCORDANCE WITH GOVERNING AUTHORITIES' SPECIFICATIONS FOR ACCEPTANCE.
14. THERE SHALL BE A MINIMUM COVER OF 42" FROM THE TOP OF THE WATER LINE TO THE EXISTING GROUND OR THE PROPOSED FINISHED GRADE, WHICHEVER IS GREATER. ALL WATER LINES SHALL BE INSTALLED SO THE TOPS OF PIPES ARE AT LEAST 6-INCHES LOWER THAN THE FROST LINE. PROVIDE VALVE EXTENSIONS TO ALL VALVES ON LINES DEEPER THAN 48".
15. ALL BENDS SHALL BE RESTRAINED WITH THRUST BLOCK IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' STANDARD SPECIFICATIONS AND DETAILS.
16. ALL REQUIRED FITTINGS (BENDS, REDUCERS, ETC) MAY NOT BE LISTED INDIVIDUALLY ON THIS DRAWING. CONTRACTOR SHALL REVIEW DRAWINGS AND INSTALL ALL FITTINGS NECESSARY TO HAVE A COMPLETELY OPERATIONAL UTILITY SYSTEM AS SHOWN.
17. CONTRACTOR SHALL ADJUST ALL UTILITIES (EXISTING AND PROPOSED) TO FINAL GRADE. ALL UTILITIES AND APPURTENANCES SHALL BE EXTENDED UP TO FINAL GRADE. UTILITY CLEAN-OUTS, VALVES, MANHOLES, ETC. LOCATED WITHIN PAVED AREAS SHALL BE PAVED. IN NON-PAVED AREAS, SAID APPURTENANCES SHALL HAVE A 4" THICK CONCRETE PAD EXTENDING 12" BEYOND SAID APPURTENANCE (BLOCK OUT) POURED AT FINAL GRADE FOR PROTECTION AGAINST DAMAGE FROM MOWING AND MAINTENANCE EQUIPMENT.

4 UTILITY NOTES

5 NOT USED

aqueous engineering
Ph: 903.266.3089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

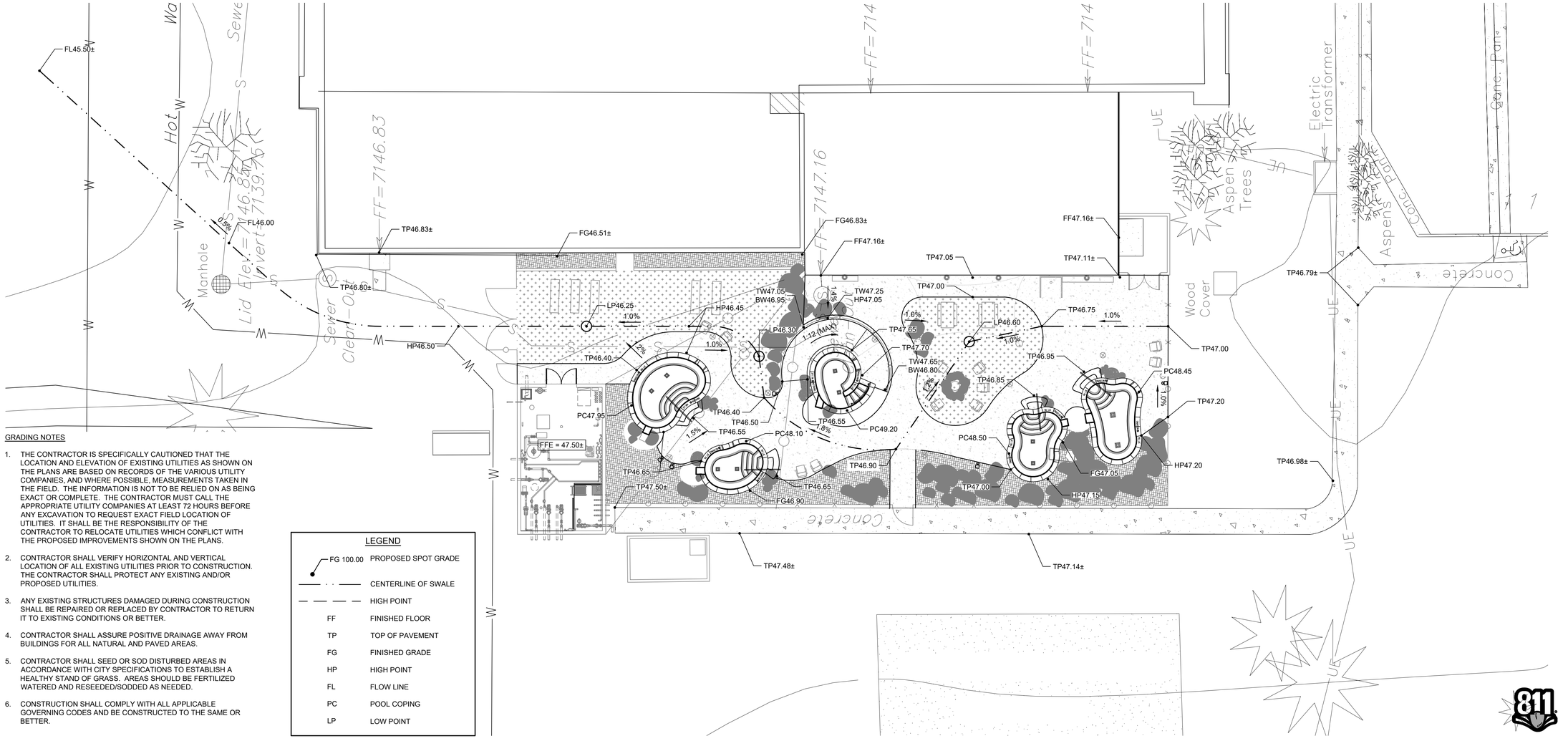
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST
SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
UTILITY DETAILS AND NOTES

Sheet No.:
C1.1



GRADING NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ANY EXISTING AND/OR PROPOSED UTILITIES.
3. ANY EXISTING STRUCTURES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY CONTRACTOR TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
4. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
5. CONTRACTOR SHALL SEED OR SOD DISTURBED AREAS IN ACCORDANCE WITH CITY SPECIFICATIONS TO ESTABLISH A HEALTHY STAND OF GRASS. AREAS SHOULD BE FERTILIZED WATERED AND RESEEDED/SODDED AS NEEDED.
6. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO THE SAME OR BETTER.

LEGEND

FG 100.00	PROPOSED SPOT GRADE
· · ·	CENTERLINE OF SWALE
— — —	HIGH POINT
FF	FINISHED FLOOR
TP	TOP OF PAVEMENT
FG	FINISHED GRADE
HP	HIGH POINT
FL	FLOW LINE
PC	POOL COPING
LP	LOW POINT

1 SITE GRADING PLAN

0 5' 10' 20'
SCALE: 1"=10'-0"

2 NOT USED

aqueous engineering
Ph: 903.266.0089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

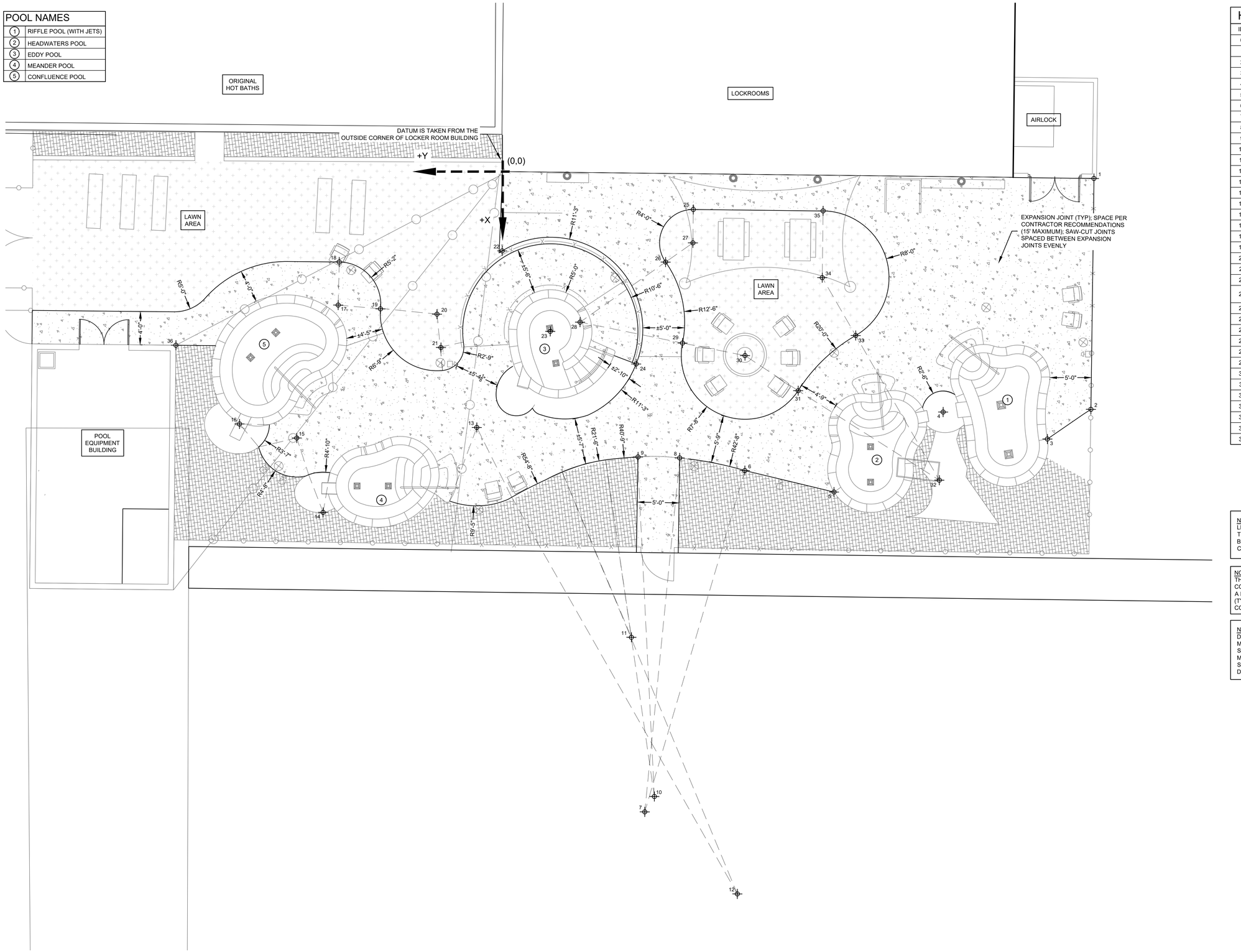
Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	MS
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
GRADING PLAN

Sheet No.:
C2.0

POOL NAMES	
1	RIFFLE POOL (WITH JETS)
2	HEADWATERS POOL
3	EDDY POOL
4	MEANDER POOL
5	CONFLUENCE POOL



HORIZONTAL CONTROL			
ID:	X	Y	RADIUS
0	0'-0"	0'-0"	-
1	0'-4 1/2"	-70'-10 1/2"	-
2	28'-1"	-70'-8"	-
3	31'-8"	-65'-6"	-
4	28'-6"	-52'-11 1/2"	2'-6"
5	38'-2"	-39'-11 1/2"	-
6	35'-8"	-29'-3"	-
7	76'-8"	-17'-6"	42'-8"
8	34'-2 1/2"	-21'-5"	-
9	34'-1 1/2"	-16'-5"	-
10	74'-9 1/2"	-18'-7 1/2"	40'-9"
11	55'-9"	-15'-9"	21'-6"
12	86'-5"	-28'-8"	54'-8"
13	30'-8 1/2"	2'-11"	9'-5"
14	41'-0"	21'-3 1/2"	4'-10"
15	32'-1"	24'-6"	4'-8"
16	30'-5 1/2"	31'-4 1/2"	3'-7"
17	16'-1 1/2"	19'-7 1/2"	5'-2"
18	10'-11 1/2"	19'-6 1/2"	-
19	16'-6 1/2"	14'-6 1/2"	-
20	17'-1 1/2"	7'-9"	6'-9"
21	21'-1 1/2"	7'-3 1/2"	2'-9"
22	9'-6"	0'-0"	-
23	19'-2"	-5'-9"	5'-0", 10'-6", 11'-3"
24	22'-11 1/2"	-16'-1 1/2"	-
25	4'-5"	-22'-10 1/2"	-
26	10'-8 1/2"	-19'-7"	-
27	8'-5"	-22'-10"	4'-0"
28	18'-0"	-19'-4 1/2"	12'-6"
29	20'-5"	-21'-8"	-
30	21'-10 1/2"	-29'-2"	7'-8"
31	26'-0 1/2"	-35'-7"	-
32	36'-8"	-52'-7"	20'-0"
33	19'-4 1/2"	-42'-5 1/2"	-
34	12'-6"	-38'-4 1/2"	8'-0"
35	4'-6"	-38'-5"	-
36	21'-0 1/2"	-39'-0 1/2"	-

NOTE: HORIZONTAL CONTROL MEASUREMENTS LISTED ABOVE ARE THE DIMENSIONS BETWEEN THE POINT 0,0 TAKEN AT THE EDGE OF THE BUILDING AND THE POINT OF RADIUS FOR EACH CURVE (+Y BEING NORTH AND +X BEING WEST).

NOTE: WHERE THERE IS NO VALUE INPUT INTO THE RADIUS COLUMN OF THE HORIZONTAL CONTROL TABLE, THE POINT LISTED REFERS TO A POINT ON THE EDGE OF THE CONCRETE DECK (TYPICALLY BETWEEN STRAIGHT LINES OR AT A CORNER).

NOTE: DIMENSIONS SHOWN ARE BASED ON DRAWING BY OTHERS WITH SLIGHT MODIFICATION. ALL DECK EDGES SHOULD BE STRAIGHT OR SMOOTH CURVED AND ALLOW FOR MINIMUM DECK WIDTHS. ALL DIMENSIONS SHOULD BE CONFIRMED WITH ARCHITECT'S DRAWINGS AND THE CITY.

1 SOAKING POOL DECKING LAYOUT PLAN

0 1' 2' 4' 8'
SCALE: 3/16"=1'-0"

aqueous engineering
Ph: 903.266.0089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

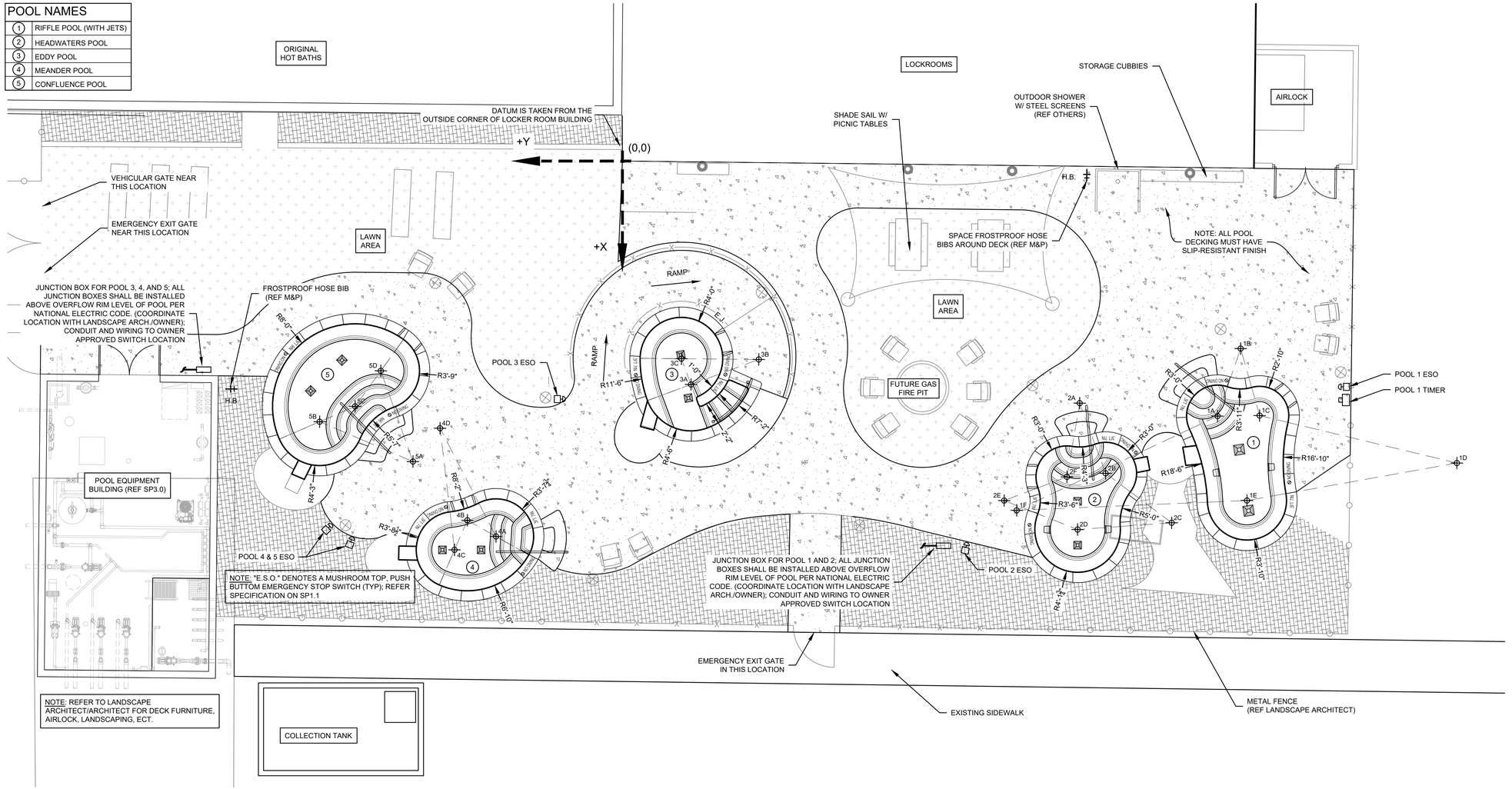
Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed: DEM
Drawn: DEM
Checked: JBZ/BH
AE Project No.: 19.055

Sheet Title:
DECK DIMENSIONS & LAYOUT

Sheet No.:
C3.0

POOL NAMES	
1	RIFFLE POOL (WITH JETS)
2	HEADWATERS POOL
3	EDDY POOL
4	MEANDER POOL
5	CONFLUENCE POOL



HORIZONTAL CONTROL			
ID:	X	Y	RADIUS
0	0'-0"	0'-0"	-
1A	24'-8 3/4"	-57'-8"	3'-0"
1B	18'-2"	-59'-11"	3'-11"
1C	24'-8"	-61'-9"	2'-10"
1D	29'-3 1/4"	-80'-10 1/2"	16'-10"
1E	32'-11"	-60'-6 1/4"	3'-10"
1F	33'-10 1/4"	-38'-2 1/2"	18'-6"
2A	23'-5 3/4"	-44'-3 3/4"	4'-3"
2B	30'-3 1/4"	-46'-10"	3'-0"
2C	35'-0 3/4"	-53'-2 3/4"	5'-0"
2D	35'-8 3/4"	-44'-1 1/4"	4'-1 3/4"
2E	32'-11"	-37'-0"	3'-6"
2F	30'-7 1/2"	-43'-1"	3'-0"
3A	21'-8"	-6'-7 3/4"	4'-6"
3B	19'-2 3/4"	-13'-2 1/2"	11'-6"
3C	19'-2"	-5'-9"	7'-2", 4'-0"
4A	36'-4 3/4"	12'-3"	3'-7 3/4"
4B	34'-10"	15'-0 1/4"	6'-10"
4C	37'-8 1/4"	16'-3 1/4"	3'-8 1/2"
4D	25'-10 3/4"	17'-8"	8'-2"
5A	29'-1 1/2"	20'-3 1/2"	5'-7"
5B	25'-3 1/4"	29'-4"	4'-3"
5C	23'-9 1/4"	25'-10 3/4"	8'-0"
5D	20'-4"	23'-5"	3'-9"

NOTE: HORIZONTAL CONTROL MEASUREMENTS LISTED ABOVE ARE THE DIMENSIONS BETWEEN THE POINT 0,0 TAKEN AT THE EDGE OF THE BUILDING AND THE POINT OF RADIUS FOR EACH CURVE (+Y BEING NORTH AND +X BEING WEST).

1 **SITE PLAN AND SOAKING POOLS LAYOUT**

0 1" 2" 4" 8"
SCALE: 3/16"=1'-0"

2 **NOT USED**

aqueous engineering
Ph: 903.266.7089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

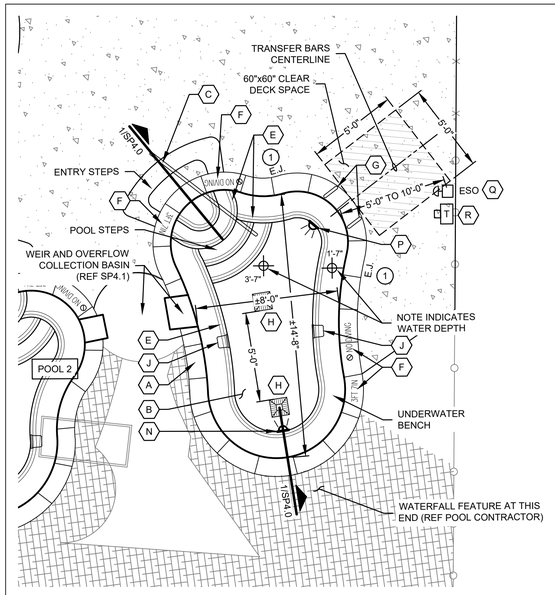
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	DEM
Checked:	JBZ/BH
AE Project No.:	19.055

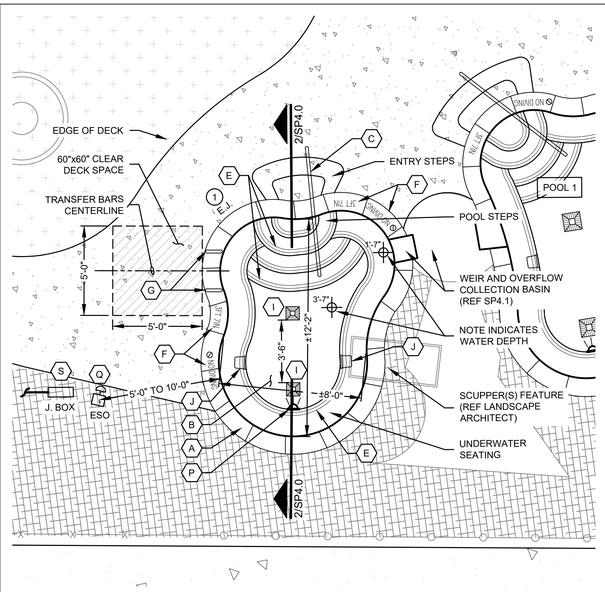
Sheet Title:
SOAKING POOLS SITE PLAN

Sheet No.:
SP1.0



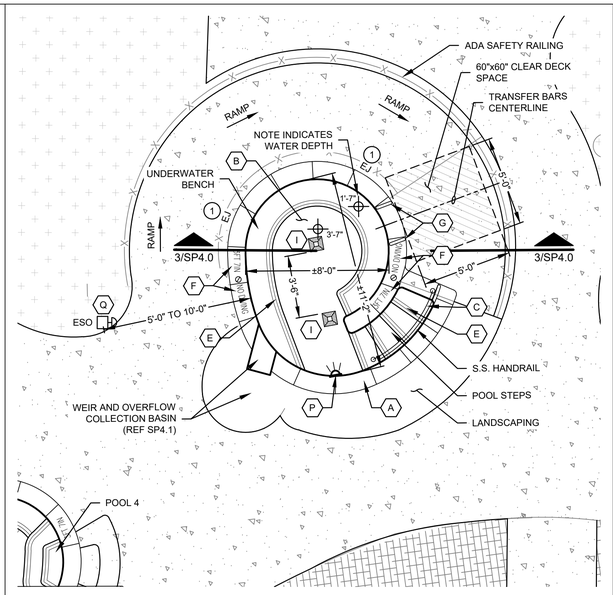
1 RIFFLE POOL LAYOUT

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



2 HEADWATERS POOL LAYOUT

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



3 EDDY POOL LAYOUT

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

6 NOTES

KEYED NOTES:

1. 3/4" WIDE EXPANSION JOINT CONTINUOUS BETWEEN BACK OF COPING AND ADJACENT POOL DECK. SEAL JOINT WITH SELF-LEVELING URETHANE (SIKAFLEX OR EQUAL).

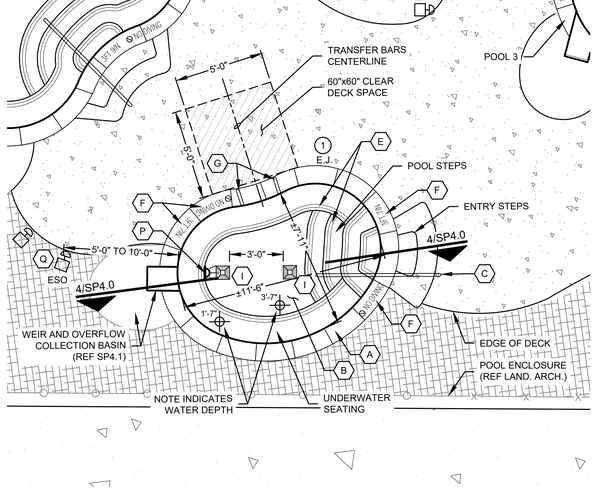
MATERIAL SCHEDULE NOTES:

1. EQUIPMENT SCHEDULE PROVIDED IS NOT AN EXHAUSTIVE LIST OF EVERY ITEM REQUIRED FOR THE PROJECT. THE CONTRACTOR IS TO PROVIDE ALL EQUIPMENT NOT LISTED BUT REQUIRED FOR A COMPLETE INSTALLATION OF THE POOL STRUCTURE AND SYSTEMS. SUCH EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, MOUNTING HARDWARE, METERS, TRANSFORMERS, ELECTRICAL WIRING AND CONDUIT, PENETRATIONS; PIPE SUPPORTS/HANGERS, VALVES, PLUMBING FITTINGS, ETC.
2. PUSH-BUTTON STYLE EMERGENCY SHUT-OFF SWITCH. WHEN ENGAGED THE SWITCH WILL DISCONNECT CIRCUITS TO SPA PUMPS, AIR BLOWERS, AND UNDERWATER LIGHTS SO THEY ARE NO LONGER OPERATING AND ACTIVATE AN AUDIBLE ALARM RATED AT NOT LESS THAN 80 DECIBELS AND A LIGHT NEAR THE SPA. SWITCH SHALL BE ACCESSIBLE AND LOCATED NO LESS THAN 5 FT AND NO MORE THAN 10 FT FROM SOAKING POOLS EDGE.
3. POOL CONTRACTOR TO PROVIDE A FLOATING TEMPERATURE GAUGE AT EACH SOAKING POOL (COORDINATE WITH OWNER); TEMPERATURE GAUGE CAN BE RETROFITED INTO SKIMMER LID IF DESIRED (RECREONICS #56-129)

FOUNTAIN DESIGN/BUILD NOTE:
THE POOL CONTRACTOR SHALL COORDINATE THE DESIGN AND CONTRUCTION OF THE WATERFALL FEATURE AT POOL 1 AND THE SCUPPER FEATURE AT POOL 2 WITH THE DESIGN TEAM AND OWNER. THE POOL CONTRACTOR SHALL SUBMIT FLOW REQUIREMENTS AND STRUCTURAL DESIGN TO AQUATIC ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. CURRENT PROPOSED FLOWS TO EACH FEATURE ARE AS FOLLOWS:

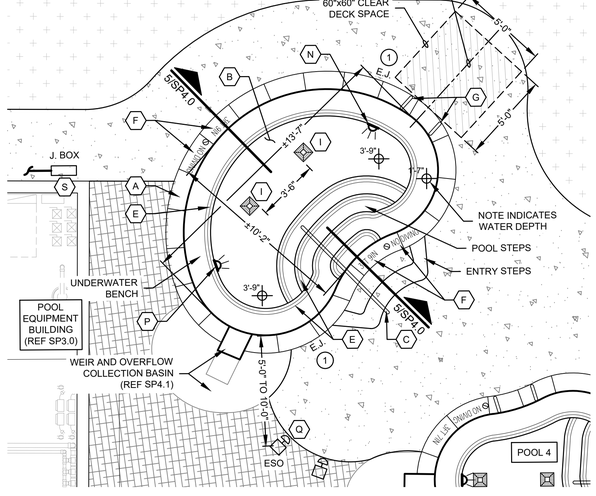
POOL 1 WATERFALL PUMP: 200 GPM @ 35' TDH
POOL 2 FEATURE PUMP: 160 GPM @ 35' TDH

NOTE: REFER TO SP1.0 FOR JUNCTION BOX LOCATIONS (COORDINATE LOCATION WITH LANDSCAPE ARCHITECT)



4 MEANDER POOL LAYOUT

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



5 CONFLUENCE POOL LAYOUT

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

SOAKING POOL DATA

	RIFFLE (1)	HEADWATERS (2)	EDDY (3)	MEANDER (4)	CONFLUENCE (5)	TOTAL
VOLUME:	2,130 GAL	1,710 GAL	1,430 GAL	1,350 GAL	2,750 GAL	9,370 GAL
SURFACE AREA:	116 S.F.	97 S.F.	77 S.F.	77 S.F.	134 S.F.	502 S.F.
PERIMETER:	42'-2"	37'-4"	41'-1"	32'-0"	43'-6"	196'-1"
REQUIRED TURNOVER RATE:	2.00 HOURS	2.00 HOURS	2.00 HOURS	2.00 HOURS	2.00 HOURS	2.00 HOURS
MINIMUM RECIRCULATION RATE:	18 GPM	15 GPM	12 GPM	12 GPM	23 GPM	80 GPM
USER LIMIT (1 PERSON PER 10 S.F.):	11 PERSONS	9 PERSONS	7 PERSONS	8 PERSONS	17 PERSONS	52 PERSONS

7 SOAKING POOL DATA

SOAKING POOL EQUIPMENT SCHEDULE

POOL FINISHES

ID	DESCRIPTION	MFR:	MODEL No:	QTY:	ADDITIONAL COMMENTS:
A	POOL COPING	---	---	PRE PLAN	REFER TO LANDSCAPE ARCHITECTURAL DRAWINGS
B	PLASTER	DIAMOND BRITE	QUARTZ	---	3/8" THICK (MIN) PLASTER FINISH; COLOR TBD
C	S.S. HANDRAIL	S.R. SMITH	CUSTOM	1 PER POOL	1.50" O.D.(MIN) x 0.120" (MIN) WALL THICKNESS MARINE GRADE 316L STAINLESS STEEL STAIR HANDRAIL. TOP OF RAIL SHALL BE 34"-36" ABOVE WALKING SURFACE; REFER TO MANUFACTURER FOR INSTALLATION REQUIREMENTS
D	WATERLINE TILE	DAL TILE (OR EQUAL)	TBD	---	6" BAND OF FROST-PROOF WATERLINE TILE; (POOL CONTRACTOR TO PROVIDE SAMPLE FOR APPROVAL)
E	DELINEATOR TILE	DAL TILE (OR EQUAL)	TBD	---	2" NON-SLIP DELINEATOR TILE BAND AT EACH STAIR NOSING AND AT EDGE OF EACH UNDERWATER SEAT (POOL CONTRACTOR TO PROVIDE SAMPLE FOR APPROVAL)
F	DEPTH MARKERS	SANDBLAST	---	REFER PLANS	INSTALL DEPTH MARKINGS, "NO DIVING" LETTERS AND INTERNATIONAL NO DIVING SYMBOL SANDBLASTED ON POOL COPING SPACED EQUALING AROUND SOAKING POOLS AT DISTANCES NO GREATER THAN 25-FOOT INTERVALS AROUND POOL PERIMETER (2 -SETS MINIMUM REQUIRED AT EACH POOL). LETTERS AND NUMERALS TO BE 4-INCHES TALL, CONTRASTING COLOR TO BACKGROUND TO WHICH THEY ARE APPLIED. CORRESPONDING SET OF DEPTH MARKERS REQUIRED INSIDE WATERLINE TILE BAND; REFER DETAIL 8/SP4.2
G	ADA TRANSFER WALL RAIL	S.R. SMITH	EB-12A	2 PER POOL	1.50" O.D.(MIN) x 0.120" (MIN) WALL THICKNESS MARINE GRADE 316L STAINLESS STEEL BENT ADA TRANSFER RAILS; 5.75" MAX HEIGHT; PROVIDE WITH FLANGES AND MOUNTING HARDWARE (60-718)

SOAKING POOL EQUIPMENT SCHEDULE

PLUMBING SYSTEM

ID	DESCRIPTION	MFR:	MODEL No:	QTY:	ADDITIONAL COMMENTS:
H	POOL 1 MAIN DRAINS	NEPTUNE BENSON	MLD-SG-1212	2 PER POOL	LAWSON AQUATICS 12"x12" VGB-COMPLIANT SUMP AND COVER; 365 GPM MAX APPROVED FLOW INSTALLED IN FLOOR; 81.30 SQ.IN. OF OPEN AREA PER DRAIN
I	POOL 2-5 MAIN DRAINS	NEPTUNE BENSON	MLD-SG-0909	2 PER POOL	LAWSON AQUATICS 9"x9" VGB-COMPLIANT SUMP AND COVER; 261 GPM MAX APPROVED FLOW INSTALLED IN FLOOR; 42.12 SQ.IN. OF OPEN AREA PER DRAIN
J	POOL 1-2 FEATURE DRAINS	NEPTUNE BENSON	MLD-SG-0909	2 PER POOL	LAWSON AQUATICS 9"x9" VGB-COMPLIANT SUMP AND COVER; 248 GPM MAX APPROVED FLOW INSTALLED IN WALL; 42.12 SQ.IN. OF OPEN AREA PER DRAIN
K	HYDROSTATIC RELIEF VALVE	PENTAIR	07017-0158	1 PER POOL	2 IN. NPT HYDROSTATIC RELIEF VALVE INSTALLED IN ONE MAIN DRAIN PER POOL. REFER 3/SP4.2
L	SKIMMER	PENTAIR	U-3	2 PER POOL	U-3 COMMERCIAL SURFACE SKIMMER INSTALLED FOR POSSIBLE FUTURE RE-CIRCULATION SYSTEM. REFER 5/SP4.1
M	SKIMMER EQUALIZER COVER	WATERWAY PLASTICS (OR EQUAL)	640-822X V	1 PER SKIMMER	WATERWAY PLASTICS 6" VGB-APPROVED ULTRA SUCTION AND EQUALIZER COVER WITH 2" THREADED WALL FITTING; 136 GPM MAX APPROVED FLOW; 10.2 SQ.IN. OF OPEN AREA; INSTALL LOW IN POOL BENCH; CONFIRM COLOR WITH OWNER/LANDSCAPE ARCHITECT PRIOR TO ORDERING; INSTALL FLUSH 2" PLUG IN EACH WALL FITTING (WALL FITTINGS INSTALLED FOR POSSIBLE FUTURE RE-CIRCULATION SYSTEM)
N	WALL RETURN INLET	PENTAIR (OR EQUAL)	542404 (OR EQUAL)	PER PLAN	STANDARD BODY 1-1/2" THREADED x 1-1/2" THREADED WALL RETURN INLET; INSTALL FLUSH 1-1/2" PLUG IN EACH WALL FITTING (WALL FITTINGS INSTALLED FOR POSSIBLE FUTURE RE-CIRCULATION SYSTEM)
O	SPA JETS	WATERWAY PLASTICS (OR EQUAL)	210-6700 (OR EQUAL)	PER PLAN	SPA MASSAGE JET (REF 7/SP4.2)
P	POOL LIGHT	PENTAIR	INTELLIBRITE	PER PLAN	INTELLIBRITE 5G SPA WHITE 18-WATT LED UNDERWATER LIGHT (100-WATT INCANDESCENT EQUIVALENT); 12-VOLT; 900 LUMENS (EACH)
Q	EMERGENCY SHUT-OFF SWITCH	PENTAIR	ESO3	1 PER POOL	PENTAIR ESOC EMERGENCY SHUT-OFF SWITCH WITH AUDIBLE ALARM; WHEN ENGAGED THE SWITCH WILL DISCONNECT CIRCUITS TO POOL PUMPS, AIR BLOWERS (IF EQUIPPED), AND UNDERWATER LIGHTS SO THEY ARE NO LONGER OPERATING AND ACTIVATE AN AUDIBLE ALARM RATED AT NOT LESS THAN 80 DECIBELS AND A LIGHT NEAR THE SPA. SWITCH SHALL BE ACCESSIBLE AND LOCATED NO LESS THAN 5 FT AND NO MORE THAN 10 FT FROM SOAKING POOL'S EDGE.
R	SPA TIMMER	INTERMATIC	FF15MC	1	15-MINUTE COMMERCIAL COUTDOWN TIMER FOR JETS IN POOL 1; TIMER TO ACTIVATE AIR BLOWER AND BOOSTER PUMP
S	POOL LIGHT JUNCTION BOX	INTERMATIC	PBJ	2	UL1241 AND NEC COMPLIANT POLYMERIC, WATERTIGHT, MULTI-FIXTURE JUNCTION BOX. PROVIDE WITH MOUNTAIN BRACKET (PA114); COORDINATE ALL J-BOX LOCATIONS WITH LANDSCAPE ARCHITECT PRIOR TO PLACEMENT

8 EQUIPMENT & FINISH SCHEDULES

aqueous engineering
Ph: 903.266.0089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

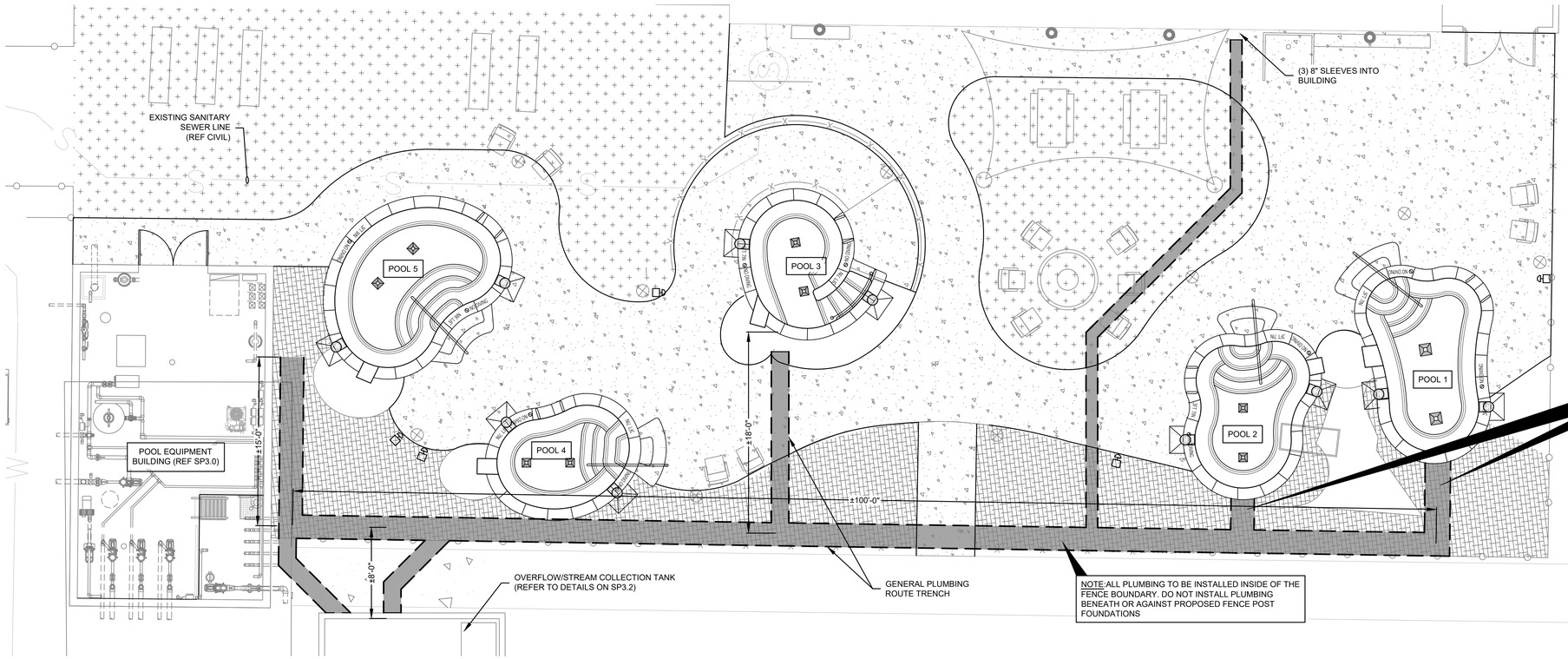
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	DEM
Checked:	JBZ/BH
AE Project No.:	19.055

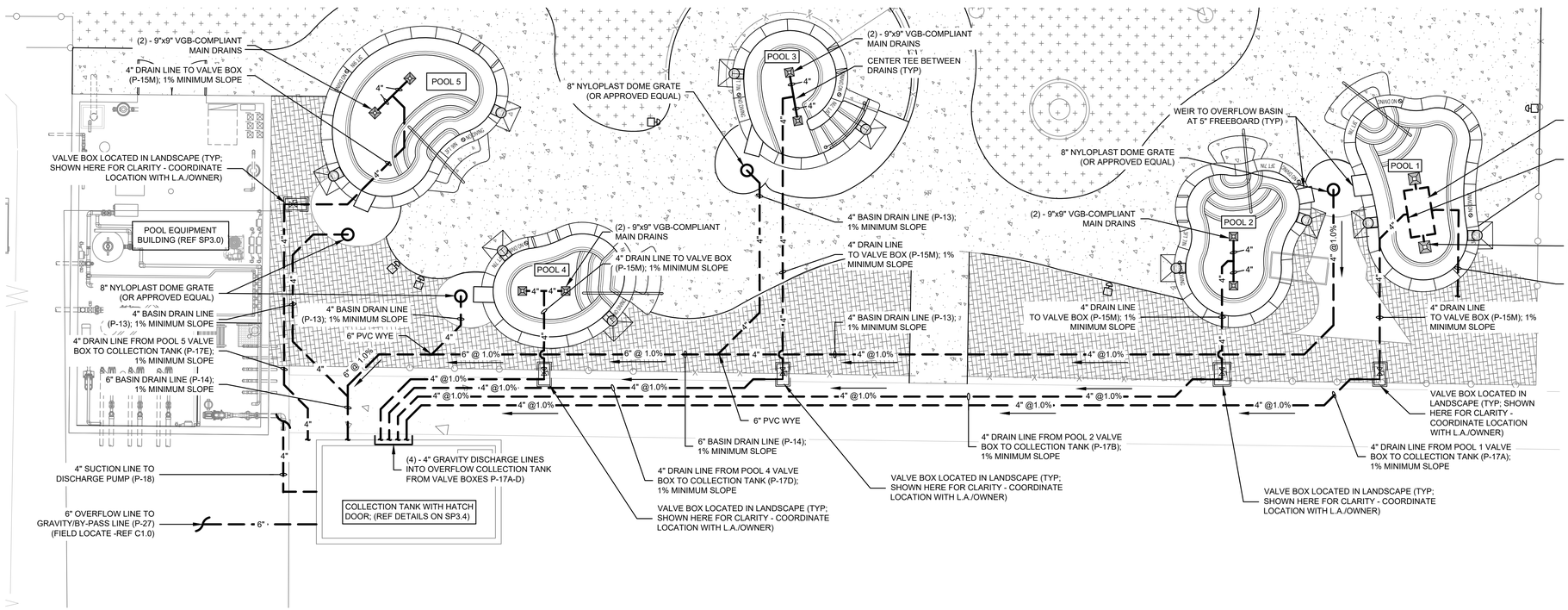
Sheet Title:
SOAKING POOLS LAYOUT

Sheet No.:
SP1.1



1 GENERAL PLUMBING ROUTE

0 1' 2' 4' 8'
SCALE: 3/16"=1'-0"



2 POOL DISCHARGE EFFLUENT PLUMBING PLAN

0 1' 2' 4' 8'
SCALE: 3/16"=1'-0"

aqueous engineering
Ph: 903.266.7089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-22A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

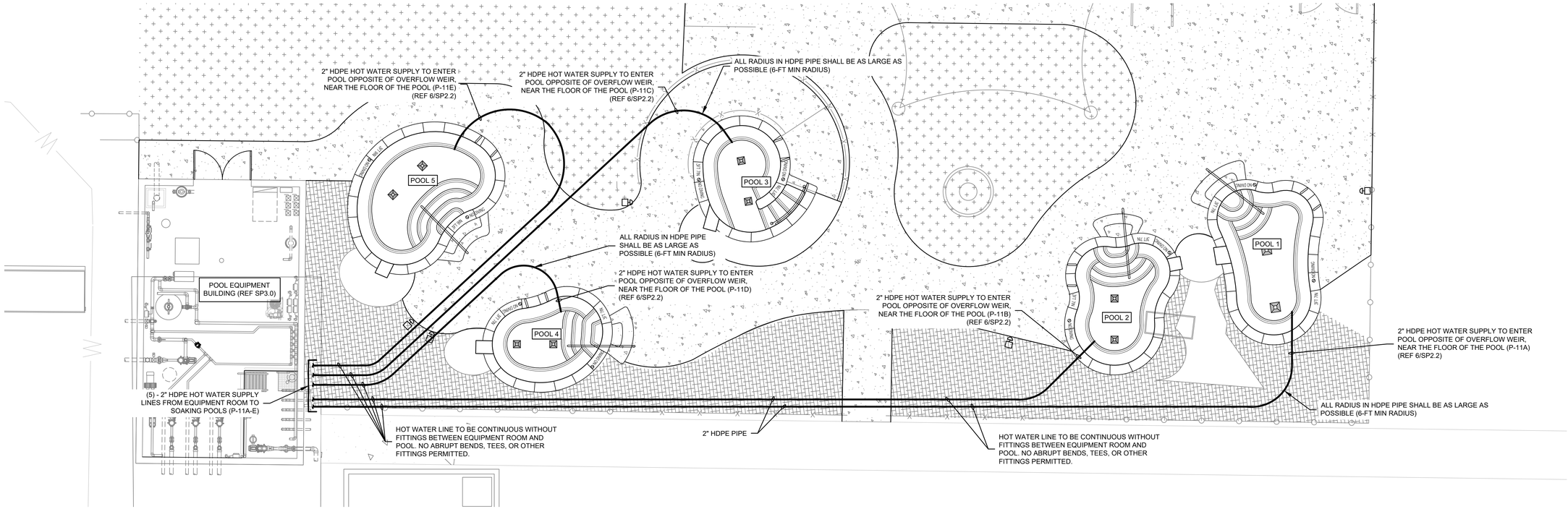
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

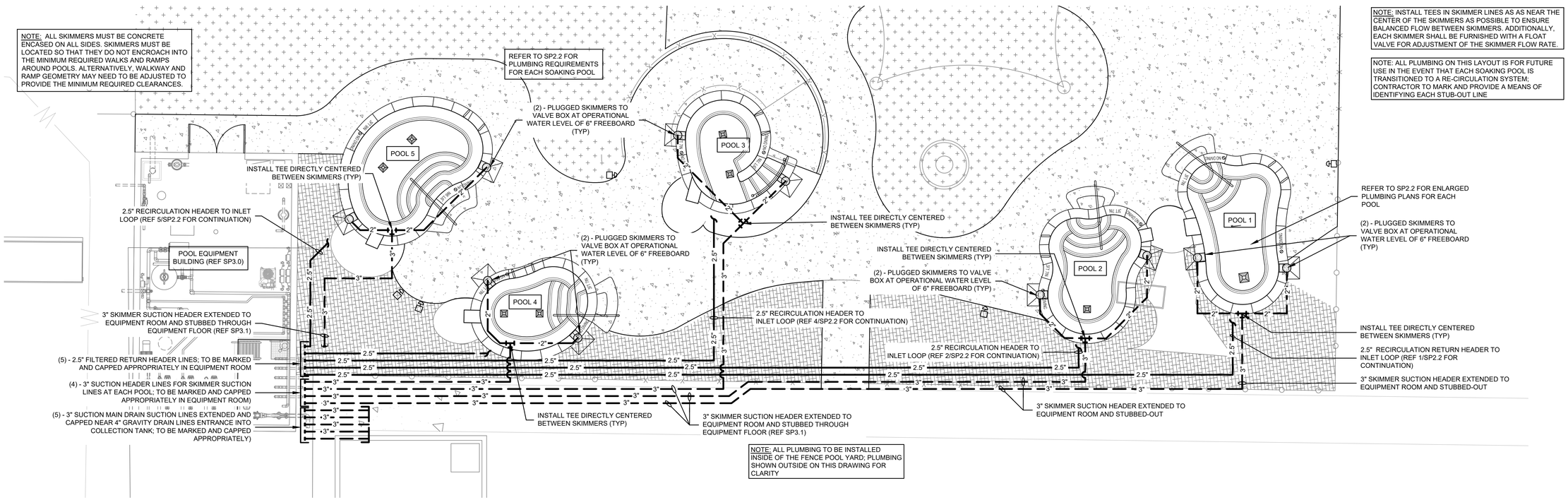
Sheet Title:
GENERAL & EFFL. PLUMBING ROUTES

Sheet No.:
SP2.0



1 HOT WATER INFLUENT PLUMBING PLAN

0' 1' 2' 4' 8'
SCALE: 3/16"=1'-0"



2 RECIRCULATION SYSTEM PLUMBING STUB-OUTS

0' 1' 2' 4' 8'
SCALE: 3/16"=1'-0"

aqueous engineering
Ph: 903.266.9089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

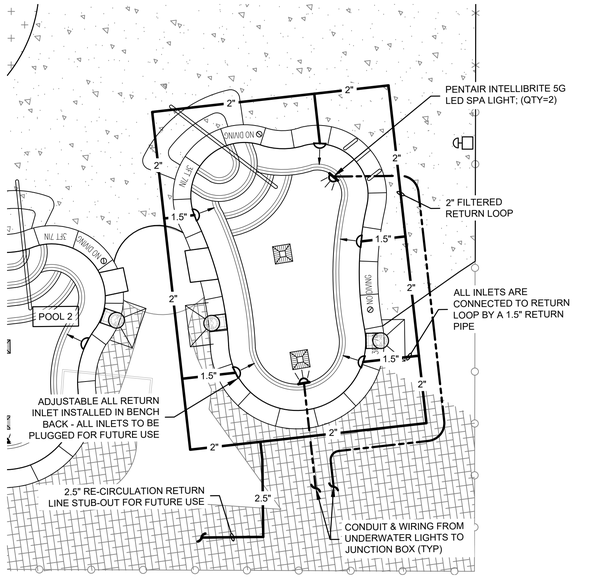
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

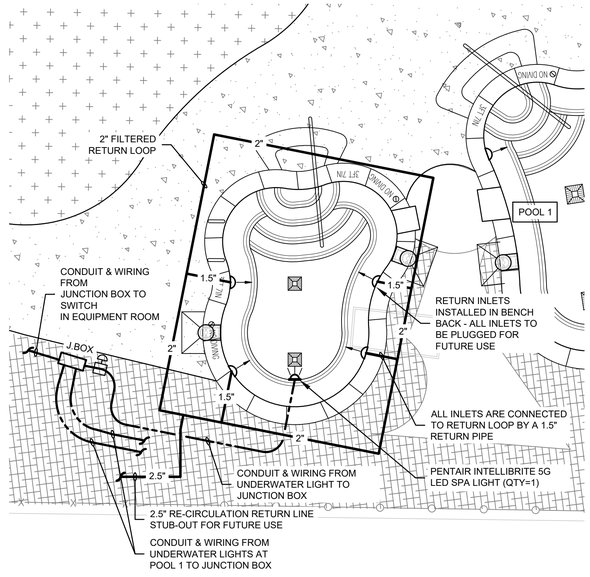
Sheet Title:
HOT WATER PLUMBING PLAN

Sheet No.:
SP2.1



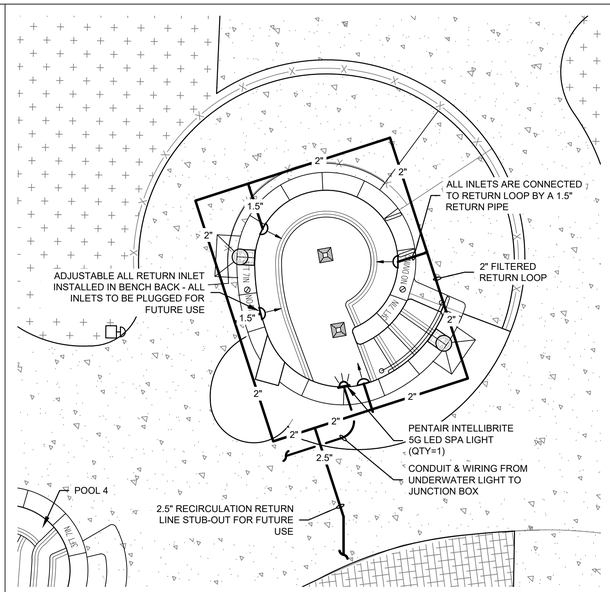
1 RIFFLE POOL INLET PLUMBING & LIGHTING PLAN

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



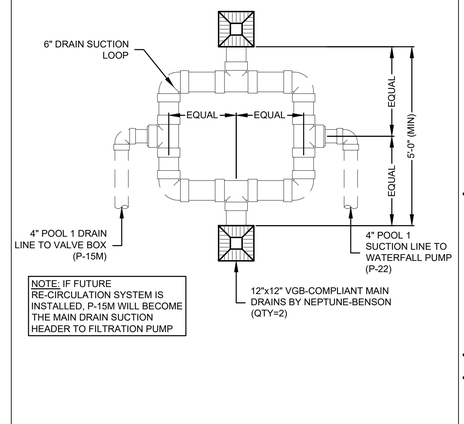
2 HEADWATERS POOL INLET PLUMBING & LIGHTING PLAN

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



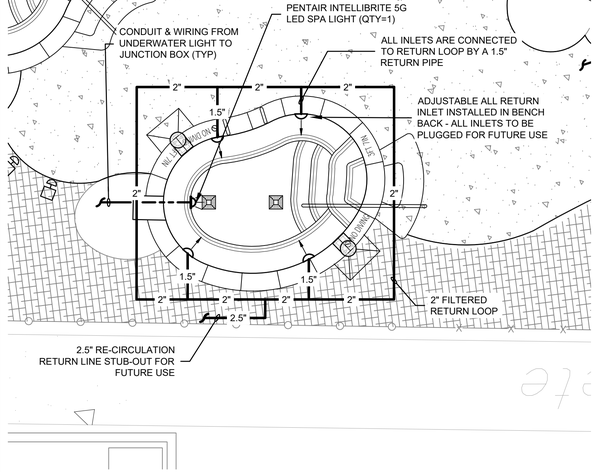
3 EDDY POOL INLET PLUMBING & LIGHTING PLAN

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



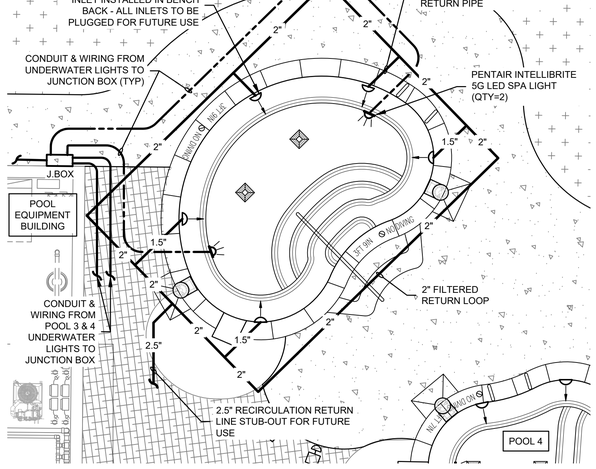
7 POOL 1 FLOOR DRAIN DETAIL

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



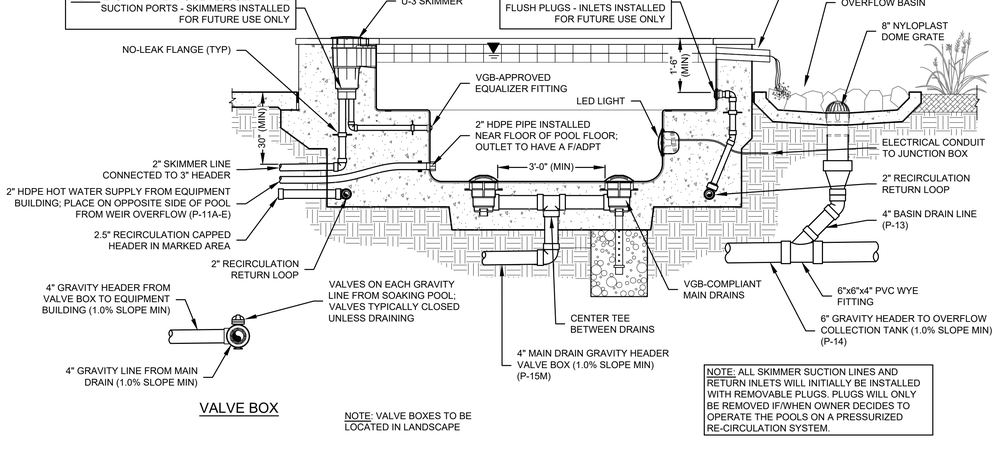
4 MEANDER POOL INLET PLUMBING & LIGHTING PLAN

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



5 CONFLUENCE POOL INLET PLUMBING & LIGHTING PLAN

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



6 SOAKING POOL PLUMBING EXAMPLE

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

SYMBOL LEGEND

ITEM	DESCRIPTION
	U-3 COMMERCIAL SURFACE SKIMMER
	WALL INLET FITTING BODY WITH ADJUSTABLE EYEBALL INLET AND 3/4" ORIFICE; FLUSH CAP ALL LOCATIONS (FOR POSSIBLE FUTURE RECIRCULATION)
	PENTAIR INTELLIBRITE 5G LED SPA LIGHT; 12-VOLT; 100-WATT INCANDESCENT EQUIVALENCE; 900 LUMENS

NOTE: ALL INLET PLUMBING AT EACH SOAKING POOL IS FOR FUTURE USE IF POOLS ARE TRANSITIONED TO A RE-CIRCULATION SYSTEM

NOTE: ALL PLUMBING BENEATH WATERFALL STRUCTURE AND LANDSCAPE BOULDERS TO BE SCHEDULE 80 PVC (MIN).

8 NOTES AND SYMBOLS

aqueous engineering
Ph: 903.266.9089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

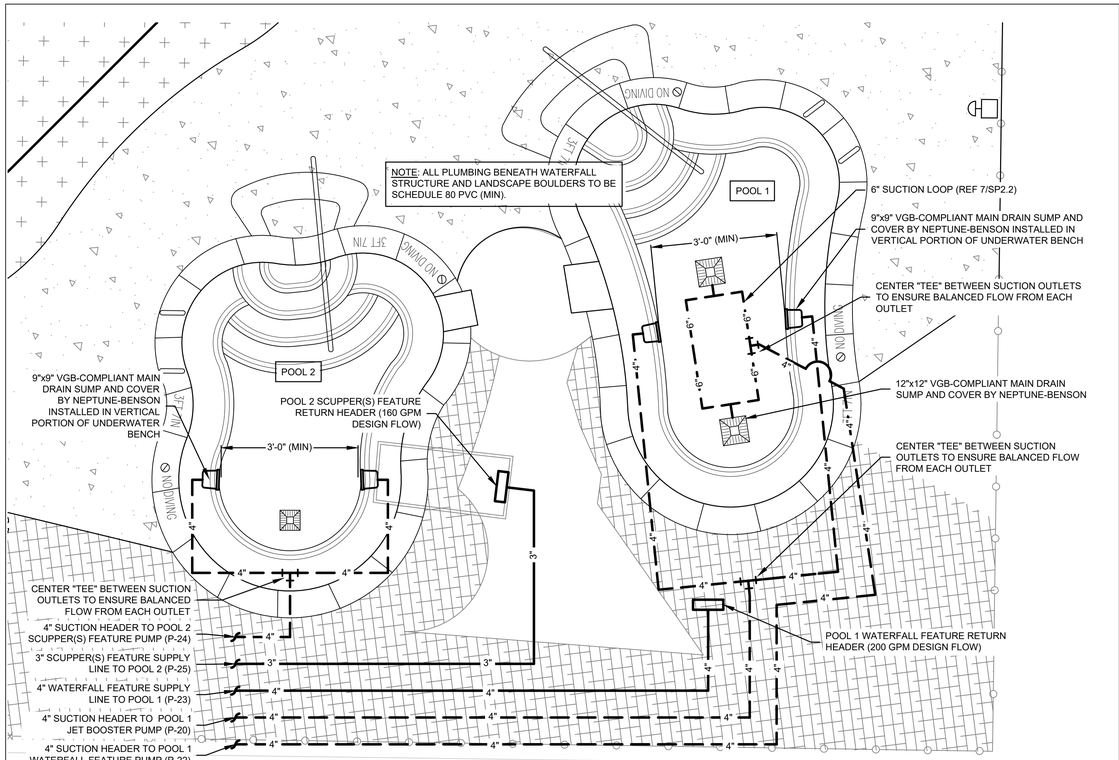
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST
SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	DEM
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
RECIRCULATION PLUMBING PLANS

Sheet No.:
SP2.2



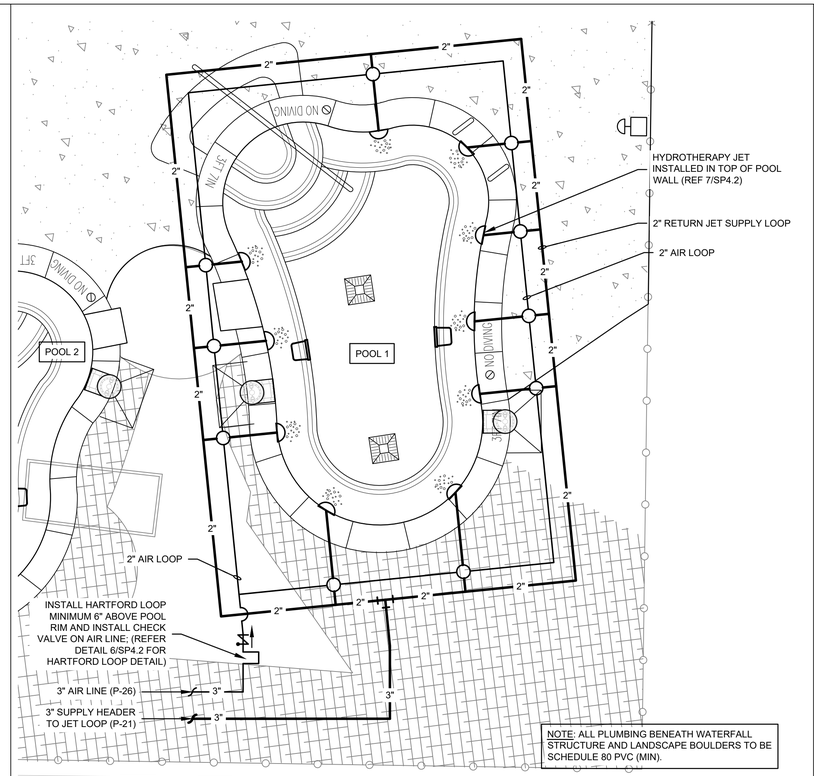
1 FEATURE SUCTION AND WATERFALL PLUMBING

SCALE: 3/8"=1'-0"

SYMBOL LEGEND	
ITEM	DESCRIPTION
	HYDROTHERAPY JET FITTING (REFER DETAIL 7/SP4.2)
	9"x9" VGB-COMPLIANT MAIN DRAIN SUMP AND COVER BY NEPTUNE-BENSON INSTALLED IN VERTICAL PORTION OF UNDERWATER BENCH; 240 GPM MAX FLOW THROUGH DRAIN AT 1.5 FPS.
	9"x9" VGB-COMPLIANT MAIN DRAIN SUMP AND COVER BY NEPTUNE-BENSON FOR DRAINING SOAKING POOLS; 265 GPM MAX FLOW THROUGH DRAIN AT 1.5 FPS (FLOOR INSTALLATION)
	12"x12" VGB-COMPLIANT MAIN DRAIN SUMP AND COVER BY NEPTUNE-BENSON FOR DRAINING SOAKING POOLS; 365 GPM MAX FLOW THROUGH DRAIN AT 1.5 FPS (FLOOR INSTALLATION)

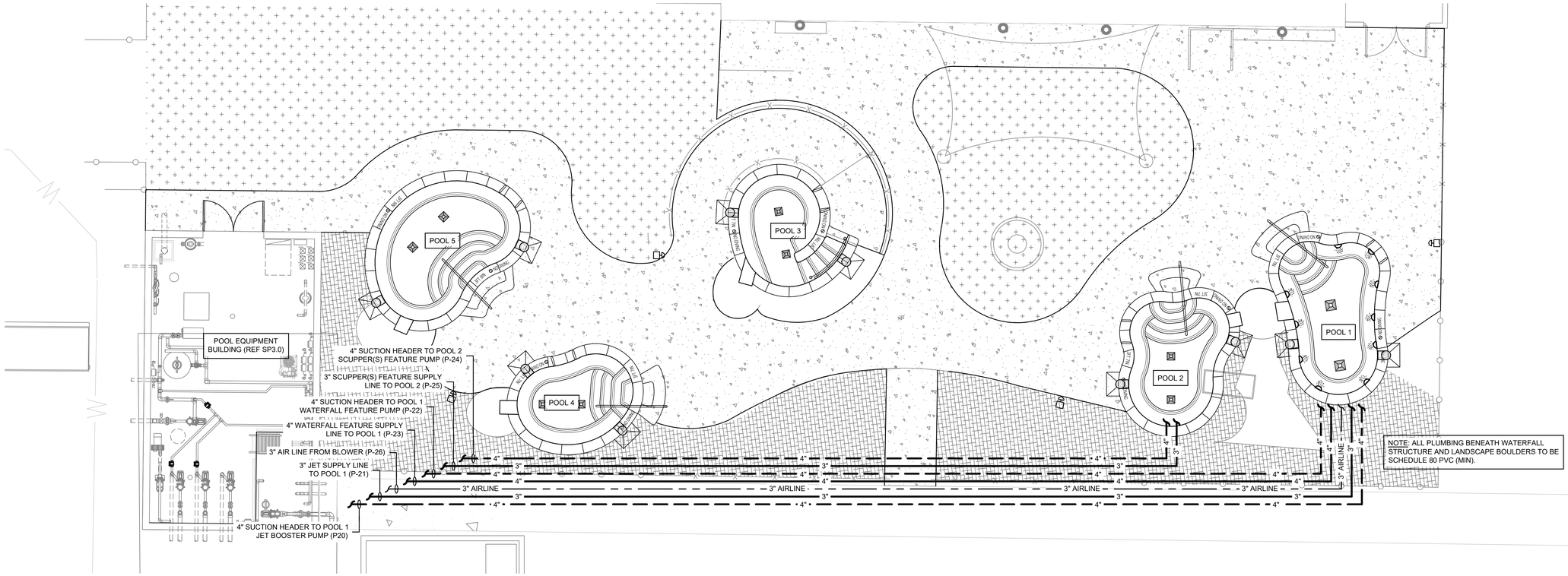
FOUNTAIN NOTE:
REFER TO DESIGN/BUILD FOUNTAIN NOTES ON SP1.1

2 NOTES AND SYMBOLS



3 POOL 1 JETS PLUMBING PLAN

SCALE: 3/8"=1'-0"



4 WATERFALL AND FEATURE LONG PLUMBING ROUTE

SCALE: 3/16"=1'-0"

aqueous engineering
Ph: 903.266.9089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite B-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

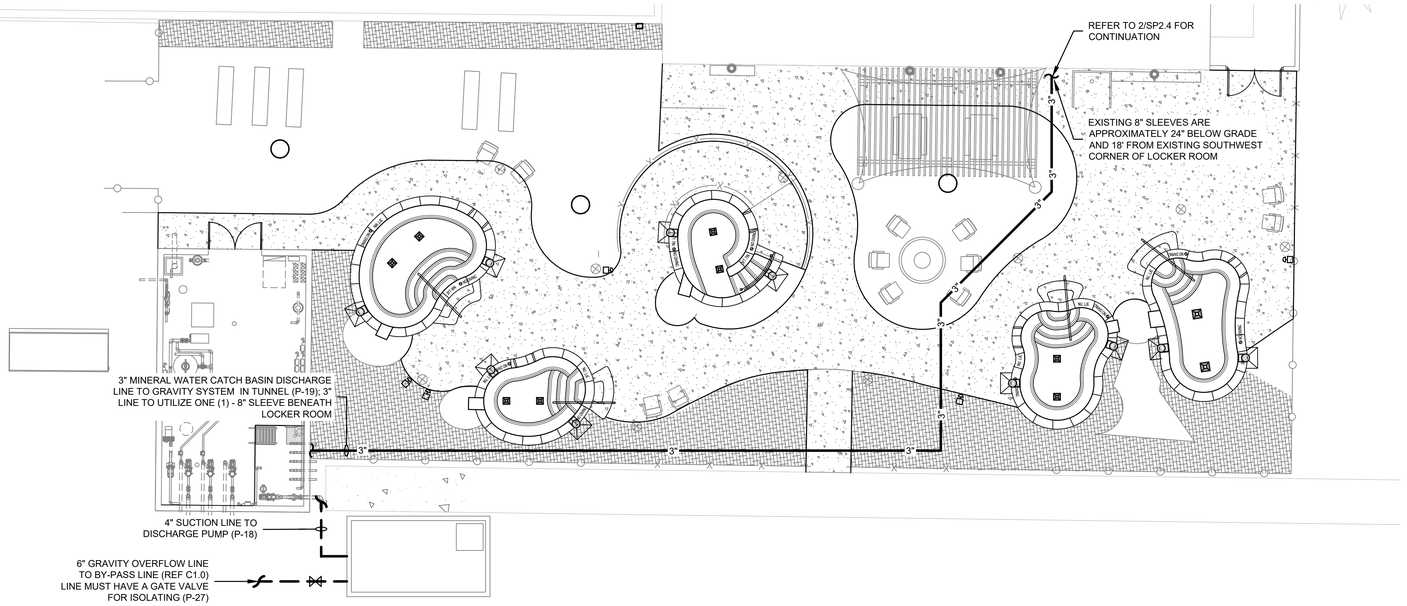
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
POOL FEATURES PLUMBING PLANS

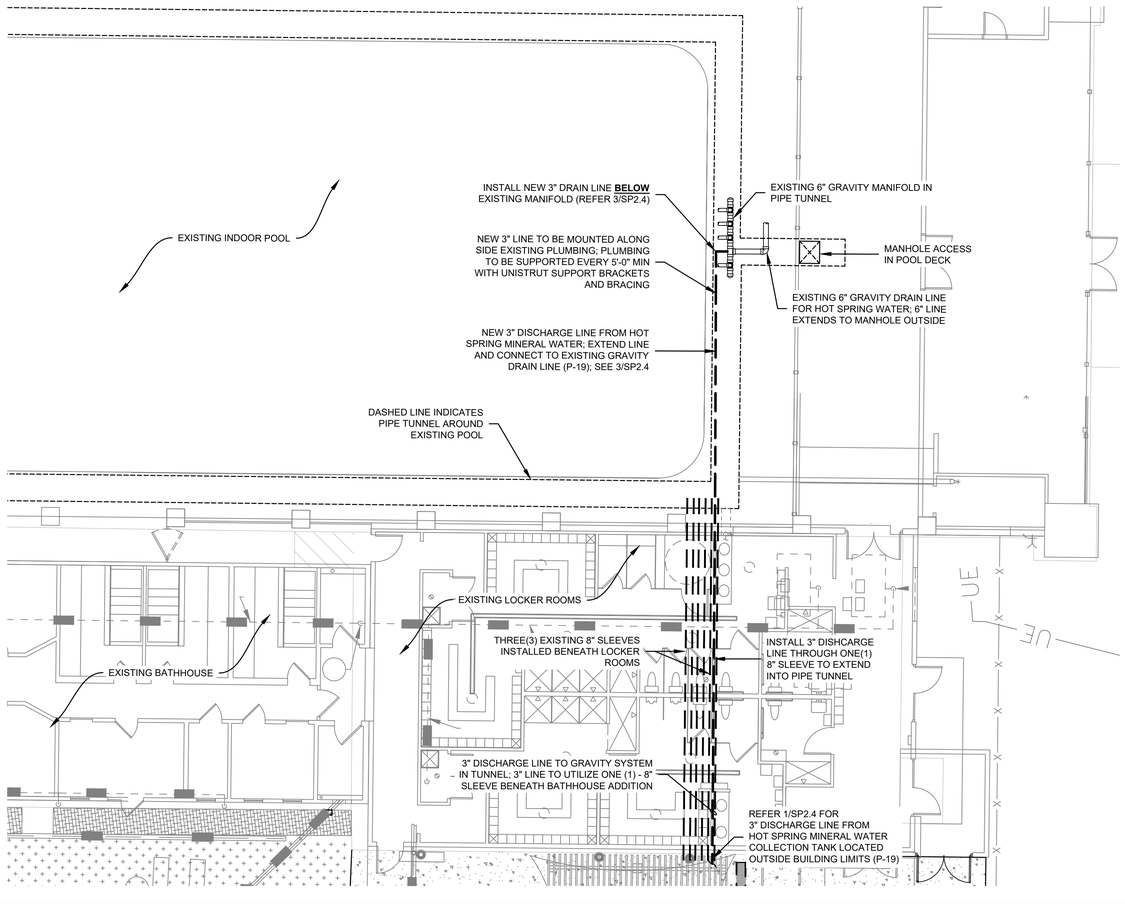
Sheet No.:
SP2.3



1 COLLECTION TANK DISCHARGE PLUMBING PLAN - OUTSIDE BUILDING

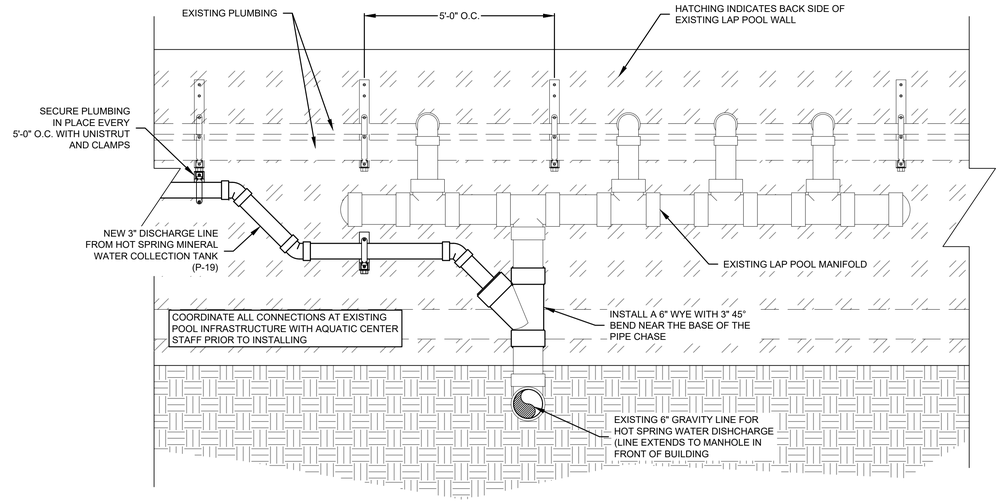
SCALE: 1/8"=1'-0"

4 NOT USED



2 COLLECTION TANK DISCHARGE PLUMBING PLAN -BENEATH EXISTING BUILDING

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



3 DISCHARGE LINE CONNECTION TO EXISTING GRAVITY LINE DETAIL

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

aqueous engineering
Ph: 903.266.0089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

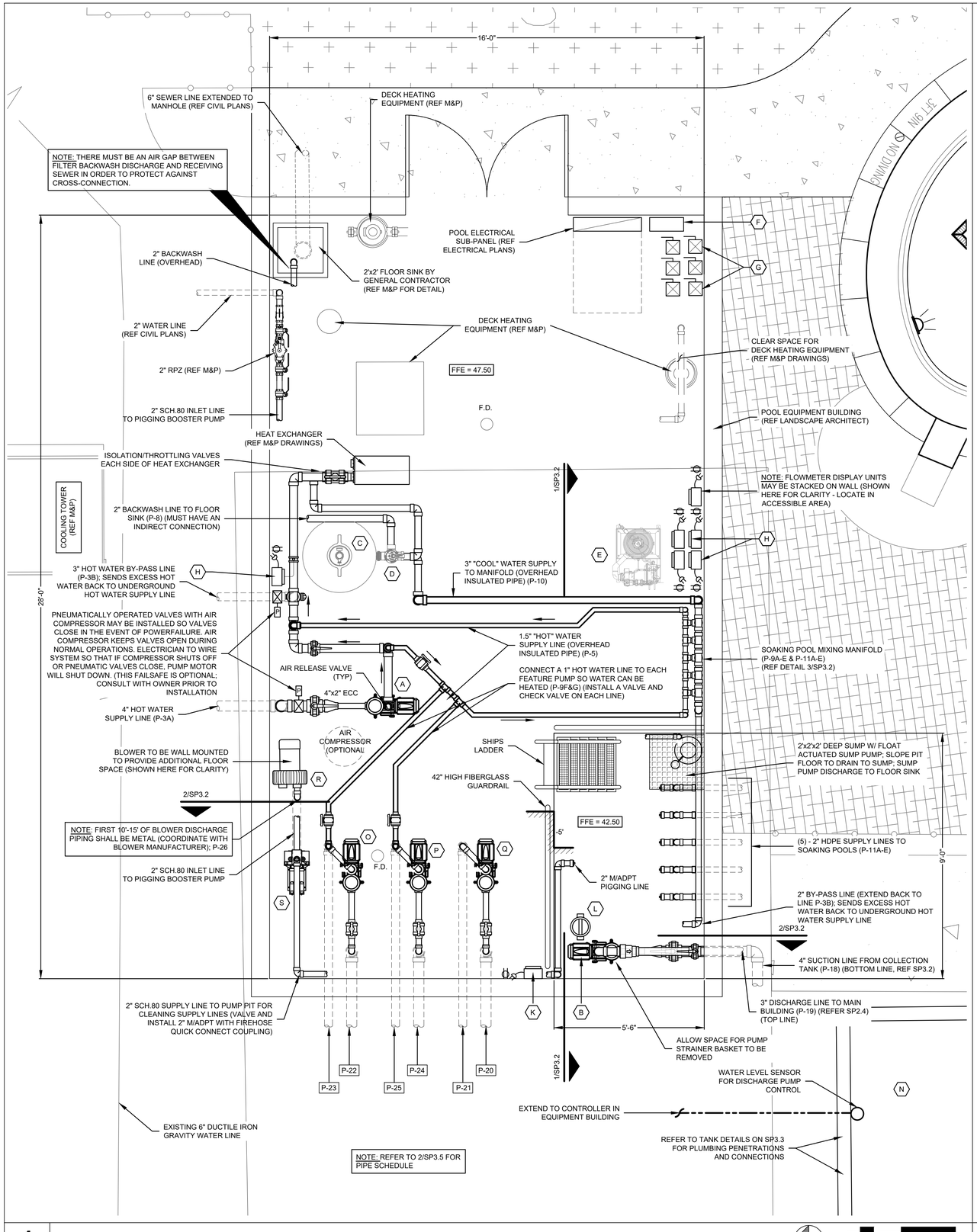
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
COLLECTION TANK DISCHARGE PLAN

Sheet No.:
SP2.4



1 POOL EQUIPMENT LAYOUT

0 6" 1' 2' 4'
SCALE: 1/2"=1'-0"

EQUIPMENT SCHEDULE

ID	DESCRIPTION	MFR:	MODEL No:	QTY:	ADDITIONAL COMMENTS:
	EQUIPMENT AT PUMP ROOM:				
A	HOT WATER BOOSTER PUMP	SPEK	SUPERPRO-V CVS	1	2.7 - Hp SPEK BADU SUPERPRO VARIABLE SPEED, SELF-PRIMING PUMP WITH INTEGRAL STRAINER; NON-CORROSIVE, CHEMICAL/UV RESISTANT; 175° F MAX TEMPERATURE; 130 GPM @ 40' TDH (AT MAX SPEED) 230-VOLT; 16 AMPS
B	EFFLUENT DISCHARGE PUMP	PENTAIR	011056	1	3-Hp INTELLIFLO VSF VARIABLE SPEED AND FLOW, SELF-PRIMING PUMP WITH INTEGRAL STRAINER: 100 GPM @ 55' TDH SPEED 4; 230-VOLT; 16 AMPS
C	SAND FILTER - COOL WATER	PENTAIR	TR-140C	1	HIGH CAPACITY FIBERGLASS SIDE MOUNT SAND FILTER; 36" DIAM. FILTER; 7.06 S.F. FILTER AREA; 141 GPM MAX FLOW; FURNISH W/FILTER SAND AND FULLFLOXF HIGH PERFORMANCE MULTIPORT PENTAIR VALVE (ITEM D)
D	BACKWASH VALVE	PENTAIR	FULLFLOXF	1	FULLFLOXF BACKWASH VALVE KIT
E	TABLET-STYLE CHLORINATOR	ACCU-TAB	POWERBASE 1030	1	CALCIUM-HYPOCHLORITE CHLORINATOR SANITIZER; SUPPLIED WITH PUMP, CONTROLLER AND FEEDER; UP TO 2.8 LBS/HR CHLORINE; 30 LBS. TABLET CAPACITY; 1" CONNECTIONS; 120V SINGLE PHASE; 20 AMPS
F	CONTROLLER	PENTAIR	INTELLI-TOUCH	1	INTELLITOUCH AUTOMATION SYSTEM (POWER CENTER ONLY) TO CONTROL ALL PUMPS AND POOL LIGHTING; PROVIDE WITH EMERGENCY SHUTDOWN SWITCHES (ESOS); TEMPERATURE GAUGES (520272), LOW PRESSURE SENSOR AND POOL JETS SWITCH/TIMER; COORDINATE CONTROLLER WITH PENTAIR REP (972-757-3041)
G	POOL MOTOR STARTERS/DISCONNECTS			5	REFER ELECTRICAL ENGINEERING DRAWINGS
H	FLOW METER	SIGNET	515	6	PADDLE-STYLE FLOW METER WITH WALL-MOUNTED DIGITAL DISPLAY; FLOWMETER TO BE CAPABLE OF MEASURING FLOW 1.5 TIMES THE DESIGN FLOW WITHIN 10% ACCURACY OF ACTUAL FLOW;120V (REQUIRES ELECTRICAL RECEPTACLE)
I	PRESSURE GAUGE	WEKSLER	PER INSTALLATION	I EA. PUMP	LIQUID FILLED PRESSURE GAUGE 0-60 PSI RANGE; 2.5" FACE DIAMETER WITH 1/4" NPT BOTTOM CONNECTION
J	VACUUM GAUGE	WEKSLER	PER INSTALLATION	1 EA. PUMP	LIQUID FILLED (COMBO) VACUUM/PRESSURE GAUGE; 0-30 IN OF HG AND 0-60 PSI; STAINLESS STEEL CASE; 2.5" FACE DIAMETER WITH 1/4" NPT BOTTOM CONNECTION;
K	WATER LEVEL CONTROLLER	AQUATICONTROL TECHNOLOGY	ELC-800r	1	ELECTRONIC WATER LEVEL CONTROLLER; 120V PLUG-IN DEVICE (REQUIRED ELECTRIC RECEPTACLE); CONTROLLER TO SEND SIGNAL TO INTELLITOUCH CONTROLLER TO TURN ON/OFF TANK DISHCHARGE PUMP AT HIGH WATER AND LOW WATER SET POINTS (ITEM B ABOVE)
L	DECHLORINATION SYSTEM	ACCU-TAB	3012	1	ACCU-TAB SERIES 300 ERROSION STYLE FEEDER; FEEDER TO HOUSE CLEANSLATE 2" DIAMETER SODIUM SULFITE TABLETS;
M	TEMPERATURE GAUGE	PENTAIR	SL1DW	PER PLAN	30/130° F WITH NYLON WELL;
N	COLLECTION TANK			1	PRE-CAST CONCRETE COLLECTION TANK; TANK MUST HAVE A MINIMUM OF 3,500 GALLON CAPACITY BELOW OVERFLOW LINE; REFER SP3.3
	EQUIPMENT AT WATERFALL FEATURE				
O	POOL 1 WATERFALL FEATURE BOOSTER PUMP	PENTAIR	022055	1	3-Hp INTELLIFLOXF VARIABLE SPEED, SELF-PRIMING PUMP WITH INTEGRAL STRAINER: 200 GPM @ 35' TDH; 230-VOLT; 16 AMPS
P	POOL 2 SCUPPER(S) FEATURE BOOSTER PUMP	PENTAIR	011056	1	3-Hp INTELLIFLO VSF VARIABLE SPEED AND FLOW, SELF-PRIMING PUMP WITH INTEGRAL STRAINER: 160 GPM @ 35' TDH (MAX SPEED); 230-VOLT; 16 AMPS
Q	POOL 1 WALL JETS BOOSTER PUMP	PENTAIR	XFK-12	1	3 Hp PENTAIR WHISPERFLOXF SELF-PRIMING PUMP WITH INTEGRAL STRAINER; 208-230 VOLT; 20.0-18.8 AMPS.; 190 GPM @ 40' T.D.H. (3-PHASE MOTOR AVAILABLE);
R	SPA BLOWER	AMETEK ROTRON	DR505AW58M	1	AMETEK ROTRON COMMERCIAL REGENERATIVE AIR BLOWER FOR POOL JETS; 2.0-Hp MOTOR; 115/230V SINGLE PHASE; 17.6/8.8 NEMA RATED MOTOR AMPS; 26/13 MAX BLOWER AMPS; PROVIDE WITH RELIEF VALVE (515092), GAGE (271949), INLET FILTER (515122) AND SILENCER (OPTIONAL); INSTALL PER MANUFACTURER REQUIREMENTS
	PIPE CLEANING SYSTEM				
S	PIPE PIGGING BOOSTER PUMP	MUNRO	LP200B	1	2-Hp CENTRIFUGAL CAST IRON BOOSTER PUMP; SELF-PRIMING; 208/230 VOLT SINGLE PHASE; 13/12 AMPS; CONNECTED TO DOMESTIC WATER SUPPLY
T	DISPLACEMENT PIG & EQUIPMENT	INLINE	---	---	CONTRACTOR TO SUPPLY (2) -2" FOAM DISPLACEMENT PIGS AND 6-FT OF 2" FIREHOUSE WITH FIREHOUSE CONNECTIONS ON BOTH ENDS

OPERATIONAL NOTE:
OWNER/OPERATOR OF SOAKING POOLS IS FULLY RESPONSIBLE FOR DAILY MONITORING THE WATER TEMPERATURE IN EACH POOL. DUE TO THE TEMPERATURE OF THE HOT WATER TO FLUCTUATE, OWNER/OPERATOR WILL NEED TO CHECK WATER TEMPERATURES MULTIPLE TIMES EACH DAY. IF THE WATER TEMPERATURE(S) EXCEED THE NORMAL AND ACCEPTABLE OPERATING TEMPERATURE RANGE, THE POOL MUST BE CLOSED TO THE PUBLIC UNTIL THE WATER TEMPERATURE CAN BE RETURNED TO A SAFE OPERATING RANGE.

NOTE:
POOL EQUIPMENT INSTALLER WILL CONNECT TO TEMPERED WATER-SOURCE FROM HEAT EXHANGER/COOLING TOWER AND THEN FILTER THE WATER PRIOR TO DISCHARGING WATER TO EACH SOAKING POOL. ANY FILTRATION REQUIRED UPSTREAM OF THE COOLING TOWER AND/OR HEAT EXCHANGER WILL BE SPECIFIED BY OTHERS (NOT SHOWN ON THESE DRAWINGS).

2 EQUIPMENT SCHEDULE

aqueous engineering
Ph: 903.266.7089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite B-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

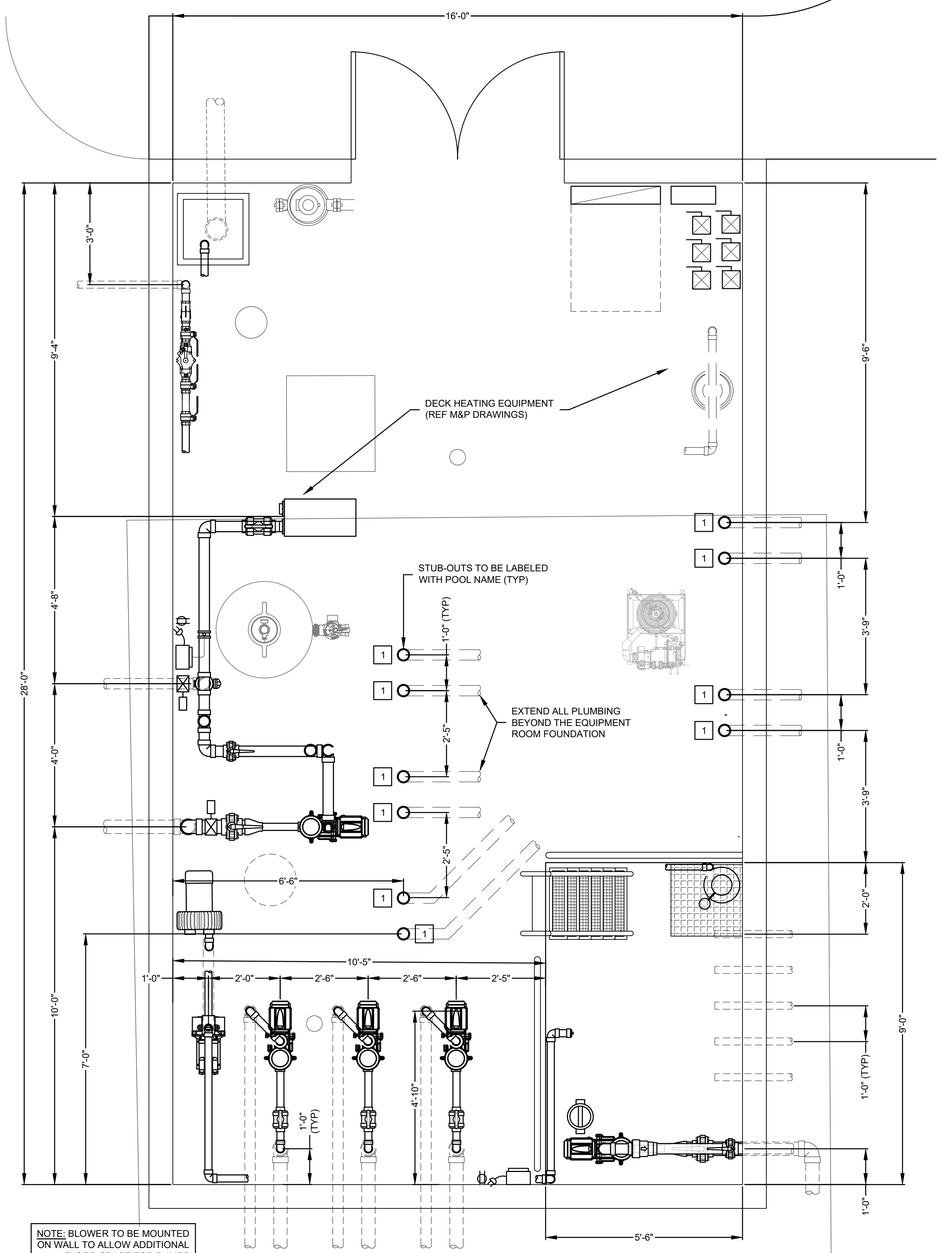
Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.15.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed: BH
Drawn: BH/DEM
Checked: JBZ/BH
AE Project No.: 19.055

Sheet Title:
POOL EQUIPMENT SCH. & LAYOUT

Sheet No.:
SP3.0

NOTE: DIMENSIONS OF EQUIPMENT MAY VARY SLIGHTLY DUE TO FIELD CONDITIONS. POOL CONTRACTOR TO MAKE ADJUSTMENTS IN FIELD AS REQUIRED



NOTE: BLOWER TO BE MOUNTED ON WALL TO ALLOW ADDITIONAL FLOOR SPACE FOR PUMPS

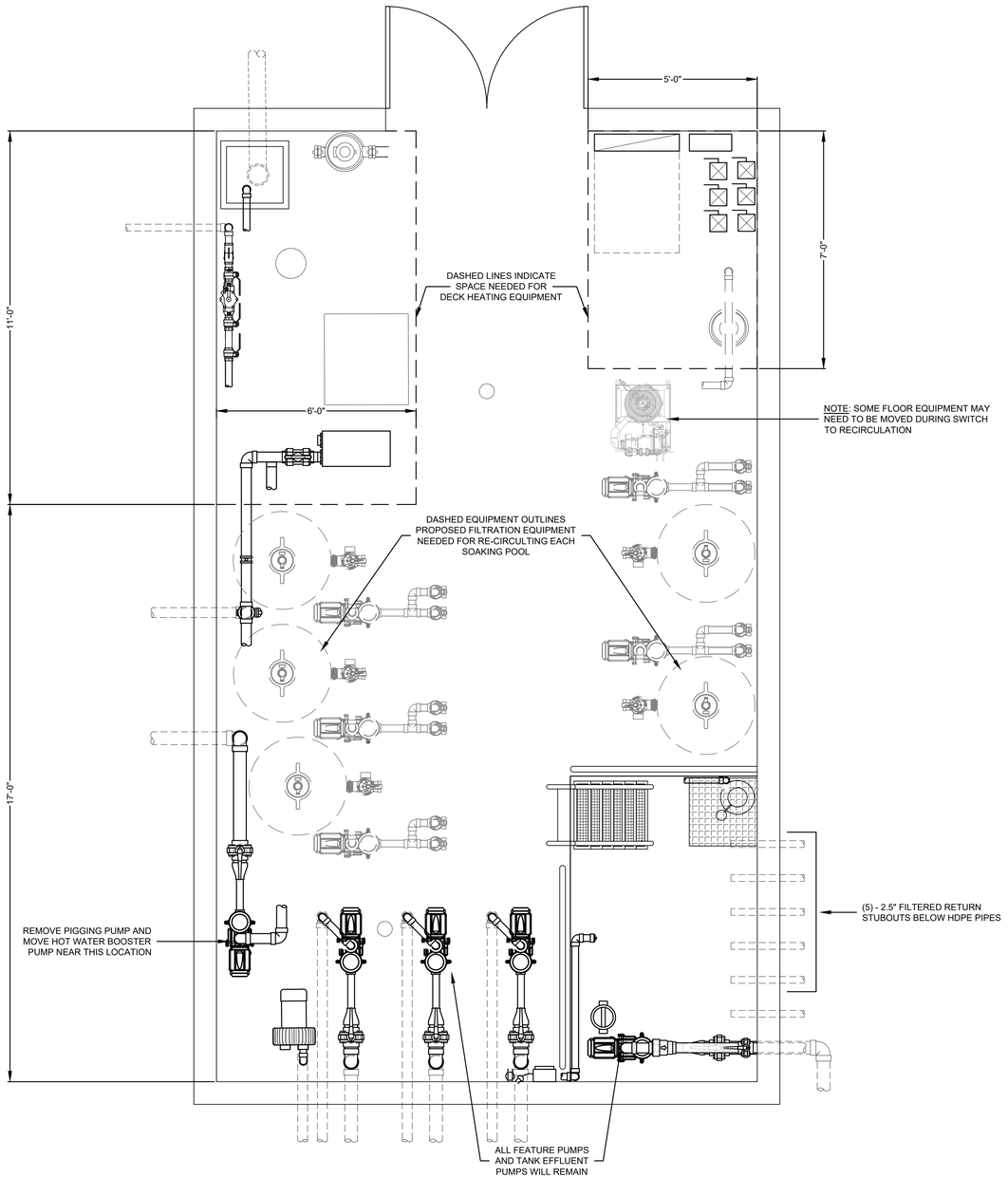
KEYED NOTES:

1 PVC STUB-UP ABOVE EQUIPMENT ROOM SLAB FOR POSSIBLE FUTURE PLUMBING CONNECTION. STUP-UPS SHALL BE OF SUFFICIENT LENGTH ABOVE FLOOR (12" MIN) TO ALLOW CONNECTION TO ADDITIONAL PIPING IN THE FUTURE. CAP THE END OF EACH PIP STUBBED UP ABOVE FLOOR.

1 POOL EQUIPMENT BUILDING DIMENSION PLAN

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

NOTE: THE EQUIPMENT BELOW IS A REPRESENTATION OF POSSIBLE LAYOUT IF SOAKING POOLS ARE REVISED TO A FILTRATION SYSTEM IN LIEU OF FLOW THROUGH SYSTEM. THIS DRAWING IS PROVIDED FOR REFERENCE ONLY AND TO FACILITATE PROPOSED EQUIPMENT ROOM LAYOUT.



2 PROPOSED FUTURE RE-CIRCULATION EQUIPMENT LAYOUT

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

aqueous engineering
Ph: 903.266.8089
www.aqueousengineering.com
1828 ESE Loop 323 Suite R-22A
Tyler, Texas 75701
Colorado CoA#: 20161409501

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

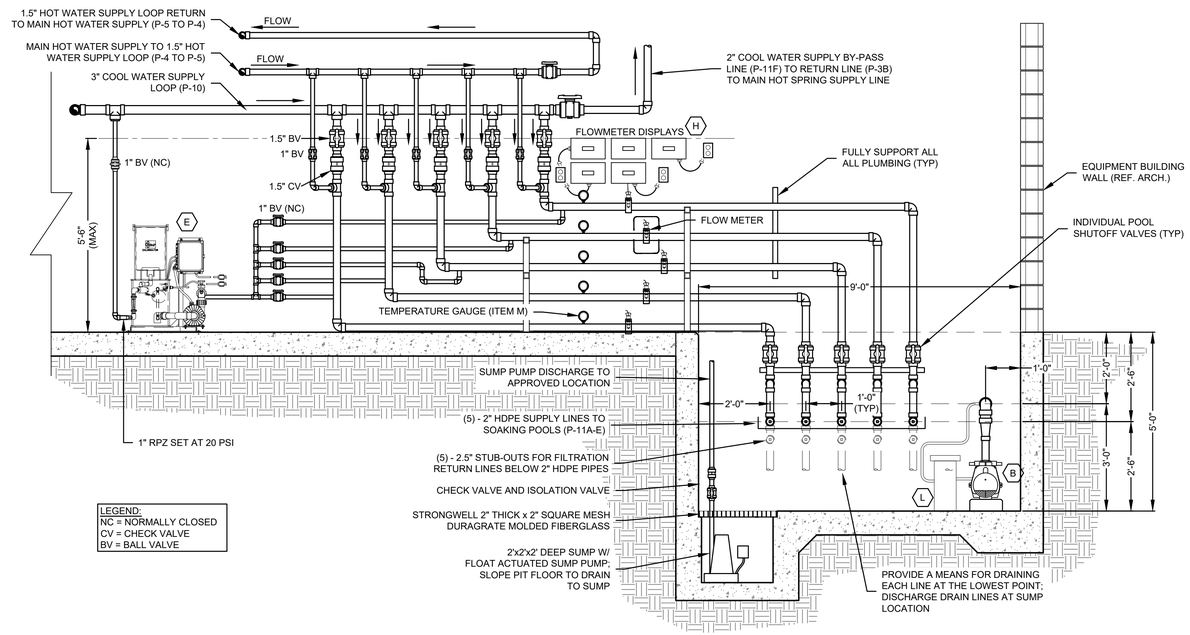
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST
SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

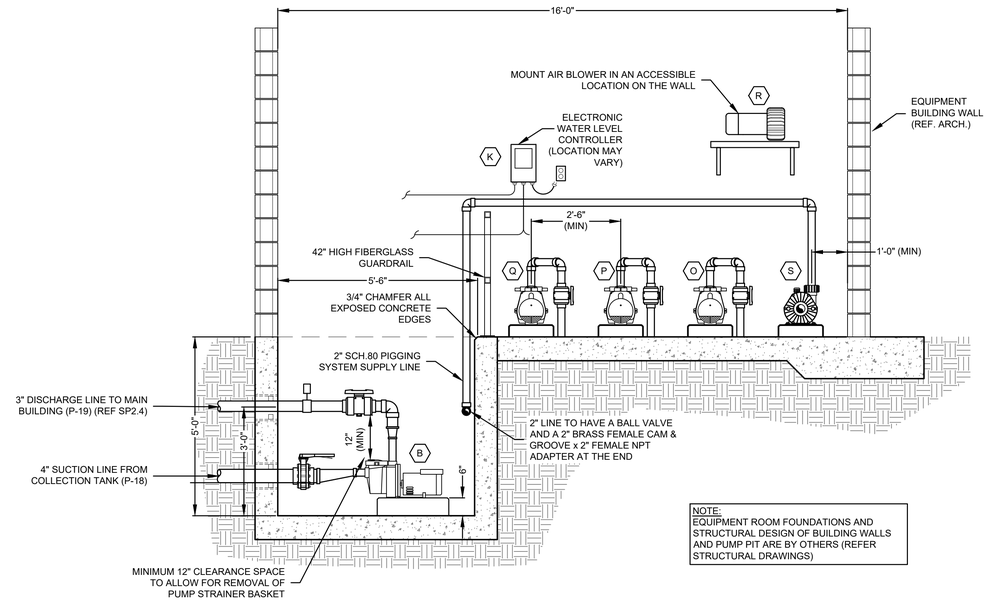
Sheet Title:
EQUIPMENT ROOM DIMENSIONAL PLAN

Sheet No.:
SP3.1



1 EQUIPMENT ROOM SECTION

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

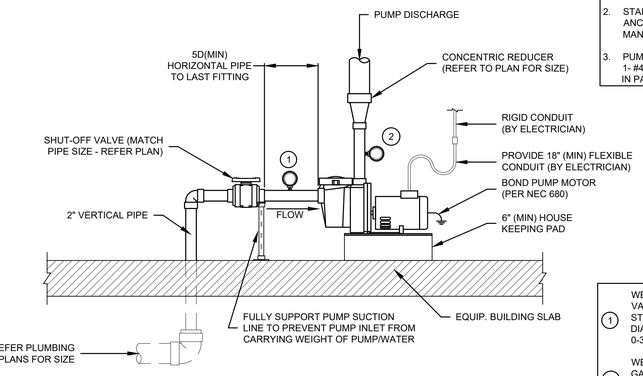


2 EQUIPMENT ROOM SECTION

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

3 MANIFOLD DETAIL

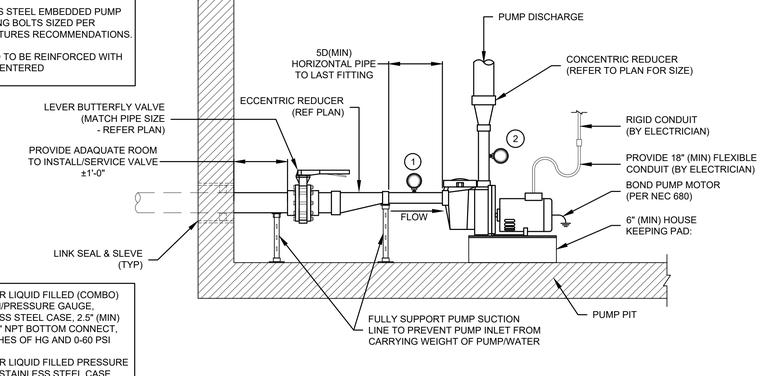
SCALE: 3/4"=1'-0"



SLAB INSTALLATION

HOUSE KEEPING PAD NOTES:

1. MOUNT PUMP TO HOUSE KEEPING PADS PER MANUFACTURER REQUIREMENTS.
2. STAINLESS STEEL EMBEDDED PUMP ANCHORING BOLTS SIZED PER MANUFACTURES RECOMMENDATIONS.
3. PUMP PAD TO BE REINFORCED WITH 1- #4 TIE CENTERED IN PAD.



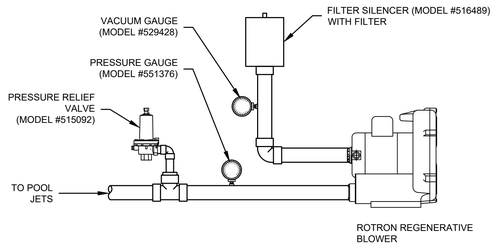
PUMP PIT INSTALLATION

① WESKLER LIQUID FILLED (COMBO) VACUUM/PRESSURE GAUGE, STAINLESS STEEL CASE, 2.5" (MIN) DIAL, 1/4" NPT BOTTOM CONNECT, 0-30 INCHES OF HG AND 0-60 PSI

② WESKLER LIQUID FILLED PRESSURE GAUGE, STAINLESS STEEL CASE, 2.5" (MIN) DIAL, 1/4" NPT BOTTOM CONNECT, 0-60 PSI

4 TYP. PUMP INSTALLATION DETAIL

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



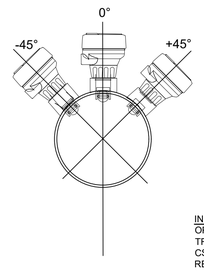
NOTE:
1. ADJUST RELIEF VALVE AT SYSTEM START UP
2. REFER TO MANUFACTURER FOR MOUNTING AND CONNECTION SIZES
3. REFER TO POOL PLUMBING SHEETS FOR AIR LINE SIZE
4. FIRST 10'-15' OF BLOWER DISCHARGE PIPING SHALL BE METAL (COORDINATE WITH BLOWER MANUFACTURER)

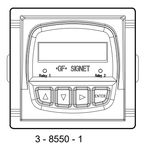
5 AIR BLOWER DETAIL

NOT TO SCALE

MINIMUM INLET/OUTLET STRAIGHT PIPE LENGTHS		
FITTING ON INLET SIDE	MINIMUM INLET PIPE LENGTH (A)	MINIMUM OUTLET PIPE LENGTH (B)
REDUCER	15 x I.D. OF PIPE	5 x I.D. OF PIPE
(1) - 90° BEND	20 x I.D. OF PIPE	5 x I.D. OF PIPE
(2) - 90° BENDS - SAME DIRECTION	25 x I.D. OF PIPE	5 x I.D. OF PIPE
(2) - 90° BENDS - CHANGE IN DIRECTION	40 x I.D. OF PIPE	5 x I.D. OF PIPE
PUMP OR VALVE	50 x I.D. OF PIPE	5 x I.D. OF PIPE

NOTE:
1. INSTALL PIPE SUCH THAT AIR CANNOT GET TRAPPED IN AREA OF SENSOR. DO NOT INSTALL IN PIPES WITH FLOW MOVING DOWNWARD OR IN HORIZONTAL SECTIONS OF PIPE THAT ARE HIGHER THAN ADJACENT HORIZONTAL PIPE.





3 - 8550 - 1

INDICATOR SPECIFICATIONS:
OPERATING VOLTAGE: 12-24 VDC
TRANSMITTER SHALL MEET APPROPRIATE CE, CSA & UL STANDARDS. Accuracy: +/- 0.5% OF READING @ 25 DEG. C DEVICE SHALL MEET NEMA 4X AND IP65 UNIT SHALL BE NEAR THE TRANSMITTER UTILIZING THE 3-8050 UNIVERSAL MOUNTING KIT DIMENSIONS: 3.8" SQUARE FACE

6 TYP. FLOW METER PROBE DETAIL

NOT TO SCALE

aqueous engineering
Ph: 903.266.7089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

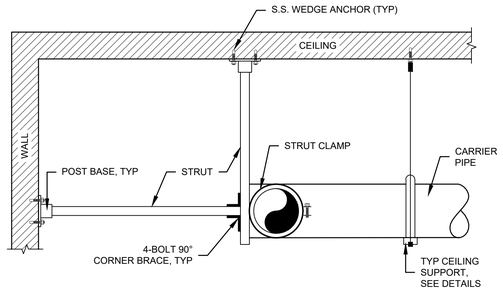
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST
SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
POOL EQUIPMENT SECT. & DETAILS

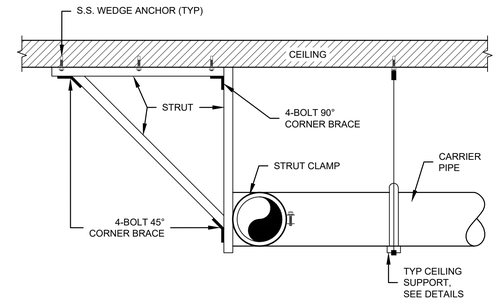
Sheet No.:
SP3.2



NOTE: DETAILS ARE TYP THRUST BRACING METHODS, AND NOT INCLUSIVE OF ALL SITE CONDITIONS. CONTRACTOR TO PROVIDE SHOP DRAWING SOF BRACING METHODS FOR APPROVAL

1 PIPE SUPPORT DETAIL

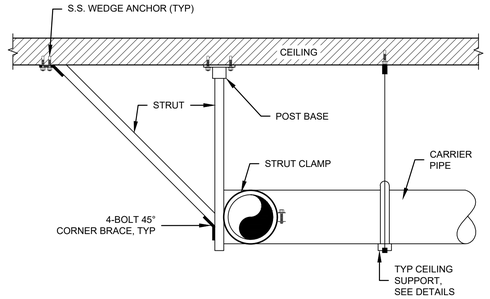
NOT TO SCALE



NOTE: DETAILS ARE TYP THRUST BRACING METHODS, AND NOT INCLUSIVE OF ALL SITE CONDITIONS. CONTRACTOR TO PROVIDE SHOP DRAWING SOF BRACING METHODS FOR APPROVAL

2 PIPE SUPPORT DETAIL

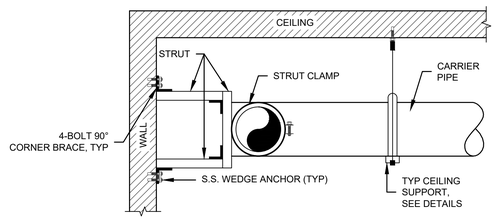
NOT TO SCALE



NOTE: DETAILS ARE TYP THRUST BRACING METHODS, AND NOT INCLUSIVE OF ALL SITE CONDITIONS. CONTRACTOR TO PROVIDE SHOP DRAWING SOF BRACING METHODS FOR APPROVAL

3 PIPE SUPPORT DETAIL

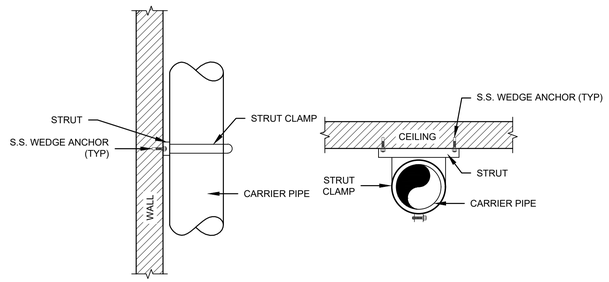
NOT TO SCALE



NOTE: DETAILS ARE TYP THRUST BRACING METHODS, AND NOT INCLUSIVE OF ALL SITE CONDITIONS. CONTRACTOR TO PROVIDE SHOP DRAWING SOF BRACING METHODS FOR APPROVAL

4 PIPE SUPPORT DETAIL

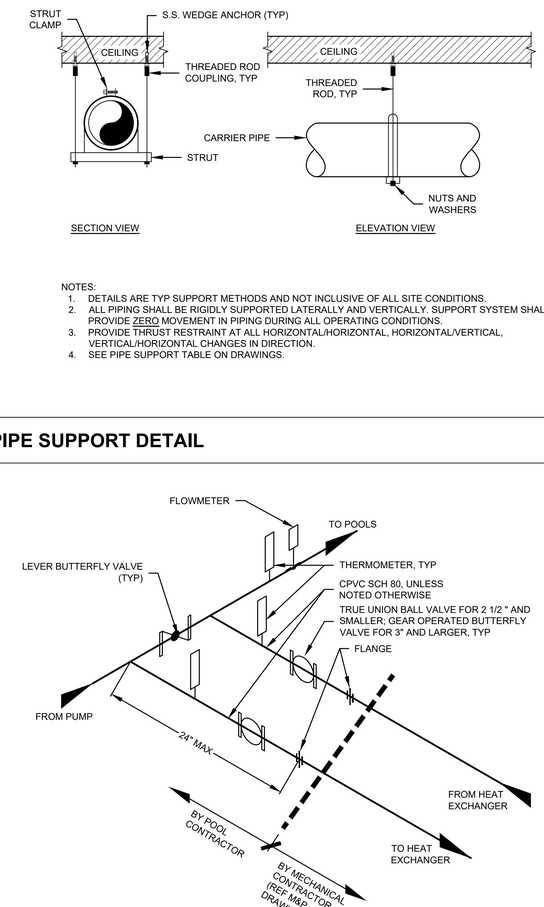
NOT TO SCALE



NOTES:
1. DETAILS ARE TYP SUPPORT METHODS AND NOT INCLUSIVE OF ALL SITE CONDITIONS.
2. ALL PIPING SHALL BE RIGIDLY SUPPORTED LATERALLY AND VERTICALLY. SUPPORT SYSTEM SHALL PROVIDE ZERO MOVEMENT IN PIPING DURING ALL OPERATING CONDITIONS.
3. PROVIDE THRUST RESTRAINT AT ALL HORIZONTAL/HORIZONTAL, HORIZONTAL/VERTICAL, VERTICAL/HORIZONTAL CHANGES IN DIRECTION..
4. SEE PIPE SUPPORT TABLE ON DRAWINGS.

5 PIPE SUPPORT DETAIL

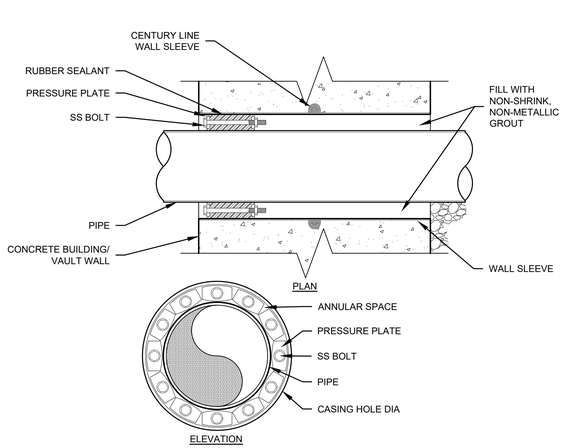
NOT TO SCALE



NOTES:
1. DETAILS ARE TYP SUPPORT METHODS AND NOT INCLUSIVE OF ALL SITE CONDITIONS.
2. ALL PIPING SHALL BE RIGIDLY SUPPORTED LATERALLY AND VERTICALLY. SUPPORT SYSTEM SHALL PROVIDE ZERO MOVEMENT IN PIPING DURING ALL OPERATING CONDITIONS.
3. PROVIDE THRUST RESTRAINT AT ALL HORIZONTAL/HORIZONTAL, HORIZONTAL/VERTICAL, VERTICAL/HORIZONTAL CHANGES IN DIRECTION.
4. SEE PIPE SUPPORT TABLE ON DRAWINGS.

6 PIPE SUPPORT DETAIL

NOT TO SCALE



7 LINK SEAL GASKET DETAIL

NOT TO SCALE

MAX ALLOWABLE SUPPORT SPACING
(IN FT)

NOM PIPE SIZE IN	PVC PIPE SUPPORT DETAIL									
	SCHEDULE 40					SCHEDULE 80				
	TEMP °F					TEMP °F				
	60	80	100	120	140	60	80	100	120	140
1/2	4 1/2	4 1/2	4	2 1/2	2 1/2	5	4 1/2	4 1/2	3	2 1/2
3/4	5	4 1/2	4	2 1/2	2 1/2	5 1/2	5	4 1/2	3	2 1/2
1	5 1/2	5	4 1/2	3	2 1/2	6	5 1/2	5	3 1/2	3
1 1/4	5 1/2	5 1/2	5	3	3	6	6	5 1/2	3 1/2	3
1 1/2	6	5 1/2	5	3 1/2	3	6 1/2	6	5 1/2	3 1/2	3 1/2
2	6	5 1/2	5	3 1/2	3	7	6 1/2	6	4	3 1/2
2 1/2	7	6 1/2	6	4	3 1/2	7 1/2	7 1/2	6 1/2	4 1/2	4
3	7	7	6	4	3 1/2	8	7 1/2	7	4 1/2	4
4	7 1/2	7	6 1/2	4 1/2	4	9	8	7 1/2	5	4 1/2
6	8 1/2	8	7 1/2	5	4 1/2	10	9 1/2	9	6	5
8	9	8 1/2	8	5	4 1/2	11	10 1/2	9 1/2	6 1/2	5 1/2
10	10	9	8 1/2	5 1/2	5	12	11	10	7	6
12	11 1/2	10 1/2	9 1/2	6 1/2	5 1/2	12	11	10	7	6

8 PIPE SUPPORT TABLE

NOT TO SCALE

9 HEAT EXCHANGER PLUMBING DETAIL

NOT TO SCALE

aqueous engineering
Ph: 903.266.9089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-22A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

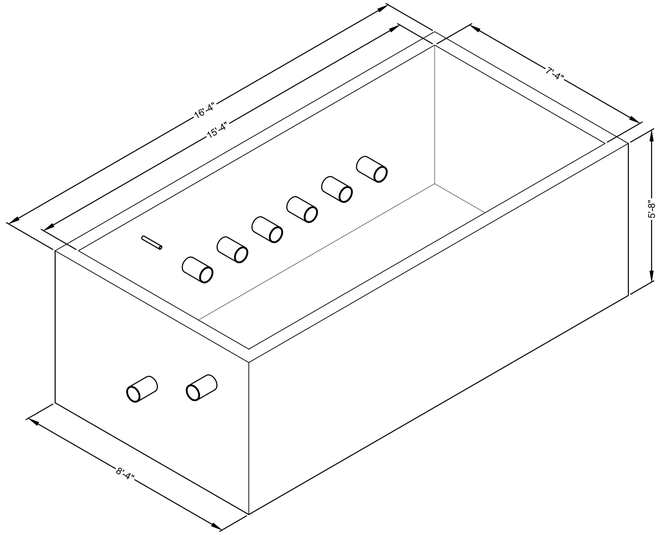
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH
Checked:	JBZ/BH
AE Project No.:	19.055

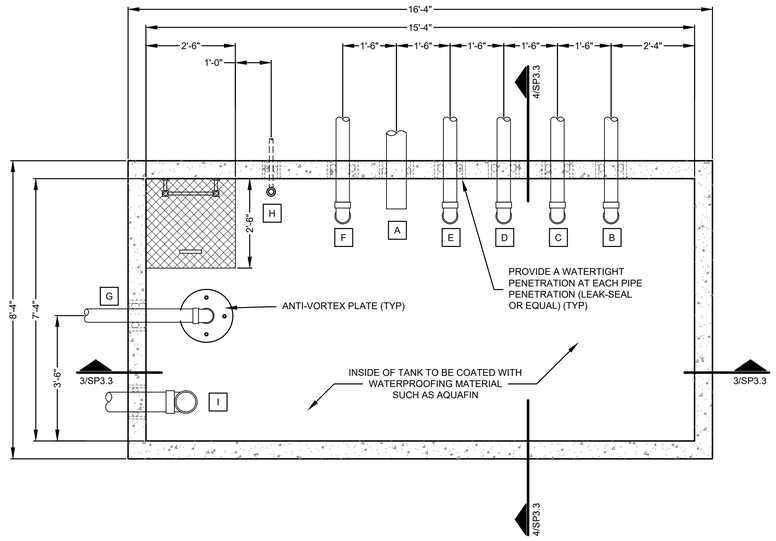
Sheet Title:
POOL EQUIPMENT DETAILS

Sheet No.:
SP3.3



1 COLLECTION TANK - ISOMETRIC VIEW

SCALE: 3/8"=1'-0"



2 COLLECTION TANK - PLAN VIEW

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

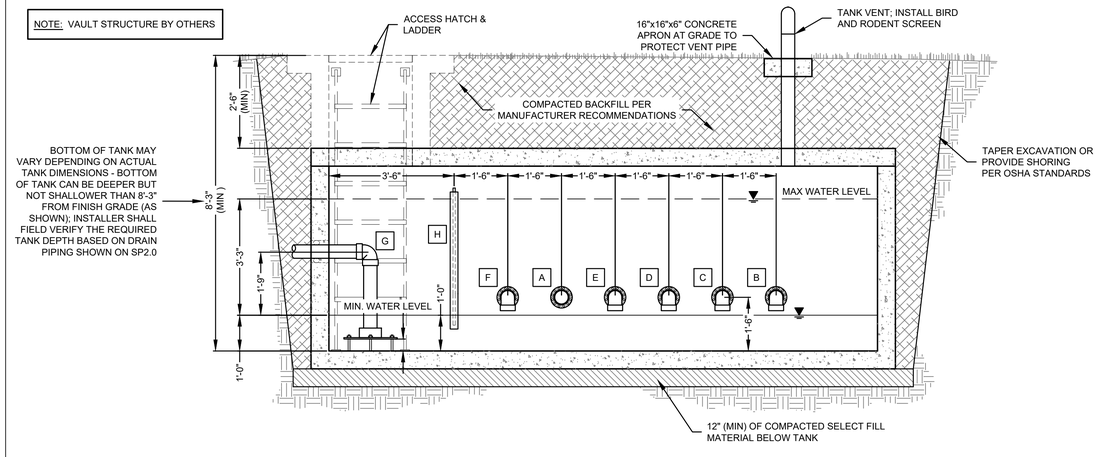
COLLECTION TANK NOTES

1. REFER TO MANUFACTURER FOR PRE-CAST CONCRETE TANK DIMENSIONS AND DESIGN. DIMENSIONS SHOWN ARE FOR REPRESENTATION, ACTUAL DIMENSIONS MAY VARY.
2. STRUCTURE SHALL BE DETERMINED BY MANUFACTURER.
3. ACCESS HATCH TO BE ALUMINUM WITH S.S. HARDWARE. HATCH SHALL BE CAPABLE OF BEING LOCKED.
4. THE TANK SHALL HAVE A MINIMUM OF 3,500 GALLON CAPACITY ABOVE THE MINIMAL OPERATING WATER LEVEL.
5. ALL CONNECTIONS SHALL BE WATER TIGHT.
6. SUCTION OUTLETS INSIDE OF THE TANK SHALL BE INSTALLED 4" ABOVE THE BOTTOM OF THE TANK AND WITH ANTI-VORTEX PLATES AS SHOWN.
7. CONTRACTOR TO INSTALL TANK PER MANUFACTURER INSTALLATION INSTRUCTIONS.
8. HOLDING TANK MUST BE EASILY ACCESSIBLE FOR CLEANING AND INSPECTION.
9. MUST BE CAPABLE OF BEING COMPLETELY DRAINED.
10. CONTRACTOR SHALL SET THE FLOOR ELEVATION OF THE TANK IN THE FIELD. FLOOR ELEVATION MUST BE SUCH THAT 6" DRAIN LINE IS ON A MINIMUM 1.0% GRADE AND 6'-0" INTERIOR HEIGHT OF TANK IS MAINTAINED. TANK HEIGHT MAY GET LARGER FROM WHAT IS SHOWN HEREIN, BUT NOT LESS THAN 6'-0"
11. INTERIOR & EXTERIOR OF TANK SHALL BE WATERPROOFED (REF MANUFACTURER)
12. PROVIDE LINK-SEAL GASKETS AT PIPE PENETRATIONS THROUGH CORES OR SLEEVES IN TANK WALLS/FLOORS.

PIPE SCHEDULE

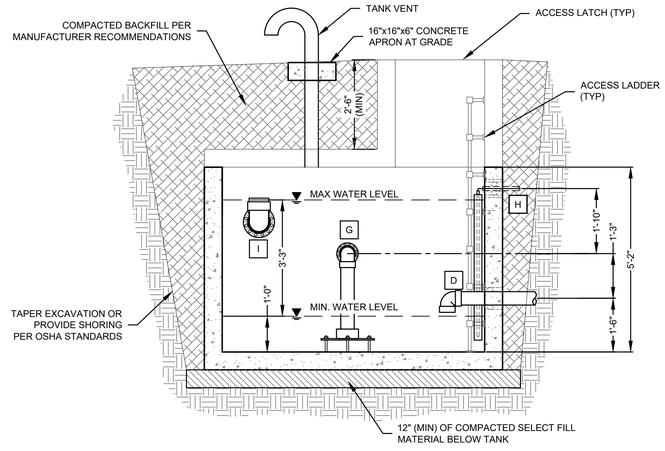
ID:	DESCRIPTION	SIZE:
A	GRAVITY DRAIN LINE FROM SOAKING POOL OVERFLOW TROUGHS	6"
B	GRAVITY DRAIN LINE FROM POOL 1	4"
C	GRAVITY DRAIN LINE FROM POOL 2	4'
D	GRAVITY DRAIN LINE FROM POOL 3	4'
E	GRAVITY DRAIN LINE FROM POOL 4	4"
F	GRAVITY DRAIN LINE FROM POOL 5	4"
G	SUCTION HEADER TO TANK DISCHARGE PUMP	4"
H	1" CONDUIT & WIRING FROM LEVEL SENSING PROBE TO EQUIPMENT ROOM;STILLING WELL STRAPPED TO VAULT WALL WITH LEVEL SENSING PROBE INSIDE	1"
I	TANK OVERFLOW LINE (CONNECT TO EXISTING BY-PASS LINE (REF C1.0 & SP2.4)	6"
J	TANK VENT	4"

NOTE: VAULT STRUCTURE BY OTHERS



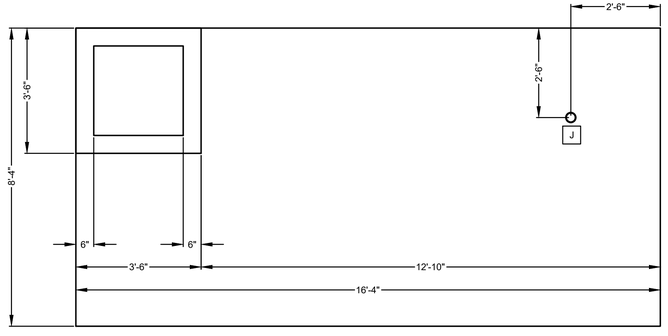
3 COLLECTION TANK SECTION

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



4 COLLECTION TANK SECTION

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



5 COLLECTION TANK LID

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

6 NOT USED

7 NOTES & TABLES

aqueous engineering
Ph: 903.266.2089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite B-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.15.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
EFFL. COLLECTION TANK DETAILS

Sheet No.:
SP3.4

REF SP3.0 FOR EQUIPMENT ROOM LAYOUT

REFER TO M&P DRAWINGS FOR ALL HEAT EXCHANGER, COOLING TOWER AND DECK SNOW MELT SYSTEMS

REF 1/SP2.0 & 1,2,3,4,5/SP2.1 FOR INFLUENT SUPPLY LINES TO POOLS

DESIRED POOL TEMPERATURE	
POOL	TEMPERATURE
RIFFLE (1)	±100°F
HEADWATERS (2)	±102°F
EDDY (3)	±104°F
MEANDER (4)	±106°F
CONFLUENCE (5)	±108°F

TO EXISTING SYSTEM IN BUILDING
ELEC. FROM POWER SOURCE
AIR COMPRESSOR (OPTIONAL)
EXISTING TEE & CAP; SIZE UNKNOWN
6"DIPx3"HDPE TAP
2'-0" (MAX)
6"DIPx4" HDPE TAP
FROM HOT SPRING SOURCE
OUTSIDE EQUIP. ROOM
INSIDE EQUIP. ROOM
HOT WATER PUMP
CONNECT TO CONTROLLER

PROPOSED FLOW/TEMP:
SUMMER- 100gpm/126°F
WINTER- 100gpm/117°F
20 PSI AT VAULT

EXISTING FLOW:
145 ±5 GPM
20 PSI AT VAULT

HOT WATER LOOP (TEMPERATURE VARIES BETWEEN 117°F -126°F DEPENDING ON SEASON; FLOW WILL VARY) INSULATE ENTIRE LOOP

COOLING TOWER
DECK HEAT/ SNOW MELT
GLYCOL LOOP
HEAT EXCHANGER
TR-140C SAND FILTER
2'x2' FLOOR SINK
TO APPROVED DISCHARGE LOCATION
1" PRESSURE REGULATOR (20 PSI MAX)
3" FILTER BY-PASS LINE
VALVE EACH CHLORINE LINE

POOL 1
POOL 2
POOL 3
POOL 4
POOL 5
POOL OVERFLOW BASIN (TYP)

POOL VALVE BOX IN LANDSCAPING (TYP @ 5 LOCATIONS); REF 3/2.2)
SKIMMER HEADER EXTENDED TO EQUIPMENT ROOM AND STUBBED-OUT (REF 2/SP2.1); TYP @ 5 LOCATIONS

REF 2/SP2.0 FOR GRAVITY PLUMBING ROUTE

ELECTRICAL PANEL (REF ELEC. DRAWINGS)
CONDUIT AND WIRING BY ELECTRICIAN
JET TIMER
E.S.O
TO HOT WATER PUMP
POOL CONTROLLER

CONCRETE COLLECTION TANK
VENT TANK
AUTO FILL
PROVIDE TESTING PORT DOWNSTREAM OF DECHLORINATION LOOP
REFER TO SP3.2 FOR CONTINUATION
TO GRAVITY DISCHARGE SYSTEM IN BUILDING
VSF PUMP
ACCU-TAB 3012
SODIUM SULFITE SYSTEM (DE-CHLORINATION)
6" TANK OVERFLOW; CONNECT TO EXISTING BY-PASS LINE (P-27)
WATER LEVEL SENSOR

FROM POOL 1 BENCH WALL DRAINS
TO POOL 1 JETS
XF PUMP
TO POOL 1 WATERFALL FEATURE
FROM POOL 1 MAIN DRAINS
VXF PUMP
TO POOL 2 WATERFALL FEATURE
FROM POOL 2 BENCH WALL DRAINS
VXF PUMP
BLOWER
TO POOL 1 AIR LOOP
REF 1/SP2.2 FOR ALL FEATURE LINE ROUTES

1 PLUMBING SCHEMATIC

NOT TO SCALE

PIPE SCHEDULE

PIPE ID	DESCRIPTION	SIZE
P-1	DIP MAIN GRAVITY SUPPLY LINE FROM HOT SPRING SOURCE TO EXISTING BUILDING	6"
P-2	EXISTING ABANDON HOT SPRING LINE (TO BE REMOVED)	UNKNOWN
P-3A	INSULATED SDR 9 HDPE SUPPLY LINE TO SOAKING POOL EQUIPMENT ROOM	4"
P-3B	INSULATED SDR 9 HDPE BY-PASS RETURN LINE TO EXISTING 6" DIP LINE	3"
P-4	INSULATED SCH.80 CPVC HOT WATER MAIN SUPPLY LOOP TO EQUIPMENT	4"
P-5	INSULATED SCH.80 CPVC HOT WATER LOOP	2"
P-6	INSULATED SCH.80 CPVCSUPPLY LINE TO COOLING EQUIPMENT	REF M&P
P-7	INSULATED SCH.80 PVC SUPPLY LINE TO SAND FILTER	3"
P-8	SCH.40 PVC SAND FILTER BACKWASH LINE	2"
P-9A	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 1	1"
P-9B	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 2	1"
P-9C	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 3	1"
P-9D	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 4	1"
P-9E	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 5	1"
P-9F	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 1 WATERFALL	1"
P-9G	INSULATED SCH.80 CPVC HOT WATER LINE TO POOL 2 WATERFALL	1"
P-10	INSULATED SCH.80 PVC MAIN SOAKING POOL SUPPLY MANIFOLD	3"
P-11A	2" SDR 11 HDPE WATER LINE TO POOL 1	2"
P-11B	2" SDR 11 HDPE WATER LINE TO POOL 2	2"
P-11C	2" SDR 11 HDPE WATER LINE TO POOL 3	2"
P-11D	2" SDR 11 HDPE WATER LINE TO POOL 4	2"
P-11E	2" SDR 11 HDPE WATER LINE TO POOL 5	2"
P-11F	SCH.40 PVC WATER BY-PASS LINE TO UNDERGROUND HOT WATER SUPPLY LINE	2"
P-12A	SCH.40 PVC CHLORINE SUPPLY LINE TO POOL 1	1"
P-12B	SCH.40 PVC CHLORINE SUPPLY LINE TO POOL 2	1"
P-12C	SCH.40 PVC CHLORINE SUPPLY LINE TO POOL 3	1"
P-12D	SCH.40 PVC CHLORINE SUPPLY LINE TO POOL 4	1"
P-12E	SCH.40 PVC CHLORINE SUPPLY LINE TO POOL 5	1"
P-13	SCH.40 PVC OVERFLOW BASIN DISCHARGE GRAVITY LINE TO MAIN GRAVITY LINE (P-23)	4"
P-14	SCH.40 PVC MAIN GRAVITY DISCHARGE LINE TO COLLECTION TANK	6"
P-15M	SCH.40 PVC POOL MAIN DRAIN GRAVITY LINE TO VALVE BOX (QTY=5)	4"
P-16S	SCH.40 PVC POOL SKIMMER SUCTION HEADER TO EACH POOL FOR FUTURE USE (QTY=5)	3"
P-17A	SCH.40 PVC POOL 1 VALVE BOX GRAVITY LINE TO COLLECTION TANK	4"
P-17B	SCH.40 PVC POOL 2 VALVE BOX GRAVITY LINE TO COLLECTION TANK	4"
P-17C	SCH.40 PVC POOL 3 VALVE BOX GRAVITY LINE TO COLLECTION TANK	4"
P-17D	SCH.40 PVC POOL 4 VALVE BOX GRAVITY LINE TO COLLECTION TANK	4"
P-17E	SCH.40 PVC POOL 5 VALVE BOX GRAVITY LINE TO COLLECTION TANK	4"
P-18	SCH.40 PVC SUCTION LINE FROM TANK TO DISCHARGE PUMP	4"
P-19	SCH.40 PVC MINERAL WATER RETURN TO MANHOLE IN BUILDING	3"
P-20	SCH.40 PVC SUCTION HEADER FROM POOL 1 JET PUMP	4"
P-21	SCH.40 PVC RETURN HEADER TO POOL 1 JETS	3"
P-22	SCH.40 PVC SUCTION HEADER TO WATERFALL FEATURE - POOL 1	4"
P-23	SCH.40 PVC RETURN HEADER TO WATERFALL FEATURE - POOL 1	4"
P-24	SCH.40 PVC SUCTION HEADER TO WATERFALL FEATURE - POOL 2	4"
P-25	SCH.40 PVC RETURN HEADER TO WATERFALL FEATURE - POOL 2	3"
P-26	SCH.40 PVC AIR LINE TO POOL 1 JETS	3"
P-27	SCH.40 PVC COLLECTION TANK GRAVITY OVERFLOW LINE EXTENDED TO EXISTING BY-PASS LINE (REF C1.0 FOR GENERAL LOCATION	6"

2 PIPE SCHEDULE

SYMBOL LEGEND

PUMP		GATE VALVE	G
PUMP W/ INTEGRAL STRAINER		SOLENOID VALVE	S
HEAT EXCHANGER		CHECK VALVE (TRUE UNION)	
COOLING TOWER		THERMOMETER	
CHEMICAL FEED PUMP		COMPOUND GAUGE	
ACCU-TAB CHLORINE FEEDER (CALCIUM HYPOCHLORITE)		FLOW SWITCH	FS
AUTO-FILL CONTROLLER	AUTO FILL	FLOW METER (SENSOR)	FM
LEVER OPERATED BUTTERFLY VALVE		FLOW METER DISPLAY	FD
PNEUMATIC BUTTERFLY VALVE	P	VERTICAL SAND FILTER W/ MULTIPORT VALVE	
TRUE UNION BALL VALVE		TEMPERATURE GAUGE/TEMPERATURE SENSOR	T
ELECTRONIC ACTUATOR VALVE	E	BACKFLOW PREVENTER / RPZ	
PRESSURE RELIEF VALVE		PNEUMATIC VALVE	P

3 SYMBOL LEGEND

NOTE:
PLUMBING SCHEMATIC PROVIDED DIAGRAMS THE HOT WATER SYSTEM FOR THE SOAKING POOLS ONLY. THE POSSIBLE FUTURE FILTERED WATER RECIRCULATION SYSTEMS ARE NOT SHOWN. ADDITIONALLY, "PIGGING" PUMP AND ASSOCIATED PIPING FOR PRESSURIZED CLEANING OF HOT WATER SUPPLY LINES IS NOT SHOWN HERE.

1 PLUMBING SCHEMATIC (CONT.)

NOT TO SCALE

aqueous engineering
Ph: 903.266.2089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER
12.13.2019

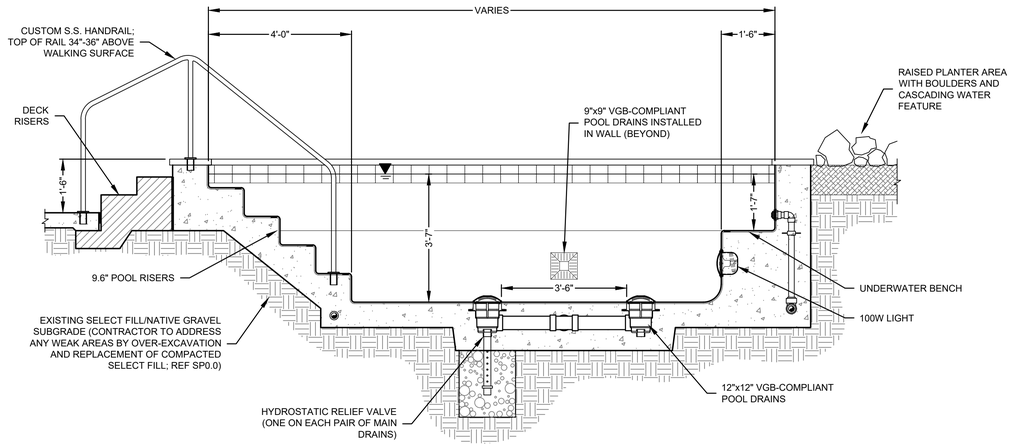
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed: BH/DEM
Drawn: BH/DEM
Checked: JBZ/BH
AE Project No.: 19.055

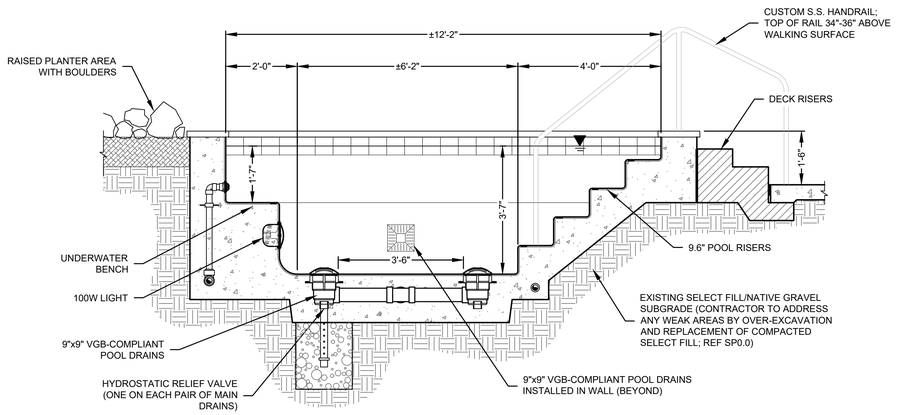
Sheet Title:
POOL PLUMBING SCHEMATIC

Sheet No.:
SP3.5



1 RIFFLE POOL SECTION

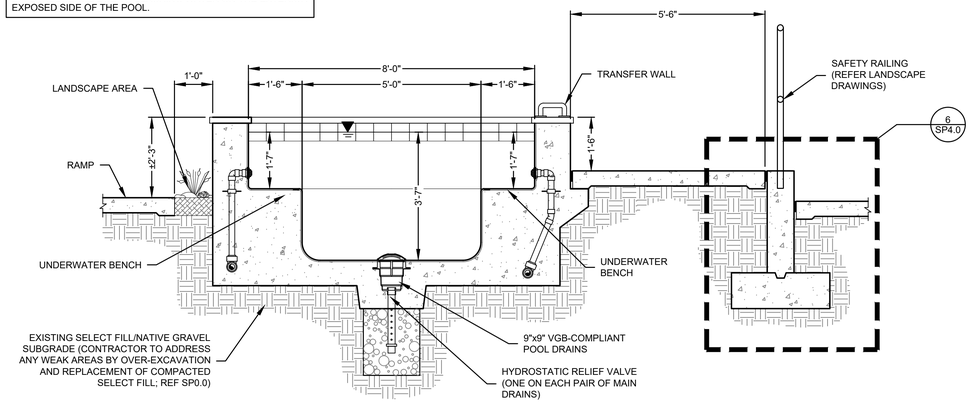
0 6" 1' 2' 4'
SCALE: 1/2"=1'-0"



2 HEADWATERS POOL SECTION

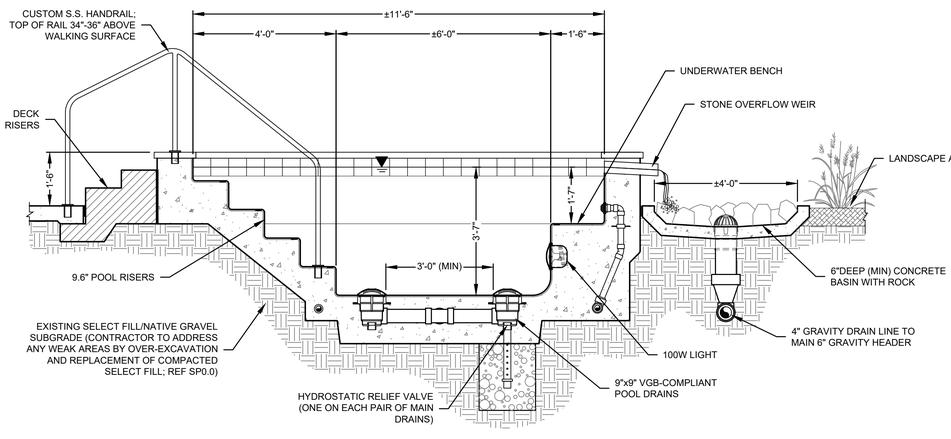
0 6" 1' 2' 4'
SCALE: 1/2"=1'-0"

NOTE:
APPLY AQURON CONCRETE POOL SHELL PROTECTOR (CPSP) ON THE TOP 2-FT (2'-6" AT POOL 3 - EDDY POOL) OF EACH INTERIOR POOL WALL FOR EACH SOAKING POOL TO ELIMINATE EFFLORESCENCE DUE TO LEACHING WATER ON THE EXTERIOR EXPOSED SIDE OF THE POOL.



3 EDDY POOL SECTION

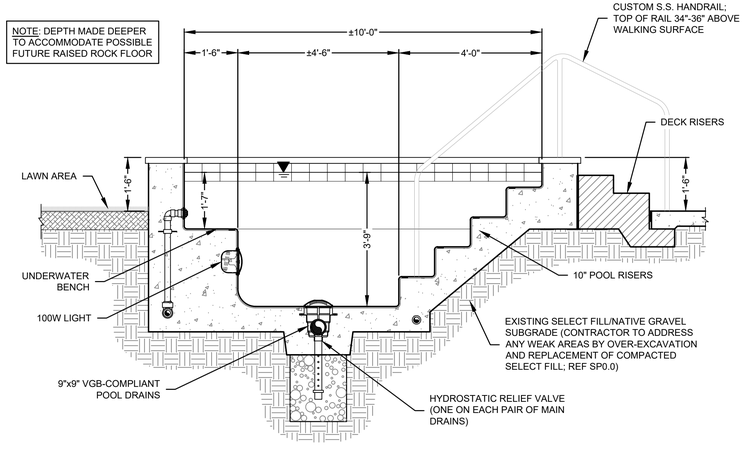
0 6" 1' 2' 4'
SCALE: 1/2"=1'-0"



4 MEANDER POOL SECTION

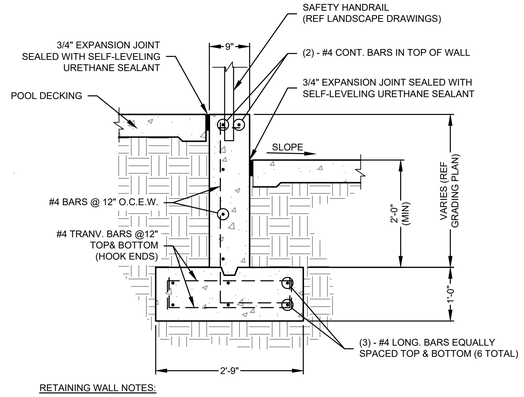
0 6" 1' 2' 4'
SCALE: 1/2"=1'-0"

NOTE: DEPTH MADE DEEPER TO ACCOMMODATE POSSIBLE FUTURE RAISED ROCK FLOOR



5 CONFLUENCE POOL SECTION

0 6" 1' 2' 4'
SCALE: 1/2"=1'-0"



RETAINING WALL NOTES:

1. SUBGRADE BELOW WALL TO HAVE A MINIMUM BEARING CAPACITY OF 2,400PSF. SUBGRADE TO BE PROPERLY COMPACTED PER GEOTECHNICAL NOTES ON SP0.0
2. REFER TO SPECS ON SP0.0 FOR CONSTRUCTION NOTES FOR ALL RETAINING WALL MATERIALS.

6 POOL 3 RAMP WALL DETAIL

0 3" 6" 1' 2'
SCALE: 3/4"=1'-0"

SOAKING POOL BENCH DEPTHS:
THE OWNER MAY DESIRE TO VARY THE BENCH DEPTHS FROM WHAT IS SHOWN (COORDINATE WITH OWNER). ALL BENCHES SHALL NOT EXCEED A MAXIMUM DEPTH OF 20" BELOW THE NORMAL OPERATING WATER LEVEL.

7 NOT USED

aqueous engineering
Ph: 903.266.7089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

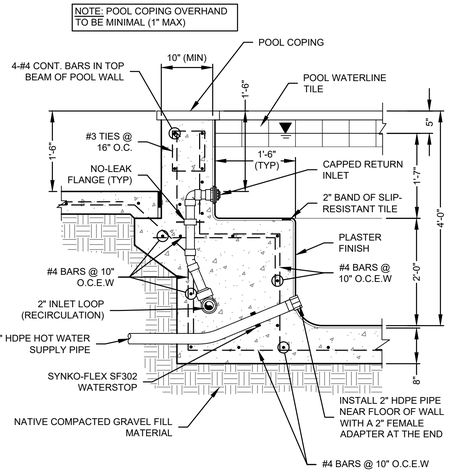
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

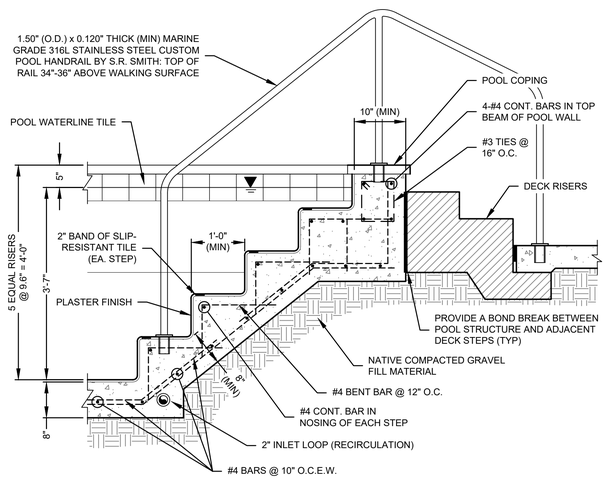
Designed:	BH
Drawn:	DEM
Checked:	JBZ/BH
AE Project No.:	19.055

Sheet Title:
SOAKING POOLS CROSS SECTIONS

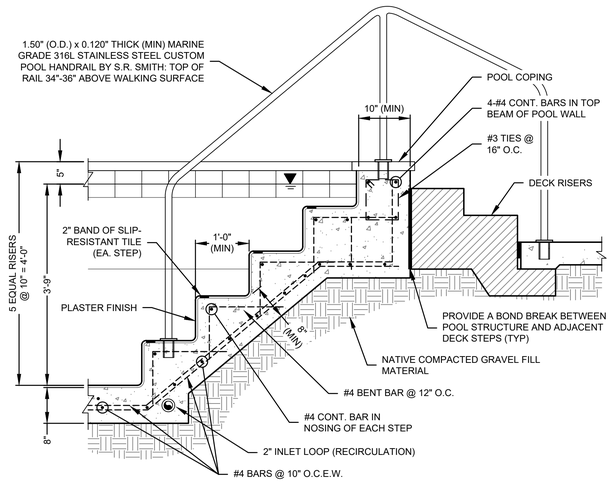
Sheet No.:
SP4.0



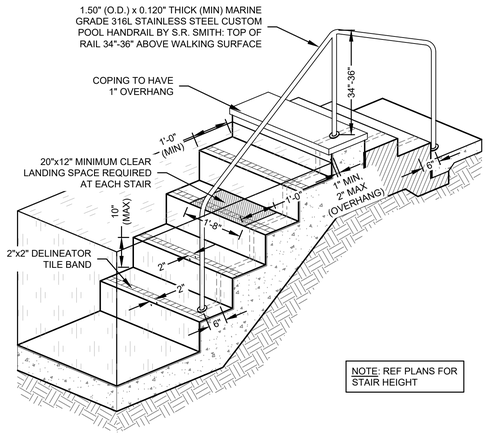
1 TYP. BENCH WALL DETAIL SCALE: 3/4"=1'-0"



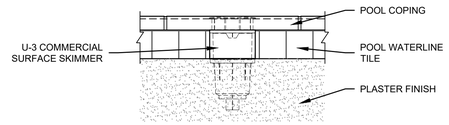
2 POOLS 1, 2, 3, & 4 STAIR DETAIL SCALE: 3/4"=1'-0"



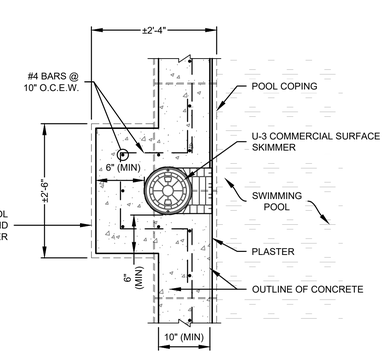
3 POOL 5 STAIR DETAIL SCALE: 3/4"=1'-0"



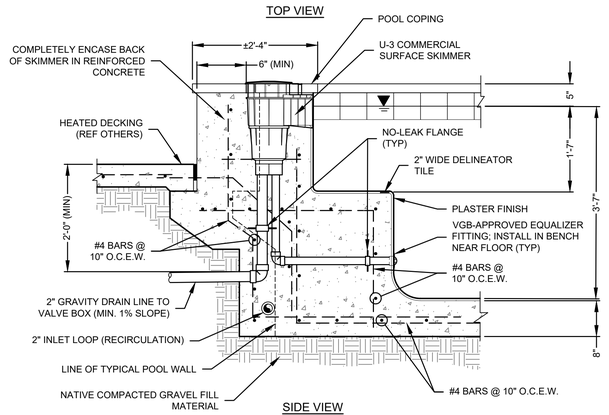
4 ISOMETRIC STAIR DETAIL SCALE: 1/2"=1'-0"



FRONT VIEW

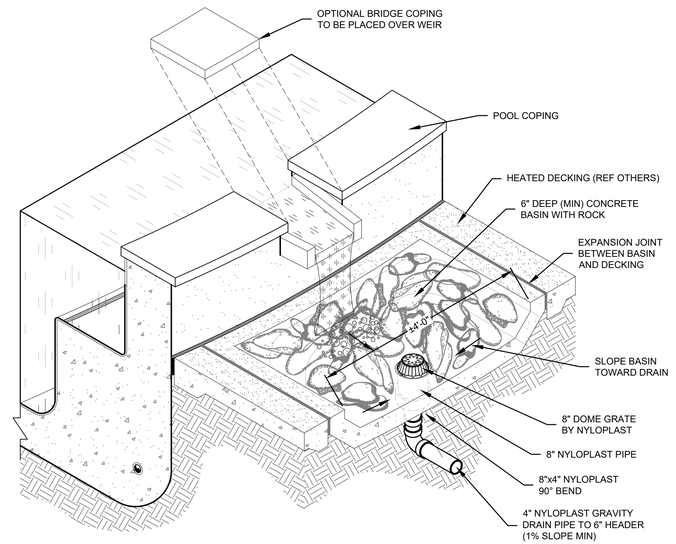


TOP VIEW

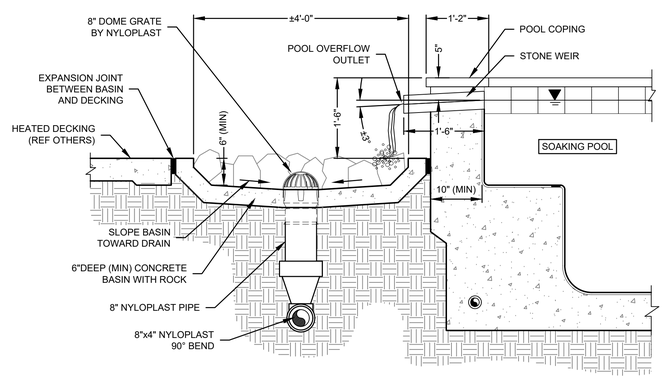


SIDE VIEW

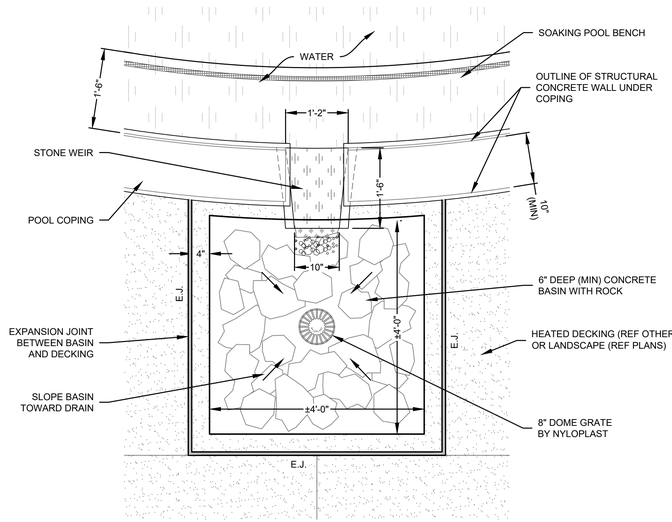
5 TYP. SKIMMER DETAIL SCALE: 3/4"=1'-0"



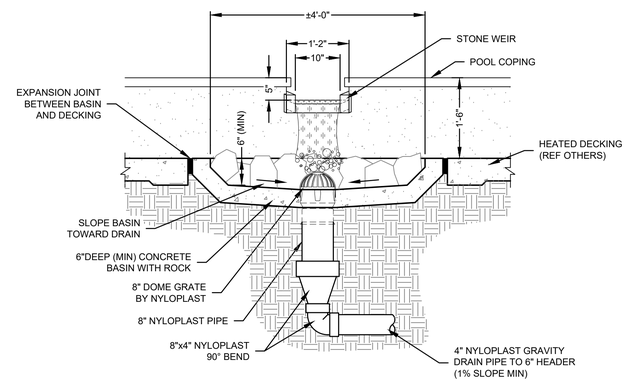
6 WEIR OVERFLOW AND BASIN ISOMETRIC SCALE: 3/4"=1'-0"



8 WEIR OVERFLOW AND BASIN SECTION SCALE: 3/4"=1'-0"



7 WEIR OVERFLOW AND BASIN PLAN VIEW SCALE: 3/4"=1'-0"



9 WEIR OVERFLOW AND BASIN FRONT VIEW SCALE: 3/4"=1'-0"

aqueous engineering
Ph: 903.266.0089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite B-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

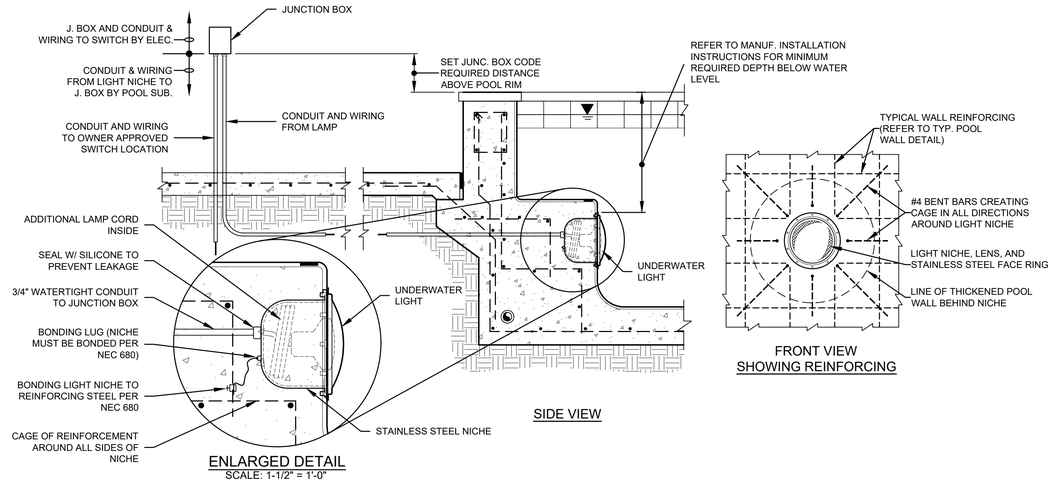
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH/DEM
Drawn:	DEM
Checked:	JBZ/BH
AE Project No.:	19.055

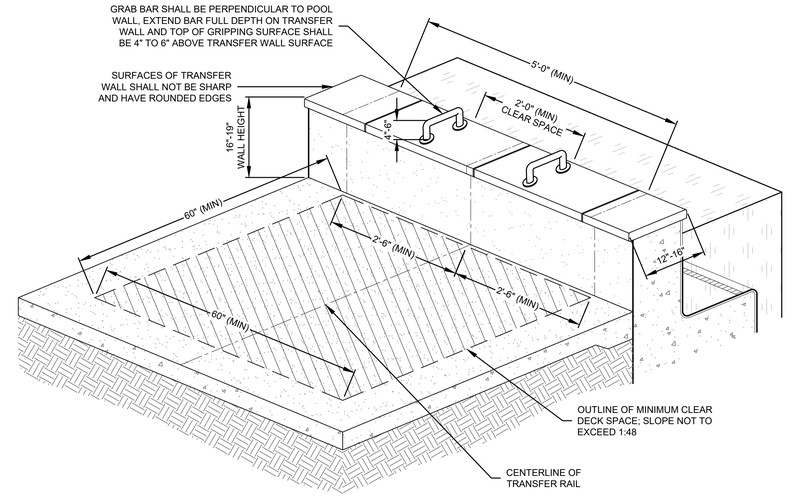
Sheet Title: SOAKING POOLS DETAILS

Sheet No.: SP4.1



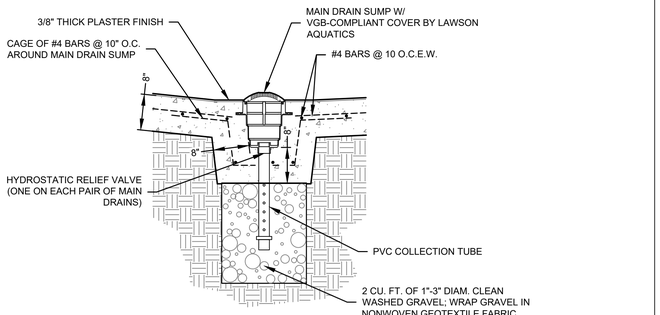
1 TYP. UNDERWATER LIGHT DETAIL

0 3" 6" 1' 2'
SCALE: 3/4"=1'-0"



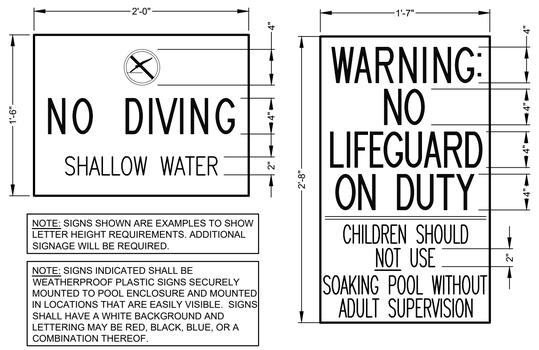
2 TYP. TRANSFER WALL DETAIL

0 3" 6" 1' 2'
SCALE: 3/4"=1'-0"



3 TYP. MAIN DRAIN DETAIL

0 3" 6" 1' 2'
SCALE: 3/4"=1'-0"

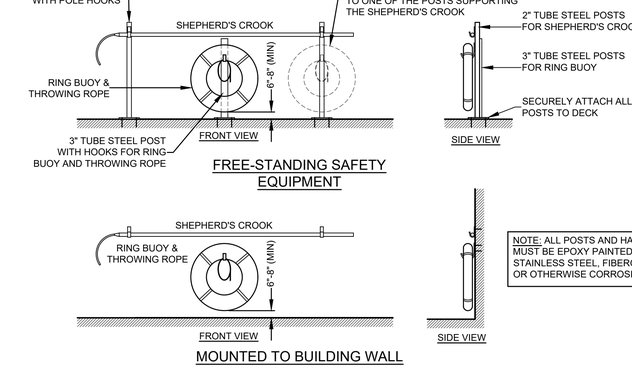


NOTE: SIGNS SHOWN ARE EXAMPLES TO SHOW LETTER HEIGHT REQUIREMENTS. ADDITIONAL SIGNAGE WILL BE REQUIRED.

NOTE: SIGNS INDICATED SHALL BE WEATHERPROOF PLASTIC SIGNS SECURELY MOUNTED TO POOL ENCLOSURE AND MOUNTED IN LOCATIONS THAT ARE EASILY VISIBLE. SIGNS SHALL HAVE A WHITE BACKGROUND AND LETTERING MAY BE RED, BLACK, BLUE, OR A COMBINATION THEREOF.

4 SAFETY SIGNAGE DETAIL

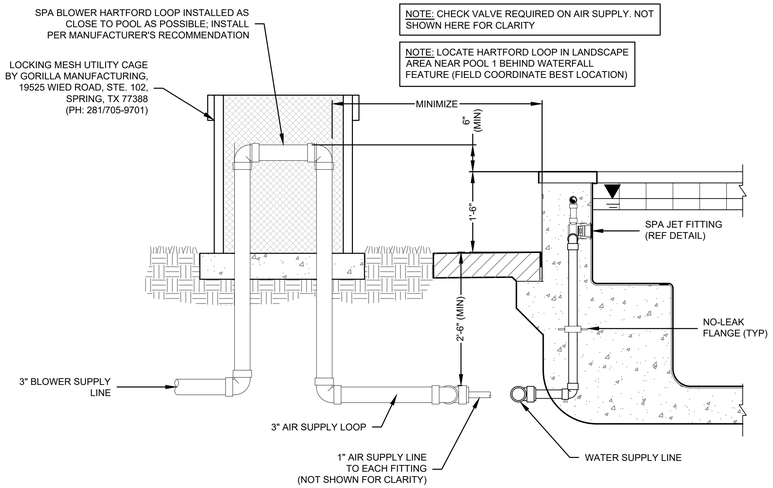
0 1" 6" 1' 2'
SCALE: 1-1/2"=1'-0"



NOTE: ALL POSTS AND HANGERS SHOWN MUST BE EPOXY PAINTED STEEL, STAINLESS STEEL, FIBERGLASS, PLASTIC OR OTHERWISE CORROSION-RESISTANT.

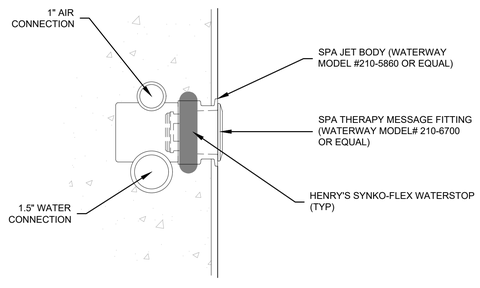
5 TYP. SAFETY EQUIPMENT DETAIL

0 6" 1' 2' 4'
SCALE: 3/8"=1'-0"



6 HARTFORD LOOP DETAIL

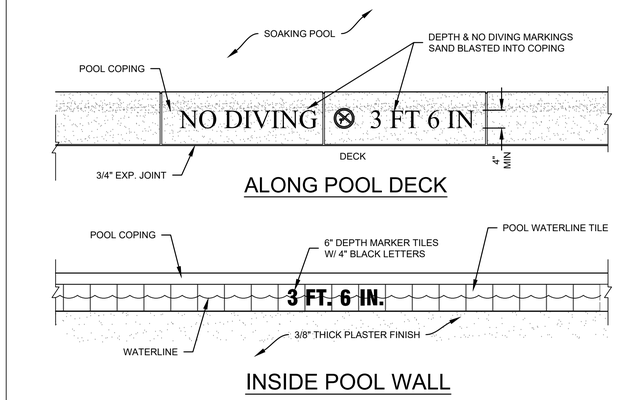
0 3" 6" 1' 2'
SCALE: 3/4"=1'-0"



ENLARGED JET DETAIL

7 TYP. SPA JET DETAIL

NOT TO SCALE



GENERAL NOTES - TILE MARKINGS:

- REFER TO PLAN SHEET FOR DEPTHS
- EACH DEPTH MARKER SHALL SHOW FEET AND INCHES. (EXCEPTION: TILE MARKINGS AT EVEN FOOT INCREMENTS - SUCH AS 2'-0" - ARE REQUIRED TO SHOW FEET OF DEPTH ONLY.)
- ALL DECK TILES ON WALKING SURFACES SHALL HAVE SLIP-RESISTANT FINISH.
- MAXIMUM SPACING BETWEEN DEPTH MARKINGS SHALL NOT EXCEED 25'-0" AROUND POOL PERIMETER.
- AT LEST TWO SETS OF DEPTH MARKING AND NO DIVING MARKINGS SHALL BE PROVIDED AT EACH SOAKING POOL.
- NO DIVING AND DEPTH MARKER LETTERS AND NUMERALS TO BE TIMES NEW ROMAN FONT, 4" TALL, SANDBLASTED INTO COPING AND PAINTED WITH BLACK LITHOCHROME PAINT. CENTER OF LETTERS AND NUMERALS TO BE AT CENTERLINE OF COPING STONES.
- DEPTH MARKINGS SHALL INDICATE WATER DEPTH MEASURED 3'-0" HORIZONTALLY FROM POOL WALL.

8 DEPTH & NO DIVING SYMBOLS DETAIL

0 3" 6" 1' 2'
SCALE: 3/4"=1'-0"

aqueous engineering
Ph: 903.266.2089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

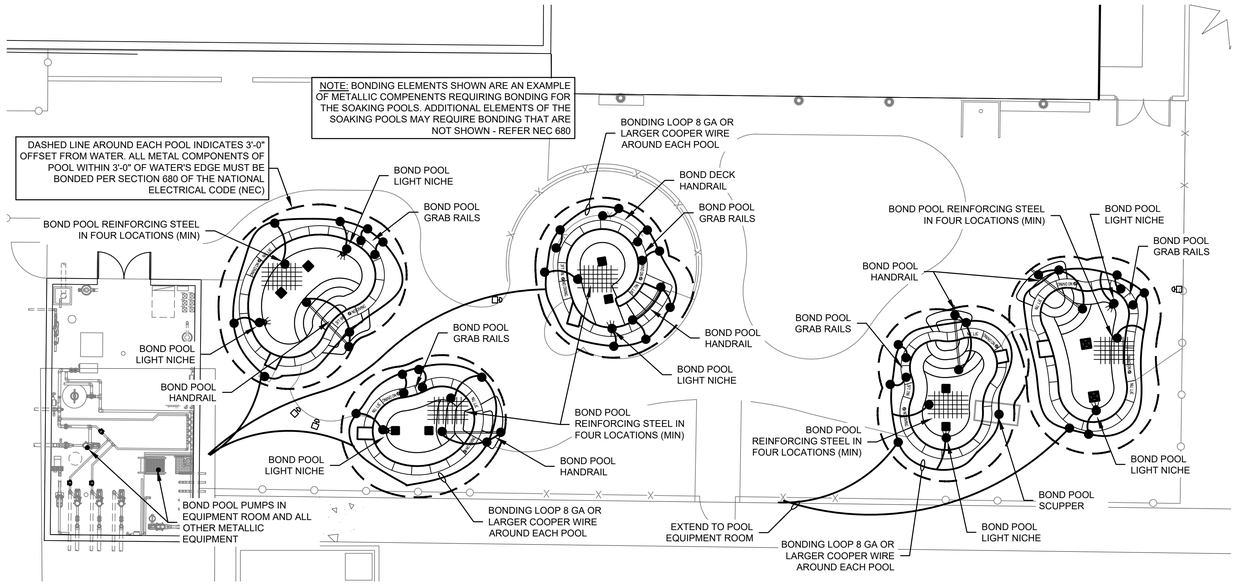
SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST
SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed:	BH/DEM
Drawn:	BH/DEM
Checked:	JBZ/BH
AE Project No.:	19.055

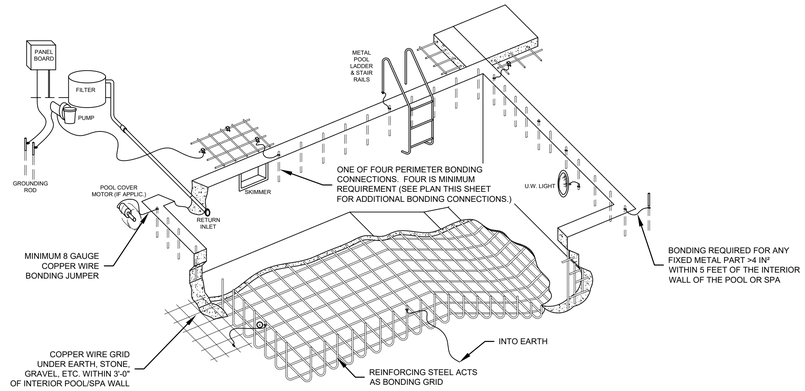
Sheet Title:
SOAKING POOLS DETAILS

Sheet No.:
SP4.2



1 SOAKING POOLS BONDING SCHEMATIC

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



2 EXAMPLES OF BONDED ELEMENTS

NOT TO SCALE

GROUNDING & BONDING NOTES

GENERAL POOL ELECTRICAL REQUIREMENTS:
NATIONAL ELECTRICAL CODE SECTION 680 (NEC 680) GOVERNS ELECTRICAL REQUIREMENTS IN ALL POOL, SPA AND FOUNTAIN STRUCTURES. NEC 680 IS INCORPORATED BY REFERENCE HEREIN IN ITS ENTIRETY AND SHALL BE IN SUCH FORCE AND EFFECT AS IF FULLY SHOWN HEREIN. EXCERPTS BELOW ARE SHOWN FOR YOUR CONVENIENCE.

GROUNDING:
ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250 PARTS V, VI, AND VII. THE FOLLOWING EQUIPMENT SHALL BE GROUNDED: THROUGH WALL UNDERWATER LIGHTS WITH VOLTAGE RATINGS GREATER THAN 16V, ELECTRICAL EQUIPMENT WITHIN 5 FEET OF THE WATER FILLED BASIN INTERIOR WALL, JUNCTION BOXES, ELECTRICAL EQUIPMENT THAT CIRCULATES THE WATER, TRANSFORMER AND POWER SUPPLY ENCLOSURES, GFCI UNITS, PANELBOARDS THAT SERVE THE ELECTRICAL EQUIPMENT THAT OPERATES THE WATER FILLED BASIN.

UNDERGROUND WIRING MUST BE INSTALLED IN SCHEDULE 80 PVC RIGID CONDUIT. DIRECT BURY CABLE IS NOT ALLOWED. ALUMINUM CONDUIT IS NOT PERMITTED FOR THIS POOL WIRING INSTALLATION.

RECEPTACLES 15 OR 20 AMP 125V WITHIN 20 FEET OF THE INTERIOR WALL OF THE POOL OR SPA MUST HAVE GFCI PROTECTION. NO RECEPTACLES ARE ALLOWED WITHIN 78" OF THE INTERIOR WALL OF THE POOL OR SPA.

ALL SPA AND HOT TUB PUMP MOTORS MUST HAVE AN EMERGENCY SHUT OFF SWITCH THAT IS CLEARLY LABELED, VISIBLE WITHIN FIFTY FEET OF THE SPA, AND READILY ACCESSIBLE TO USERS. SHUT OFF SWITCH MUST BE INSTALLED FARTHER THAN 60" FROM THE SPA/HOT TUB WATER SURFACE. SHUT OFF SWITCH SHALL STOP PUMP MOTORS FOR RECIRCULATION PUMP, SPA JET BOOSTER PUMP, AND SPA AIR BLOWER.

WORKING SPACE IN FRONT OF A STARTER/DISCONNECT, DISTRIBUTION PANELS, MAIN LUGS, AND OTHER ELECTRICAL SERVICE EQUIPMENT REQUIRES ADEQUATE LIGHTING AND A 30" WIDE, 36" DEEP, AND 78" HIGH CLEAR AREA TO PERFORM SERVICE/MAINTENANCE ON ELECTRICAL EQUIPMENT.

LOW VOLTAGE LIGHTING MAY BE INSTALLED IN JUNCTION BOXES FLUSH WITH THE DECK. LOW VOLTAGE UNDER WATER LIGHTING DEFINED AS LIGHTS OPERATING AT OR BELOW 15V. FLUSH MOUNTED JUNCTION BOXES MUST BE FILLED WITH AN APPROVED POTTING COMPOUND AND MUST BE INSTALLED GREATER THAN 48" FROM THE INSIDE WALL OF THE WATER FILLED BASIN.

TRANSFORMERS AND POWER SUPPLIES USED FOR THE SUPPLY OF UNDERWATER LIGHTS MUST BE LISTED FOR SWIMMING POOL USE. WHERE THE POOL IS OUT DOORS THE TRANSFORMER AND POWER SUPPLY MUST BE LISTED FOR SWIMMING POOLS AND BE MARKED "FOR OUTDOOR USE".

BONDING:

REINFORCING STEEL-NON ENCAPSULATED ONLY
UNENCAPSULATED STRUCTURAL REINFORCING SHALL BE BONDED TOGETHER BY STEEL TIE WIRES OR THE EQUIVALENT TO FORM THE BONDING GRID. THE STRUCTURAL REINFORCING STEEL SHALL BE BONDED WITH A FASTENER ADHERING TO NEC 250.8 IN NO LESS THAN FOUR LOCATIONS UNIFORMLY SPACED AROUND THE POOL PERIMETER.

POOLS LARGER THAN 5,000 SQ. FT SHALL HAVE AN ADDITIONAL BONDING GRID/REINFORCING STEEL JUMPER MEETING THE REQUIREMENTS OF NEC 250.8 FOR EVERY 1,000 SQ. FT OF POOL IN ADDITION TO 5,000 SQ FT. FOR EXAMPLE 6,100 SQ FT POOL WOULD REQUIRE FOUR (MINIMUM) PLUS 1.1 CONNECTION LOCATIONS. SIX CONNECTIONS FROM THE PERIMETER TO THE BONDING GRID WOULD BE REQUIRED IN THE EXAMPLE.

THE FOLLOWING EQUIPMENT IF SHOWN MUST BE CONNECTED TO THE BONDING GRID PER NEC 250.8.

METALLIC COMPONENTS
ALL METALLIC PARTS OF THE POOL STRUCTURE OR EMBEDDED THEREIN AND HAVING AN EXPOSED SURFACE AREA GREATER THAN FOUR SQUARE INCHES SHALL BE BONDED.

UNDERWATER LIGHTING
ALL METAL FORMING SHELLS, MOUNTING BRACKETS OF NO-NICHE LUMINARES SHALL BE BONDED. REFER TO NEC 680 FOR LOW VOLTAGE EXCEPTIONS.

METAL FITTINGS
ALL METAL FITTINGS WITHIN OR ATTACHED TO THE POOL STRUCTURE SHALL BE BONDED.

ELECTRICAL EQUIPMENT
METAL PARTS OF ELECTRICAL EQUIPMENT ASSOCIATED WITH POOL WATER. FOR EXAMPLE POOL PUMPS WITH MOTORS AND POOL COVERS WITH MOTORS SHALL BE BONDED.

POOL HEATERS RATED IN EXCESS OF 50 AMPERES REQUIRE BONDING. REFER TO POOL HEATER INSTALLATION SPECIFIC INSTRUCTIONS REGARDING PARTS OF THE POOL HEATER THAT REQUIRE BONDING.

FIXED METAL PARTS
ALL FIXED METAL PARTS WITHIN 5 FEET OF THE INTERIOR WALL OF THE POOL OR SPA SHALL BE BONDED INCLUDING, BUT NOT LIMITED TO, METAL SHEATHED CABLES AND RACEWAYS, METAL PIPING, METAL AWNINGS, METAL FENCES, AND METAL DOOR AND WINDOW FRAMES. REFER TO NEC 680 FOR EXCEPTIONS.

NO METAL COMPONENTS IN POOL SHELL
IF THERE ARE NO METAL COMPONENTS IN THE POOL SHELL OR MOUNTED TO THE POOL SHELL AN INTENTIONAL BOND OF A MINIMUM S.S. CONDUCTIVE SURFACE AREA OF 9 SQUARE INCHES MUST BE INSTALLED. THE BONDING PLATE MUST BE INSTALLED IN CONTACT WITH THE POOL WATER BY THE POOL CONTRACTOR IN A LOCATION AS DETERMINED BY THE ENGINEER.

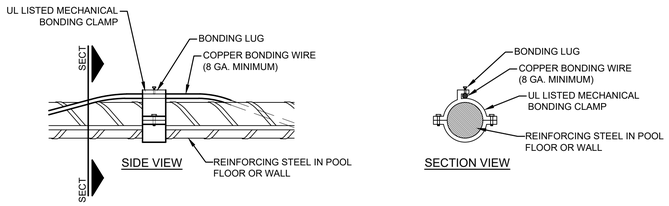
PERIMETER SURFACES
BONDING GRID SHALL BE EXTENDED 3 FEET HORIZONTALLY BEYOND THE INSIDE WALL OF THE POOL OR SPA INTO THE ADJACENT SURFACES. BONDING GRID SHALL BE INSTALLED IN ADJACENT DECK, GRAVEL, NOT REINFORCED DECK, EARTH, LANDSCAPING, BUILDING, OR OTHER STRUCTURES PER NEC 680 'BURIED' DEFINITIONS.

CONNECTORS
BONDING CONNECTIONS SHALL BE MADE WITH UL LISTED BONDING CONNECTORS AND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH SECTION 250.8 OF THE NATIONAL ELECTRICAL CODE (NEC).

BONDING OUTSIDE THE POOL OR SPA SHELL
PERIMETER SURFACES EXTENDING 3-FT (1-MTR) BEYOND THE INSIDE WALL OF THE POOL, SPA OR FOUNTAIN SHALL BE BONDED USING METHODS COMPLIANT WITH 680.26(B)(2) OF THE N.E.C.

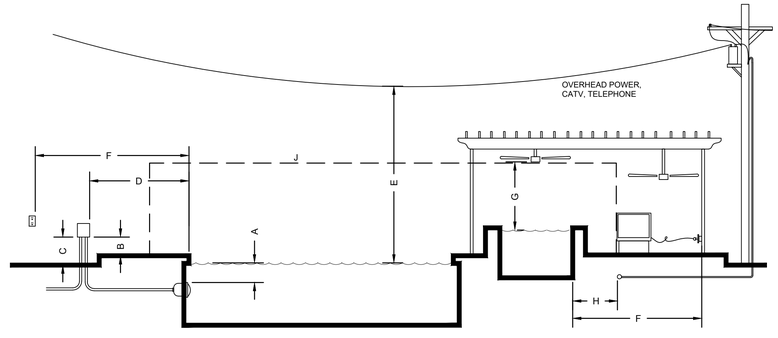
LIGHT FIXTURES AND ELECTRICAL RECEPTACLES
ALL LIGHT FIXTURES WITH 10-FT OF THE WATER'S EDGE, AND ALL ELECTRICAL RECEPTACLES WITHIN 20-FT OF THE WATER'S EDGE SHALL COMPLY WITH REQUIRED GFCI PROTECTION PER 680.22 OF THE N.E.C.

3 GROUNDING/BONDING NOTES



4 BONDING CLAMP DETAIL

NOT TO SCALE



A = 18-INCHES FOR STANDARD (QUARTZ/INCANDESENT) UNDERWATER LIGHTS, THE MINIMUM SUBMERSION BY CODE.

B = 8-INCHES CLEAR DISTANCE FROM HIGH WATER TO BOTTOM OF U.W. LIGHT JUNCTION BOX 120V LIGHTING.

C = 4-INCHES CLEAR DISTANCE FROM GROUND LEVEL TO BOTTOM OF U.W. LIGHT JUNCTION BOX.

D = 4-FEET CLEAR BETWEEN WATER'S EDGE AND JUNCTION BOX MEASURED HORIZONTALLY.**

E = 22.5-FT. CLEAR BETWEEN WATER AND OVERHEAD WIRES (POWER AND COMMUNICATIONS) UP TO 750 VOLTS.

F = 10-FT. CLEAR BETWEEN WATER AND ELECTRICAL RECEPTACLES.

G = 12-FT. CLEAR BETWEEN WATER AND OVERHEAD FANS OR LIGHTS

H = 5-FT. HORIZONTALLY FROM UNDERGROUND ELECTRICAL POWER TO POOL STRUCTURE.

J= THE ENVELOPE WHERE THERE CAN BE NO LIGHTS OR FANS IS 5-FEET HORIZONTALLY AND 12-FEET VERTICALLY FROM THE WATER SURFACE (OTHER THAN U.W. LIGHTS).

THE ENVELOPE WITHIN WHICH ALL 120 VOLT RECEPTACLES MUST BE ON GFIC (GROUND FAULT INTERRUPTING CIRCUITS) EXTENDS HORIZONTALLY 20-FEET FROM THE WATER'S EDGE.**

THERE ARE NO VERTICAL OR HORIZONTAL REQUIREMENTS FOR DEVICES OUTSIDE THE REQUIRED H ENVELOPE IN ART. 680.

**WHERE A DEVICE IS ON THE OPPOSITE SIDE OF A STRUCTURE WALL AND INACCESSIBLE DIRECTLY TO THE POOL SIDE THIS DISTANCE IS WAIVED.
SOURCE: NATIONAL ELECTRICAL CODE, ART. 680

5 ELECTRICAL CLEARANCES AT SOAKING POOLS

NOT TO SCALE

aqueous engineering
Ph: 903.266.0089
www.aqueousengineering.com
Colorado CoA#: 20161409501
1828 ESE Loop 323 Suite R-2A
Tyler, Texas 75701

COLORADO LICENSED
BRYAN ZIEGLER
41520
PROFESSIONAL ENGINEER

12.13.2019

SALIDA HOT SPRINGS
OUTDOOR SOAKING POOL ADDITION
410 WEST RAINBOW BLVD., HIGHWAY 50 WEST SALIDA, CO 81201

Release/Revision:	Date:
PRELIMINARY CHECK SET	05.31.2019
UPDATED PRELIMINARY CHECK SET	07.19.2019
90% CONSTRUCTION DOCUMENTS	09.13.2019
CONSTRUCTION DOCUMENTS	12.13.2019

Designed: BH
Drawn: BH/DEM
Checked: JB/BH
AE Project No.: 19.055

Sheet Title:
SOAKING POOL BONDING PLAN

Sheet No.:
SP5.0