CITY OF SNOQUALMIE

WATER RECLAMATION FACILITY (WRF)
PHASE 2 IMPROVEMENTS

VOLUME II OF II FALL 2017

CITY GOVERNMENT

MAYOR
MATTHEW LARSON

CITY ADMINISTRATOR
ROBERT J. LARSON

COUNCIL
ROBERT JEANS
KATHERINE ROSS
BRYAN HOLLOWAY
HEATHER MUNDEN
SEAN SUNDWALL
KATHI PREWITT

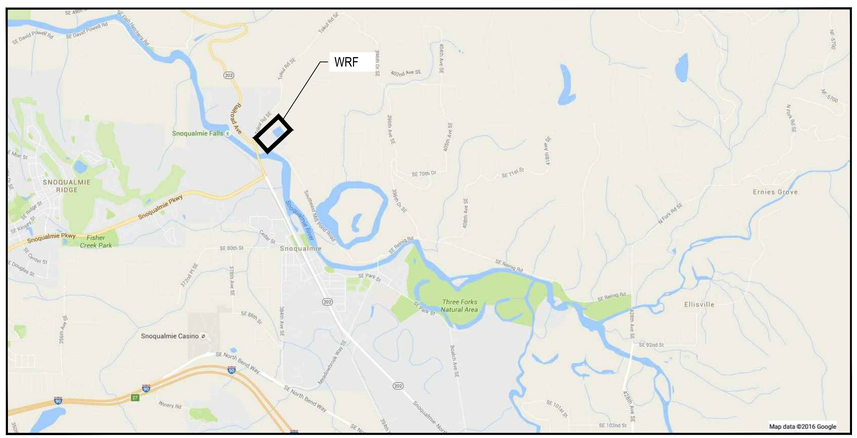
CITY ATTORNEY
BOB STERBANK

PARKS & PUBLIC WORKS DEPARTMENT

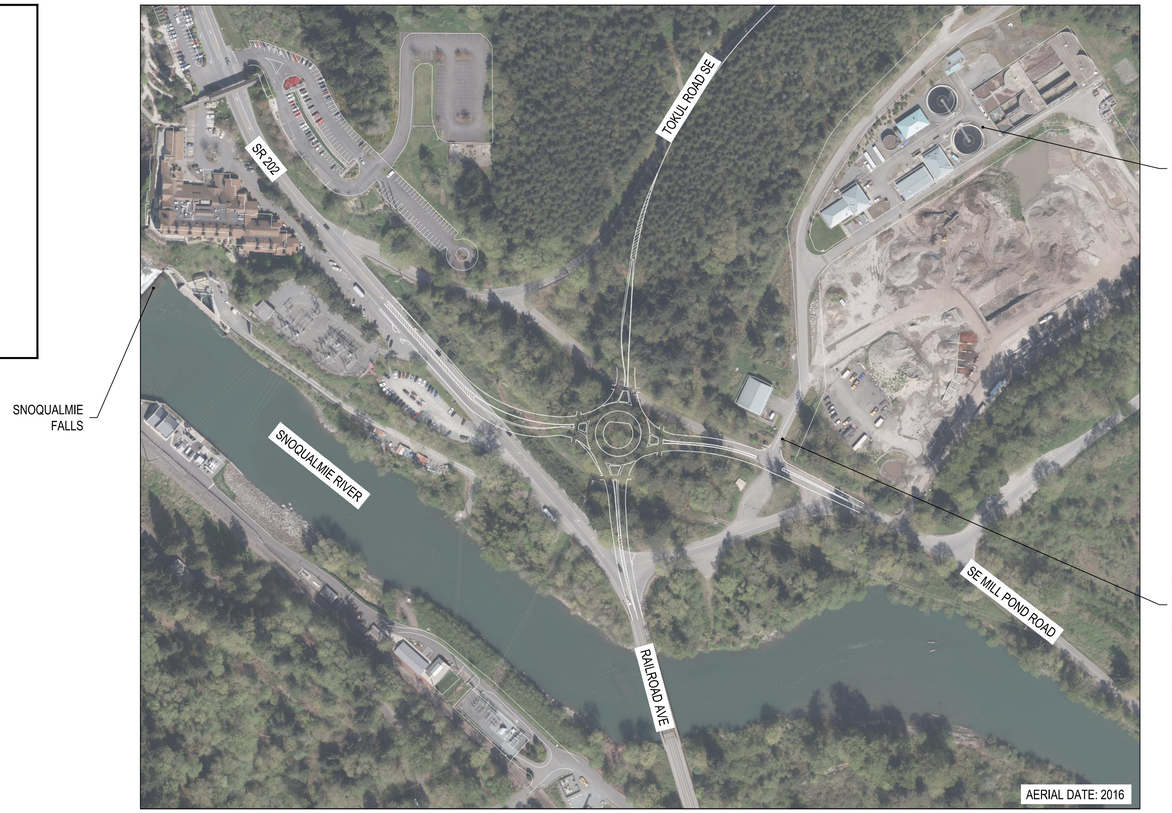
DIRECTOR
DANIEL MARCINKO

OPERATIONS MANAGER
TODD SAXBERG

WASTEWATER SUPERINTENDENT
THOMAS HOLMES



OVERALL VICINITY MAP
NOT TO SCALE



WRF LOCATION AERIAL MAP
NOT TO SCALE

DESIGNED BY:

RH2 ENGINEERS PLANNERS SCIENTISTS

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PRINCIPAL-IN-CHARGE	PROJECT MANAGER	STRUCTURAL ENGINEER	PROJECT ENGINEER	PROJECT ENGINEER	ELECTRICAL ENGINEER

REV. DATE: 9/19/2017

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DRAWING INDEX

Sheet Number	Sheet Title	Dwg No
1	COVER	COV
2	DRAWING INDEX AND GENERAL CONSTRUCTION NOTES	G001
3	GENERAL INFORMATION 1	G002
4	GENERAL INFORMATION 2	G003
5	WRF PROCESS SCHEMATIC	G004
6	CITY STANDARD UTILITY NOTES	C001
7	WRF OVERALL PROPOSED SITE PLAN	C002
8	HEADWORKS EXISTING SITE PLAN	C003
9	HEADWORKS PROPOSED SITE PLAN	C004
10	OXIDATION DITCH AND SCUM PIPING SITE PLAN	C005
11	SOLIDS HANDLING FACILITY UTILITY PLAN	C006
12	SOLIDS HANDLING FACILITY GRADING PLAN	C007
13	SOLIDS HANDLING BIOFILTER SITE PLAN	C008
14	DECANT FACILITY DEMOLITION PLAN	C014
15	DECANT FACILITY UTILITY PLAN	C015
16	DECANT FACILITY GRADING PLAN	C016
17	UTILITY CROSSING TABLES	C017
18	BIOFILTER SECTIONS	C009
19	BIOFILTER SECTIONS II	C010
20	SITE AND UTILITY DETAILS 1	C011
21	SITE AND UTILITY DETAILS 2	C012
22	SITE AND UTILITY DETAILS 3	C013
23	ARCHITECTURAL DETAILS 1	A001
24	ARCHITECTURAL DETAILS 2	A002
25	ARCHITECTURAL DETAILS 3	A003
26	STRUCTURAL DETAILS 1	S001
27	STRUCTURAL DETAILS 2	S002
28	STRUCTURAL DETAILS 3	S003
29	STRUCTURAL DETAILS 4	S004
30	STRUCTURAL DETAILS 5	S005
31	MECHANICAL DETAILS 1	M001
32	MECHANICAL DETAILS 2	M002
33	MECHANICAL DETAILS 3	M003
34	MECHANICAL DETAILS 4	M004
35	MECHANICAL DETAILS 5	M005
36	MECHANICAL DETAILS 6	M006
37	ELECTRICAL LEGEND	E001
38	EQUIPMENT BUILDING ONE-LINE DIAGRAM	E002
39	WRF ELECTRICAL SITE PLAN	E003
40	HEADWORKS STRUCTURAL DEMOLITION PLAN AND PROPOSED FLOOR PLAN	S201
41	HEADWORKS STRUCTURAL PLAN	S202
42	MECHANICAL DEMOLITION PLAN	M201
43	HEADWORKS MECHANICAL PHASING PLAN	M202
44	HEADWORKS MECHANICAL PLAN	M203
45	HEADWORKS MINOR MECHANICAL PLAN	M204
46	HEADWORKS ODOR CONTROL PLAN	M205
47	HEADWORKS CHANNEL PHOTOS	M206
48	HEADWORKS ONE-LINE DIAGRAM	E201
49	HEADWORKS POWER DISTRIBUTION & SIGNAL PLAN	E202
50	HEADWORKS LIGHTING AND RECEPTACLE PLAN	E203
51	HEADWORKS ELECTRICAL SCHEDULES	E204
52	OX. DITCH ANAEROBIC MIXER DEMOLITION PLAN	M301
53	OX. DITCH ANAEROBIC MIXER REPLACEMENT PLAN	M302
54	OX. DITCH ANAEROBIC MIXER REPLACEMENT ELECTRICAL PLAN	E301
55	CLARIFIER NO. 1 PLAN	M401
56	CLARIFIER NO. 1 SECTION	M402
57	CLARIFIER SCUM PUMP STATION DEMOLITION PLAN	M403
58	CLARIFIER SCUM PUMP STATION MECHANICAL PLAN	M404
59	CLARIFIER SCUM PUMP STATION ELECTRICAL PLAN	E401
60	CLARIFIER SCUM PUMP STATION ELECTRICAL DETAILS	E402
61	WAS PUMP STATION DEMOLITION PLAN	M501
62	WAS PUMP STATION MECHANICAL PHASING PLAN	M502
63	WAS PUMP STATION MECHANICAL PLAN	M503
64	WAS PUMP STATION MECHANICAL SECTIONS	M504
65	WAS PUMP STATION ELECTRICAL PLAN	E501
66	WAS PUMP STATION MCC MODIFICATION DETAILS	E502
67	SOLIDS HANDLING BUILDING ARCHITECTURAL ELEVATIONS	A701
68	SOLIDS HANDLING BUILDING UPPER LEVEL FURNISHING PLAN	A702
69	SOLIDS HANDLING BUILDING AND DIGESTER FLOOR PLAN	S701
70	SOLIDS HANDLING BUILDING UPPER FLOOR AND DIGESTER ROOF PLAN	S702
71	SOLIDS HANDLING BUILDING ROOF AND SECTION	S703
72	SOLIDS HANDLING BUILDING AND DIGESTER STRUCTURAL SECTIONS 2	S704
73	SOLID HANDLING BUILDING AND DIGESTER STRUCTURAL DETAILS 1	S705
74	SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL PLAN	M701
75	SOLIDS HANDLING AND DIGESTER PLUMBING AND VENTILATION PLAN 1	M702
76	SOLIDS HANDLING AND DIGESTER PLUMBING AND VENTILATION PLAN 2	M703
77	SOLIDS HANDLING HVAC PLAN - LOWER FLOOR	M704
78	SOLIDS HANDLING HVAC PLAN - UPPER FLOOR	M705
79	SOLIDS HANDLING - HVAC OBLIQUES AND DETAILS	M706
80	SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL SECTIONS 1	M707
81	SOLIDS HANDLING BUILDING AND DIGESTER MEHCANICAL SECTIONS 2	M708
82	SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL SECTIONS 3	M709
83	BLOWER ROOM MECHANICAL PLAN AND SECTIONS	M710
84	THICKENER ROOM MECHANICAL PLAN	M711
85	THICKENER ROOM MECHANICAL SECTIONS 1	M712
86	THICKENER ROOM MECHANICAL SECTIONS 2	M713
87	DEWATERING ROOM MECHANICAL PLAN	M714
88	DEWATERING ROOM MECHANICAL SECTIONS 1	M715
89	DEWATERING ROOM MECHANICAL SECTIONS 2	M716
90	DEWATERING ROOM PARTIAL MECHANICAL PLAN AND SECTIONS 1	M717
91	DEWATERING ROOM PARTIAL MECHANICAL PLAN AND SECTIONS 2	M718
92	TRUCK BAY MECHANICAL PLAN AND SECTIONS	M719
93	SOLIDS HANDLING FOUL AIR SYSTEM PLAN	M720
94	SOLIDS HANDLING FOUL AIR SYSTEM SECTIONS AND DETAILS	M721
95	SOLIDS HANDLING FACILITY COMPRESSED AIR DETAILS	M722
96	EXISTING SOLIDS HANDLING FACILITY DEMOLITION PLAN	M723
97	DECANT FACILITY FLOOR PLAN	S706
98	DECANT FACILITY ELEVATION	S707
99	DECANT FACILITY DETAILS	S708
100	DECANT FACILITY MECHANICAL PLAN	M724
101	SOLIDS HANDLING BUILDING ONE-LINE DIAGRAM	E701
102	SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 1	E702
103	SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 2	E703
104	SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 3	E704
105	SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 4	E705
106	SOLIDS HANDLING LIGHTING, RECEPTACLE, AND GROUNDING PLAN 1	E706
107	SOLIDS HANDLING LIGHTING, RECEPTACLE, AND GROUNDING PLAN 2	E707
108	SOLIDS HANDLING LIGHTING, RECEPTACLE, AND GROUNDING PLAN 3	E708
109	DECANT FACILITY LIGHTING, RECEPTACLE, AND GROUNDING PLAN	E709
110	MOTOR CONTROL CENTER DETAILS	E710
111	CONTROL LOGIC DIAGRAMS 1	E711
112	CONTROL LOGIC DIAGRAMS 2	E712
113	CONTROL LOGIC DIAGRAMS 3	E713
114	CONTROL LOGIC DIAGRAMS 4	E714
115	CONTROL LOGIC DIAGRAMS 5	E715
116	CONTROL LOGIC DIAGRAMS 6	E716
117	CONTROL LOGIC DIAGRAMS 7	E717
118	CONTROL LOGIC DIAGRAMS 8	E718
119	CONTROL LOGIC DIAGRAMS 9	E719
120	CONTROL LOGIC DIAGRAMS 10	E720
121	ELECTRICAL DETAILS 1	E721
122	ELECTRICAL DETAILS 2	E722
123	ELECTRICAL DETAILS 3	E723
124	ELECTRICAL SCHEDULES 1	E724
125	ELECTRICAL SCHEDULES 2	E725
126	ELECTRICAL SCHEDULES 3	E726
127	ELECTRICAL SCHEDULES 4	E727
128	P&ID - LEGEND	Y001
129	P&ID - HEADWORKS	Y002
130	P&ID - BASINS - ANAEROBIC ZONE MIXERS	Y003
131	P&ID - CLARIFIERS - SCUM PUMP STATIONS	Y004
132	P&ID - SOLIDS HANDLING - WAS PUMPING	Y005
133	P&ID - SOLIDS HANDLING - THICKENING	Y006
134	SOLIDS HANDLING - DIGESTERS	Y007
135	P&ID - SOLIDS HANDLING - DEWATERING	Y008
136	P&ID - ODOR CONTROL	Y009
137	CONTROL PANEL CP - PLC INPUT AND OUTPUT WIRING 1	Y010
138	CONTROL PANEL CP - PLC INPUT AND OUTPUT WIRING 2	Y011
139	CONTROL PANEL CP - PLC INPUT AND OUTPUT WIRING 3	Y012
140	OC-CP - PANEL LAYOUT	Y013
141	OC-CP - POWER AND COMMUNICATIONS DIAGRAMS	Y014
142	OC-CP - PLC INPUT AND OUTPUT WIRING 1	Y015
143	OC-CP - PLC INPUT AND OUTPUT WIRING 2	Y016
144	SOLIDS HANDLING CONTROL PANEL - PANEL LAYOUT	Y017
145	SOLIDS HANDLING CONTROL PANEL SHCP - POWER DIAGRAMS	Y018
146	SOLIDS HANDLING CONTROL PANEL SHCP - COMMUNICATIONS DIAGRAM 1	Y019
147	SOLIDS HANDLING CONTROL PANEL SHCP - COMMUNICATIONS DIAGRAM 2	Y020
148	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 1	Y021
149	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 2	Y022
150	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 3	Y023
151	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 4	Y024
152	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 5	Y025
153	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 6	Y026
154	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 7	Y027
155	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 8	Y028
156	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 9	Y029
157	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 10	Y030
158	SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 11	Y031

GENERAL CONSTRUCTION NOTES

ADDRESSES

WATER RECLAMATION FACILITY: 38194 SE STEARNS RD,
SNOQUALMIE, WA 98065

OWNER: CITY OF SNOQUALMIE PARKS AND PUBLIC WORKS, 38624 SE RIVER ST, SNOQUALMIE, WA 98065

ENGINEER: RH2 ENGINEERING, 22722 29TH DR SE, SUITE 210, BOTHELL, WA, 98021

CRITERIA

1. CONSTRUCTION OF SITE AND UTILITY IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, LATEST EDITION, AS ISSUED BY THE WA. STATE DEPT. OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOC. AND CURRENT AWWA SPECIFICATIONS.
2. ALL BUILDING MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2015).
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, THE CITY OF SNOQUALMIE RIDGE II DEVELOPMENT STANDARDS AND DETAILS, AND ALL PERMITTING CONDITIONS OF APPROVAL.

PHASING

1. ALL PHASING REQUIREMENTS SHALL BE MET FOR CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. SEE TECHNICAL SPECIFICATIONS SECTION 1.72 FOR PHASING PLAN AND SCHEDULING REQUIREMENTS.

PRESENTATION OF EXISTING IN PLANS

1. ALL EXISTING STRUCTURAL, MECHANICAL, AND ELECTRICAL INFRASTRUCTURE WITH EXCEPTION OF INFORMATION PROVIDED IN THE SURVEY IS SHOWN BASED ON EXISTING FACILITY CONSTRUCTION RECORD DRAWINGS AND FIELD MEASUREMENTS. CONTRACTOR IS RESPONSIBLE FOR PERFORMING THEIR OWN FIELD VERIFICATION AND MEASUREMENTS TO CONSTRUCT THE PROPOSED IMPROVEMENTS.
2. ELECTRONIC VERSIONS OF THE EXISTING FACILITY CONSTRUCTION RECORD DRAWINGS ARE AVAILABLE UPON REQUEST.

KEY PLAN DEFINITIONS

1. "REMOVE" USED IN THE PLANS INDICATES CONTRACTOR RESPONSIBILITY TO REMOVE, HAUL AND DISPOSE OFF-SITE AT A PROPER DISPOSAL FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DISPOSING OF ALL REMOVED INFRASTRUCTURE THAT IS NOT RETURNED TO THE OWNER OR REUSED.
2. "REPLACE" USED IN THE PLANS INDICATES PROPOSED INFRASTRUCTURE TO BE INSTALLED IN PLACE OF EXISTING INFRASTRUCTURE THAT WAS REMOVED AND DISPOSED OF.

EXISTING FACILITIES PROTECTION AND ACCESS

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING FACILITIES DURING CONSTRUCTION. PROVIDE ALL MEANS AND METHODS NECESSARY TO PROTECT EXISTING FACILITIES FROM DAMAGE UNLESS OTHERWISE NOTED TO BE REMOVED OR MODIFIED PER THE PLANS AND SPECIFICATIONS. ALL EXISTING FACILITY INFRASTRUCTURE DAMAGED AND NOT NOTED TO BE REMOVED OR MODIFIED SHALL, AT THE OWNER'S, DISCRETION BE RESTORED, REPAIRED, OR REPLACED WITH ALL COSTS BORNE BY THE CONTRACTOR.
2. OWNER HAS THE RIGHT TO TEMPORARILY CEASE CONSTRUCTION ACTIVITIES AT THE FACILITIES AS NECESSARY TO MAINTAIN OR OPERATE EQUIPMENT AND PROCESSES. OWNER WILL PROVIDE AS MUCH WARNING AS POSSIBLE TO CONTRACTOR.
3. CONTRACTOR SHALL MAINTAIN OWNER ACCESS TO THE EXISTING FACILITY SITES AND BUILDINGS EXCEPT FOR TEMPORARY ACCESS DISTURBANCE ALLOWED PER THE PLANS AND SPECIFICATIONS.

STRUCTURAL NOTES

1. SEE DWG NO. S001 FOR GENERAL STRUCTURE NOTES.

GEOTECHNICAL NOTES

1. SEE WATER RECLAMATION AND WATER TREATMENT FACILITY IMPROVEMENTS ENGINEERING GEOLOGY REPORT PREPARED BY RH2 ENGINEERING, INC. (JULY 2016) FOR DETAILED SITE GEOLOGY AND ENGINEERING GEOLOGY CONCLUSIONS AND RECOMMENDATIONS (INCLUDED AS AN APPENDIX IN VOLUME I OF II).

GENERAL CONSTRUCTION

1. A COPY OF THE APPROVED PLANS AND SPECIFICATIONS MUST BE ON-SITE WHENEVER CONSTRUCTION IS IN PROGRESS. PRIOR TO BEGINNING CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY OTHER REQUIRED OR RELATED PERMITS THAT HAVE NOT BEEN OBTAINED BY THE CITY.
2. IN THE EVENT THAT STANDARD CONSTRUCTION NOTES ARE FOUND TO BE IN CONFLICT WITH PROJECT SPECIFIC NOTES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WHERE CONFLICTS OCCUR, THE CONTRACTOR SHALL PROCEED BASED ON THE MORE RESTRICTIVE CONDITION.

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR.
2. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE 48-HOUR ADVANCE NOTIFICATION TO THE OWNER, ENGINEER AND ALL AFFECTED UTILITY COMPANIES AND AGENCIES PRIOR TO START OF WORK.
3. CONTRACTOR SHALL HAVE A PROFESSIONAL LAND SURVEYOR PROVIDE STAKING OF CONSTRUCTION FOR OWNER INSPECTION A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. CONTRACTOR TO FURNISH ALL MATERIALS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DECHLORINATING AND DISPOSING OF ALL CHLORINATED WATER. SEE THE TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

SITE

1. STORAGE OF ALL MATERIALS AND EQUIPMENT IS TO BE CONFINED TO WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS AND STATED IN THE SPECIFICATIONS. IF STORAGE IS NEEDED OUTSIDE THE DEFINED CONSTRUCTION LIMITS, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE OWNER.
2. DO NOT DISTURB OUTSIDE OF CONSTRUCTION LIMITS AS SHOWN ON THE PLANS AND STATED IN THE SPECIFICATIONS.
3. CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EXISTING OR BETTER CONDITION UNLESS OTHERWISE STATED ON THE PLANS.
4. ALL VEHICLES ARE TO BE CLEANED OF ALL EXCESS CONCRETE AND DIRT PRIOR TO LEAVING THE SITE. KEEP CITY OF SNOQUALMIE STREETS CLEAN DURING CONSTRUCTION. ANY DAMAGE OR CLEANUP SHALL BE SOLELY AT THE CONTRACTOR'S EXPENSE AND BE COMPLETED TO THE SATISFACTION OF THE CITY.
5. THE CONTRACTOR SHALL CLEANUP ALL AREAS AFFECTED BY HIS ACTIVITIES TO THE SATISFACTION OF THE OWNER BY THE END OF EACH WORKING DAY OR MORE FREQUENTLY IF REQUIRED BY THE OWNER. THIS INCLUDES REMOVAL OF ALL DUST, MUD, ROCKS, ASPHALT DEBRIS, AND REFUSE FROM STREETS, SIDEWALKS, DRIVEWAYS, AND ANY OTHER AREAS AFFECTED BY THE CONSTRUCTION ACTIVITIES. FAILURE TO CLEANUP TO THE SATISFACTION OF THE OWNER WILL NECESSITATE A SHUTDOWN OF THE PROJECT UNTIL CLEANUP IS PROPERLY PERFORMED. DAILY CLEANUP IS AN INTEGRAL PART OF THE REQUIRED EROSION AND POLLUTION CONTROL.
6. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL REQUIREMENTS FOR OFF-SITE DISPOSAL INCLUDING ONLY DISPOSING OF WASTE MATERIAL AT LOCAL CITY OR COUNTY APPROVED SITES.
7. AT THE END OF EACH WORKING WEEK, THE OWNER WILL INSPECT ALL TEMPORARY PAVEMENT RESTORATION. IF THE TEMPORARY RESTORATION DOES NOT PROVIDE AN ADEQUATE DRIVING SURFACE, AS DETERMINED BY THE OWNER, THEN THE CONTRACTOR SHALL IMMEDIATELY PROCEED WITH THE PERMANENT RESTORATION AS DESCRIBED IN THE SPECIFICATIONS.

UTILITIES

1. SEE SURVEY NOTES ON DWG NO. G002 REGARDING SUBSURFACE UTILITY LOCATIONS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION OF ANY BURIED PROPOSED UTILITIES. CALL 1-800-424-5555 48 HOURS BEFORE CONSTRUCTION FOR UTILITY LOCATIONS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING PIPE TYPES AND SIZES AS NECESSARY FOR PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND THE UTILITY COMPANY WHEN A CONFLICT OCCURS OR WHEN A CONFLICT IS ANTICIPATED.
2. ALL TRENCHING SHALL BE PERFORMED IN ACCORDANCE WITH OSHA AND WISHA STANDARDS.
3. EXISTING POWER, WATER, SEWER, AND STORM FACILITIES MAY NOT BE SHUT DOWN FOR ANY PERIOD WITHOUT PRIOR APPROVAL FROM OWNER. A MINIMUM OF 72 HOURS NOTICE TO THE OWNER IS REQUIRED FOR ANY SHUT DOWN. THE CONTRACTOR SHALL NOT OPERATE EXISTING POWER, WATER, SEWER, OR STORM SYSTEM EQUIPMENT (VALVES, SWITCHES, ETC.) AND SHALL HAVE THE CITY OPERATE THE SYSTEM EQUIPMENT.
4. THE CONTRACTOR SHALL NOTIFY FRANCHISE OFFICIAL(S), A MINIMUM OF 48 HOURS IN ADVANCE OF ANY PLANNED DISRUPTION TO UTILITIES INCLUDING, BUT NOT LIMITED TO NATURAL GAS, IRRIGATION, TELEPHONE, POWER, CABLE AND FIBER OPTICS.
5. ALL UTILITY CONSTRUCTION SHALL COMPLY WITH THE CITY OF SNOQUALMIE AND UTILITY FRANCHISE STANDARDS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND STRUCTURES AND SHALL PROVIDE SHORING, DEWATERING, AND SUPPORT AS NECESSARY.
7. IN LOCATIONS WHERE EXISTING BURIED UTILITIES ARE EXPOSED IN ORDER TO CONSTRUCT THE PROPOSED WATER MAINS, STORM DRAINS OR SANITARY SEWER, THE CONTRACTOR SHALL CONDUCT THE WORK IN A MANNER THAT PREVENTS DAMAGE TO THE EXISTING BURIED UTILITIES.
8. CONFLICTS WHICH MAY OCCUR DURING CONSTRUCTION OF THE WATER MAINS SHALL BE RESOLVED IN THE FOLLOWING MANNER:
   - IF THE PROPOSED WATER MAIN CONFLICTS WITH A MAJOR UTILITY SUCH AS THE SEWER OR STORM LINES, THE WATER LINE SHALL BE REALIGNED USING VERTICAL OR HORIZONTAL BENDS AS APPROVED BY THE ENGINEER. PAYMENT FOR THESE ALIGNMENT CHANGES SHALL BE BASED ON THE UNIT PRICES FOR BENDS AND FITTINGS AS ESTABLISHED PRIOR TO THE CHANGES BEING CONSTRUCTED AND AS APPROVED BY THE ENGINEER.
   - IF THE PROPOSED WATER MAIN CONFLICTS WITH A MINOR UTILITY SUCH AS POWER, CABLE, GAS, FIBER OPTIC, WATER SERVICE, AND TELEPHONE LINES, THE UTILITY COMPANY SHALL BE CONTACTED AND THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY TO REALIGN THE CONFLICT UTILITY, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THESE ALIGNMENT CHANGES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
9. CONTRACTOR SHALL MEET COMPACTION REQUIREMENTS AS STATED IN THESE PLANS AND SPECIFICATIONS.
10. ALL WATER MAINS SHALL BE RESTRAINED FROM UNRESOLVED HYDROSTATIC THRUST FORCES BY CONCRETE BLOCKING UNLESS SPECIFIED OTHERWISE. INSTALL BLOCKING ONLY IN AREAS WHERE THE BLOCKING DOES NOT BEAR DIRECTLY OR INDIRECTLY UPON OTHER UTILITIES AND WHERE EXCAVATION OF THE OTHER UTILITIES WOULD NOT COMPROMISE THE THRUST RESTRAINT SYSTEM.
11. AT POINTS WHERE EXISTING THRUST BLOCKING IS FOUND, MINIMUM CLEARANCE BETWEEN THE CONCRETE BLOCKING AND OTHER BURIED UTILITIES OR STRUCTURES SHALL BE 5 FEET.
12. CONTRACTOR SHALL CONNECT THE PROPOSED WATER MAINS TO THE EXISTING SYSTEM ONLY AFTER PROPOSED MAINS ARE PRESSURE TESTED, FLUSHED, DISINFECTED AND SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE CITY OF SNOQUALMIE AND THE WASHINGTON STATE DEPARTMENT OF HEALTH. ALL TESTING SHALL BE DONE IN THE PRESENCE OF A REPRESENTATIVE OF THE CITY OF SNOQUALMIE.

SIGNED: 09/19/17

SIGNED: 09/19/17

RH2 ENGINEERING, INC.
www.rh2.com
Bothell, WA 1.800.720.8052
22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DRAWING INDEX AND GENERAL CONSTRUCTION NOTES

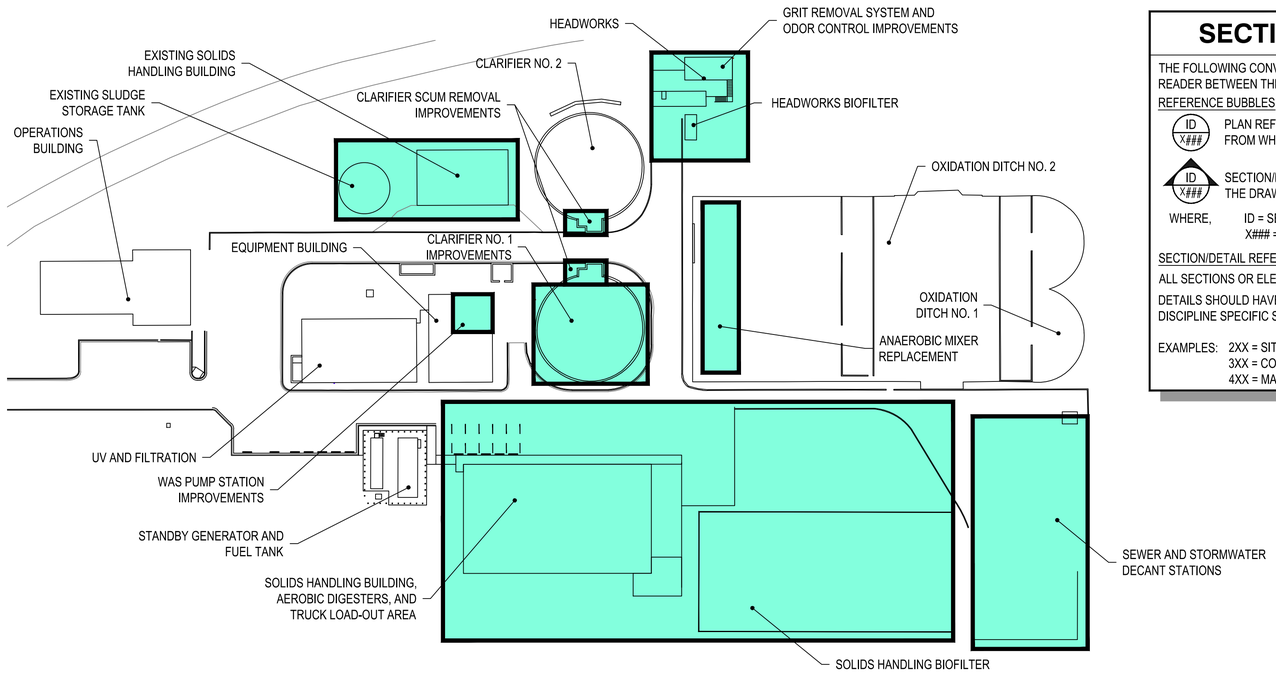
REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 20, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_G01.DWG
JOB NO.: 116-028

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: G001
SHEET NO.: 2
158



WRF IMPROVEMENTS LEGEND

NOT TO SCALE

SECTION AND DETAIL REFERENCES

THE FOLLOWING CONVENTIONS HAVE BEEN USED WITHIN THESE DRAWINGS TO REFER THE READER BETWEEN THE SECTION/DETAIL AND THE PLAN FROM WHICH IT IS REFERENCED.

REFERENCE BUBBLES

ID / X### — PLAN REFERENCE BUBBLE - REFERS READER BACK TO THE PLAN FROM WHICH THE DETAIL OR SECTION ORIGINATED.

ID / X### — SECTION/DETAIL REFERENCE BUBBLE - REFERS READER TO THE DRAWING ON WHICH THE SECTION OR DETAIL IS LOCATED.

WHERE, ID = SECTION/DETAIL REFERENCE NUMBER
X### = DRAWING NUMBER ON WHICH DETAIL ORIGINATED OR RESIDES.

SECTION/DETAIL REFERENCE NUMBER CONVENTIONS:

ALL SECTIONS OR ELEVATIONS HAVE A LETTER REFERENCE NUMBER (A THROUGH ZZ).

DETAILS SHOULD HAVE AN ALPHANUMERIC REFERENCE NUMBER (A-Z OR 1-1799).
DISCIPLINE SPECIFIC STANDARD DETAILS FOLLOW THE DIVISION NUMBER.

EXAMPLES: 2XX = SITE WORK OR CIVIL STANDARD DETAILS
3XX = CONCRETE STANDARD DETAILS
4XX = MASONRY STANDARD DETAILS
15XX = MECHANICAL STANDARD DETAILS
16XX = ELECTRICAL STANDARD DETAILS

DRAWING SET ORGANIZATION

WRF "AREA" DESIGNATIONS

THE WRF AREA NUMBER DESIGNATIONS HAVE BEEN DEFINED BASED ON PREVIOUS WRF ASBUILT AREA DESIGNATIONS. THESE AREA DESIGNATIONS ARE UTILIZED IN THE NUMBERING OF SHEETS IN THIS DRAWING SET. A BRIEF DESCRIPTION OF THE WORK TO BE PERFORMED AT EACH AREA OF THE PROJECT IS PROVIDED BELOW:

AREA 2 - HEADWORKS:
- REPLACE EXISTING GRIT CLASSIFIER
- REPLACE EXISTING AIR LIFT GRIT REMOVAL SYSTEM WITH GRIT PUMP
- COVER INFLUENT CHANNELS AND ENCLOSE LOWER LEVEL OF HEADWORKS FOR ODOR CONTROL
- CONSTRUCT HEADWORKS BIOFILTER

AREA 3 - OXIDATION DITCHES:
- REPLACE ANAEROBIC MIXERS

AREA 4 - SECONDARY CLARIFIERS:
- CONSTRUCT SCUM PUMP STATIONS
- COMPLETE CLARIFIER NO. 1 IMPROVEMENTS

AREA 5 - EQUIPMENT BUILDING
- IMPROVE EXISTING WAS PUMP STATION

AREA 7 - SOLIDS HANDLING SYSTEM:
- CONSTRUCT SOLIDS HANDLING BUILDING, AEROBIC DIGESTERS AND LOAD-OUT FACILITY
- CONSTRUCT SOLIDS HANDLING SYSTEM BIOFILTER
- CONSTRUCT NEW STORMWATER DECANT STATIONS

EXISTING SOLIDS HANDLING AREA:
- REMOVE AND RELOCATE OR DISPOSE OF EXISTING EQUIPMENT AND SLUDGE STORAGE TANK

DRAWING NUMBERS

DRAWING NUMBERS HAVE BEEN ASSIGNED TO EACH DRAWING. DRAWING NUMBERS INCLUDE INFORMATION THAT TELLS THE READER WHAT DISCIPLINE THE DRAWING REFERS TO AND WHICH SCHEDULE THE DRAWINGS IS WITHIN. IN ADDITION, THE DRAWING NUMBER AREA WITHIN THE TITLEBLOCK HAS BEEN COLOR CODED BY DISCIPLINE TO ASSIST THE USER IN QUICKLY FINDING DISCIPLINE SPECIFIC DRAWINGS. THE FORMAT OF THE DRAWING NUMBER IS AS FOLLOWS:

D-#XX, WHERE

D = DISCIPLINE CODE (G, C, S, M, D, E, Y)
# = WRF AREA DESIGNATION (NOTE 0 DESIGNATES PLANS COMMON TO MULTIPLE AREAS)
XX = NUMBER

G=GENERAL	C=CIVIL	S=ARCHITECTURAL	S=STRUCTURAL
DWG NO. G#XX	DWG NO. C#XX	DWG NO. A#XX	DWG NO. S#XX

M=MECHANICAL	E=ELECTRICAL	Y=INSTRUMENTATION
DWG NO. M#XX	DWG NO. E#XX	DWG NO. Y#XX

CALL 48 HOURS BEFORE YOU DIG
ONE CALL 1-800-424-5555

REPORT ALL SPILLS
DEPT. OF ECOLOGY 1-800-258-5990

PIPE LENGTH MEASUREMENTS

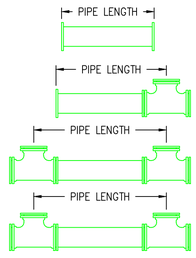
PIPE LENGTHS CALLED OUT ON PLANS ARE MEASURED AS FOLLOWS:

FLANGE x FLANGE (FLxFL) PIPE MEASURED FROM FACE OF FLANGE TO FACE OF FLANGE.

FLANGE x PLAIN END (FLxPE) PIPE MEASURED FROM FACE OF FLANGE TO CENTER OF FITTING.

PLAIN END x PLAIN END (PExPE) PIPE MEASURED FROM CENTER OF FITTING TO CENTER OF FITTING.

RESTRAINED JOINT x RESTRAINED JOINT (RJxRJ) PIPE MEASURED FROM CENTER OF FITTING TO CENTER OF FITTING.



FITTINGS ARE ASSUMED TO BE STANDARD LENGTH 125#, 250# FLANGED OR COMPACT CLASS 350 MECHANICAL JOINTS. CONTRACTOR RESPONSIBLE FOR VERIFYING LENGTHS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE INTO ACCOUNT ANY VARIATIONS IN FITTING DIMENSIONS.

NORTHING AND EASTING CALLOUT POINTS

TEES:

BENDS:

FLANGES:

REDUCERS:

VALVES:

SURVEY NOTES

1. ORDINARY HIGH WATER (OHW) IS DEFINED AS THE EDGE OF PERSISTENT VEGETATION

2. PROPERTY LINES ARE DERIVED FROM KING COUNTY GIS

HORIZONAL DATUM: NAD83/91
WASHINGTON STATE PLANE COORDINATES

VERTICAL DATUM: NAVD88 (NGVD 29 +3.58')

NOTE:
EXISTING WRF AS-BUILTS FROM 1996 AND 2002 WERE COMPLETED USING THE NGVD 29 DATUM

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
300	199341.40	1394168.03	432.11	FND HUB & TACK 626-11-01
301	199637.58	1394605.72	428.11	FND MAG NAIL W/PERTEET ID 626-11-02
303	199548.94	1394503.15	429.45	FND HUB & TACK 626-14-01
307	199620.17	1394417.56	445.47	SET SCRIBED "X" 680-28-03
308	199710.88	1394550.65	445.53	SET SCRIBED "X" 680-28-04
309	199572.77	1394316.02	431.12	FND MAG NAIL W/ESM ID 680-29-01
310	199396.50	1394261.08	431.50	SET HUB & TACK 719-61-01
311	199428.15	1394083.66	434.45	SET MAG NAIL W/PERTEET ID 719-61-02
312	199474.76	1394182.69	432.54	SET MAG NAIL W/PERTEET ID 680-52-01

SUBSURFACE UTILITIES REPRESENTATION

— W — W — W — INFORMATION OBTAINED VIA GROUND SURVEY AND VERIFIED AT POTHOLE LOCATION

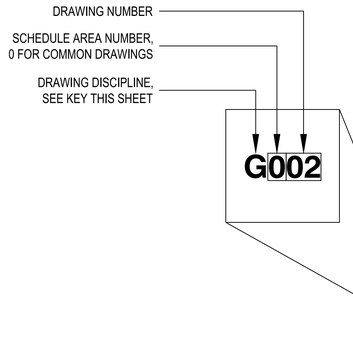
— W — W — W — UTILITY INFORMATION OBTAINED VIA GROUND SURVEY, UTILITIES LOCATED VIA ONE-CALL SYSTEM

— — — W — — — W — UTILITY INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT

— • • • W • • • • W • • • • W — UTILITY INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS

CONTACT INFORMATION

CONTACT	TITLE	COMPANY	PHONE
TODD SAXBERG	OPERATIONS MANAGER	CITY OF SNOQUALMIE	(425) 888-4153
TOM HOLMES	WASTEWATER UTILITY MANAGER	CITY OF SNOQUALMIE	(425) 888-4153
DAN MAHLUM, P.E.	PROJECT MANAGER	RH2 ENGINEERING	(425) 951-5340
ERIC SMITH, P.E.	WASTEWATER PROJECT ENGINEER	RH2 ENGINEERING	(425) 951-5384
CHRIS ROBERTS, P.E.	ELECTRICAL/ CONTROL ENGINEER	RH2 ENGINEERING	(425) 951-5358
SCOTT McCULLOCH	ASSOCIATE PROJECT MANAGER	PUGET SOUND ENERGY (GAS)	(425) 748-6329
BILL CAMPBELL	ENGINEERING SUPERVISOR	PUGET SOUND ENERGY (POWER)	(425) 748-6302



SMITH — 15836 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

BALLARD — 21433 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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www.rh2.com
Bothell, WA 1.800.720.8052
22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

GENERAL INFORMATION 1

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_G02.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: G002
SHEET NO.: 3
158

PROJECT SITE AND UTILITY LEGENDS

EXISTING LEGEND

- SURVEY MONUMENT/ BENCHMARK
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- NON-POTABLE WATER HOSE BIB
- STORM CATCH BASIN
- SEWER MANHOLE
- GAS METER
- TRANSFORMER
- POWER VAULT
- POWER JUNCTION BOX
- POWER POLE
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- CRUSHED ROCK SURFACE
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- BUILDING/STRUCTURE
- 432 — MINOR CONTOUR (1 FT)
- 435 — MAJOR CONTOUR (5 FT)
- EDGE OF PAVEMENT
- DRAINAGE DITCH
- CHAIN-LINK FENCING
- HANDRAIL
- 8" W — POTABLE OR WELL WATER MAIN
- 10" W — RECLAIMED WATER
- 3" WN — NON-POTABLE WATER
- 12" CONC ST — STORM DRAIN
- 12" SS — SANITARY SEWER OR WRF PROCESS
- 14" SS FM — SANITARY SEWER FORCE MAIN
- P — POWER
- TEL — TELEPHONE
- G — GAS

TESC/ PROPOSED LEGEND

- W — TREATED WATER PIPE
- NON-POTABLE WATER PIPE
- 8" G — DRAIN PIPE
- 8" WAS — WASTE ACTIVATED SLUDGE PIPE
- 4" SC — SCUM PIPE
- 2" G — GAS PIPE
- ST — STORM PIPE
- CATCH BASIN
- LIGHT POLE
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- QUARRY SPALLS
- BIOFILTER MEDIA
- GRAVEL TOP COURSE
- 432 — MINOR CONTOUR (1 FT)
- 435 — MAJOR CONTOUR (5 FT)
- P — POWER
- TELM — TELEMETRY
- TO BE REMOVED
- CONSTRUCTION LIMITS
- SILT FENCE

SOLIDS HANDLING DESIGN CRITERIA

	2018	Design
Solids Handling		
lbs TS Solids Per Day of WAS (from Aeration Basins)	2,006	2,625
WAS Concentration (mg/L)	5,000	5,000
WAS wasting (gpd)	48,106	62,950
WAS wasting (gp/wk)	336,739	440,647
Weekly thickener operation (hrs)	55	65
WAS wasting (gpm)	102	113
WAS wasting (lbs/hr)	255	283
WAS Transfer Pump		
Type	Rotary Lobe	Rotary Lobe
Number	2 duty, 1 Standby	2 duty, 1 Standby
Capacity (ea)	70 gpm @ 15 psig	70 gpm @ 15 psig
Nameplate HP (ea)	5	5
Thickening Process		
Type	Rotary Drum	Rotary Drum
Minimum Hydraulic Loading Capacity (gpm)	125	125
Minimum Mass Loading Capacity (lb/hr)	300	300
Thickend Solids Concentration	5-6%	5-6%
Thickened Sludge Transfer Pump		
Type	Rotary Lobe	Rotary Lobe
Number	1 Duty	1 Duty
Capacity (ea)	20 gpm @ 15 psig	20 gpm @ 15 psig
Nameplate HP (ea)	3	3
Dewatering Process		
Type	Centrifuge	Centrifuge
Number	1 Duty, 1 Standby (existing)	1 Duty, 1 Standby (existing)
Type of Sludge	Aerobically Digested	Aerobically Digested
Inlet Consistency	1.5%	1.5%
Minimum Hydraulic Loading Capacity (gpm)	80	80
Minimum Mass Loading Capacity (lb/hr)	500	500
Dewatered Solids Concentration	20%	20%
Dewatering Sludge Feed Pump		
Type	Rotary Lobe, Progressive Cavity	Rotary Lobe, Progressive Cavity
Number	1 Duty, 1 Standby (existing)	1 Duty, 1 Standby (existing)
Capacity	80 gpm @ 15 psi	80 gpm @ 15 psi
Nameplate HP	7.5; 3	7.5; 3
Dewatered Sludge Conveyance System		
Type	Shaftless screw conveyors	Shaftless screw conveyors
Number	2 collection, 1 inclined, 1 distribution	2 collection, 1 inclined, 1 distribution
Rated Capacity (ton/hr wet sludge)	2 @ 1.5; 2 @ 3	2 @ 1.5; 2 @ 3
Nameplate HP	2 @ 3; 2 @ 5	2 @ 3; 2 @ 5

	2018	Design
Aerobic Digester		
lbs TS Solids Per Day of WAS (from Aeration Basins)	2,006	2,625
VS/TS Ratio	0.87	0.87
lbs VS/day (from oxidation ditches)	1,745	2,284
Number of Digesters	3	3
Type	Concrete	Concrete
Dimensions (L x W x H) (ft)	40/40/22.5	40/40/22.5
Side Water Depth (ft.)	20.5	20.5
Volume Required (gallons)	385,000	504,000
SRT at 20 degrees C (days)	40	40
Digester Feed Volume (gpd)	9,619	12,590
Lb. O2/day	2,007	2,626
Lb O2/lb VSS Destroyed	2.3	2.3
VS Destruction (Fraction)	0.5	0.5
Lb. VS Destroyed/Day	873	1,142
Mixers / Aerators		
Number	3	3
Nameplate HP (ea)	20	20
Blowers (on VFD)		
Type	Positive Displacement	Positive Displacement
Number	3	3
Capacity (ea)	160-620 scfm	160-620 scfm
Nameplate HP (ea)	50	50
Discharge Pressure (psi)	10	10
Type of Aeration System	Invent Mixer / Aerator	Invent Mixer / Aerator

ABBREVIATIONS

AA	AERATION AIR
AB	ABANDONED
AC	ASPHALTIC CONCRETE
APPROX.	APPROXIMATE
BLDG	BUILDING
BTM	BOTTOM
CA	COMPRESSED AIR
CL	CENTERLINE
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CL	CLASS
CLR	CLEARANCE (OR CLEAR)
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CSF	CANYON SPRINGS FACILITY
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
Ø	DIAMETER
DR	DRAIN
DS	DIGESTED SLDUGE
DWG	DRAWING
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATION
EQ	EQUAL
EW	EACH WAY
EX	EXISTING
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FM	FORCE MAIN
FT	FEET
G	GAS
GALV	GALVANIZED
GEN	GENERAL
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HORZ	HORIZONTAL(LY)
IE	INVERT ELEVATION
LF	LINEAR FOOT
MAX	MAXIMUM
MDD	MAXIMUM DRY DENSITY
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
ML	MIXED LIQUOR
N/E	NORTHING AND EASTING
NOM	NOMINAL
NPW	NON-POTABLE WATER
NTS	NOT TO SCALE
NWTF	NORTH WELL FIELD TREATMENT FACILITY
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER
OHW	ORDINARY HIGH WATER
OVER	OVERFLOW
OX	OXIDATION
P	POWER
PJF	PREMOLDED JOINT FILLER
PL	PLATE
PROP	PROPOSED
PWR	POWER
RAS	RETURN ACTIVATED SLUDGE
RE	RIM ELEVATION
RST	REINFORCING STEEL
R/W	RIGHT OF WAY
SCH	SCHEDULE
SC	SCUM
SD	STORM DRAIN
SDCB	STORM DRAIN CATCH BASIN
SDMH	STORM DRAIN MANHOLE
SE	SECONDARY EFFLUENT
SIM	SIMILAR
SQ	SQUARE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
T	TELEPHONE
T&B	TOP AND BOTTOM
TD	TANK DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
TN	TOP OF NUT
TOF	TOP OF FLOOR
TOW	TOP OF WALL
TYP	TYPICAL
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TS	THICKENED SLUDGE
TW	TREATED WATER
VERT	VERTICAL(LY)
W	WATER
WAS	WASTE ACTIVATED SLUDGE
WRF	WATER RECLAMATION FACILITY
WW	WASTE WATER; BACKWASH WASTE

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

GENERAL INFORMATION 2

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

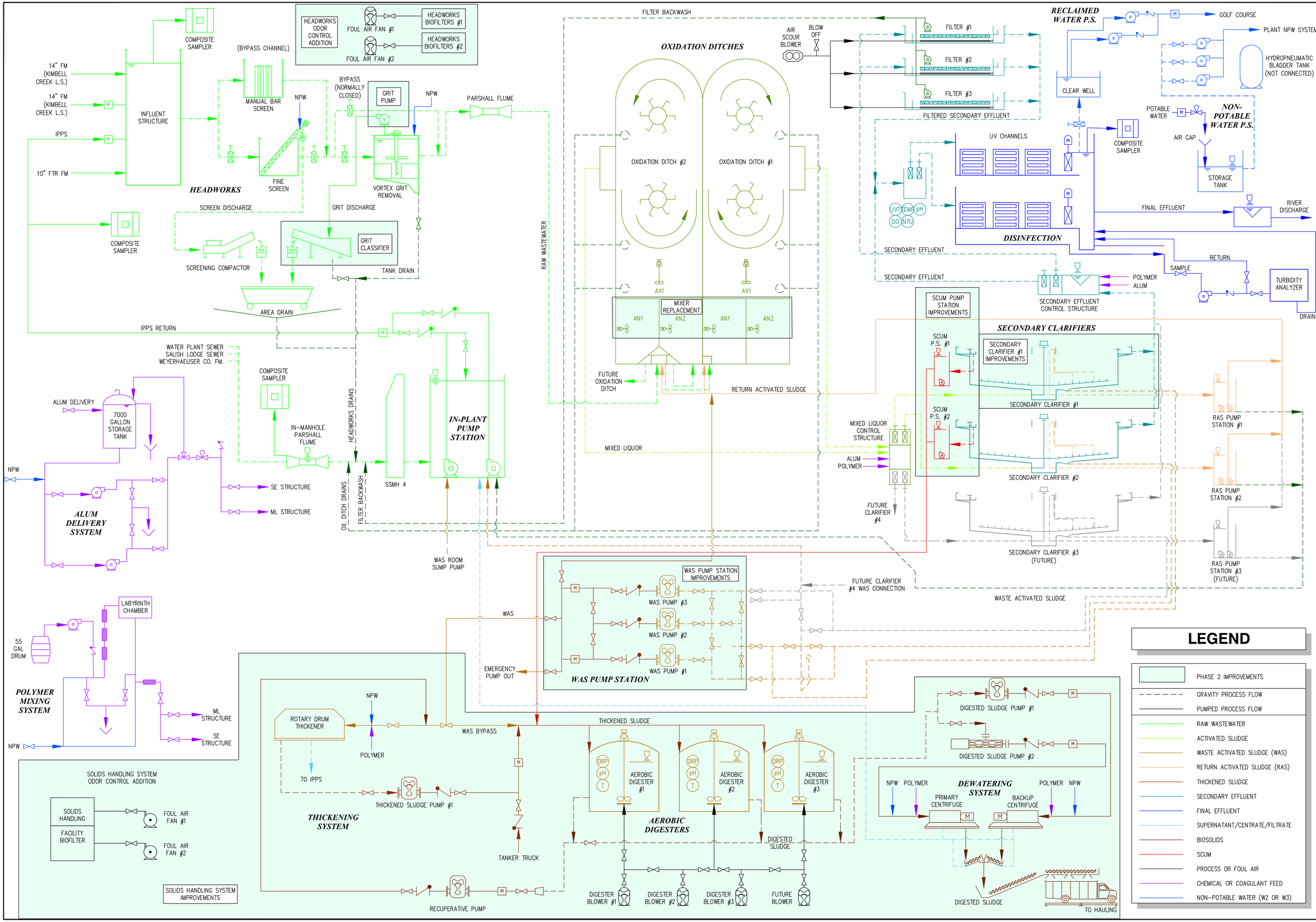
ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_G01.DWG
JOB NO.: 116-028

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: G003
SHEET NO.: 4
158

WRF PROCESS SCHEMATIC

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS



LEGEND

- PHASE 2 IMPROVEMENTS
- GRAVITY PROCESS FLOW
- PUMPED PROCESS FLOW
- RAW WASTEWATER
- ACTIVATED SLUDGE
- WASTE ACTIVATED SLUDGE (WAS)
- RETURN ACTIVATED SLUDGE (RAS)
- THICKENED SLUDGE
- SECONDARY EFFLUENT
- FINAL EFFLUENT
- SUPERNATANT/CENTRATE/FILTRATE
- BIOSOLIDS
- SCUM
- PROCESS OR FOUL AIR
- CHEMICAL OR COAGULANT FEED
- NON-POTABLE WATER (W2 OR W3)

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BALLARD — 21383 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
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ENGINEER: MRJP
REVIEWED: ETS

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0" 1" 2"
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DWG NO.: G004
SHEET NO.: 5
158

CITY STANDARD UTILITY NOTES

STORM DRAINAGE

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST "ENGLISH" UNIT EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION" (WSDOT/ APW A). THE "STANDARD SPECIFICATIONS," EXCEPT AS THEY MAY BE MODIFIED OR SUPERSEDED BY THE SNOQUALMIE RIDGE DEVELOPMENT STANDARDS AND/OR THESE PLANS, SHALL GOVERN ALL PHASES OF WORK.

2. TEMPORARY EROSION/WATER POLLUTION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH SNOQUALMIE RIDGE II MASTER DRAINAGE PLAN, CITY OF SNOQUALMIE MUNICIPAL CODE (SMC 15. 18) AND THE 2009 KING COUNTY SURFACE WATER DESIGN MANUAL (KCSWDM) AND DEPARTMENT OF ECOLOGY NPDES REQUIREMENTS.

3. STORM DRAIN PIPE SHALL MEET THE FOLLOWING REQUIREMENTS:
   - A. PLAIN CONCRETE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M86, CLASS 2.
   - B. REINFORCED CONCRETE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 170.
   - C. PVC PIPE CONFORMING TO ASTM: D-3034 SDR 35 FOR PIPE UP TO 15-INCH DIAMETER AND ASTM: F-789 TYPE 1 FOR PIPE SIZES 18-INCH TO 27-INCH DIAMETER. PVC PIPE JOINTS SHALL CONFORM TO ASTM: D-3212 WITH RESTRAINED GASKETS CONFORMING TO ASTM: F-477.
   - D. DUCTILE IRON PIPE CONFORMING TO THE REQUIREMENTS OF AWWA C 151, THICKNESS CLASS AS SHOWN ON THE PLANS.
   - E. CORRUGATED HIGH DENSITY POLYETHYLENE PIPE WITH SMOOTH INTERIOR, CONFORMING TO AASHTO DESIGNATION M-294S.
   - F. PROFILE WALL PVC (RIBBED PVC) PIPE CONFORMING TO ASTM: F-794 AND AASHTO M304. PIPE JOINTS SHALL CONFORM TO ASTM: D-3212 WITH RESTRAINED GASKETS CONFORMING TO ASTM: F-477.
   - G. HIGH DENSITY POLYETHYLENE PIPE (HDPE PIPE): HDPE PIPE SHALL COMPLY WITH THE REQUIREMENTS OF AWWA C906 FOR PIPE MATERIALS AND PRESSURE RATING AS FOLLOWS:
     - i. STANDARD PE CODE DESIGNATION - PE 3408
     - ii. STANDARD DIMENSION RATIO - MAXIMUM 32.5
     - iii. PRESSURE CLASS- MINIMUM 50 PSVG
   - H. ALL PIPE JOINTS SHALL BE RUBBER GASKETED. JOINTS FOR HDPE PIPE SHALL BE EITHER HEAT-FUSION BUTT-JOINT OR FLANGED JOINT.

4. ALL STORM DRAIN PIPE SHALL BE BEDDED. BEDDING MATERIAL SHALL CONFORM TO "BEDDING MATERIAL FOR RIGID PIPE" AS SPECIFIED IN SECTION 9-03.15 OF THE "STANDARD SPECIFICATIONS" OR PEA GRAVEL. BEDDING SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES UNDER THE BARREL OF THE PIPE AND UP TO THE FOLLOW IN G LEVELS:
   - a. PVC AND CORRUGATED POLYETHYLENE PIPE- ONE (1) FOOT ABOVE THE CROWN OF THE PIPE.
   - b. CONCRETE, DUCTILE IRON, HIGH DENSITY POLYETHYLENE AND CORRUGATED STEEL PIPE - SPRINGLINE OF THE PIPE.

5. AS AN OPTION THE CONTRACTOR MAY USE CONTROLLED DENSITY FILL. TRENCH BACKFILL SHALL BE EXCAVATED NATIVE MATERIAL OR BANK RUN GRAVEL FOR TRENCH BACKFILL CONFORMING TO SECTION 9-03. 19 OF THE "STANDARD SPECIFICATIONS," DEPENDING ON THE SUITABILITY OF THE NATIVE MATERIAL TO COMPACTION. SUITABLE NATIVE MATERIAL SHALL BE FREE FROM MUD, MUCK, ORGANIC MATTER, BROKEN PAVEMENT, ROCKS GREATER THAN 6-INCH DIMENSION, AND OTHER DELETERIOUS MATERIAL, AND MUST BE CAPABLE OF COMPACTION TO MEET THE REQUIRED DENSITY AT THE TIME OF PLACEMENT. I F THE NATIVE MATERIAL CANNOT BE READILY COMPACTED TO THE SPECIFIED DENSITY, ONLY BANK RUN GRAVEL SHALL BE UTILIZED AND ANY INSUFFICIENTLY COMPACTED NATIVE MATERIAL SHALL BE REMOVED AND REPLACED WITH BANK RUN GRAVEL. THE NATIVE MATERIAL SHALL ONLY BE USED AND REMAIN IN PLACE IF IN SITU COMPACTION TESTING PROVIDES SUFFICIENT EVIDENCE THAT THE SPECIFIED COMPACTION IS UNIFORMLY ATTAINED. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES IN LOOSE DEPTH, AND EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE FOLLOWING DENSITIES
   - a. ALONG AND OVER THE PIPE TO A DEPTH OF ONE FOOT ABOVE THE CROWN OF THE PIPE - 90 PERCENT OF MAXIMUM DENSITY.
   - b. ABOVE ONE FOOT ABOVE THE CROWN OF THE PIPE IN UNIMPROVED AREAS - 90 PERCENT OF MAXIMUM DENSITY.
   - c. ABOVE ONE FOOT ABOVE THE CROWN OF THE PIPE IN AREAS TO BE PAVED (ROADWAY AND/OR SIDEWALK)- 95 PERCENT OF MAXIMUM DENSITY. MAXIMUM DENSITY TO BE DETERMINED BY ASTM: D-1557.

6. OPEN-CUT TRANSVERSE CROSSINGS OF ROADWAYS AFTER FINAL PAVING ARE NOT TO BE PERMITTED UNLESS IT CAN BE SHOWN THAT ALTERNATIVES SUCH AS JACKING, AUGURING OR TUNNELING ARE NOT FEASIBLE OR UNLESS THE UTILITY CAN BE INSTALLED JUST PRIOR TO RECONSTRUCTION OR AN OVERLAY OF THE ROAD. SHOULD AN OPEN CUT BE APPROVED, ALL TRANSVERSE TRENCHES SHALL BE BACKFILLED WITH CONTROLLED DENSITY FILL. TRANSVERSE CROSSINGS IN ROADWAY UNDER CONSTRUCTION WITH ATB APPLIED MAY BE BACKFILLED WITH CRUSHED ROCK.

7. SPECIAL STRUCTURES, OIL/WATER SEPARATORS AND OUTLET CONTROLS SHALL BE INSTALLED PER PLANS AND MANUFACTURER'S RECOMMENDATIONS.

8. CALL UNDERGROUND LOCATE LINE 1-800-424-5555 A MINIMUM 48 HOURS PRIOR TO ANY EXCAVATIONS.

9. BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, A PRECONSTRUCTION MEETING MUST BE HELD BETWEEN CONTRACTOR, THE CITY'S INSPECTOR, AND OTHER APPROPRIATE PARTIES.

10. THE CITY ENGINEER MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO COMMENCING CONSTRUCTION. NO PART OF THE DRAINAGE SYSTEM SHALL BE PUT INTO USE UNTIL IT HAS BEEN INSPECTED BY THE CITY. THE CITY MAY WAIVE THIS REQUIREMENT ON A CASE BY CASE BASIS IF CONTINUED EVIDENCE OF SOUND CONSTRUCTION PRACTICE BY THE CONTRACTOR SO WARRANTS. IN ANY EVENT, INSTALLATIONS WHICH DO NOT MEET THE REQUIREMENTS OF THESE STANDARDS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

11. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

12. ALL DRAINAGE STRUCTURES SHALL HAVE LOCKING LIDS OR GRATES. ALL DRAINAGE STRUCTURES THAT DO NOT COLLECT SURFACE WATER RUNOFF SHALL HAVE SOLID LOCKING LIDS.

13. CULVERT PIPES SHALL HAVE THE ENDS MITERED TO CONFORM TO THE SLOPE. PLASTIC PIPES WILL NOT BE ALLOWED TO PROJECT FROM SLOPES OR INTO DITCHES WHEN THE SLOPE IS FLATTER THAN 3:1 TO PREVENT CRUSHING DURING MOWING OR MAINTENANCE ACTIVITIES.

14. PRIOR TO FINAL INSPECTION AND ACCEPTANCE, PIPES AND STRUCTURES SHALL BE CLEANED AND FLUSHED. STORM DRAIN STUBS SHALL BE LOCATED AS SHOWN ON THE APPROVED CONSTRUCTION PLANS. EACH OUTLET SHALL HAVE FREE-FLOWING POSITIVE DRAINAGE TO AN APPROVED STORMWATER CONVEYANCE SYSTEM OR TO AN APPROVED OUTFALL LOCATION. A CLEANOUT IS REQUIRED AT THE HOUSE OR STRUCTURE, BUT IS NOT REQUIRED AT THE EDGE OF THE RIGHT-OF-WAY. STORM DRAIN STUB-OUTS SHALL BE MARKED AS FOLLOWS:
   - A. IF ONE STORM DRAIN STUB IS SHOWN SERVICING A SINGLE LOT ON THE PLANS IT IS INTENDED TO PICK UP ALL STORM DRAIN RUNOFF FROM THE LOT, INCLUDING ROOFS. STUB-OUTS ON EACH LOT SHALL BE LOCATED BY A 2X4 STAKE. THE STUB-OUT SHALL BE MARKED "STORM" OR "DRAIN" IN BLACK LETTERS, AND THE PIPE SHALL BE CONNECTED TO THE ROAD RUNOFF CONVEYANCE SYSTEM. THE STAKES SHALL EXTEND ABOVE SURFACE LEVEL, BE VISIBLE AND LOCATED AT THE END OF THE STUB-OUT. THE STUB-OUT SHALL NOT BE CONNECTED TO THE STAKE IN ANY MANNER.
   - B. IN THE EVENT TWO STORM DRAIN STUBS ARE SHOWN SERVICING A SINGLE LOT ON THE PLANS, ONE OUTLET IS SPECIFICALLY FOR THE ROOF DRAIN CONNECTION ONLY. THE OTHER OUTLET IS FOR THE FOOTING DRAIN, YARD DRAIN AND ROCKERY DRAIN (WHERE APPLICABLE). STUB-OUTS ON EACH LOT SHALL BE LOCATED BY 2X4 STAKES. ONE STUB-OUT SHALL BE MARKED "STORM" OR "DRAIN" IN BLACK LETTERS, AND THE PIPE SHALL BE CONNECTED TO THE ROAD RUNOFF CONVEYANCE SYSTEM. THE OTHER STUB-OUT SHALL BE MARKED "ROOF' IN BLACK LETTERS AND CONNECTED TO THE SECONDARY CONVEYANCE SYSTEM WHICH RUNS PARALLEL TO (AND IN THE SAME TRENCH AS) THE ROADWAY RUNOFF CONVEYANCE SYSTEM IN MOST LOCATIONS. THE STUB-OUT SHALL NOT BE CONNECTED TO THE STAKE IN ANY MANNER ON ANY LOT. THE FOOTING DRAINAGE SYSTEM AND THE ROOF DOWNSPOUT SYSTEM SHALL NOT BE INTERCONNECTED ON ANY LOT.

WATER

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST "ENGLISH" UNIT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/ APW A). THE STANDARD SPECIFICATIONS, EXCEPT AS THEY MAY BE MODIFIED OR SUPERSEDED BY THE SNOQUALMIE RIDGE II DEVELOPMENT STANDARDS AND THESE PLANS, SHALL GOVERN ALL PHASES OF WORK.

2. NO CONNECTION TO THE EXISTING MAINS WILL BE ALLOWED EXCEPT BY MEANS OF AN APPROVED BACKFLOW PREVENTION DEVICE PRIOR TO SATISFACTORY FLUSHING, TESTING, DISINFECTION, AND RECEIPT OF SATISFACTORY BACTERIOLOGICAL TEST RESULTS.

3. ALL CONNECTIONS TO EXISTING WATER MAINS SHALL BE CUT-IN TEES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. CONNECTIONS TO ON EXISTING MAINS WILL BE MADE BY THE CITY AT THE DEVELOPER'S EXPENSE OR BY THE DEVELOPER PURSUANT TO A DEVELOPERS AGREEMENT. CUT-IN TEE CONNECTIONS MAY ONLY BE MADE BY CONTRACTORS OR PERSONNEL APPROVED BY THE CITY TO PERFORM THAT SPECIALIZED WORK. INSTALLATION OF CUT-IN TEES MUST BE OBSERVED BY THE CITY ENGINEER OR THE CITY'S REPRESENTATIVE. ONLY CITY PERSONNEL SHALL OPERATE CITY'S WATER SYSTEM VALVES.

4. ALL WATER PIPE SHALL BE BEDDED. BEDDING MATERIAL SHALL CONFORM TO "BEDDING MATERIAL FOR RIGID PIPE" AS SPECIFIED IN SECTION 9-03.15 OF THE STANDARD SPECIFICATIONS OR PEA GRAVEL. BEDDING SHALL BE PLACED TO A MINIMUM DEPTH OF 4 INCHES UNDER THE BARREL OF THE PIPE AND UP TO THE SPRINGLINE OF THE PIPE. AS AN OPTION THE CONTRACTOR MAY USE CONTROLLED DENSITY FILL.

5. TRENCH BACKFILL SHALL BE EXCAVATED NATIVE MATERIAL OR BANK RUN GRAVEL FOR TRENCH BACKFILL CONFORMING TO SECTION 9-03.19 OF THE STANDARD SPECIFICATIONS, DEPENDING ON THE SUITABILITY OF THE NATIVE MATERIAL TO COMPACTION. SUITABLE NATIVE MATERIAL SHALL BE FREE FROM MUD, MUCK, ORGANIC MATTER, BROKEN PAVEMENT, ROCKS GREATER THAN 6-INCH DIMENSION, EXCEPT IN PIPE ZONE (ONE FOOT ABOVE THE CROWN OF THE PIPE) WHERE NO ROCKS SHALL BE GREATER THAN 2-INCH DIMENSION, AND OTHER DELETERIOUS MATERIAL, AND MUST BE CAPABLE OF COMPACTION TO THE REQUIRED DENSITY AT THE TIME OF PLACEMENT. IF THE NATIVE MATERIAL CANNOT BE READILY COMPACTED TO THE SPECIFIED DENSITY, ONLY BANK RUN GRAVEL SHALL BE UTILIZED AND ANY INSUFFICIENTLY COMPACTED NATIVE MATERIAL SHALL BE REMOVED AND REPLACED WITH BANK RUN GRAVEL. THE NATIVE MATERIAL SHALL ONLY BE USED AND REMAIN IN PLACE IF IN SITU COMPACTION TESTING PROVIDES SUFFICIENT EVIDENCE THAT THE SPECIFIED COMPACTION IS UNIFORMLY ATTAINED.

   BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES IN LOOSE DEPTH, AND EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE FOLLOWING DENSITIES:
   - ALONG AND OVER THE PIPE TO A DEPTH OF ONE FOOT ABOVE THE CROWN OF THE PIPE - 90 PERCENT OF MAXIMUM DENSITY.
   - ABOVE ONE FOOT ABOVE THE CROWN OF THE PIPE IN UNIMPROVED AREAS - 90 PERCENT OF MAXIMUM DENSITY.
   - ABOVE ONE FOOT ABOVE THE CROWN OF THE PIPE IN AREAS TO BE PAVED (ROADWAY AND/OR SIDEWALK) - 95 PERCENT OF MAXIMUM DENSITY.
   - MAXIMUM DENSITY TO BE DETERMINED BY ASTM: D-1557.

6. THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL NOTIFY THE CITY ENGINEER OF A PERSON WHO CAN BE CONTACTED REGARDING PROBLEMS DURING CONSTRUCTION ON A 24 HOUR BASIS.

7. OPEN-CUT TRANSVERSE CROSSINGS OF ROADWAYS AFTER FINAL PAVING ARE NOT TO BE PERMITTED UNLESS IT CAN BE SHOWN THAT ALTERNATIVES SUCH AS JACKING, AUGURING OR TUNNELING ARE NOT FEASIBLE OR UNLESS THE UTILITY CAN BE INSTALLED JUST PRIOR TO RECONSTRUCTION OR AN OVERLAY OF THE ROAD. SHOULD AN OPEN CUT BE APPROVED, ALL TRANSVERSE TRENCHES SHALL BE BACKFILLED WITH CONTROLLED DENSITY FILL. TRANSVERSE CROSSINGS IN ROADWAY UNDER CONSTRUCTION WITH ATB APPLIED MAY BE BACKFILLED WITH CRUSHED ROCK.

8. CALL UNDERGROUND LOCATE LINE 1-800-424-5555 A MINIMUM 48 HOURS PRIOR TO ANY EXCAVATIONS.

9. BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, A PRECONSTRUCTION MEETING MUST BE HELD BETWEEN THE CONTRACTOR, THE CITY'S INSPECTOR AND OTHER APPROPRIATE PARTIES.

10. THE CITY ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION. INSTALLATION OF ALL WATER MAIN PIPE AND APPURTENANCES, INCLUDING PLACEMENT AND COMPACTION OF BEDDING AND BACKFILL, SHALL OCCUR ONLY WHEN AN AUTHORIZED REPRESENTATIVE OF THE CITY IS PRESENT TO DIRECTLY OBSERVE THE WORK. ALL COSTS OF SUCH INSPECTION SHALL BE PAID BY THE DEVELOPER/CONTRACTOR. NO PART OF THE WATER SYSTEM SHALL BE PUT INTO USE UNTIL THE CITY HAS COMPLETED ITS NORMAL INSPECTIONS AND HAS CONCLUDED THAT THE WORK IS ACCEPTABLE. THE CITY ENGINEER MAY WAIVE THIS REQUIREMENT ON A CASE BY CASE BASIS IF CONTINUED EVIDENCE OF SOUND CONSTRUCTION PRACTICE BY THE CONTRACTOR SO WARRANTS. IN ANY EVENT, INSTALLATIONS WHICH DO NOT MEET THE REQUIREMENTS OF THESE STANDARDS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

11. IF, AFTER THE CONTRACTOR HAS GIVEN THE CITY ENGINEER THE REQUIRED 48-HOUR NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION AND AFTER A PRE-CONSTRUCTION CONFERENCE HAS BEEN HELD WITH THE CITY WHERE THE CONTRACTOR HAS CLEARLY DEFINED THE WATERLINE CONSTRUCTION SCHEDULE AND IF THE CITY'S INSPECTOR OR REPRESENTATIVE IS ABSENT FROM THE SITE DURING THE TIME THE CONTRACTOR HAS SCHEDULED CONSTRUCTION OF THE WATERLINE, THEN SUCH ABSENCE SHALL CONSTITUTE THE CITY'S WAIVER OF THE REQUIREMENT THAT THE INSTALLATION OF WATER MAIN PIPE AND APPURTENANCES SHALL ONLY OCCUR WHEN AN AUTHORIZED REPRESENTATIVE OF THE CITY IS PRESENT.

12. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS. WHEN FIRE FLOW WILL BE INTERRUPTED TO ALLOW CONSTRUCTION, CITY AND OF SNOQUALMIE FIRE DEPARTMENT SHALL BE GIVEN 24 HOURS NOTICE OF TIME PERIOD AND LOCATIONS AFFECTED.

    PHONE NUMBERS:

SNOQUALMIE PUBLIC WORKS DEPARTMENT	(425) 831-4919
CITY OF SNOQUALMIE FIRE DEPARTMENT	(425) 888-1551

13. WATER MAIN PIPES SHALL BE INSTALLED WITH MINIMUM OF 42 INCHES AND A MAXIMUM OF 48 INCHES OF COVER TO FINISHED GRADE ABOVE PIPE. COVER MAY BE REDUCED LOCALLY TO 24 INCHES IF NECESSARY TO AVOID UTILITY CONFLICTS WITH CITY ENGINEER APPROVAL.

14. WATER SERVICE STUB-OUTS SHALL BE LOCATED BY A WHITE 2X4 STAKE MARKED "WATER" IN BLACK LETTERS. THE STAKE AND STUB-OUT SHALL EXTEND ABOVE SURFACE LEVEL, BE VISIBLE, AND DIRECTLY ADJACENT TO EACH OTHER. THE STUB-OUT SHALL NOT BE CONNECTED TO THE STAKE IN ANY MANNER.

15. HYDRANTS ARE TO BE FITTED WITH 4" STORZ ADAPTER PUMPER PORTS. HYDRANTS SHALL BE EITHER MUELLER OR M&H. ALL HYDRANTS ARE TO BE LOCATED 5 FEET MINIMUM FROM DRIVEWAY APPROACHES.

16. WATER METERS ARE TO BE LOCATED CLEAR OF DRIVEWAYS AND SIDEWALKS. ALL LOT SERVICES SHALL BE 1 INCH DIAMETER FROM MAIN TO HOUSE. USE FORD METER SETTER VBH74-18W-11-44.

17. VALVE BOX COVER PLATE LUGS TO BE LINED UP WITH WATER MAIN.

18. WATER MAIN PIPE SHALL BE DUCTILE IRON CLASS 52.

SEWER

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST "ENGLISH" UNIT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/APWA). THE STANDARD SPECIFICATIONS, EXCEPT AS THEY MAY BE MODIFIED OR SUPERSEDED BY THESE PLANS, SHALL GOVERN ALL PHASES OF WORK.

2. BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, A PRECONSTRUCTION METING MUST BE HELD BETWEEN THE CONTRACTOR, THE CITY'S INSPECTOR AND OTHER APPROPRIATE PARTIES.

3. THE CITY ENGINEER MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO COMMENCING CONSTRUCTION. NO PART OF THE SANITARY SEWER SYSTEM SHALL BE PUT INTO USE UNTIL THE CITY HAS COMPLETED ITS NORMAL INSPECTIONS AND HAS CONCLUDED THAT THE WORK IS ACCEPTABLE. THE CITY MAY WAIVE THIS REQUIREMENT ON A CASE BY CASE BASIS IF CONTINUED EVIDENCE OF SOUND CONSTRUCTION PRACTICE BY THE CONTRACTOR SO WARRANTS. IN ANY EVENT, INSTALLATIONS WHICH DO NOT MEET THE REQUIREMENTS OF THESE STANDARDS SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

4. APPROXIMATE LOCATIONS OF EXISTING UTILITIES HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND ARE SHOWN FOR CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF LOCATIONS AND TO AVOID DAMAGE TO ANY ADDITIONAL UTILITIES NOT SHOWN. IF CONFLICTS WITH EXISTING UTILITIES ARISE DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS INSPECTOR AND ANY CHANGES REQUIRED SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO COMMENCEMENT OF RELATED CONSTRUCTION ON THE PROJECT.

5. ALL SEWER MAIN EXTENSIONS WITHIN THE PUBLIC RIGHT-OF-WAY OR IN EASEMENTS MUST BE STAKED BY SURVEY FOR LINE AND GRADE PRIOR TO STARTING CONSTRUCTION. SURVEYS SHALL BE PERFORMED BY A SURVEYOR LICENSED BY THE STATE OF WASHINGTON.

6. ALL SEWER PIPE SHALL BE BEDDED. BEDDING MATERIAL SHALL CONFORM TO "BEDDING MATERIAL FOR RIGID PIPE" AS SPECIFIED IN SECTION 9-03.15 OF THE STANDARD SPECIFICATIONS OR PEA GRAVEL. BEDDING SHALL BE PLACED TO A MINIMUM DEPTH OF 6-INCHES UNDER THE BARREL OF THE PIPE AND UP TO THE FOLLOWING LEVELS:
   - PVC SEWER PIPE AND HDPE PIPE - ONE (1) FOOT ABOVE THE CROWN OF THE PIPE
   - DUCTILE IRON SEWER PIPE - SPRINGLINE OF THE PIPE

   AS AN OPTION THE CONTRACTOR MAY USE CONTROLLED DENSITY FILL.

   BEDDING SHALL BE PLACED IN MORE THAN ONE LIFT. THE FIRST LIFT, TO PROVIDE AT LEAST 6 INCHES THICKNESS UNDER THE BARREL OF THE PIPE, SHALL BE PLACED BEFORE THE PIPE IS INSTALLED AND SHALL BE SPREAD SMOOTHLY SO THAT THE PIPE IS UNIFORMLY SUPPORTED ALONG THE BARREL. SUBSEQUENT LIFTS OF NOT MORE THAN 6 INCHES THICKNESS SHALL BE INSTALLED AND INDIVIDUALLY COMPACTED TO 90% DENSITY AS DETERMINED BY ASTM: D-1557.

7. TRENCH BACKFILL SHALL BE EXCAVATED NATIVE MATERIAL OR BANK RUN GRAVEL FOR TRENCH BACKFILL CONFORMING TO SECTION 9-03.19 OF THE STANDARD SPECIFICATIONS, DEPENDING ON THE SUITABILITY OF THE NATIVE MATERIAL TO COMPACTION. SUITABLE NATIVE MATERIAL SHALL BE FREE FROM MUD, MUCK, ORGANIC MATTER, BROKEN PAVEMENT, ROCKS GREATER THAN 6-INCH DIMENSION, AND OTHER DELETERIOUS MATERIAL, AND MUST BE CAPABLE OF COMPACTION TO THE REQUIRED DENSITY AT THE TIME OF PLACEMENT. IF THE NATIVE MATERIAL CANNOT BE READILY COMPACTED TO THE SPECIFIED DENSITY, ONLY BANK RUN GRAVEL SHALL BE UTILIZED AND ANY INSUFFICIENTLY COMPACTED NATIVE MATERIAL SHALL BE REMOVED AND REPLACED WITH BANK RUN GRAVEL. THE NATIVE MATERIAL SHALL ONLY BE USED AND REMAIN IN PLACE IF IN SITU COMPACTION TESTING PROVIDES SUFFICIENT EVIDENCE THAT THE SPECIFIED COMPACTION IS UNIFORMLY ATTAINED.

   BACKFILL DIRECTLY OVER THE PIPE TO A DEPTH OF TWO (2) FEET ABOVE THE PIPE SHALL BE HAND TAMPED ONLY. ABOVE THIS LEVEL, BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES IN LOOSE DEPTH, AND EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE FOLLOWING DENSITIES.
   - ABOVE TWO (2) FEET ABOVE THE CROWN OF THE PIPE IN UNIMPROVED AREAS - 90 PERCENT OF MAXIMUM DENSITY.
   - ABOVE TWO (2) FEET ABOVE THE CROWN OF THE PIPE IN AREAS TO BE PAVED (ROADWAY AND/OR SIDEWALK) - 95 PERCENT OF MAXIMUM DENSITY.
   - MAXIMUM DENSITY TO BE DETERMINED BY ASTM: D-1557.

8. THE MAXIMUM TOLERANCE FROM TRUE LINE AND GRADE SHALL BE AS FOLLOWS:
   - a. MAXIMUM DEVIATION FROM ESTABLISHED LINE AND GRADE SHALL NOT BE GREATER THAN 1/32 INCH PER INCH OF PIPE DIAMETER AND NO TO EXCEED ½ INCH PER PIPE LENGTH.
   - b. NO ADVERSE GRADE OR PONDING IN ANY PIPE LENGTH WILL BE PERMITTED.
   - c. THE DIFFERENCE IN DEVIATION FROM ESTABLISHED LINE AND GRADE BETWEEN TWO SUCCESSIVE JOINTS SHALL NOT EXCEED 1/3 OF THE AMOUNTS SPECIFIED ABOVE.

9. OPEN-CUT TRANSVERSE CROSSINGS OF ROADWAYS AFTER FINAL PAVING ARE NOT TO BE PERMITTED UNLESS IT CAN BE SHOWN THAT ALTERNATIVES SUCH AS JACKING, AUGURING OR TUNNELING ARE NOT FEASIBLE OR UNLESS THE UTILITY CAN BE INSTALLED JUST PRIOR TO RECONSTRUCTION OR AN OVERLAY OF THE ROAD. SHOULD AN OPEN CUT BE APPROVED, ALL TRANSVERSE TRENCHES SHALL BE BACKFILLED WITH CONTROLLED DENSITY FILL. TRANSVERSE CROSSINGS IN ROADWAY UNDER CONSTRUCTION WITH ATB APPLIED MAY BE BACKFILLED WITH CRUSHED ROCK.

10. CALL UNDERGROUND LOCATE LII1E 1-800-424-5555 A MINIMUM 48 HOURS PRIOR TO ANY EXCAVATIONS.

11. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

12. SANITARY SEWER STUB-OUTS ON EACH LOT SHALL BE LOCATED BY A WHITE 2X4 STAKE MARKED "SEWER" IN BLACK LETTERS. THE STAKE SHALL EXTEND ABOVE SURFACE LEVEL, BE VISIBLE, AND LOCATED AT THE END OF THE STUB-OUT. THE STUB-OUT SHALL NOT BE CONNECTED TO THE STAKE IN ANY MANNER.

13. 6" SANITARY PIPE FOR SEWER MAINS SHALL BE PVC SDR 35.

14. SANITARY SEWER FORCE MAIN SHALL BE EITHER HDPE PIPE OR D.I. AS APPROVED ON PLANS BY THE CITY ENGINEER.

15. ALL SANITARY SEWER SYSTEMS SHALL BE VIDEO INSPECTED 30 DAYS AFTER INSTALLATION TO ALLOW TIME FOR SETTLEMENT. VIDEO TAPE AND REPORT SHALL BE SUBMITTED TO THE CITY FOR REVIEW.

SMITH — STATE OF WASHINGTON — SIGNED: 09/19/17

BALLARD — STATE OF WASHINGTON — SIGNED: 09/19/17

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Bothell, WA 1.800.720.8052
22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CITY STANDARD UTILITY NOTES

ENGINEER: MRJF	SAVE DATE: Sep 18, 2017	CLIENT: SNQ	JOB NO.: 116-028
REVIEWED: ETS	PLOT DATE: Sep 19, 2017	FILENAME: WRF02-D-GEN_C04.DWG	

REVISIONS

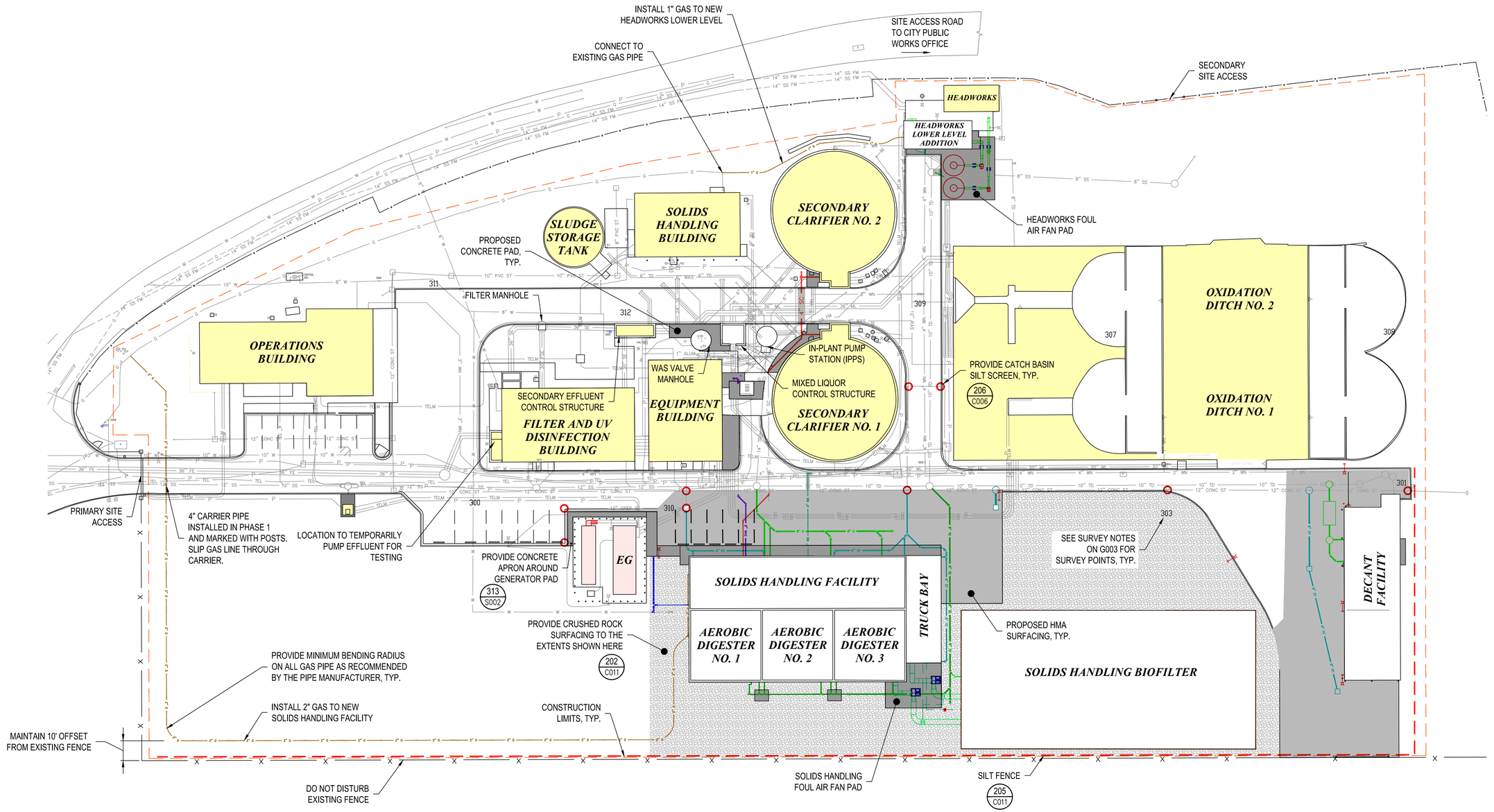
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C001 SHEET NO.: 6



GENERAL NOTES

1. CONSTRUCTION ACTIVITIES SHALL BE CONTAINED TO THE CONSTRUCTION LIMITS SHOWN ON THIS PLAN.
2. THE CONTRACTOR WILL BE ALLOWED TO USE EITHER THE PRIMARY OR SECONDARY ACCESS LOCATIONS AT THE DISCRETION OF THE OWNER.
3. THE CONTRACTOR SHALL MAINTAIN OWNER VEHICLE ACCESS FROM THE PRIMARY ENTRANCE TO THE HEADWORKS AREA AT ALL TIMES. IF ONE LEG OF THE INTERIOR LOOPED ACCESS ROAD IS CLOSED FOR CONSTRUCTION, THE OTHER LEG MUST REMAIN OPEN FOR OWNER VEHICLE ACCESS.
4. THE CONTRACTOR SHALL KEEP THE INTERIOR WRF ACCESS ROADS CLEAN AND FREE OF DEBRIS AT ALL TIMES. THE CONTRACTOR SHALL BE PREPARED TO USE MECHANICAL SWEEPING MACHINES TO MAINTAIN THE ROAD CLEANLINESS.
5. THE CONTRACTOR SHALL REPLACE ALL EXISTING GRAVEL SURFACING, HMA, CONCRETE CURB, GUTTER OR SIDEWALK THAT IS DISTURBED BY CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR MAY STOCKPILE OR STORE MATERIALS AND EQUIPMENT NEAR THE PROPOSED SOLIDS HANDLING FACILITY AND BIOFILTER OR NORTH OF THE OXIDATION DITCHES.
7. MAJOR TESC MEASURES ARE SHOWN HERE. CONTRACTOR IS RESPONSIBLE TO IMPLEMENT BMPS AS NECESSARY TO ENSURE STORMWATER AND SEDIMENT ARE NOT TRANSPORTED OFFSITE.
8. THE CONTRACTOR SHALL COORDINATE GAS PIPE CONNECTION AS WELL AS SERVICE LINE AND METER INSTALLATION WITH PSE. THE CONTRACTOR IS RESPONSIBLE FOR MEETING THE REQUIREMENTS SET BY PSE FOR ALL GAS PIPE WORK.
9. REPAIR GRASS DISTURBED BY GAS PIPE INSTALLATION WEST OF OPERATIONS BUILDING. PROVIDE TOP SOIL AND GRASS SEED TO REPAIR THIS AREA TO EXISTING OR BETTER CONDITION.

WRF PROPOSED SITE AND TESC PLAN

1" = 30'

EXISTING SURFACING OMITTED THIS SHEET FOR CLARITY.

SMITH WASHINGTON SECRETARY REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON — SIGNED: 09/19/17

RICHARD BALLARD REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WRF OVERALL PROPOSED SITE PLAN

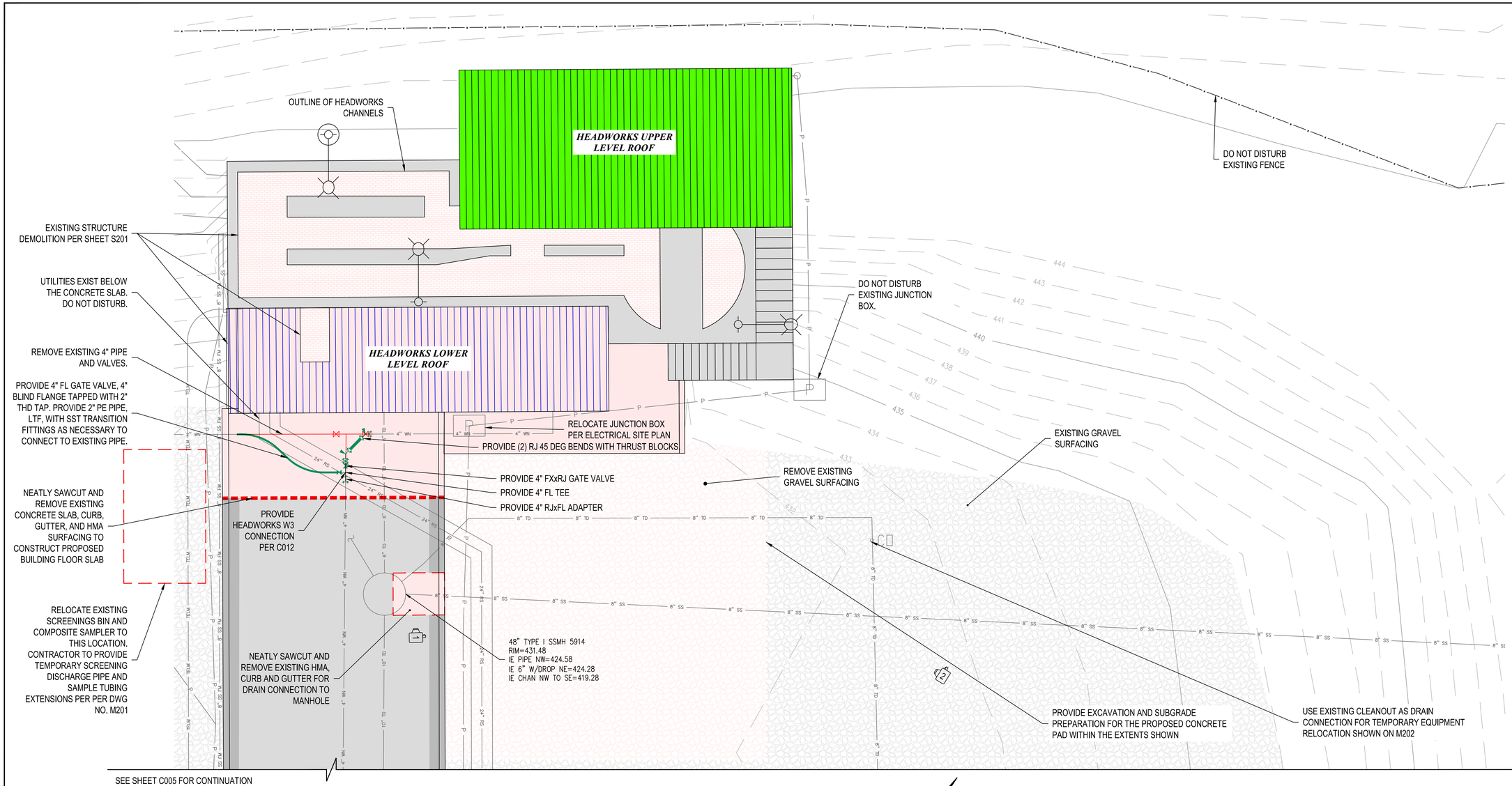
ENGINEER: MRJP
REVIEWED: ETS
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_C01.DWG
JOB NO.: 116-028

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C002
SHEET NO.: 7
158



HEADWORKS DEMOLITION AND UTILITY RELOCATION PLAN

1" = 5'

1

2

GENERAL NOTES

1. ITEMS SHOWN IN RED ARE TO BE COMPLETELY REMOVED AND DISPOSED OF.
2. EXISTING UTILITIES SHOWN HERE ARE PER THE ASBUILTS AND THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL POTHOLE PIPES, CONDUIT AND STRUCTURES AT ALL CROSSING OR CONNECTION LOCATIONS TO VERIFY EXISTING PIPE SIZE, MATERIAL AND LOCATION IN THE PRESENCE OF THE OWNER.
3. PROVIDE TEMPORARY WATER SERVICE TO HEADWORKS SCREENING SYSTEM AS NECESSARY TO MAINTAIN CONTINUOUS WATER SERVICE TO THIS EQUIPMENT.
4. REFER TO THE SPECIFICATIONS REGARDING PHASING OF THE HEADWORKS IMPROVEMENTS.
5. THE CITY WILL REQUIRE DAILY ACCESS TO THE SCREENING AND GRIT BASINS AND COMPOSITE SAMPLER AS WELL AS TO THE UPPER LEVEL OF THE HEADWORKS. CONTRACTOR SHALL NOT IMPEDE ACCESS.
6. RESTORE EXISTING GRAVEL SURFACING WHERE DISTURBED BY CONSTRUCTION ACTIVITIES.
7. SLOPE ALL FINISHED GRADING AT 3H:1V MAXIMUM WHERE TYING BACK TO EXISTING GRADE.

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SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

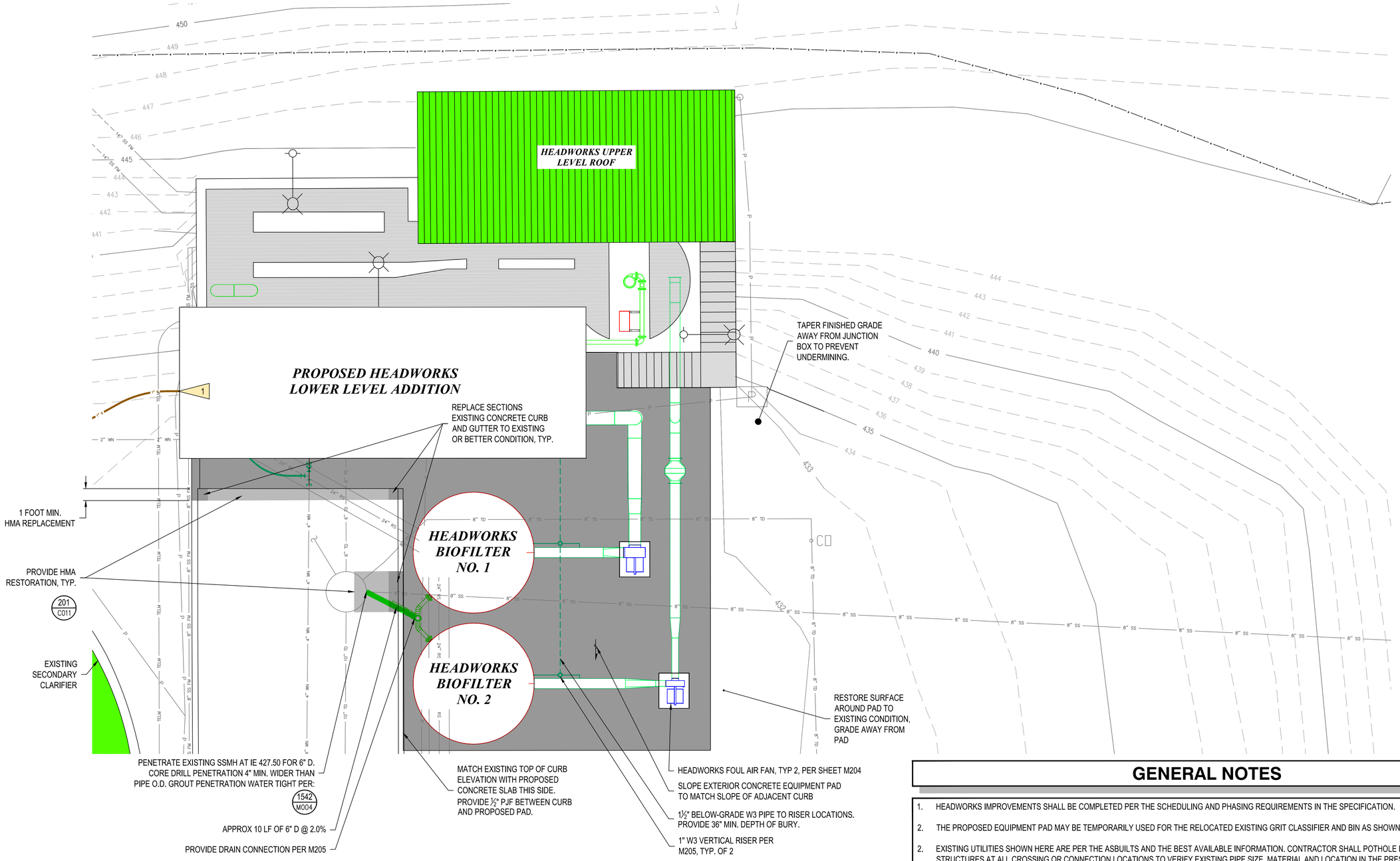
HEADWORKS EXISTING SITE PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_C01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C003
SHEET NO.: 8
158



HEADWORKS PROPOSED SITE PLAN

1" = 5'

EXISTING SURFACING OMITTED THIS SHEET FOR CLARITY.

GENERAL NOTES

1. HEADWORKS IMPROVEMENTS SHALL BE COMPLETED PER THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATION.
2. THE PROPOSED EQUIPMENT PAD MAY BE TEMPORARILY USED FOR THE RELOCATED EXISTING GRIT CLASSIFIER AND BIN AS SHOWN ON DWG NO. M202.
2. EXISTING UTILITIES SHOWN HERE ARE PER THE ASBUILTS AND THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL POTHOLE PIPES, CONDUIT AND STRUCTURES AT ALL CROSSING OR CONNECTION LOCATIONS TO VERIFY EXISTING PIPE SIZE, MATERIAL AND LOCATION IN THE PRESENCE OF THE OWNER.
3. EXACT LOCATIONS OF PROPOSED UTILITIES HAVE NOT BEEN GIVEN. THE CONTRACTOR SHALL USE EXISTING UTILITY POTHOLING INFORMATION, PROPOSED BUILDING CONNECTIONS AND ENGINEERING SCALE FROM THE SITE PLAN IN ORDER TO ROUTE PROPOSED UTILITIES.
4. CONTRACTOR TO VERIFY UTILITY PENETRATION LOCATIONS TO BUILDING PER MECHANICAL PLANS. SITE UTILITIES TO RUN PARALLEL AND PERPENDICULAR TO PROPOSED BUILDING WALLS.
5. HEAT TRACE AND INSULATE ALL EXPOSED W3 AND GRIT PIPING PER SPECIFICATIONS.
6. CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS TO PRESERVE EXISTING BELOW-GRADE UTILITIES DURING CONSTRUCTION.
7. THE EXTERIOR BIOFILTER AND FAN CONCRETE EQUIPMENT PAD SHALL BE COATED PER THE SPECIFICATIONS.

1 APPROXIMATE LOCATION OF PROPOSED GAS METERING EQUIPMENT. EQUIPMENT MAY BE EITHER MOUNTED ON A CONCRETE SLAB OR WALL MOUNTED PER THE REQUIREMENTS OF PUGET SOUND ENERGY (PSE). THE CONTRACTOR SHALL COORDINATE WITH PSE FOR ALL WORK RELATED TO THE GAS LINE EXTENSION IN ORDER TO ENSURE PROPER OPERATION OF THE PROPOSED EQUIPMENT.

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS PROPOSED SITE PLAN

REVISIONS

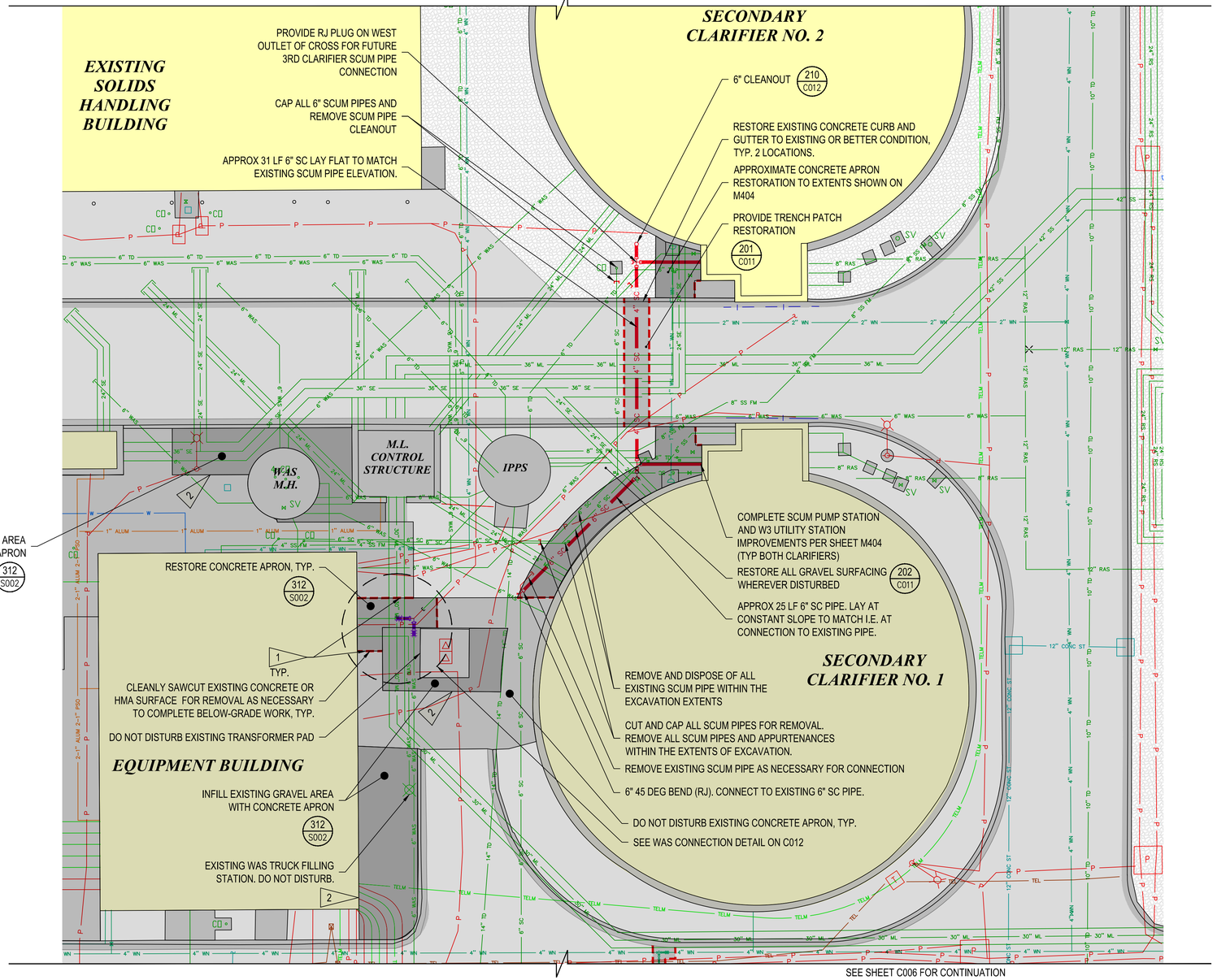
NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_C01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MJRF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C004
SHEET NO.: 9
158

SEE SHEET C004 FOR CONTINUATION



SEE SHEET C006 FOR CONTINUATION

OXIDATION DITCH AND SCUM PUMP STATION SITE PLAN

1" = 10'

GENERAL NOTES

1. WAS AND SCUM PUMP STATION IMPROVEMENTS SHALL BE COMPLETED PER THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATION.
2. EXISTING UTILITIES SHOWN HERE ARE PER THE ASBUILTS AND THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL POTHOLE PIPES, CONDUIT AND STRUCTURES AT ALL CROSSING OR CONNECTION LOCATIONS TO VERIFY EXISTING PIPE SIZE, MATERIAL AND LOCATION IN THE PRESENCE OF THE OWNER.
3. EXACT LOCATIONS OF PROPOSED UTILITIES HAVE NOT BEEN GIVEN. THE CONTRACTOR SHALL USE EXISTING UTILITY POTHOLING INFORMATION, PROPOSED BUILDING CONNECTIONS AND ENGINEERING SCALE FROM THE SITE PLAN IN ORDER TO ROUTE PROPOSED UTILITIES.
6. RESTORE EXISTING GRAVEL SURFACING WHERE DISTURBED BY CONSTRUCTION ACTIVITIES.

1. EMBED CONCRETE ANCHORS 12" O.C. INTO EXISTING CONCRETE SLAB AND CURBING AT INTERFACE WITH NEW CONCRETE ALL AROUND PRIOR TO INSTALLING NEW SLAB. EMBEDMENT PER: 302 S001
2. FOR NEW CONCRETE APRON INFILL LOCATIONS, EXCAVATE MIN. 6" BELOW APRON SUBGRADE FOR 6" CRUSHED SURFACING COMPACTED TO FIRM AND UNYIELDING CONDITION.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

OXIDATION DITCH AND SCUM PIPING SITE PLAN

ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-OX_C01.DWG
JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C005

SHEET NO.: 10

EXISTING TYPE 1 CB
RIM EL. = 431.06
IE 6" PVC (NW) = 426.11
IE 12" CONC (SW&NE) = 425.41
IE 12" CPEP (SE) = 426.23
ADJUST RIM TO MATCH NEW HMA

EXISTING TYPE 1 CB
EXISTING RIM EL. = 430.79
IE IN (SW) = 426.40
IE OUT (NW) = 426.30
LOWER RIM TO 430.50
PROP. IE. 6" ST SE (IN) = 426.50

209 C012 PROVIDE EXTERNAL DROP CONNECTION

ALL 8" DR AT MIN. 2.0% SLOPE

6" WAS EXTENSION, PROVIDE:
(2) - 6" 45 DEG BENDS (RJ) WITH THRUST BLOCKS
MATCH EXISTING WAS PIPE ELEVATION.
LAY FLAT TO NEW BUILDING.

48" TYPE I SSMH
RIM=430.82
IE 12" DI SE=427.47
(REMOVE PIPE, GROUT PLUG PENETRATION WATER TIGHT)
TOP WEIR NE (FOR DROP)=416.82
PIPE (W/ DROP)=416.32
IE CHAN SW/NE TO NW=410.46
W/ 14" TD NW TO IPPS
I.E. PROP. 8" D (SE) = 422.00

4" SCUM EXTENSION, PROVIDE:
(1) - 6"x4" REDUCER (RJxRJ)
(2) - 4" 45 DEG BENDS (RJxRJ) WITH THRUST BLOCKS
MATCH EXISTING WAS PIPE ELEVATION.
LAY FLAT TO NEW BUILDING.

4" W3 CONNECTION PER C012. MATCH EXISTING W3 (NPW) PIPE ELEVATION.
LAY FLAT TO NEW BUILDING.

EXISTING TYPE II CB
RIM=430.34
IE 12" EX. CONC NW
IE 12" EX. CONC SW=423.25
IE 12" EX. CONC NE (OUT)=422.96
PROP. IE 6" ST SE (IN)=426.00

48" TYPE I SSMH 3774
RIM=430.40
IE CHAN NE TO SW=417.90
I.E. 8" TD SE = 418.00
RE-CHANNELIZE MANHOLE FOR NEW PENETRATION

REMOVE EXISTING CONCRETE CURB AND GUTTER

PROVIDE 8" 45 DEG BEND
IE 418.25

SEE SHEET C005 FOR CONTINUATION

SAWCUT HMA ENTIRE LENGTH TO PROVIDE CLEAN EDGE

REMOVE EXISTING HMA

8" DI WYE (MJ), TYP OF 2.

8" DI WYE (MJ)
IE 423.15

8" DI WYE BEND (MJ)
IE 423.70

TYPE II CB (SADDLE-STYLE) 235 C013
RIM = 430.07
IE 12" CONC. IN (E) = 422.41
IE 12" CONC. OUT (W) = 422.39
IE 12" CPEP IN (S) = 425.50

APPROX 6 LF OF 12" CPEP AT MIN. 2.0% SLOPE

TYPE 1 CB PER WSDOT STD. PLAN B-5.60-01
RIM 429.50'
IE 12" CPEP OUT = 425.62

ROTATE FITTINGS AS NECESSARY TO MATCH INCOMING PIPE GRADE, TYP OF 4.

FIRE HYDRANT ASSEMBLY PER CITY STANDARD DETAILS LOCATED AT BACK OF WALKWAY

EXISTING GENERATOR

8" DI 45 DEG BEND (MJ)
IE 422.25

8" DI 45 DEG BEND (MJ)
IE 422.55

DWV PER MINOR MECHANICAL PLANS

PROVIDE MJ TRANSITION GASKET TO DWV PIPE ALL LOCATIONS

RDT EQUIPMENT DRAIN

ROOF DOWNSPOUT CONNECTION (TYP OF 6)

CENTRIFGUE EQUIPMENT DRAIN 211 C012

ALL 6" AT MIN. 2.0% SLOPE

8" CLEANOUT 210 C012

DWV PER MINOR MECHANICAL PLANS

8"x6" DI REDUCER (RJxRJ)

20'

2" W1

W1 SYSTEM, PROVIDE:
2" SADDLE TAP
2" SST THD NIPPLE
2" DI GATE VALVE
2" PE PIPE TO BUILDING
LOCATE TAP TO ACHIEVE PIPE ALIGNMENT IN BUILDING

8" 90° ELBOW WITH THRUST BLOCK

REMOVE EXISTING WATERMAIN, CAP AND THRUST BLOCK

EXTEND 2" GAS TO NEW BUILDING

10'

PROPOSED SOLIDS HANDLING FACILITY

ALL 8" TD AT MIN. 2.0% SLOPE

ROOF OUTLINE, TYP.

SOLIDS HANDLING SYSTEM BIOFILTER

PROVIDE 8" WYE
IE 420.00

2.5' OFFSET FROM BUILDING (TYP)

SEE SHEET C008 FOR CONTINUATION

DIGESTER DRAIN VAULT NO. 1

DIGESTER DRAIN VAULT NO. 2

FOUL AIR FAN EQUIPMENT PAD PER S801

PROVIDE 8" 45 DEG MJ BEND
IE 420.35

PROVIDE 8" WYE
IE 420.25

210 C012 PROVIDE 8" CLEANOUT

GENERAL NOTES

1. SOLIDS HANDLING IMPROVEMENTS SHALL BE COMPLETED PER THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATION.
2. EXISTING UTILITIES SHOWN HERE ARE PER THE ASBUILTS AND THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL POTHOLE PIPES, CONDUIT AND STRUCTURES AT ALL CROSSING OR CONNECTION LOCATIONS TO VERIFY EXISTING PIPE SIZE, MATERIAL AND LOCATION IN THE PRESENCE OF THE OWNER.
3. EXACT LOCATIONS OF PROPOSED UTILITIES HAVE NOT BEEN GIVEN. THE CONTRACTOR SHALL USE EXISTING UTILITY POTHOLING INFORMATION, PROPOSED BUILDING CONNECTIONS AND ENGINEERING SCALE FROM THE SITE PLAN IN ORDER TO ROUTE PROPOSED UTILITIES.
4. CONTRACTOR TO VERIFY UTILITY PENETRATION LOCATIONS TO BUILDING PER MECHANICAL PLANS. INCLUDES, BUT IS NOT LIMITED TO: SC, WAS, DR, ST, W1, W3, GAS, TD. SITE UTILITIES TO RUN PARALLEL AND PERPENDICULAR TO PROPOSED BUILDING WALLS.
6. RESTORE EXISTING GRAVEL SURFACING WHERE DISTURBED BY CONSTRUCTION ACTIVITIES.

1 APPROXIMATE LOCATION OF PROPOSED GAS METERING EQUIPMENT. EQUIPMENT MAY BE EITHER MOUNTED ON A CONCRETE SLAB OR WALL MOUNTED PER THE REQUIREMENTS OF PUGET SOUND ENERGY (PSE). THE CONTRACTOR SHALL COORDINATE WITH PSE FOR ALL WORK RELATED TO THE GAS LINE EXTENSION IN ORDER TO ENSURE PROPER OPERATION OF THE PROPOSED EQUIPMENT.

SOLIDS HANDLING FACILITY DEMOLITION AND UTILITY PLAN

1" = 10'

PROPOSED SURFACING OMITTED THIS SHEET FOR CLARITY.

SCALE: SHOWN
0' 1' 2'
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING FACILITY UTILITY PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_C02.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRF
REVIEWED: ETS

DWG NO.: C006
SHEET NO.: 11

EXISTING TYPE 1 CB
EXISTING RIM EL. = 430.79
LOWER RIM TO 430.50

FG 430.82 (EXISTING)

FG 430.65

FG 430.69 (EXISTING)

PROVIDE CONSTANT SLOPE ALONG VALLEY

FG 430.49 (EXISTING)

EXISTING TYPE II CB
RIM=430.34
REPLACE GRATED INLET WITH STANDARD MANHOLE RING AND COVER. PROVIDE CIRCULAR ADJUSTMENT RINGS AS NECESSARY TO SET WITH FINISHED GRADE.

UNKNOWN EXISTING CONCRETE STRUCTURE SOUTH OF CATCH BASIN TO BE REMOVED

SEE SHEET C005 FOR CONTINUATION

FG 430.19 (EXISTING)

PROPOSED ASPHALT TO MATCH EXISTING ASPHALT ELEVATION (TYP)

TYPE II CB)
RIM = 430.07

TYPE 1 CB
RIM 429.50
WRAP THICKENED EDGE OF ASPHALT AROUND EAST SIDE OF CATCHBASIN RIM

HMA SURFACING 201 C011

THICKENED ASPHALT EDGE, TYP. SE AND NE SIDES HMA PAD. 203 C011

PROVIDE MINOR GRADING ALONG ASPHALT TO MATCH EXISTING GRADE

PROVIDE CONTINUOUS SLOPE ALONG EDGE OF ASPHALT TIE-IN WITH EXISTING

FG 431.00
N: 199457.31
E: 1394453.52
CORNER OF HMA

PROVIDE CONCRETE APRON TO INFILL AROUND GENERATOR SLAB PER C002

FG 431.48

APRON ELEVATION TO MATCH TOP OF EXISTING GENERATOR SLAB (TYP)

TAPER GRAVEL FLUSH WITH BACK OF APRON

EXISTING GENERATOR

9'-0"

18'-0"

2'-0"

1.0% MIN.

2% (TYP)

2%

2%

5'

FG 430.88

FG 431.00
N: 199381.12
E: 1394289.25
CORNER OF BUILDING

PROVIDE PRECAST 4.5" TALL, 72" LONG PRECAST CONCRETE WHEEL STOP (TYP OF 5)

PROVIDE 4" WIDE, WHITE PAINTED PARKING STALL STRIPING

RIDGE
FG 430.88

CONCRETE APRON 312 S002

FG 430.88
(TYP FRONT OF BUILDING)

FG 430.88

FG 431.00
N: 199460.78
E: 1394409.21
CORNER OF BUILDING

FG 431.00

PROPOSED SOLIDS HANDLING FACILITY

SOLIDS HANDLING SYSTEM BIOFILTER

ROOF OUTLINE, TYP.

SEE SHEET C008 FOR CONTINUATION

FG 431.00
N: 199321.14
E: 1394329.08
CORNER OF DIGESTER

FG 431.00
N: 199389.73
E: 1394432.39
CORNER OF DIGESTER

DIGESTER DRAIN VAULT NO. 1

DIGESTER DRAIN VAULT NO. 2

SOLIDS HANDLING FACILITY PROPOSED GRADING AND STORMWATER UTILITY PLAN

1" = 10'

EXISTING SURFACING OMITTED THIS SHEET FOR CLARITY.

GENERAL NOTES

1. SOLIDS HANDLING IMPROVEMENTS SHALL BE COMPLETED PER THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATION.
2. RESTORE EXISTING GRAVEL SURFACING WHERE DISTURBED BY CONSTRUCTION ACTIVITIES.

1 FOR NEW CONCRETE APRON INFILL LOCATIONS, EXCAVATE MIN. 6" BELOW APRON SUBGRADE FOR 6" CRUSHED SURFACING COMPACTED TO FIRM AND UNYIELDING CONDITION.

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BALLARD — 1985 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING FACILITY GRADING PLAN

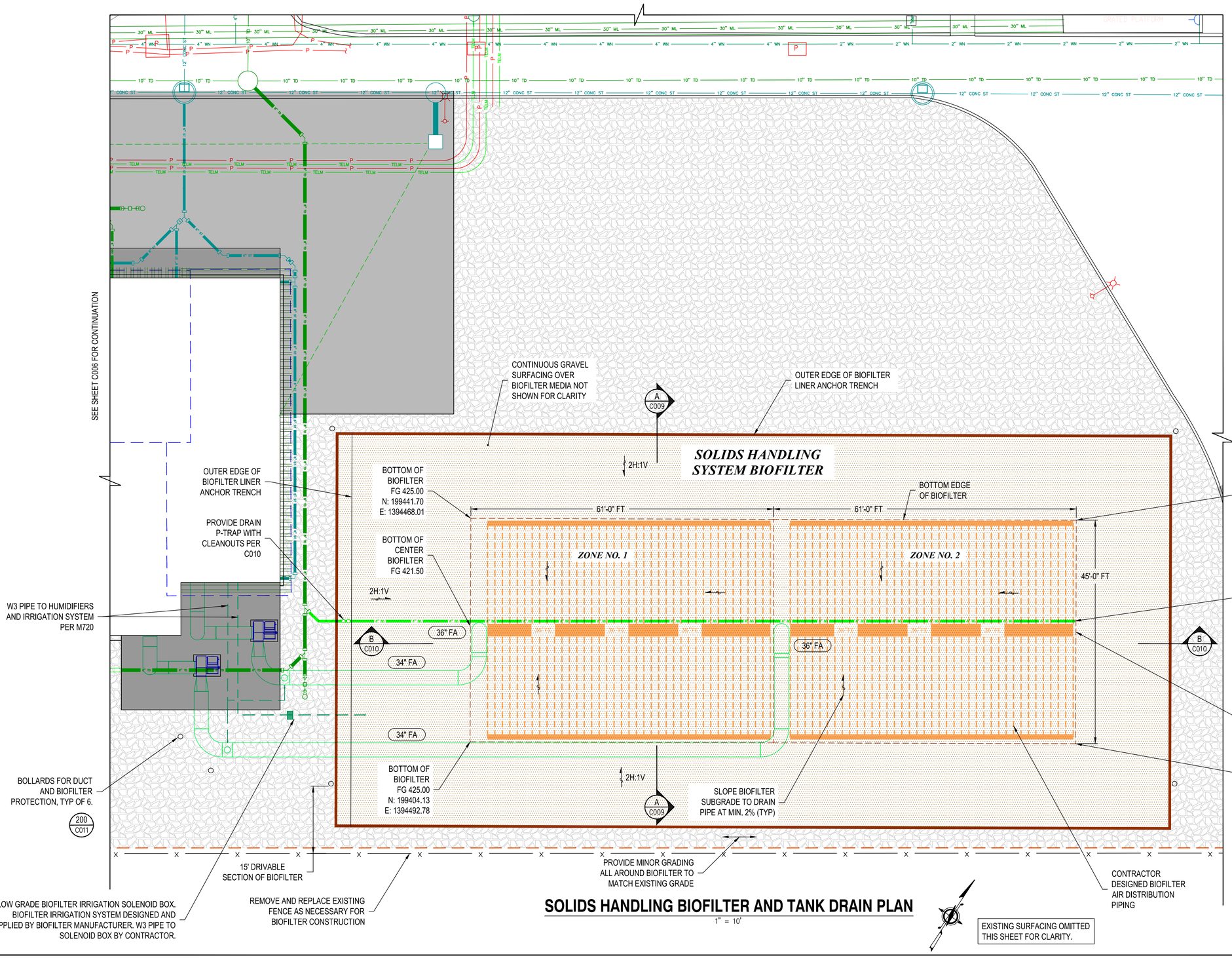
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_C02.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C007
SHEET NO.: 12
158



SOLIDS HANDLING BIOFILTER AND TANK DRAIN PLAN

1" = 10'

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STATE OF WASHINGTON
SCOTT D.
SMITH
23585
REGISTERED PROFESSIONAL ENGINEER
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BALLARD
STATE OF WASHINGTON
RICHARD
BALLARD
21826
REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BIOFILTER SITE PLAN

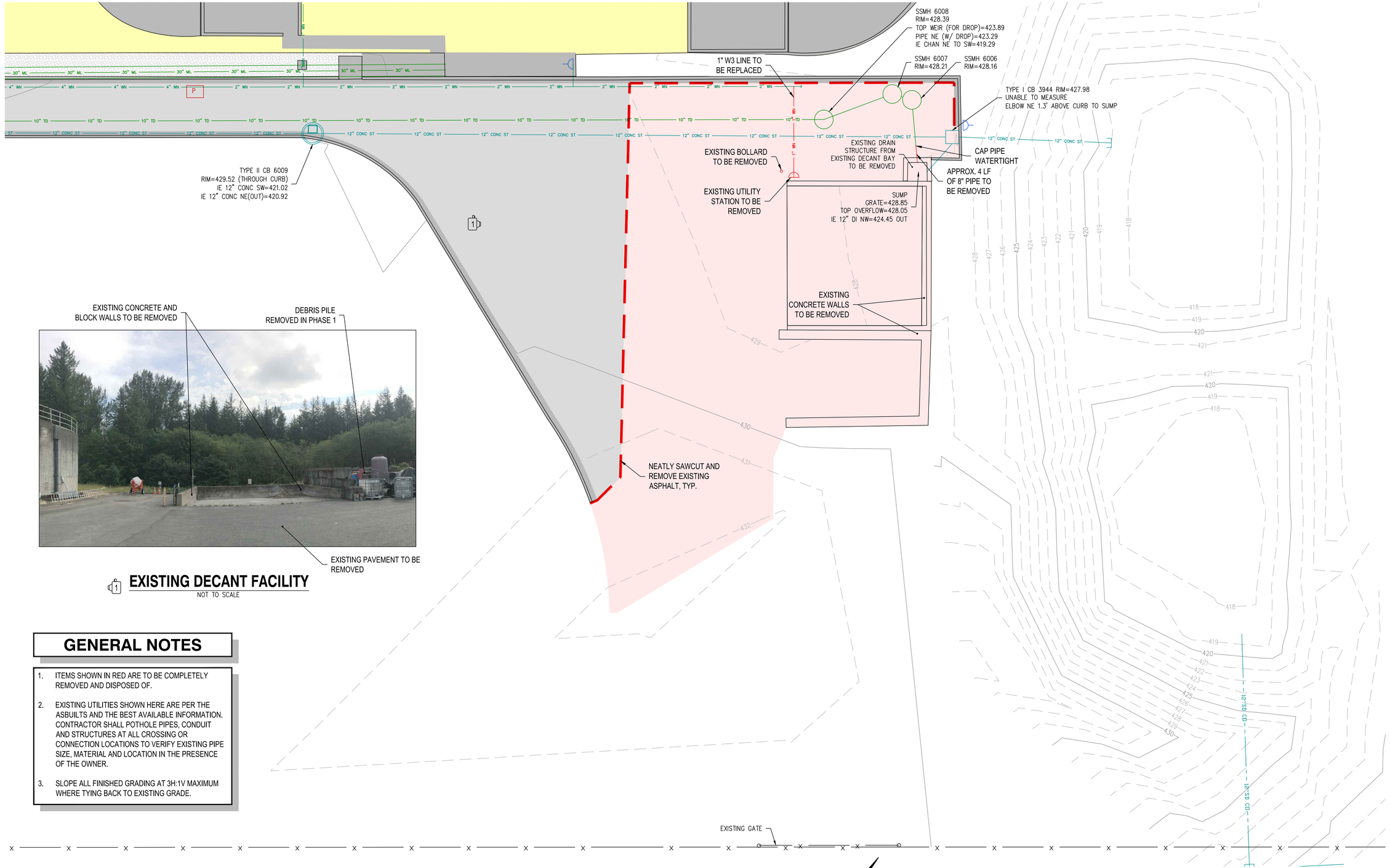
REVISIONS

NO.	DESCRIPTION	DATE	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_C002.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C008
SHEET NO.: 13
158



1 EXISTING DECANT FACILITY

NOT TO SCALE

GENERAL NOTES

1. ITEMS SHOWN IN RED ARE TO BE COMPLETELY REMOVED AND DISPOSED OF.
2. EXISTING UTILITIES SHOWN HERE ARE PER THE ASBUILTS AND THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL POTHOLE PIPES, CONDUIT AND STRUCTURES AT ALL CROSSING OR CONNECTION LOCATIONS TO VERIFY EXISTING PIPE SIZE, MATERIAL AND LOCATION IN THE PRESENCE OF THE OWNER.
3. SLOPE ALL FINISHED GRADING AT 3H:1V MAXIMUM WHERE TYING BACK TO EXISTING GRADE.

DECANT FACILITY SITE DEMOLITION PLAN

1" = 10'

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WRF PHASE 2 IMPROVEMENTS

DECANT FACILITY DEMOLITION PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DCT_C01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

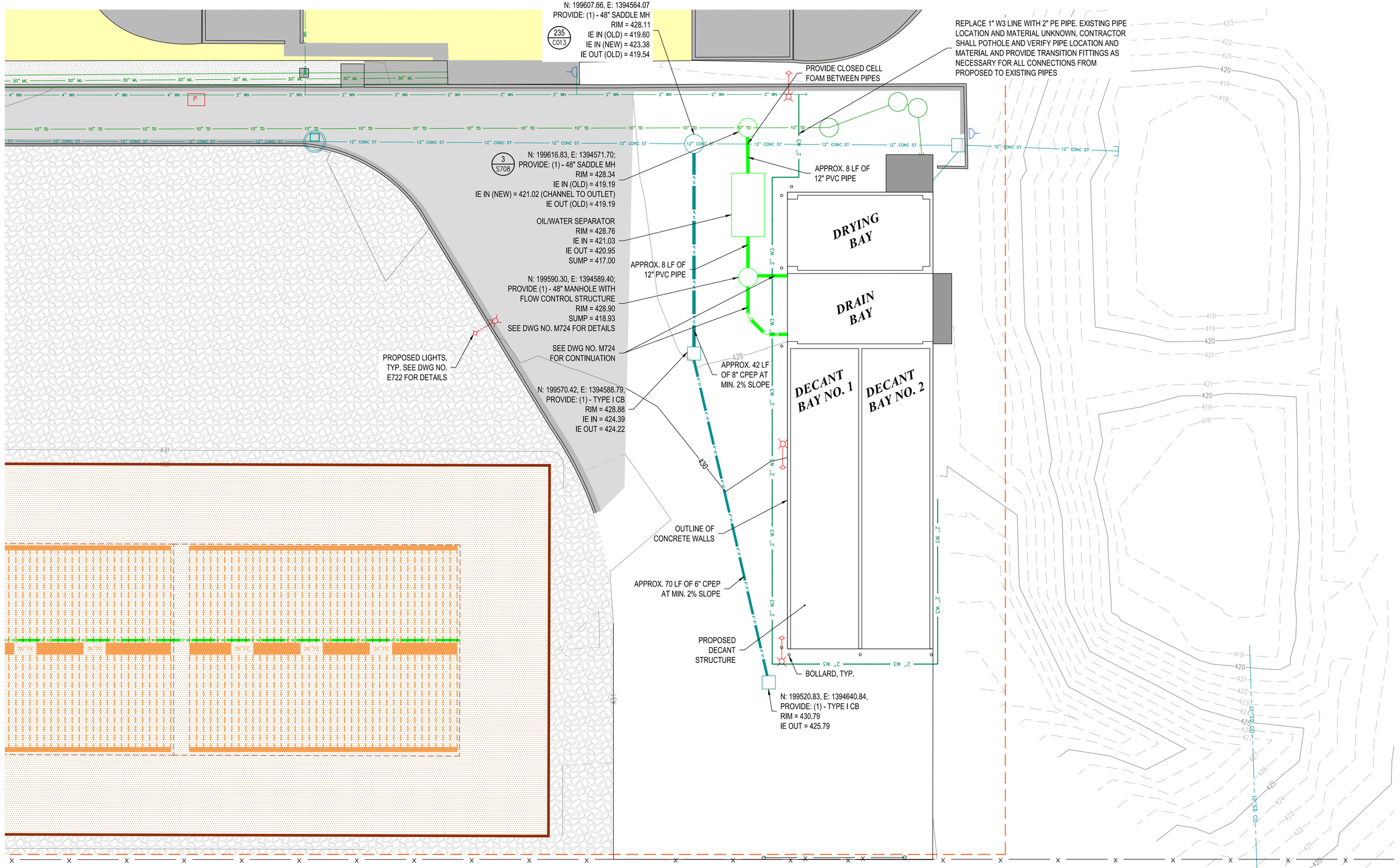
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C014
SHEET NO.: 14



DECANT FACILITY UTILITY PLAN

1" = 10'

PROPOSED SURFACING OMITTED THIS SHEET FOR CLARITY.

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DECANT FACILITY UTILITY PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-DCT_C01.DWG
JOB NO.: 116-028

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C015

SHEET NO.: 15

MATCH FG AT EXISTING CURB AND GUTTER, TYP.

ADJUST EXISTING MH RIM AS NECESSARY TO MATCH FINISHED GRADE, TYP. EX. MH'S

TYPE I CB 3944 RIM=427.98
UNABLE TO MEASURE ELBOW NE 1.3' ABOVE CURB TO SUMP

TYPE II CB
RIM = 428.11'
N: 199606.86
E: 1394574.20

10'x8' STORAGE SHED, LIFETIME MODEL # 60005ASM OR EQUAL ON CONCRETE PAD

313
S002

N: 199595.61
E: 1394581.67

FG 428.5

FG 428.6

FG 428.2
N:199628.24
E: 1394612.18

FG 429.0

DRYING BAY

CONCRETE RAMP, TYP.

DRAIN BAY

FG 429.0

TYPE I CB
RIM = 428.88

MATCH EXISTING GRADE, TYP.

DECANT BAY NO. 1

DECANT BAY NO. 2

FG 430.6

FG 431.0

FG 431.0
N: 199546.16
E: 1394666.03

FG 431.0

FG 430.9

TYPE I CB
RIM = 430.79

PROVIDE CONSTANT SLOPE ALONG VALLEY LINE, TYP.

THICKENED EDGE
203
C011

THICKENED EDGE
203
C011

FG 431.0

FG 431.0

THICKENED EDGE
203
C011

DECANT FACILITY GRADING PLAN

1" = 10'

SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

DECANT FACILITY GRADING PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DCT_C01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C016
SHEET NO.: 16
158

A 2" GAS CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. POWER	432.80	431.80	0.82
EX. 10" WATER	425.09	432.31	6.33
EX. 36" FE	417.69	431.62	10.82
EX. POWER	432.00	431.00	0.82
EX. TEL	432.00	431.00	0.82
EX. 12" SS	421.17	431.46	9.23
EX. POWER/TELEM	432.30	431.30	0.82
2" W1	425.75	431.45	5.50

B 4" SCUM SOUTH CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
8" D	422.18	427.00	4.08
EX. POWER/TELEM	428.60	427.00	1.25
6" WAS	427.45	427.00	0.05
6" STORM	428.42	427.00	1.02

NOTE:
PROPOSED SCUM PIPING IS REPLACING EXISTING SCUM PIPING.
EXISTING PIPE ELEVATIONS TO BE VERIFIED IN THE FIELD.

C 4" SCUM NORTH CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. 24" SE	425.62	429.00	1.02
EX. 6" TD	416.53	429.00	11.90
EX. 36" ML	420.42	429.00	5.17
EX. 36" SE	425.26	429.00	0.33
EX. 6" WAS	427.85	429.00	0.37
EX. POWER	429.50	429.00	0.15
EX. 8" SS FM	431.33	429.00	1.92
EX. 6" TD	416.53	429.00	11.90
EX. 24" SE	425.73	429.00	0.91
POWER	429.50	429.00	0.12
EX. 24" ML	417.06	429.00	9.58

NOTE:
PROPOSED SCUM PIPING IS REPLACING EXISTING SCUM PIPING.
EXISTING PIPE ELEVATIONS TO BE VERIFIED IN THE FIELD.

D 4" W3 CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. POWER/TELEM	428.45	427.18	0.92
6" STORM	427.68	427.18	-1.07

UTILITY CROSSING NOTES

1. CROSSING UTILITY TABLES HAVE BEEN DEVELOPED FOR EACH PROPOSED BELOW-GRADE PIPE ON THE PROJECT. REFER TO THE LEGEND BELOW FOR EACH PIPE TABLE.
2. EXISTING UTILITIES HAVE NOT BEEN POTHOLED AND DEPTHS ARE ESTIMATES BASED ON AVAILABLE AS-BUILTS.
3. CONTRACTOR SHALL PROVIDE ETHAFOAM 220 PAD BETWEEN PIPES WITH CLEARANCES LESS THAN 6".
4. "PIPE IE" DENOTES THE INVERT ELEVATION OF THE PROPOSED PIPE AT EACH SPECIFIC CROSSING LOCATION. "CROSSING IE" DENOTES THE INVERT OF THE CROSSING UTILITY.
5. UTILITY CROSSINGS AREA GENERALLY LISTED FROM NORTH TO SOUTH AND FROM WEST TO EAST.
6. CROSSINGS OF TWO PROPOSED UTILITIES ARE NOT DUPLICATED WITHIN THE TABLES.

E 6" WAS CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. POWER/TELEM	428.60	427.45	0.63
6" STORM	428.39	427.45	-1.52

F 6" STORM CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. POWER/TELEM	428.10	425.25	2.33
6" DRAIN	423.95	425.82	1.30

G 6" STORM CROSSINGS

UTILITY	UTILITY	UTILITY	UTILITY
6" WAS	427.45	427.39	-0.64
4" SCUM	427.00	427.42	0.02

H 8" DRAIN CROSSINGS

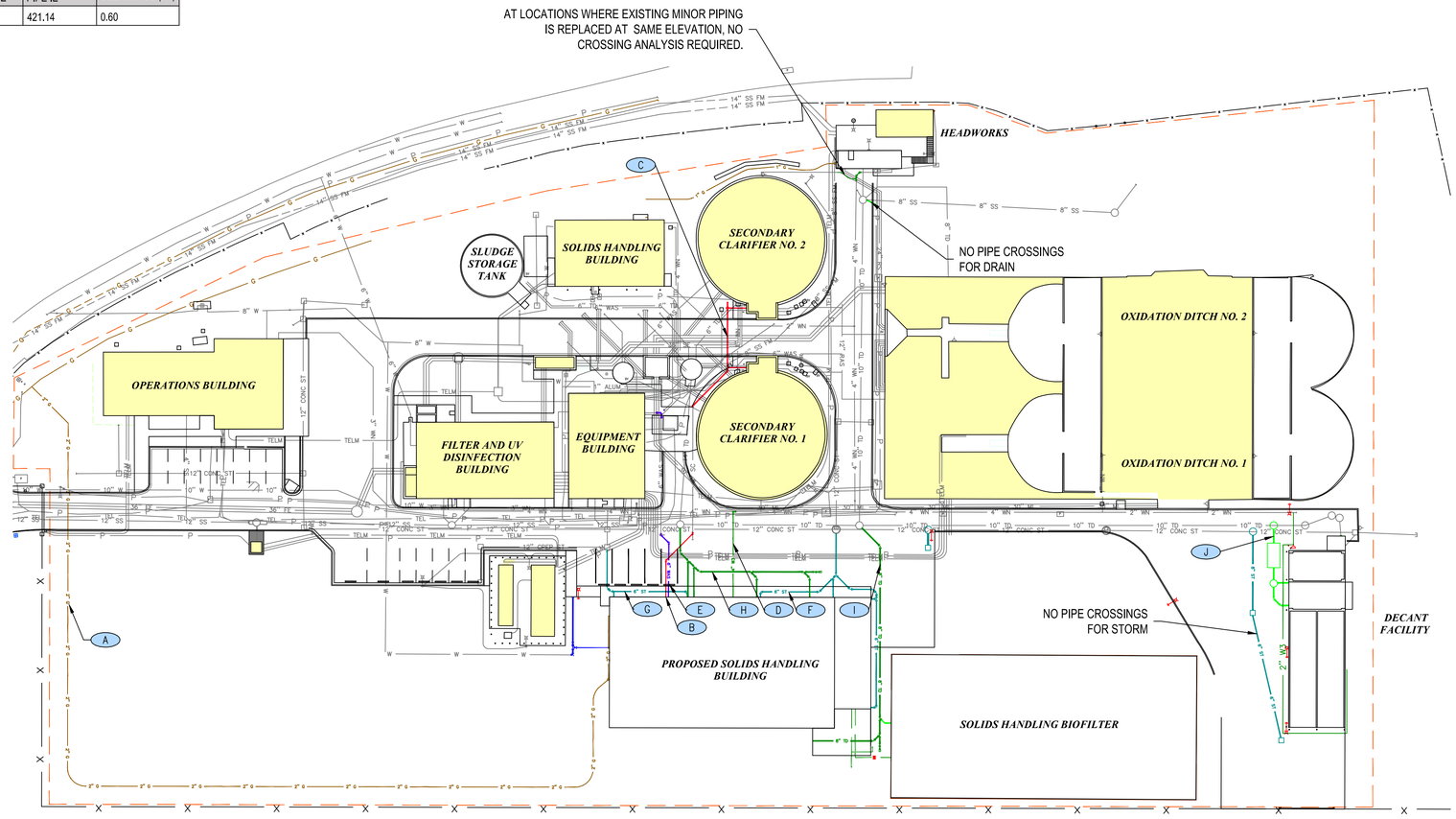
UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. POWER/TELEM	428.60	422.25	5.66
4" W3	427.18	422.92	3.52
6" STORM	428.18	423.95	3.48

I 8" TANK DRAIN CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
EX. POWER/TELEM	428.10	418.36	9.05

J 12" TD CROSSINGS

UTILITY	CROSSING IE	PIPE IE	CLEARANCE (FT)
12" STM	419.39	421.14	0.60



UTILITY CROSSINGS LEGEND

1" = 40'

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

UTILITY CROSSING TABLES

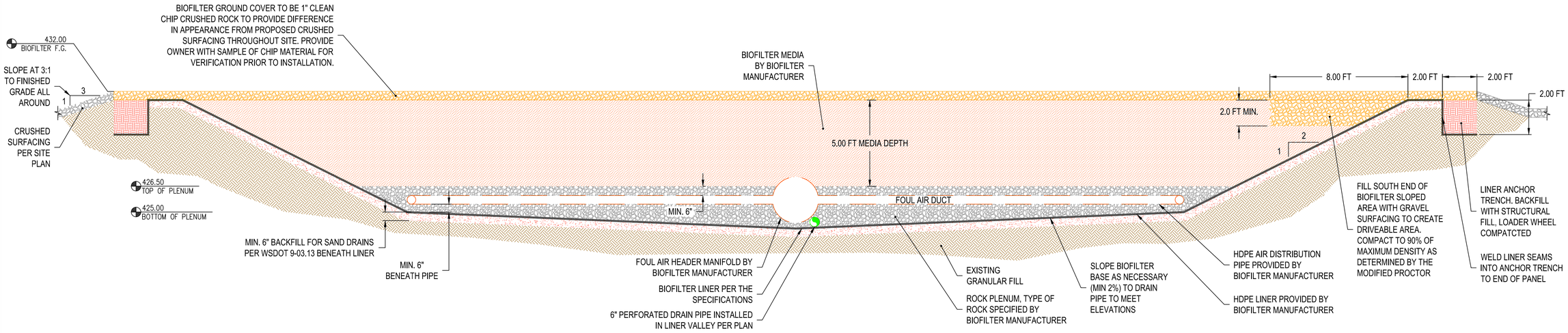
ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 20, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_C03.DWG
JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C017
SHEET NO.: 17
158



BIOFILTER SECTION

A C008

1" = 3'

IRRIGATION PIPE NOT SHOWN.
IRRIGATION SYSTEM TO BE DESIGNED BY BIOFILTER MANUFACTURER

SIGNED: 09/19/17

SIGNED: 09/19/17

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www.rh2.com
22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

BIOFILTER SECTIONS

ENGINEER: PY
REVIEWED: ETS
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_C05.DWG
JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

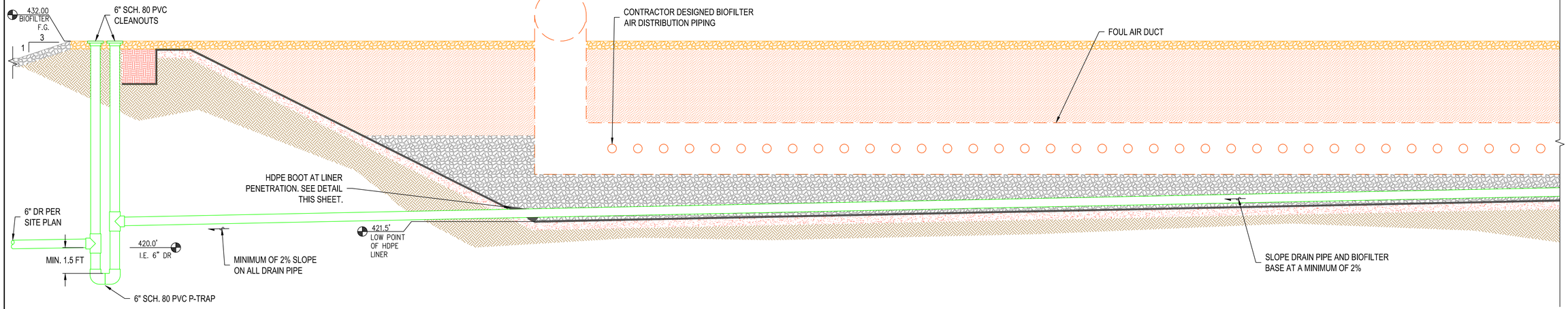
SCALE: SHOWN

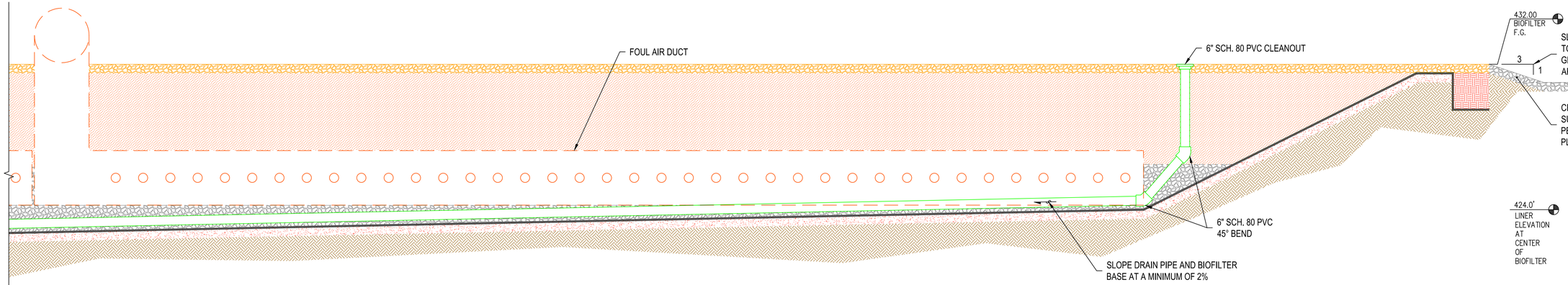
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C009

SHEET NO.: 18

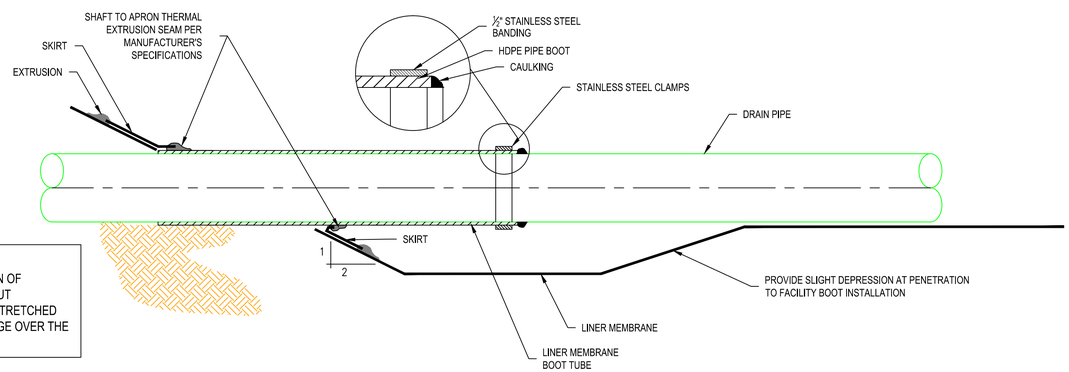




BIOFILTER SECTION

B / C008

1" = 3'



NOTES:

1. HOLE FOR PENETRATION OF MEMBRANE SHALL BE CUT UNDERSIZED SO THAT STRETCHED LINER FORMS A 1" FLANGE OVER THE PIPE.

LINER PENETRATION DETAIL

NOT TO SCALE

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

BIOFILTER SECTIONS II

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

ENGINEER: PY
REVIEWED: ETS
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_C05.DWG
JOB NO.: 116-028

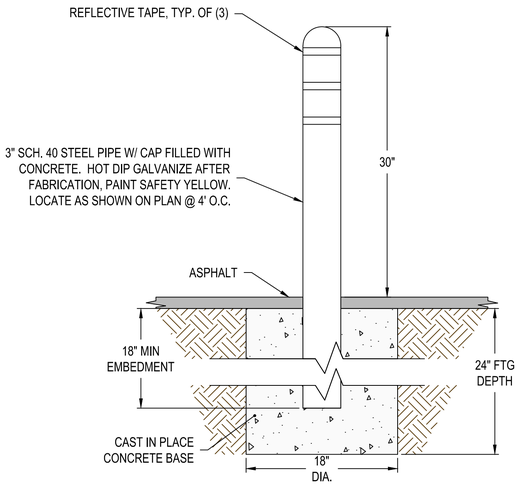
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C010

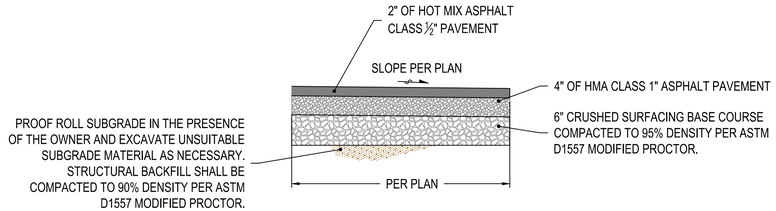
SHEET NO.: 19



TYPICAL BOLLARD DETAIL

200 TYP.

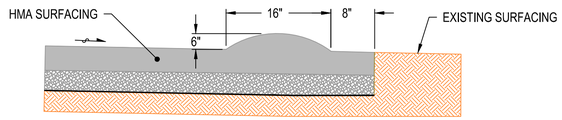
NOT TO SCALE



ROAD AND TRENCH RESTORATION SURFACING

201 TYP.

NOT TO SCALE

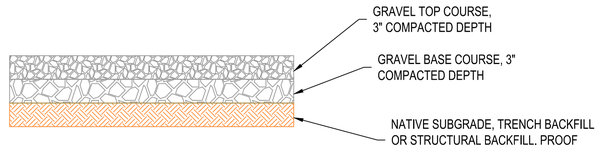


ASPHALT PAVEMENT RAISED EDGE

203 TYP.

NOT TO SCALE

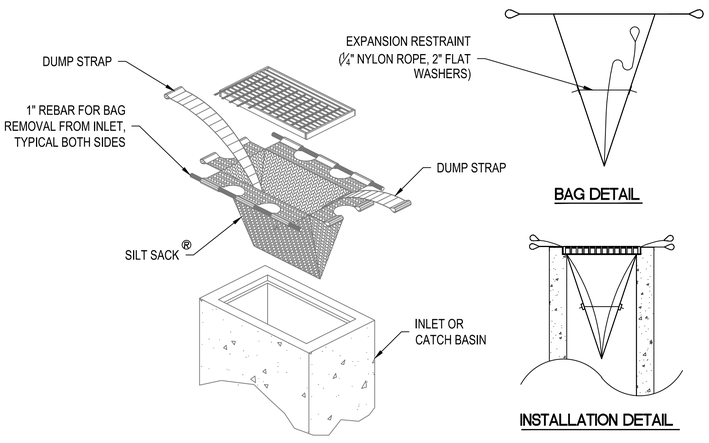
GRAVEL SURFACE NOTES:
NATIVE SUBGRADE, GRAVEL BASE COURSE AND GRAVEL TOP COURSE SHALL BE COMPACTED TO FIRM AND UNYIELDING CONDITION.



GRAVEL SURFACE DETAIL

202 TYP.

NOT TO SCALE



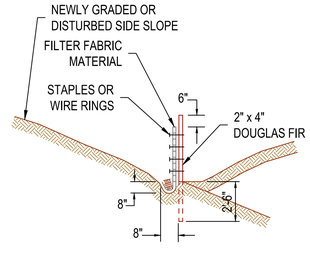
BAG DETAIL

INSTALLATION DETAIL

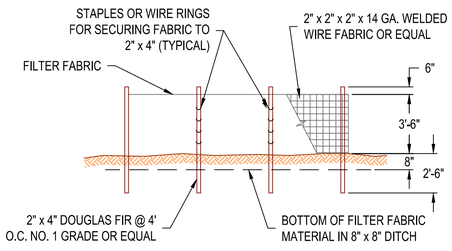
STORM DRAIN SILT SCREEN DETAIL

204 TYP.

NOT TO SCALE



CROSS SECTION



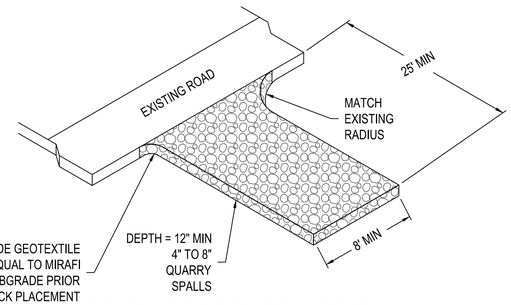
ELEVATION

SILT FENCE NOTES:
1. WHERE POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
2. TEMPORARY SILTATION SHALL BE CONSTRUCTED BY PLACING FILTER FABRIC FENCES ACROSS SWALES UTILIZING FILTER SYSTEM PRIOR TO DISCHARGE.
3. ALL TEMPORARY SILTATION FENCING SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND SURFACE RESTORATION HAS BEEN COMPLETED AND VEGETATION IS STABILIZED.
4. RETURN SILTATION CONTROL AREAS TO ORIGINAL GROUND CONDITIONS, UNLESS SPECIFICALLY DIRECTED OTHERWISE BY THE CITY.

SILT FENCE

205 TYP.

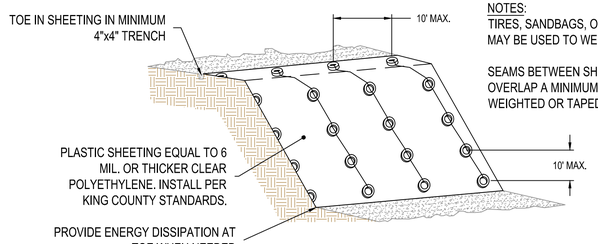
NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE DETAIL

206 TYP.

NOT TO SCALE



NOTES:
TIRES, SANDBAGS, OR EQUIVALENTS MAY BE USED TO WEIGHT PLASTIC

SEAMS BETWEEN SHEETS MUST OVERLAP A MINIMUM OF 12" AND BE WEIGHTED OR TAPED

PLASTIC COVERING

207 TYP.

NOT TO SCALE

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SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SITE AND UTILITY DETAILS 1

ENGINEER: MRJF	SAVE DATE: Sep 18, 2017	CLIENT: SNQ	JOB NO.: 116-028
REVIEWED: ETS	PLOT DATE: Sep 19, 2017	FILENAME: WRF02-D-GEN_C04.DWG	

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

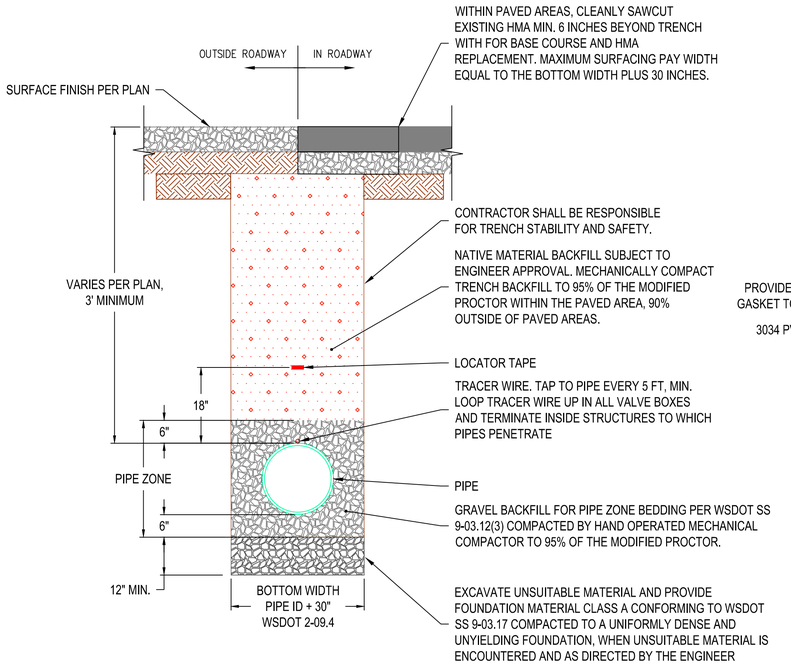
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C011

SHEET NO.: 20

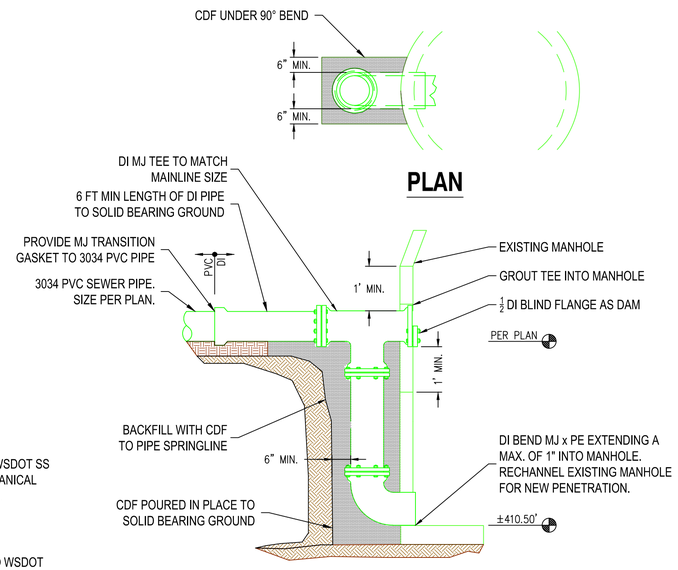


PIPE TRENCH DETAIL

208 TYP.

NOT TO SCALE

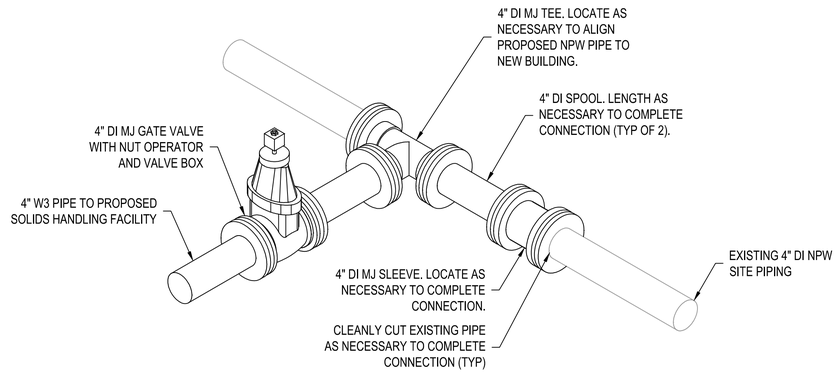
NOTE: GAS PIPE SHALL BE INSTALLED PER THE REQUIREMENTS OF PSE.



EXTERNAL DROP CONNECTION

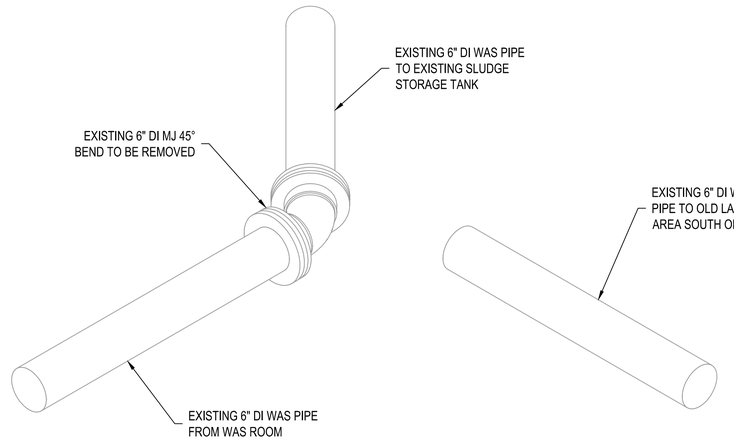
209 TYP.

NOT TO SCALE

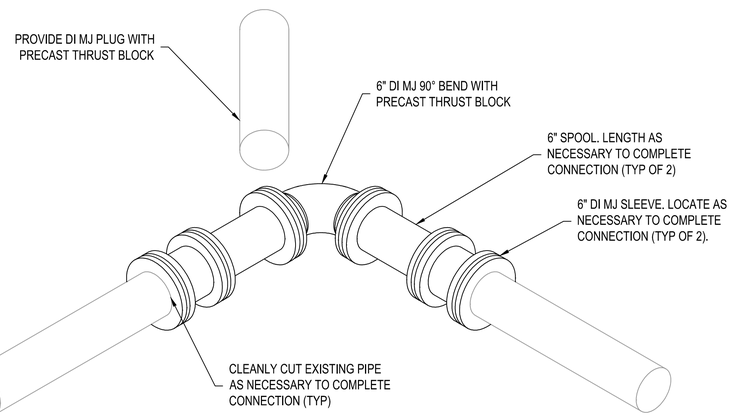


SITE W3 CONNECTION DETAIL

NOT TO SCALE



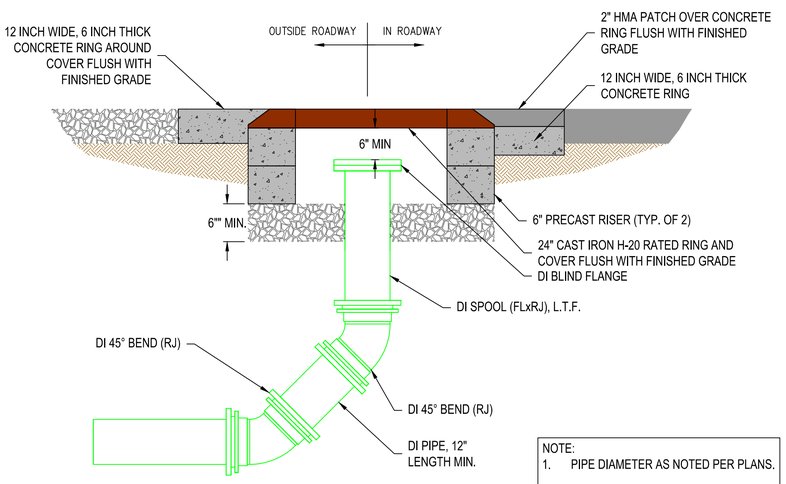
EXISTING WAS PIPE ORIENTATION



PROPOSED WAS PIPE ORIENTATION

SITE WAS CONNECTION DETAIL

NOT TO SCALE

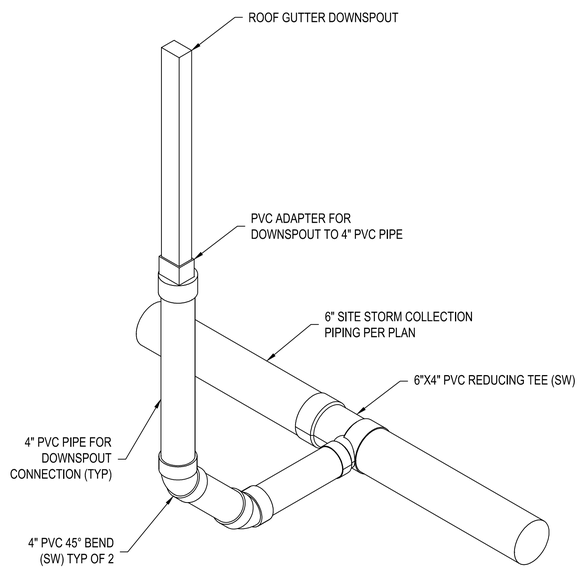


NOTE:
1. PIPE DIAMETER AS NOTED PER PLANS.
2. IN PAVED AREA, COVER SHALL BE RAISED TO FINISHED GRADE AND CONCRETE RING POURED AFTER INITIAL PAVING.

CLEANOUT DETAIL

210 TYP.

NOT TO SCALE



ROOF DOWNSPOUT CONNECTION DETAIL

211 TYP.

NOT TO SCALE

SMITH WASHINGTON 22346 PROFESSIONAL ENGINEER REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

BALLARD WASHINGTON 22346 PROFESSIONAL ENGINEER REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SITE AND UTILITY DETAILS 2

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

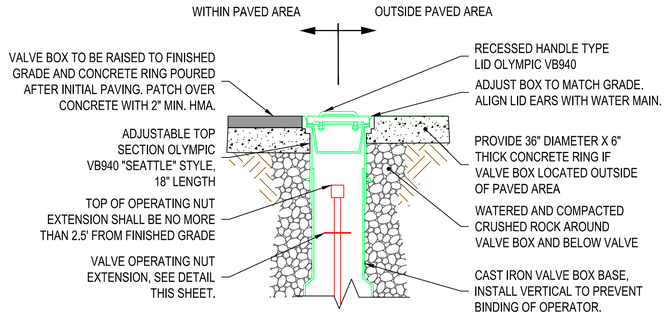
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_C04.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

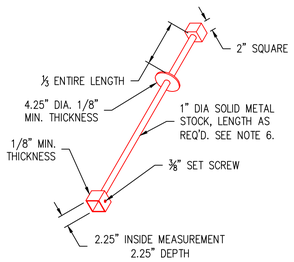
DWG NO.: C012
SHEET NO.: 21
158

NOTES:
1. PROVIDE LETTERING ON ALL VALVES. ENGINEER WILL PROVIDE VALVE DESCRIPTION AND TAG DURING CONSTRUCTION.
2. PROVIDE WELDED TAG ON INSIDE OF VALVE BOX FOR VALVES LOCATED INSIDE ROADWAY.
3. BRASS LETTERS SHALL HAVE A MIN 1" STUD ON THE BACK.

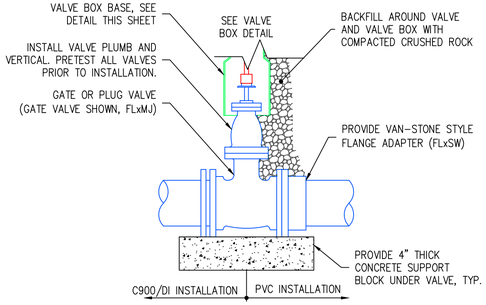
231 TYP. **VALVE MARKER DETAIL**
NOT TO SCALE



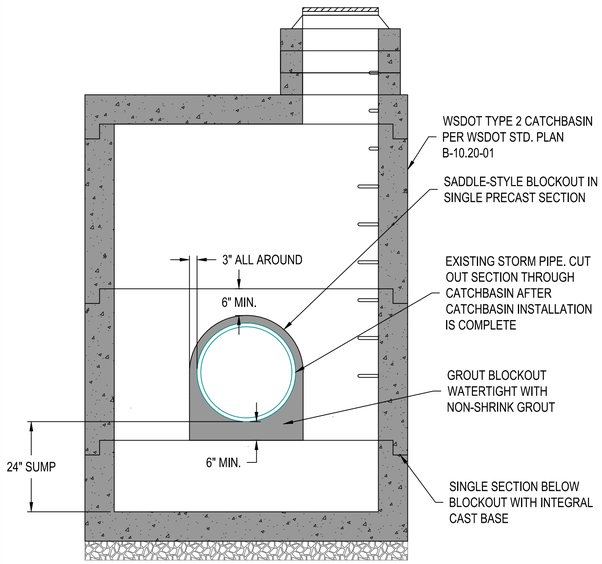
232 TYP. **VALVE BOX DETAIL**
NOT TO SCALE



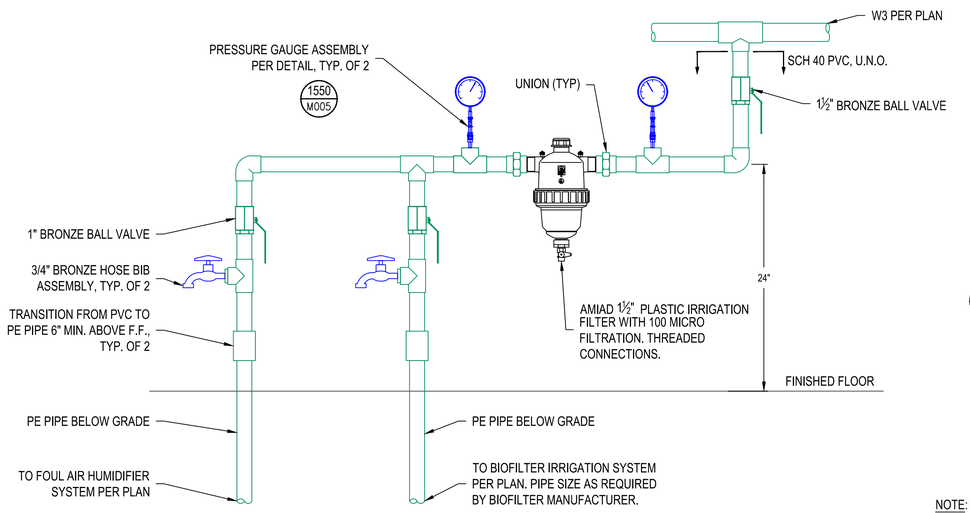
233 TYP. **OPERATING NUT EXTENSION**
NOT TO SCALE



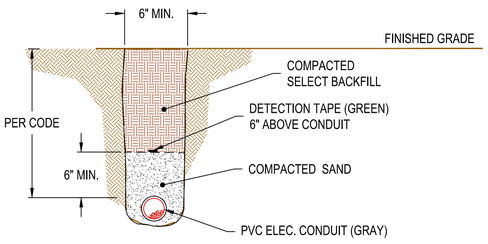
234 TYP. **ISOLATION VALVE DETAIL**
NOT TO SCALE



235 TYP. **SADDLE-STYLE CATCH BASIN**
NOT TO SCALE

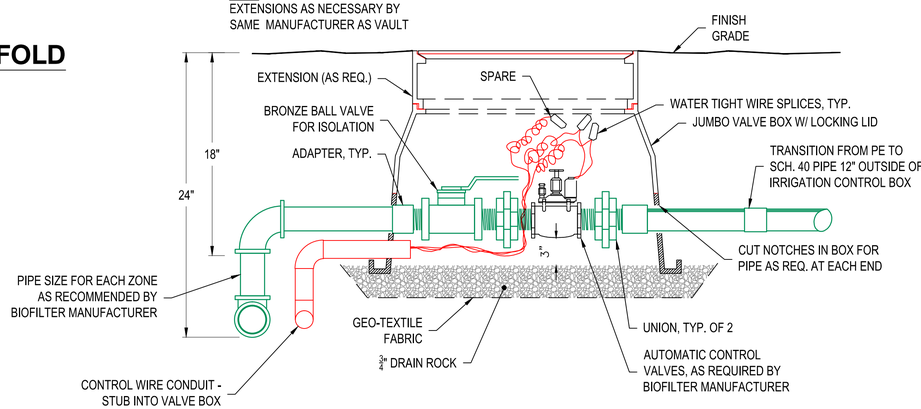


236 M702 **ABOVE GRADE FILTER MANIFOLD**
NOT TO SCALE



237 TYP. **IRRIGATION POWER SUPPLY TRENCH**
NOT TO SCALE

NOTE: REQUIRED VAULT EXTENSIONS AS NECESSARY BY SAME MANUFACTURER AS VAULT



238 C008 **AUTOMATIC IRRIGATION CONTROL BOX**
NOT TO SCALE

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BALLARD ENGINEERING — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SITE AND UTILITY DETAILS 3

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_C04.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: C013
SHEET NO.: 22
158

GENERAL ARCHITECTURAL NOTES

1. ALL WORK SHALL CONFORM TO APPLICABLE CURRENT FEDERAL, STATE AND LOCAL CODES. THE CONTRACTOR IS TO PROVIDE FOR ALL REQUIRED NOTIFICATION OF AND COORDINATION WITH CITY AND STATE AGENCIES, AND PROVIDE REQUIRED PERMITS. ALL TESTS AND INSPECTIONS ASSOCIATED WITH OBTAINING APPROVALS TO PROCEED WITH AND COMPLETE THE WORK SHALL BE PAID FOR BY THE CONTRACTOR.

2. THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS, EQUIPMENT AND TRANSPORTATION NECESSARY OR REASONABLY INFERABLE AS BEING NECESSARY FOR THE EXECUTION OF THE WORK. BY SUBMITTING A PROPOSAL, THE CONTRACTOR REPRESENTS THAT THROUGH EXAMINATION OF THE SITE AND ALL EXISTING CONDITIONS AND LIMITATION HAVE BEEN MADE AND THAT IT IS DETERMINED BEYOND DOUBT THAT THE DRAWINGS SPECIFICATIONS AND EXISTING CONDITIONS ARE SUFFICIENT, ADEQUATE AND SATISFACTORY FOR CONSTRUCTION OF THE WORK. WHERE MINOR ADJUSTMENTS TO THE WORK ARE NECESSARY FOR THE PURPOSES OF FABRICATION AND INSTALLATION OF ITEMS, OR RESOLUTIONS OF CONFLICTS BETWEEN ITEMS, WITHIN THE INTENT OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL MAKE SUCH ADJUSTMENTS AT NO ADDED EXPENSE TO THE OWNER. WHERE SUCH MINOR ADJUSTMENTS AFFECT FUNCTIONAL OR AESTHETIC DESIGN OF THE WORK, THEY SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HIGHEST STANDARD OF WORKMANSHIP IN GENERAL AND WITH SUCH STANDARDS AS ARE SPECIFIED.

4. CONTRACTOR SHALL SUBMIT SAMPLES OF ALL FINISHES OF SUCH SIZE AND NUMBER THAT THEY REPRESENT A REASONABLE DISTRIBUTION OF COLOR RANGES AND PATTERN PRIOR TO INSTALLATION FOR ENGINEER'S APPROVAL. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ENGINEER'S APPROVAL ON ALL SPECIAL ITEMS REQUIRING CUSTOM FABRICATION. (SHALL INCLUDE RATED FIRE DOORS AND HARDWARE).

5. CONTRACTOR SHALL PROVIDE 18-GAUGE SHEET METAL BACKING IN PARTITIONS FOR ALL WALL-MOUNTED FIXTURES AND DEVICES UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

6. ALL FLOORS SHOULD BE LEVEL AND NOT VARY MORE THAN ¼" IN 10'-0". THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONDITIONS THAT DO NOT MEET THIS STANDARD.

7. CONTRACTOR SHALL PROVIDE FLOOR LEVELING AS MAY BE REQUIRED AT SLIDING DOORS, RELITES WITHOUT BASE, CABINET WORK, AND OTHER LOCATIONS REQUIRING LEVEL SUBSTRATE. FEATHER CHANGES IN ELEVATION OVER SUFFICIENT AREA TO LIMIT TRANSITION SLOPE TO ⅛" PER FOOT.

8. ALL GYPSUM BOARD PARTITIONS SHALL BE TAPED, SPACKLED AND SANDED SMOOTH WITH NO VISIBLE JOINTS. PATCH AND REPAIR SURFACES TO MATCH ADJACENT OR ADJOINING SURFACES WHERE REQUIRED. ALL SURFACES SHALL BE ALIGNED.

9. ALL WORK SHALL BE ERECTED AND INSTALLED PLUMB, LEVEL, SQUARE AND TRUE.

10. REFER TO MILLWORK SHOP DRAWINGS FOR SPECIFIC DETAILS OF COORDINATION BETWEEN DRYWALL/MILLWORK CONDITIONS.

11. ALL GLASS SHALL BE CLEAR TEMPERED GLASS, UNLESS OTHERWISE NOTED. GLAZING TONG MARKS SHALL NOT BE VISIBLE. CLEAN AND POLISH ALL GLASS PRIOR TO PROJECT DELIVERY.

12. ALL MILLWORK TO BE FASTENED TO THE PARTITION. PROVIDE NON-COMBUSTIBLE BLOCKING FOR ALL MILLWORK NOT SUPPORTED BY FLOOR OR ABOVE 4'-0" HT.

13. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR: HVAC, LIGHTING, CASEWORK, AND CONCRETE COUNTERTOPS.

DOOR NOTES

1. ALL EXIT MAN DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.

2. ALL EXTERIOR DOORS SHALL BE ACCESSED USING KEY CARD ACCESS SYSTEM PER SPECIFICATIONS.

3. EXTERIOR DOORS ON UPPER LEVEL OF SOLIDS HANDLING FACILITY SHALL MEET THE REQUIREMENTS FOR ENERGY EFFICIENT DOORS PER THE SPECIFICATIONS.

4. ALL GLAZING SHALL CONFORM TO SAFETY GLAZING REQUIREMENTS OF IBC SECTION 2406.

5. ALL RATED DOORS TO BE LABELED PER IBC TABLE 715.3.

6. THRESHOLDS AT DOORWAYS SHALL BE ½" MAXIMUM IN HEIGHT. PER ICC/ANSI A117.1-2009 SECTION 404.2.4.

7. ICC/ANSI A117.1-2009 SECTION 404.2.6 DOOR HARDWARE. HANDLES, PULLS, LATCHES, LOCKS & OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND & DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MIN. & 48" MAX. ABOVE THE FINISH FLOOR. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED & USABLE FROM BOTH SIDES.

8. ICC/ANSI A117.1-2009 SECTION 404.2.8 DOOR OPENING FORCE. FIRE DOORS SHALL HAVE THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY. THE MAXIMUM FORCE FOR PUSHING OPEN FOR PULLING OPEN DOORS OTHER THAN FIRE DOORS SHALL BE AS FOLLOWS:
   1. INTERIOR HINGED DOOR: 5.0 POUNDS (22.2 N)
   2. SLIDING OR FOLDING DOOR: 5.0 POUNDS (22.2 N)

   THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR IN A CLOSED POSITION.

CEILING NOTES

1. COORDINATE THE WORK OF ALL TRADES INVOLVED IN THE CEILING WORK TO ENSURE CLEARANCES FOR FIXTURES, DUCTS, PIPING, CEILING SUSPENSION SYSTEM, ETC., NECESSARY TO MAINTAIN THE FINISHED CEILING HEIGHTS INDICATED ON ENGINEER'S DRAWINGS.

2. PROVIDE CEILING ACCESS AS REQUIRED FOR EQUIPMENT AND SYSTEM MAINTENANCE, AND MATCH ADJACENT CEILING FINISH U.N.O.

3. ALL SOFFITS AND CEILING HEIGHTS ARE DIMENSIONED FROM TOP OF FINISHED FLOOR TO BOTTOM OF FINISHED GYPSUM BOARD OR CEILING TILE AND SHALL ALLOW FOR THICKNESS OF ALL FLOOR FINISHES.

4. INSTALL LIGHT FIXTURES WITH PROTECTIVE FILM OR SIMILAR COVER OVER LOUVER, LENS, BAFFLE, ETC. TO AVOID FIXTURE SOILING OR DAMAGE. FIXTURES SHALL BE MAINTAINED CLEAN AND AS NEW. ALL LAMPS SHALL BE NEW AT PROJECT COMPLETION.

5. ALL EXITING LIGHTS AND EGRESS LIGHTING LOCATIONS SHALL BE DETERMINED BY BUILDING AND FIRE INSPECTOR'S FIELD PLACEMENT DETERMINATION.

DIMENSION NOTES

1. ALL PARTITIONS ARE DIMENSIONED FROM FINISH FACE OF GYPSUM BOARD TO FINISH FACE OF GYPSUM BOARD UNLESS OTHERWISE NOTED. ALL DIMENSIONS MARKED "CLEAR" OR "CLR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL WALL FINISHES, U.N.O.

2. DIMENSIONS NOTED "CLEAR" OR "CLR" MUST BE ACCURATELY MAINTAINED, AND SHALL NOT VARY MORE THAN ± ⅛" WITHOUT WRITTEN INSTRUCTION FROM ENGINEER.

3. DIMENSIONS LOCATING DOORS ARE TO THE INSIDE EDGE OF JAMB, U.N.O.

4. "ALIGN" MEANS TO ACCURATELY LOCATE FINISHED FACES IN THE SAME PLANE.

FINISH NOTES

1. SEE SPECIFICATIONS FOR FINISH SCHEDULE.

2. PROVIDE VINYL WALL BASE AT ALL FINISHED FLOORS.

3. ALL WALLS AND PARTITIONS TO BE PAINTED U.N.O. SEE FINISH SCHEDULE FOR OTHER BUILDINGS.

4. PROVIDE PAINT APPLICATION APPROPRIATE TO THE SUBSTRATE TO WHICH IT IS TO BE APPLIED.

5. CHANGES IN FLOOR MATERIALS THAT OCCUR AT FRAMED DOOR OPENINGS SHALL OCCUR AT THE CENTERLINE OF THE DOOR IN THE CLOSED POSITION.

6. ANY DECORATIONS USED SHALL BE NON-COMBUSTIBLE OR FLAME-RETARDANT TREATED IN AN APPROVED OF MANNER (CURTAINS, DRAPES, SHADES, HANGINGS, ETC.)

7. ALL INTERIOR PARTITIONS, CEILING FINISHES AND TRIM OF PUBLIC AREAS TO COMPLY WITH CLASS 1 MATERIAL CLASSIFICATION; FLAME SPREAD RATING 0 TO 25, SMOKE DEVELOPED 200. ALL INTERIOR WALL AND CEILING FINISHES AND TRIM OF NON-PUBLIC AREAS TO COMPLY WITH CLASS 2 MATERIAL CLASSIFICATION; FLAME SPREAD RATING 26 TO 75, SMOKE DEVELOPED 450.

8. PROVIDE FINISHED SCRIBE STRIPS AND FINISHED MILLWORK EDGES TO CREATE A FINISHED REVEAL CONDITION WHERE MILLWORK COUNTERS, CABINETS, ETC. ABUT ADJACENT PARTITION CONSTRUCTION. ALL EXPOSED REVEAL SURFACES AND EDGES TO HAVE SAME PLASTIC LAMINATE FINISH AS THE CASEWORK ITEM THEY ABUT.

AIR LEAKAGE REQUIREMENTS

1. THE UPPER LEVEL OF THE SOLIDS HANDLING FACILITY SHALL MEET THE REQUIREMENTS OF THE 2015 WSEC C402.5 FOR AIR LEAKAGE. THE UPPER LEVEL ENVELOPE SHALL INCLUDE COMPLETE SEALING OF ALL JOINTS AND PENETRATIONS AS NECESSARY TO CREATE A FULLY CONTINUOUS AIR BARRIER. THIS INCLUDES DOOR GASKETS AND JOINT SEALANT INSTALLATION PER THE SPECIFICATIONS AND DETAILS.

2. THE UPPER LEVEL OF THE SOLIDS HANDLING BUILDING SHALL UNDERGO AN AIR LEAKAGE TEST PRIOR TO OCCUPANCY. THE TOTAL BUILDING AIR LEAKAGE SHALL NOT EXCEED 0.40 CFM/SF AT A PRESSURE OF 0.3 ON W.G. THE CONTRACTOR SHALL SUBMIT A TEST PROCEDURE PLAN FOR COMPLETING DEMONSTRATING THAT THE TEST WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM E 779 AND THE 2015 WSEC. THE ENGINEER MUST REVIEW THE TEST PROCEDURE PLAN PRIOR TO TESTING.

3. THE CONTRACTOR SHALL PROVIDE AN AIR LEAKAGE TEST REPORT SUMMARIZING THE TEST CONDITIONS AND RESULTS. IN THE EVENT OF A FAILED TEST, THE CONTRACTOR SHALL IDENTIFY LOCATIONS OF AIR LEAKAGE AND REMEDY THEM FOLLOWED BY RETESTING. SUBSTANTIAL COMPLETION WILL NOT BE GRANTED UNTIL A PASSING AIR LEAKAGE TEST HAS BEEN PREFORMED.

4. THE AIR BARRIER BOUNDARIES AND ASSOCIATED AREAS ARE AS FOLLOWS:

WEST WALL:	465 SF
EAST WALL:	465 SF
NORTH WALL:	1637 SF
SOUTH WALL:	2294 SF
CEILING:	3708 SF
FLOOR:	3637 SF

ABBREVIATIONS AND SYMBOLS

@	AT
AFF	ABOVE FINISH FLOOR
APPROX.	APPROXIMATE
ASPH	ASPHALT
CLR	CLEAR(ANCE)
COL	COLUMN
CONC	CONCRETE
CPT	CARPET
CT	CERAMIC TILE
CTR	CENTER
ø	DIAMETER
EQ	EQUAL
EXT	EXTERIOR
FLSH'G	FLASHING
FG	FIBERGLASS
FIN	FINISH
GB	GRAB BAR
GWB	GYPSUM WALL BOARD
MAT'L	MATERIAL
MFR	MANUFACTURER
O/	OVER
OC	ON CENTER
P	PAINT
P.LAM	PLASTIC LAMINATE
PT	PRESSURE TREATED
RO	ROUGH OPENING
SIM	SIMILAR
SQ	SQUARE
SS	STAINLESS STEEL
TEMP	TEMPERED
TPD	TOILET PAPER DISPENSER
TYP	TYPICAL
W/	WITH
WD	WOOD
WP	WATER PROOF

SUNKEN FLOOR OR BASIN

FINISH FLOOR OR ENTRANCE LANDING

WALL OR EQUIPMENT PAD

DXXXX DOOR

WXXXX WINDOW

LXXX LOUVER

VXXX VENTILATOR

ACCESS HATCH

ROOF OUTLINE

BELOW GRADE WALL

MATERIAL KEY

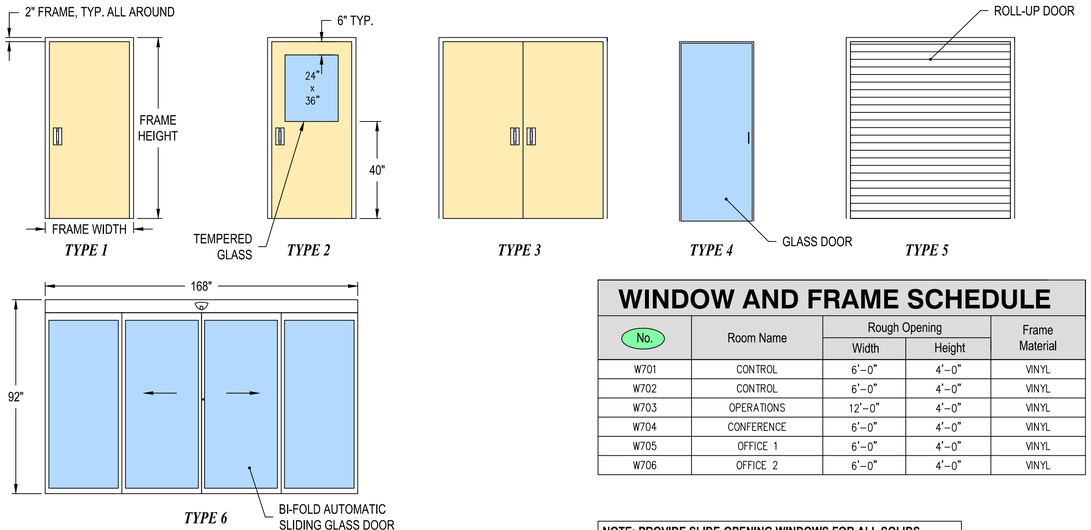
HM	HOLLOW METAL
STL	STEEL
ALUM	ALUMINUM

DOOR AND FRAME SCHEDULE

No.	Building Name	Room Name / Label	Door Type	Door Size Width	Door Size Height	Door Material	Frame Size Width	Frame Size Height	Frame Material	Exit Device Required	Notes
D201	HEADWORKS	MECHANICAL	5	10'-0"	12'-0"	STL	10'-0"	12'-0"	STL		MOTORIZED ROLL-UP DOOR
D202	HEADWORKS	MECHANICAL	1	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM	YES	
D701	SOLIDS HANDLING - LL	BLOWER	5	10'-0"	10'-0"	STL	10'-0"	10'-0"	STL		MOTORIZED ROLL-UP DOOR
D702	SOLIDS HANDLING - LL	BLOWER	1	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM	YES	
D703	SOLIDS HANDLING - LL	THICKENING	1	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM	YES	
D704	SOLIDS HANDLING - LL	THICKENING	5	10'-0"	10'-0"	STL	10'-0"	10'-0"	STL		MOTORIZED ROLL-UP DOOR
D705	SOLIDS HANDLING - LL	CONTROL	1	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM	YES	
D706	SOLIDS HANDLING - LL	MECHANICAL	2	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM		
D707	SOLIDS HANDLING - LL	DEWATERING	1	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM	YES	
D708	SOLIDS HANDLING - LL	DEWATERING	5	10'-0"	10'-0"	STL	10'-0"	10'-0"	STL		MOTORIZED ROLL-UP DOOR
D709	SOLIDS HANDLING - LL	TRUCK BAY	5	14'-0"	14'-0"	STL	14'-0"	14'-0"	STL		MOTORIZED ROLL-UP DOOR
D710	SOLIDS HANDLING - LL	TRUCK BAY	1	3'-0"	7'-2"	HM	3'-4"	7'-4"	HM	YES	
D711	SOLIDS HANDLING - UL	OPERATIONS	6	6'-0"	6'-11"	GLASS	12'-0"	7'-8"	HM		MOTION SENSING WITH KEYED LOCK OPTION
D712	SOLIDS HANDLING - UL	CONFERENCE	4	3'-0"	7'-2"	GLASS	3'-4"	7'-4"	HM		
D713	SOLIDS HANDLING - UL	OFFICE 1	2	3'-0"	7'-2"	WOOD	3'-4"	7'-4"	HM		
D714	SOLIDS HANDLING - UL	OFFICE 2	2	3'-0"	7'-2"	WOOD	3'-4"	7'-4"	HM		
D715	SOLIDS HANDLING - UL	OFFICE 3	2	3'-0"	7'-2"	WOOD	3'-4"	7'-4"	HM		
D716	SOLIDS HANDLING - UL	MECHANICAL	2	3'-0"	7'-2"	WOOD	3'-4"	7'-4"	HM		
D717	SOLIDS HANDLING - UL	ELECTRICAL	2	3'-0"	7'-2"	WOOD	3'-4"	7'-4"	HM		
D718	SOLIDS HANDLING - UL	ELECTRICAL	3	6'-4"	7'-2"	HM	6'-8"	7'-4"	HM	YES	
D719	SOLIDS HANDLING - UL	KITCHEN	3	6'-4"	7'-2"	HM	6'-8"	7'-4"	HM	YES	
D720	SOLIDS HANDLING - UL	UNISEX BATHROOM	1	3'-0"	7'-2"	WOOD	3'-4"	7'-4"	HM		
D721	SOLIDS HANDLING - UL	UNISEX BATHROOM	1	2'-6"	7'-2"	WOOD	5'-0"	7'-4"	HM		POCKET DOOR

1. PROVIDE DOOR PLAQUES FOR ALL OTHER DOORS AS SPECIFIED AND DIRECTED BY THE CITY.

DOOR TYPES:



WINDOW AND FRAME SCHEDULE

No.	Room Name	Rough Opening Width	Rough Opening Height	Frame Material
W701	CONTROL	6'-0"	4'-0"	VINYL
W702	CONTROL	6'-0"	4'-0"	VINYL
W703	OPERATIONS	12'-0"	4'-0"	VINYL
W704	CONFERENCE	6'-0"	4'-0"	VINYL
W705	OFFICE 1	6'-0"	4'-0"	VINYL
W706	OFFICE 2	6'-0"	4'-0"	VINYL

NOTE: PROVIDE SLIDE-OPENING WINDOWS FOR ALL SOLIDS HANDLING BUILDING UPPER LEVEL WINDOWS. PROVIDE REMOVABLE SCREENS ON ALL OPENING SECTIONS OF WINDOWS. LOWER LEVEL WINDOWS SHALL NOT BE OPENING TYPE.

RH2 ENGINEERING, INC.
www.rh2.com
1.800.720.8052
Bothell, WA
22722 29th Drive SE, Suite 210

SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ARCHITECTURAL DETAILS 1

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_A01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: JMC

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

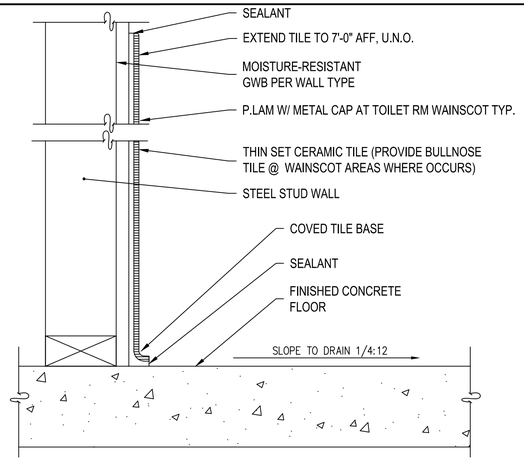
SCALE: SHOWN

0" 1" 2"

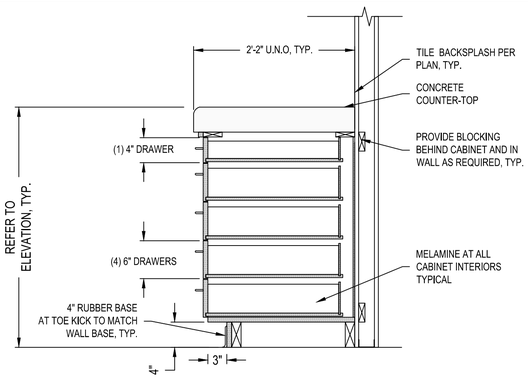
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: A001

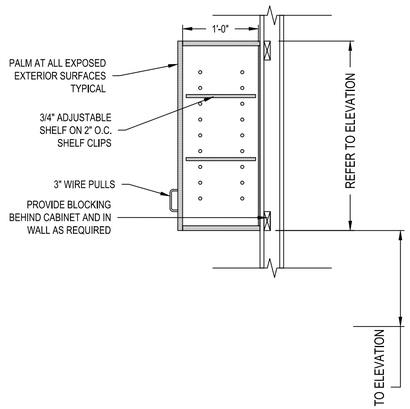
SHEET NO.: 23



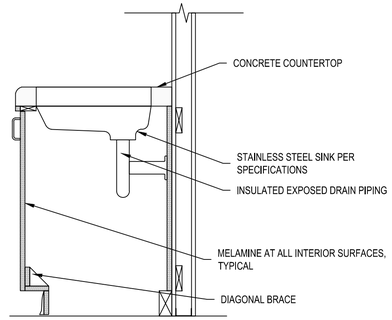
SHOWER WALL TILE
NOT TO SCALE — 1201 TYP.



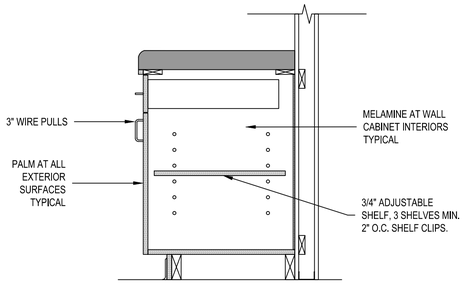
DRAWER STACK BASE CABINET
NOT TO SCALE — 1202 TYP.



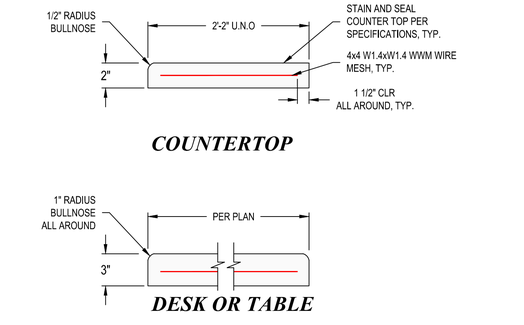
UPPER CABINET
NOT TO SCALE — 1203 TYP.



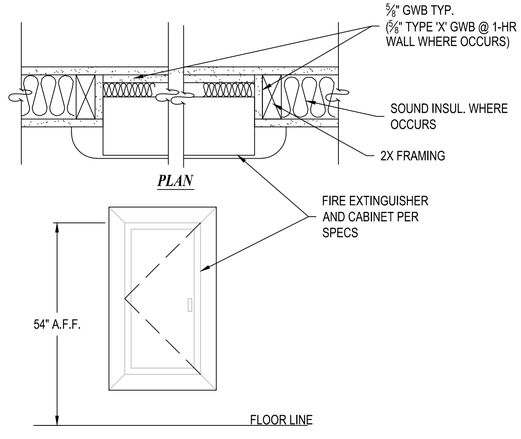
BASE CABINET AT SINK
NOT TO SCALE — 1204 TYP.



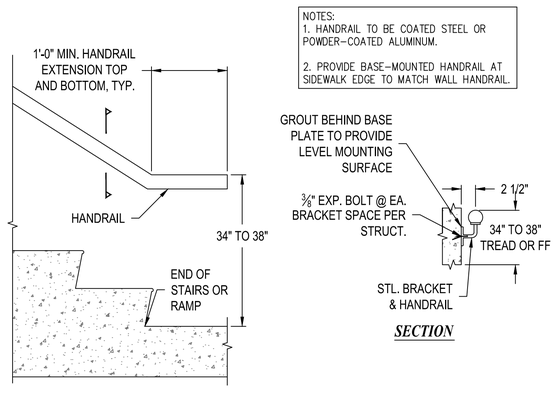
BASE CABINET WITH DRAWER
NOT TO SCALE — 1205 TYP.



CONCRETE DESK/TABLE/COUNTERTOP
NOT TO SCALE — 1206 TYP.



FIRE EXTINGUISHER CABINET
NOT TO SCALE — 1209 TYP.



TYP. HANDRAIL AT CMU/CONC. WALL
NOT TO SCALE — 1210 TYP.

RH2 ENGINEERING, INC.
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22722 29th Drive SE, Suite 210

SIGNED: 09/19/17
SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ARCHITECTURAL DETAILS 2

CLIENT: SNQ
FILENAME: WRF02-D-GEN_A01.DWG
JOB NO.: 116-028
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: JMC

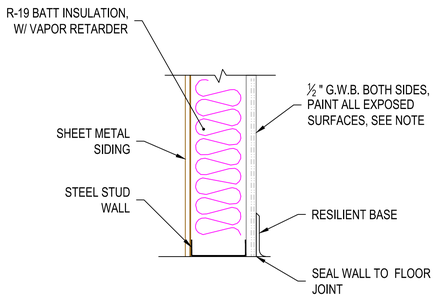
REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

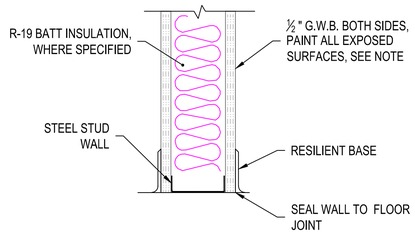
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: A002
SHEET NO.: 24
158

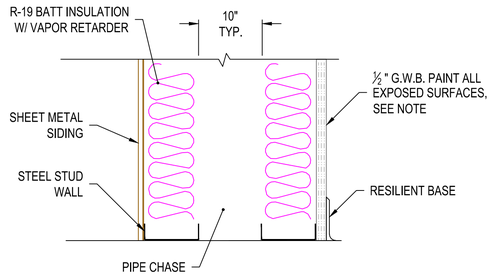
WALL TYPE NOTES:
1. AT TILED WALLS PROVIDE ⅝" CEMITITIOUS BACKER BOARD.
2. WITHIN RESTROOM/LOCKER ROOMS PROVIDE ⅝" WATER RESISTANT GWB



WALL TYPE 1



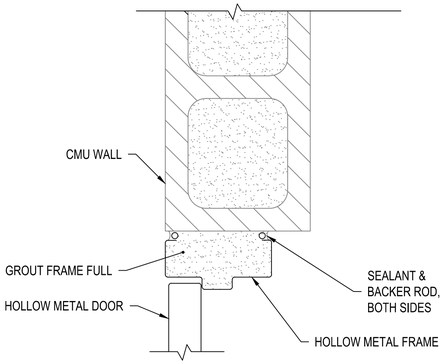
WALL TYPE 2



WALL TYPE 3

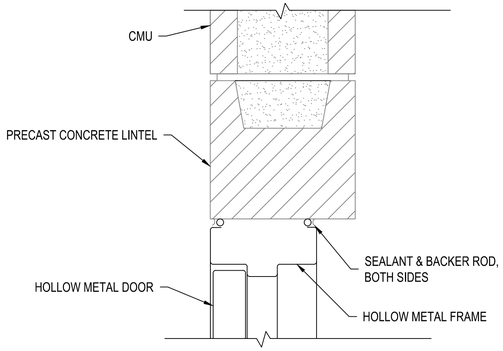
WALL TYPES - NON-STRUCTURAL
NOT TO SCALE

1213 TYP.



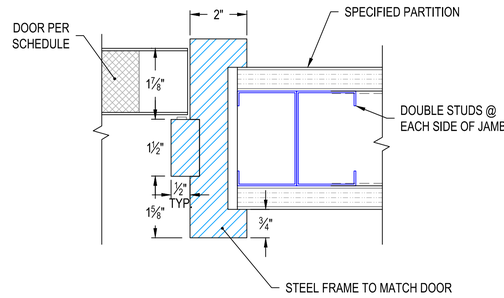
H.M. DOOR JAMB
NOT TO SCALE

1225 TYP.



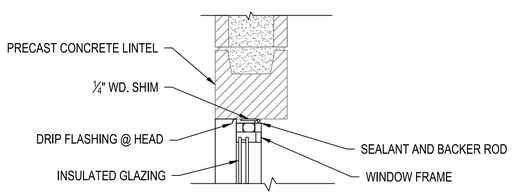
H.M. DOOR HEAD
NOT TO SCALE

1226 TYP.



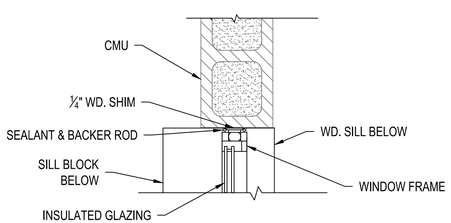
INTERIOR DOOR JAMB (HEAD SIMILAR)
NOT TO SCALE

1227 TYP.



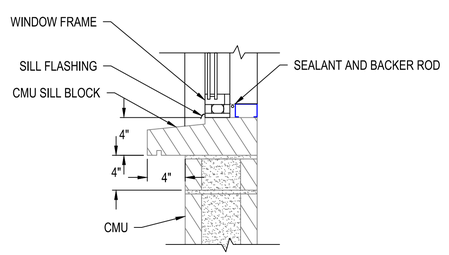
VINYL WINDOW HEAD
NOT TO SCALE

1229 TYP.



VINYL WINDOW JAMB
NOT TO SCALE

1230 TYP.



VINYL WINDOW SILL
NOT TO SCALE

1231 TYP.

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ARCHITECTURAL DETAILS 3

REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — RICHARD BALLARD — SIGNED: 09/19/17

REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — MARK MASON — SIGNED: 09/19/17

RH2 ENGINEERING, INC.
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22722 29th Drive SE, Suite 210

ENGINEERS PLANNERS SCIENTISTS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

ENGINEER: MRJF
REVIEWED: JMC
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_A01.DWG
JOB NO.: 116-028

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: A003
SHEET NO.: 25

GENERAL STRUCTURAL NOTES (300 TYP)

GEOTECHNICAL PARAMETERS:

MINIMUM FROST DEPTH	18"
MAXIMUM NET BEARING	3,000 PSF STATIC
SOILS REPORT REFERENCE	"ENGINEERING GEOLOGY REPORT" PREPARED BY RH2 ENGINEERING JULY 2016

OTHER LOADING PARAMETERS:

WIND LOAD	115 MPH, EXPOSURE C
SNOW LOAD	35 PSF
EARTHQUAKE LOAD	LAT 47.54127, LONG 122.8316, SOIL PROFILE TYPE C

OTHER DESIGN VALUES USED:

RISK CATEGORY	III-WASTEWATER TREATMENT FACILITY
OCCUPANCY GROUP UPSTAIRS:	BUISNESS
OCCUPANCY GROUP DOWNSTAIRS:	UTILITY
CONSTRUCTION TYPE:	V-B
CONCRETE	4,000 PSI WITH 60,000 PSI REINFORCING
CMU	1,500 PSI WITH 60,000 PSI REINFORCING
STEEL	A36 FOR PLATES, A992 FOR OTHER
STEEL STUDS	50 KSI GAUGE THICKNESS PER PLAN

LIVE LOADS:

ROOF	20 PSF

CRITERIA:

ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (2015 EDITION)

SPECIAL INSPECTIONS, TESTS, AND OBSERVATIONS:

SPECIAL INSPECTIONS AND TESTS SHALL INCLUDE THE FOLLOWING. REFER TO IBC SECTION 1704 AND 1705 FOR DETAILS.

1. SPECIAL INSPECTIONS BY THE GEOTECHNICAL ENGINEER INCLUDING:
   - 1.1. SITE EXCAVATION AND GRADING
   - 1.2. PLACEMENT OF STRUCTURAL FILL AND SOIL COMPACTION
   - 1.3. VERIFICATION OF SOIL-BEARING CAPACITY
2. CONCRETE PLACEMENT AT CONCRETE CONSTRUCTION: CONTINUOUS, SEE ALSO SECTION 1705.3 OF THE INTERNATIONAL BUILDING CODE.
3. REINFORCEMENT AT CONCRETE CONSTRUCTION: PERIODIC, SEE ALSO SECTION 1705.3.
4. MASONRY CONSTRUCTION, INCLUDING PLACEMENT OF MASONRY UNITS, MORTAR REINFORCEMENT AND STRUCTURAL CONNECTIONS: PERIODIC, SEE ALSO SECTION TMS 602 / ACI 530.1 / ASCE 6, TABLE 5.
5. GROUT PLACEMENT AT MASONRY CONSTRUCTION: CONTINUOUS, SEE ALSO SECTION TMS 602 / ACI 530.1 / ASCE 6, TABLE 5.
6. WOOD-FRAMED LATERAL-FORCE RESISTING SYSTEM: PERIODIC, SEE ALSO SECTION 1705.10.
7. TESTING OF CONCRETE FOR SPECIFIED COMPRESSIVE STRENGTH (FC), AIR CONTENT AND SLUMP. SEE ALSO TABLE 1705.3.
8. VERIFICATION OF SPECIFIED COMPRESSIVE STRENGTH (FM) OF MASONRY PRIOR TO CONSTRUCTION AND EVERY 5,000 SQUARE FEET DURING CONSTRUCTION. SEE ALSO TMS 602 / ACI 530.1 / ASCE 6, TABLE 5.
9. STRUCTURAL OBSERVATION BY A REGISTERED DESIGN PROFESSIONAL IN ACCORDANCE WITH IBC 1704.5 SHALL BE PROVIDED.

GENERAL:

LINES SHOWN ON DRAWINGS MAY BE ASSOCIATED WITH CAD MODELING AND MAY NOT REPRESENT REQUIRED OR ALLOWED JOINTS. SEE DETAILS FOR CLARIFICATION ON REQUIRED AND ALLOWED JOINTS.

REINFORCED CONCRETE:

1. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315-99 AND 318-14. LAP ALL REINFORCEMENTS IN ACCORDANCE WITH THE "REINFORCING SPLICE AND DEVELOPMENT LENGTH SCHEDULE" - SEE THIS SHEET. PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS PER DETAIL 305. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.
2. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.
3. A 6" WATERSTOP SHALL BE PLACED AT ALL BELOW GRADE CONCRETE SLAB AND WALL CONSTRUCTION JOINTS AND AS SHOWN TO PROVIDE A WATERTIGHT STRUCTURE.
4. CONCRETE PROTECTION FOR REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
   - 4.1. FOOTINGS AND OTHER UNIFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ..... 3"
   - 4.2. FORMED SURFACES EXPOSED TO EARTH (WALLS BELOW GRADE), WATER OR WEATHER (#6 BARS OR LARGER) ..... 2"
   - 4.3. COLUMN TIES OR SPIRALS AND BEAM STIRRUPS ..... 2"
   - 4.4. SLABS AND INTERIOR FACES ..... 2"

ABBREVIATIONS:

AL - ALUMINUM
CHK - CHECKERED
CL - CENTERLINE
CLR - CLEAR
EA - EACH
EF - EACH FACE
FB - FLAT BAR
GALV - GALVANIZED
HORZ - HORIZONTAL
LLV - LONG LEG VERT
O.C. - ON CENTER
PL - PLATE
RB - ROUND BAR
RST - REINF. STEEL
SST - STAINLESS STEEL
T&B - TOP & BOTTOM
VERT - VERTICAL

REINFORCEMENT SPLICE AND DEVELOPMENT SCHEDULE

BAR	MINIMUM STRAIGHT DEVELOPMENT LENGTHS: TOP BARS	MINIMUM STRAIGHT DEVELOPMENT LENGTHS: OTHER BARS	MINIMUM LAP SPLICE LENGTHS: TOP BARS	MINIMUM EMBEDMENT LENGTHS: ALL BARS
#4	25"	19"	33"	7"
#5	31"	24"	41"	9"
#6	37"	29"	49"	10"
#7	54"	42"	71"	12"

"TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM.
IF CLEAR CONCRETE COVER IS LESS THAN 2x THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS LESS THAN (4) BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 43%
SIDE COVER MUST BE EQUAL TO OR GREATER THAN 2-1/2"
END COVER FOR 90° HOOKS MUST BE EQUAL TO OR GREATER THAN 2"

CMU ANCHORS FOR USE GROUTED CMU CELLS SHALL BE SIMPSON SET-XP OR EQUAL ANCHORING ADHESIVE. CMU ANCHORS FOR USE IN UNGROUTED CMU CELL SHOULD BE AVOIDED. WHEN UNAVOIDABLE, ANCHORS SHALL BE SIMPSON SET-XP WITH OPTI MESH ADHESIVE ANCHORING SCREEN TUBE.

EQUIPMENT WEIGHING LESS THAN 250 LBS MAY BE ANCHORED TO CMU WALLS W/ SIMPSON TITEN-HD HEAVY DUTY SCREW ANCHORS

WHERE SIZE IS CALLED OUT ON THE DRAWINGS, PROVIDE MINIMUM EMBEDMENT DEPTHS AS SHOWN ON THE FOLLOWING TABLES. PROVIDE MINIMUM EDGE DISTANCES AND SPACING AS SHOWN ON THE FOLLOWING TABLES UNLESS SPECIFICALLY DETAILED OTHERWISE.

INSTALL ANCHORS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

NOTIFY OWNER 24 HOURS IN ADVANCE OF INSTALLATION OF ALL ANCHORS.

WHERE SIZE IS NOT CALLED OUT, ANCHOR SHALL BE SELECTED BASED ON DESIGN LOADS. IF THE MINIMUM EDGE DISTANCE AND/OR MINIMUM SPACING CAN NOT BE ACHIEVED, REFER TO PRODUCT INFORMATION FOR REDUCTION IN ALLOWABLE LOADS.

FORCES ARE DETERMINED BY THE FOLLOWING FORMULA: $(Ps / Pt) + (Vs / Vt) = 1$

WHERE:
Ps = APPLIED SERVICE TENSION LOAD
Pt = ALLOWABLE SERVICE TENSION LOAD
Vs = APPLIED SERVICE SHEAR LOAD
Vt = ALLOWABLE SERVICE SHEAR LOAD

THE ABOVE FORMULA IS FOR THE ALLOWABLE LOADS FOR ANCHORS SUBJECTED TO COMBINED TENSION AND SHEAR.

GROUTED CMU ANCHORS
SIMPSON STRONG-TIE SET-XP

DIA. OF ROD (INCHES) OR REBAR SIZE NO.	MIN. EDGE DISTANCE (INCHES)	MIN. EMBEDMENT (INCHES)	MIN. ANCHOR SPACING (INCHES)	ALLOWABLE LOAD BASED ON BOND STRENGTH (POUNDS): TENSION	ALLOWABLE LOAD BASED ON BOND STRENGTH (POUNDS): SHEAR
3/8	12	3-3/8	(1) PER CELL	1,490	1,145
1/2	12	4-1/2	(1) PER CELL	1,825	1,350
5/8	12	5-5/8	(1) PER CELL	1,895	1,350
3/4	12	6-1/2	(1) PER CELL	1,895	1,350
#3	12	3-3/8	(1) PER CELL	1,395	1,460
#4	12	4-1/2	(1) PER CELL	1,835	1,505
#5	12	5-5/8	(1) PER CELL	2,185	1,505

UNGROUTED CMU ANCHORS
SIMPSON STRONG-TIE SET-XP WITH ANCHORING SCREEN TUBE

DIA. OF ROD (INCHES) OR REBAR SIZE NO.	MIN. EDGE DISTANCE (INCHES)	MIN. EMBEDMENT (INCHES)	MIN. ANCHOR SPACING (INCHES)	ALLOWABLE LOAD BASED ON BOND STRENGTH (POUNDS): TENSION	ALLOWABLE LOAD BASED ON BOND STRENGTH (POUNDS): SHEAR
3/8	12	3	(1) PER CELL	280	265
1/2	12	3	(1) PER CELL	280	265
5/8	12	3	(1) PER CELL	280	265
3/4	12	3	(1) PER CELL	280	265
#3	12	3	(1) PER CELL	280	265
#4	12	3	(1) PER CELL	280	265
#5	12	3	(1) PER CELL	280	265

CMU ANCHOR (301 TYP)

CONCRETE ANCHORS SHALL BE EITHER HILTI HIT-RE 500-V3 INJECTABLE MORTAR, SIMPSON STRONG-TIE SET-XP ANCHORING ADHESIVE, OR POWERS PE1000+ ADHESIVE ANCHORS AS SPECIFIED. WHERE SIZE IS CALLED OUT ON THE DRAWINGS, PROVIDE MINIMUM EMBEDMENT DEPTHS AS SHOWN ON THE FOLLOWING TABLES. PROVIDE MINIMUM EDGE DISTANCES AND SPACING AS SHOWN ON THE FOLLOWING TABLES UNLESS SPECIFICALLY DETAILED OTHERWISE. SPECIAL INSPECTION REQUIRED.

INSTALL ANCHORS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

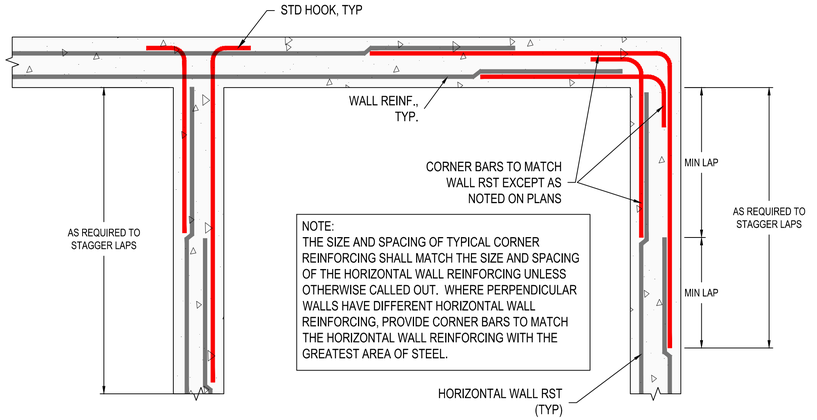
NOTIFY OWNER 48 HOURS IN ADVANCE OF INSTALLATION OF ALL ANCHORS.

WHERE SIZE IS NOT CALLED OUT, ANCHOR SHALL BE SELECTED BASED ON DESIGN LOADS.IF THE MINIMUM EDGE DISTANCE AND/OR MINIMUM SPACING CAN NOT BE ACHIEVED, REFER TO PRODUCT INFORMATION FOR REDUCTION IN ALLOWABLE LOADS.

CONCRETE ANCHORS
HILTI HIT-RE 500-V3, SIMPSON STRONG-TIE SET-XP & POWERS PE1000+

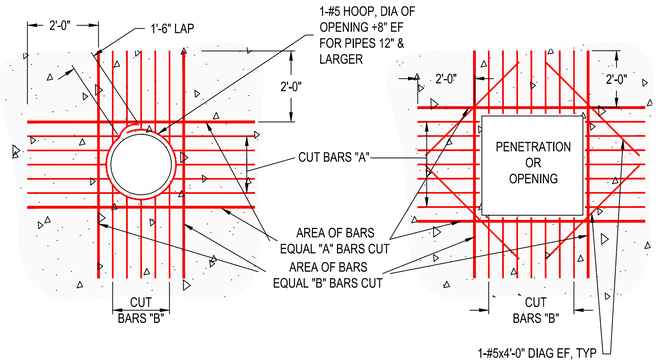
DIA. OF ROD (INCHES) OR REBAR SIZE NO.	MIN. EDGE DISTANCE (INCHES)	MIN. EMBEDMENT (INCHES)	MIN. ANCHOR SPACING (INCHES)	ALLOWABLE LOAD BASED ON BOND STRENGTH (POUNDS): TENSION	ALLOWABLE LOAD BASED ON BOND STRENGTH (POUNDS): SHEAR
1/2	2-1/2	2-3/4	2-1/2	1,027	2,210
5/8	3-1/8	3-1/8	3-1/8	1,312	2,827
3/4	3-3/4	3-1/2	3-3/4	1,556	3,351
7/8	4-3/8	3-1/2	4-3/8	1,556	3,351
#4	2-1/2	4-1/2	2-1/2	1,520	3,618
#5	3-1/8	5-5/8	3-1/8	1,775	5,494
#6	3-3/4	6-3/4	3-3/4	2,225	7,570
#7	4-3/8	7-7/8	4-3/8	2,440	9,428
#8	5	9	5	4,520	11,507

CONCRETE ANCHOR (302 TYP)



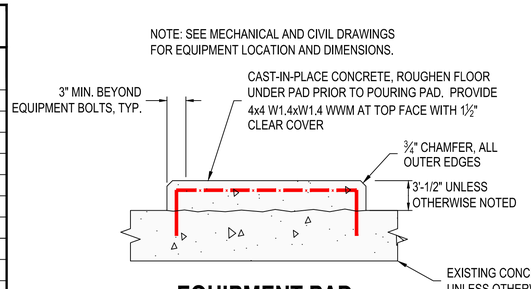
TYPICAL CONCRETE WALL INTERSECTION / CORNER (305 TYP)

1" = 1'-0"



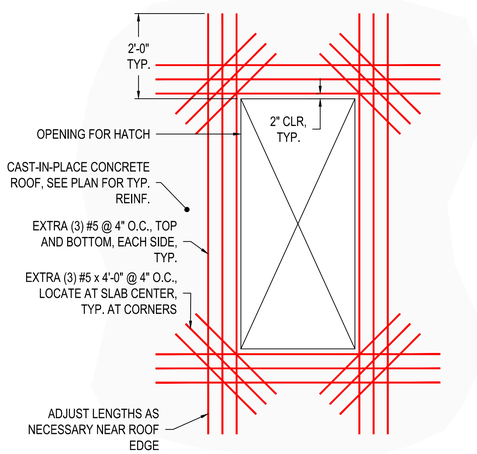
PENETRATION AND OPENING REINFORCEMENT (306 TYP)

NOT TO SCALE



EQUIPMENT PAD (303 TYP)

1" = 1'-0"



ROOF HATCH REINFORCING (307 TYP)

3/8" = 1'-0"

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

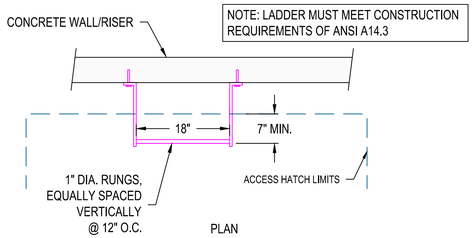
STRUCTURAL DETAILS 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_S01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JLH
REVIEWED: JMC

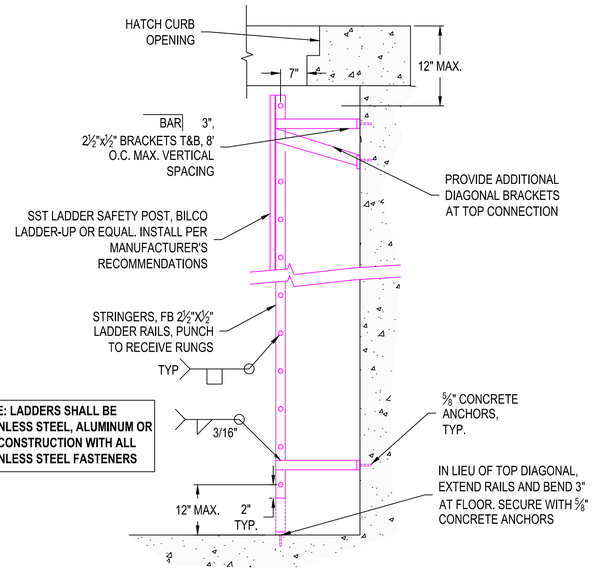
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S001
SHEET NO.: 26
158



FIXED LADDER PLAN

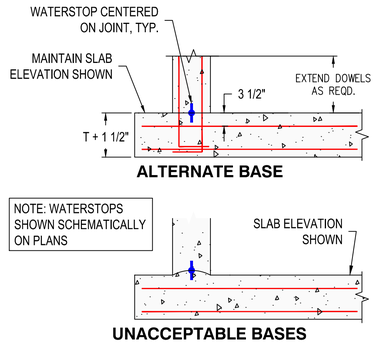
NOT TO SCALE



FIXED LADDER SECTION

308 TYP.

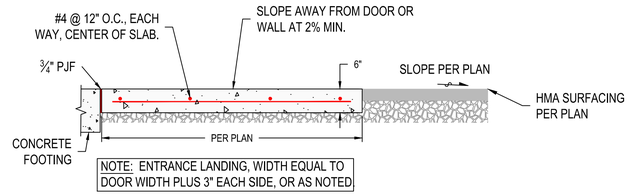
1" = 1'–0"



WATERSTOP JOINT

310 TYP

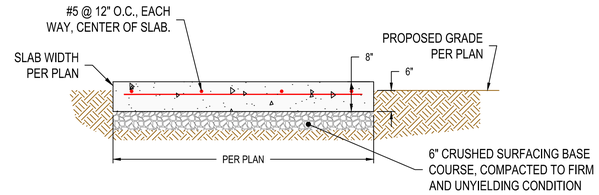
½" = 1'–0"



TYPICAL CONCRETE APRON

312 TYP

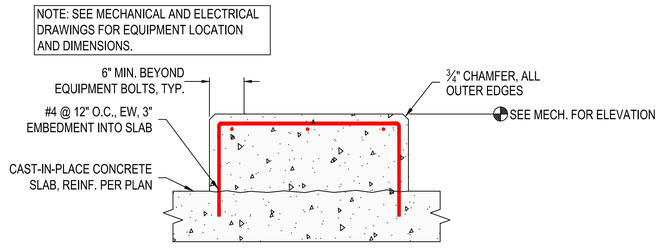
NOT TO SCALE



EXTERIOR EQUIPMENT SLAB

313 TYP

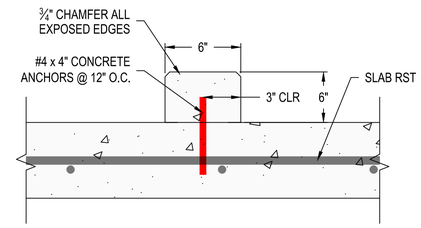
NOT TO SCALE



EQUIPMENT PEDESTAL

309 TYP

NOT TO SCALE



CURB

314 TYP

NOT TO SCALE

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SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

STRUCTURAL DETAILS 2

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_S01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JLH
REVIEWED: JMC

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

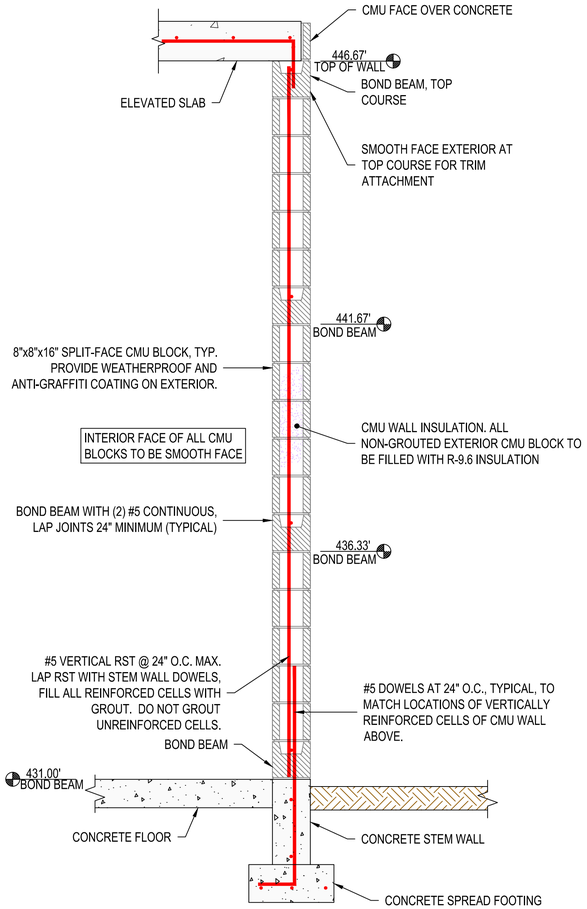
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S002

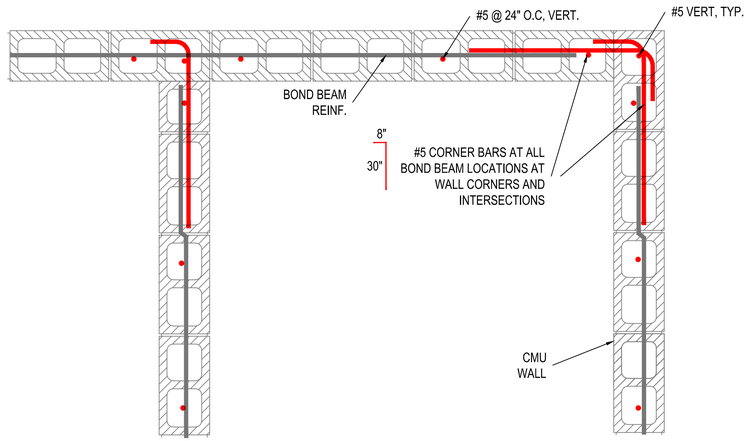
SHEET NO.: 27



EXTERIOR CMU WALL

401 TYP

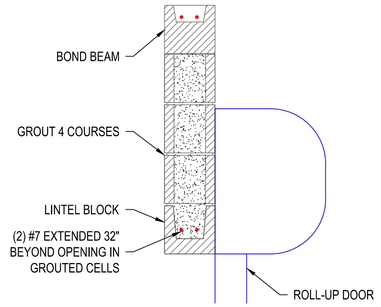
NOT TO SCALE



CMU WALL INTERSECTION / CORNER

403 TYP

1" = 1'–0"

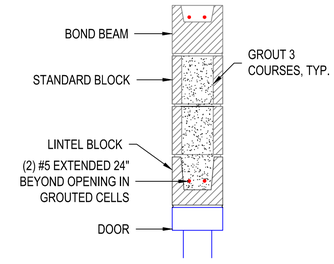


TYPICAL ROLL-UP DOOR LINTEL

406 TYP

1" = 1'–0"

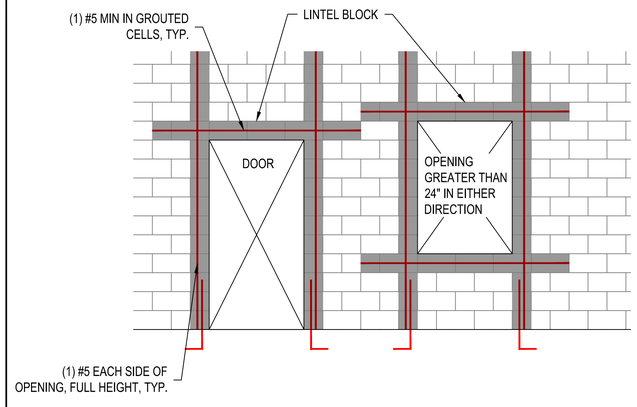
NOTE:
DOOR FRAME OF SOUND RATED DOORS SHALL BE FULLY GROUTED.



TYPICAL DOOR LINTEL

407 TYP

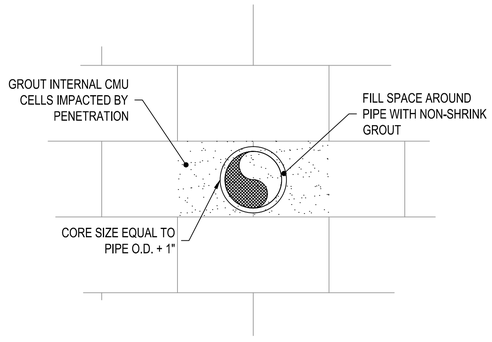
1" = 1'–0"



TYPICAL CMU OPENING

402 TYP

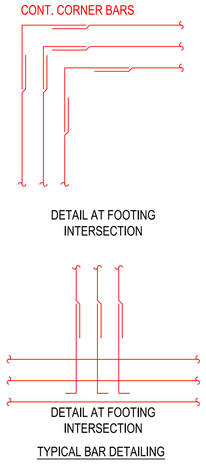
NOT TO SCALE



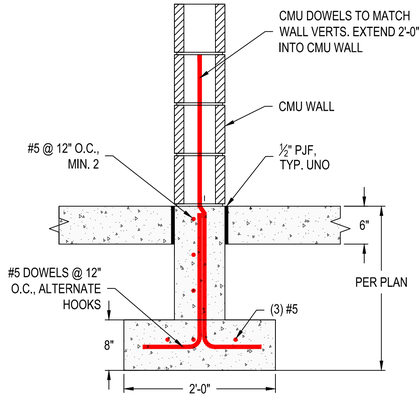
CMU PENETRATION

405 TYP

NOT TO SCALE



TYPICAL BAR DETAILING



TYPICAL FOOTING

SPREAD FOOTING

408 TYP

1" = 1'–0"

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

STRUCTURAL DETAILS 3

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

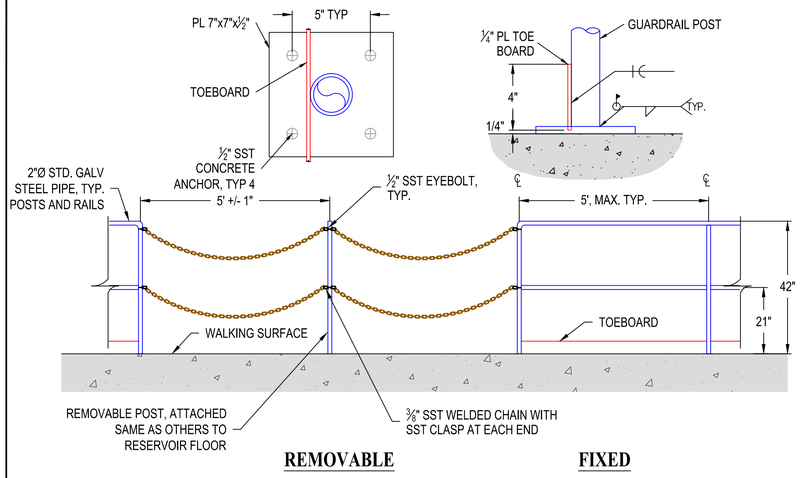
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_S01.DWG
DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JLH
REVIEWED: JMC

SCALE: SHOWN

0" 1" 2"

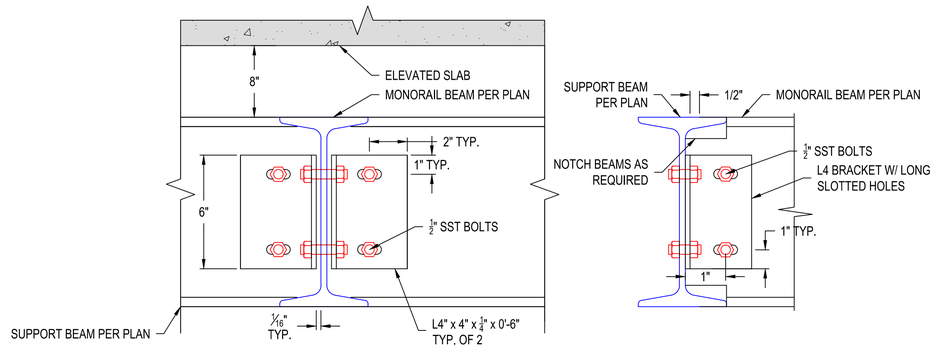
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S003
SHEET NO.: 28
158



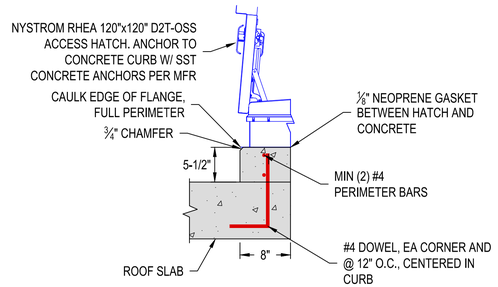
GUARDRAIL (501 TYP)

½" = 1'–0"



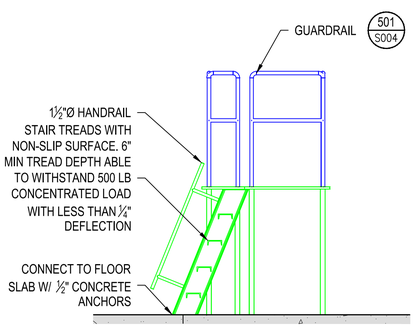
MONORAIL- SUPPORT BEAM CONNECTION DETAIL (505 TYP)

3" = 1'–0"



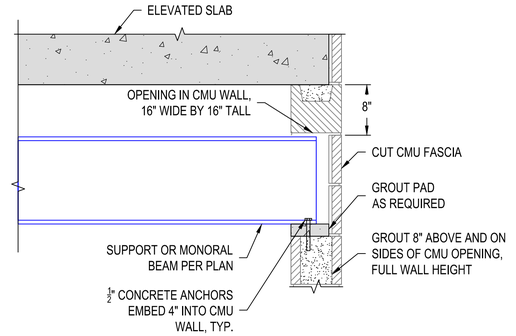
ACCESS HATCH CURB (502 TYP)

1" = 1'–0"



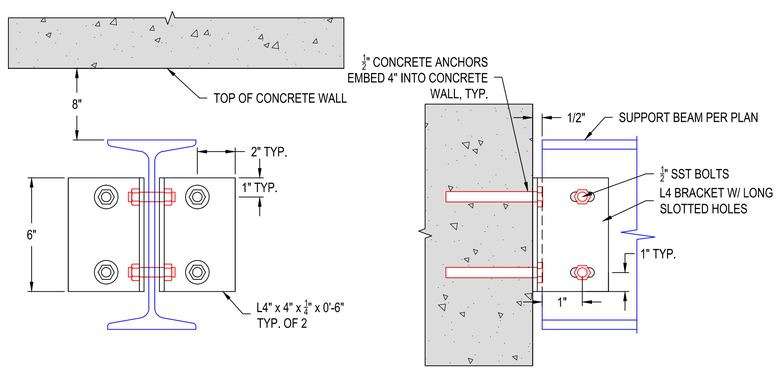
SHIP LADDER DETAIL (503 TYP)

⅜" = 1'–0"



CMU-SUPPORT BEAMS CONNECTION (506 TYP)

1" = 1'–0"



CONCRETE-SUPPORT BEAM CONNECTION (507 TYP)

1" = 1'–0"

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RICHARD J. BALLARD — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 22331 — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

STRUCTURAL DETAILS 4

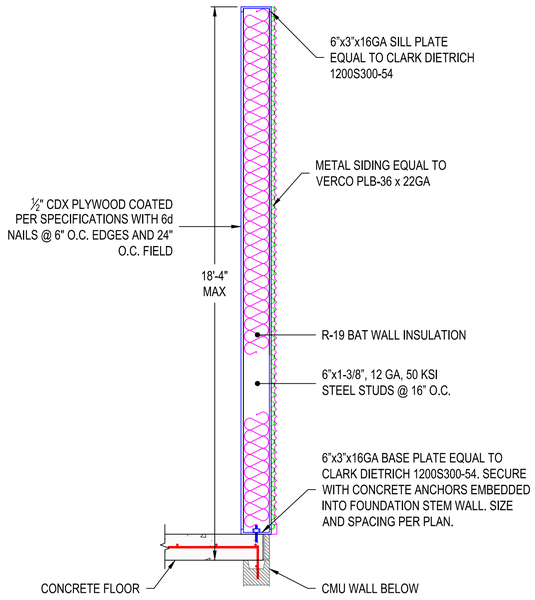
REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

ENGINEER: JLH
REVIEWED: JMC
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-GEN_S01.DWG
JOB NO.: 116-028

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

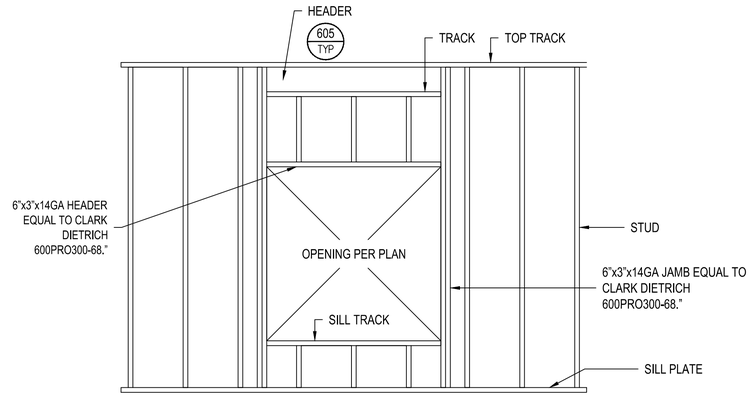
DWG NO.: S004
SHEET NO.: 29
158



EXTERIOR STEEL STUD-FRAMED WALL

NOT TO SCALE

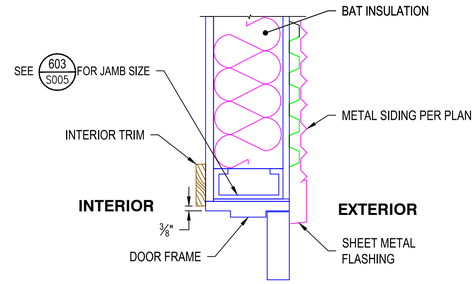
601 TYP



WINDOW FRAMING ELEVATION

NTS

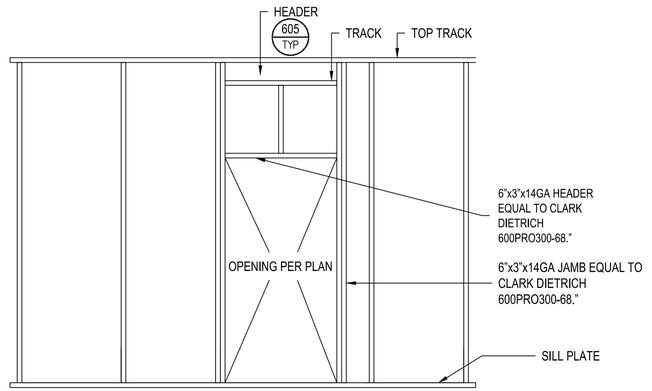
603 TYP



MAN DOOR HEAD

2" = 1'-0"

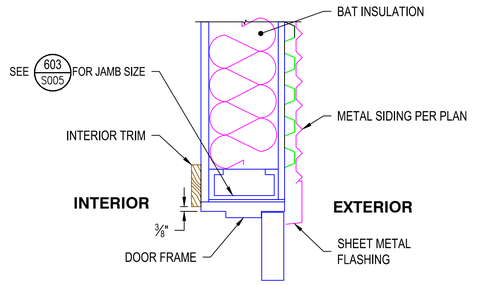
606 TYP



DOOR OPENING

NTS

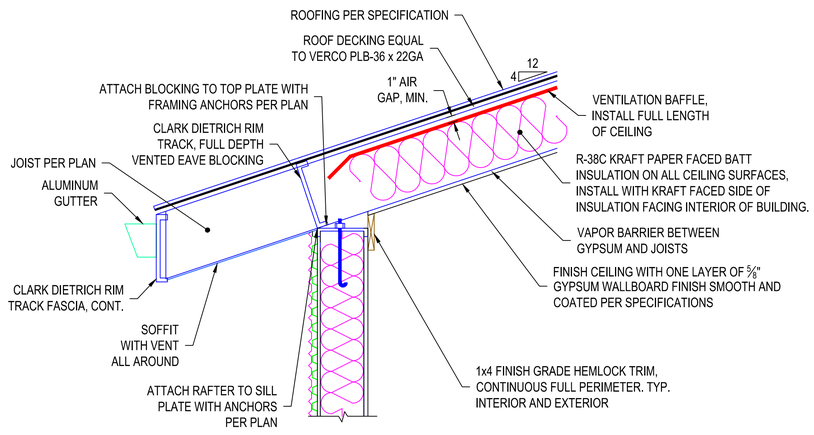
604 TYP



EXTERIOR DOOR JAMB

2" = 1'-0"

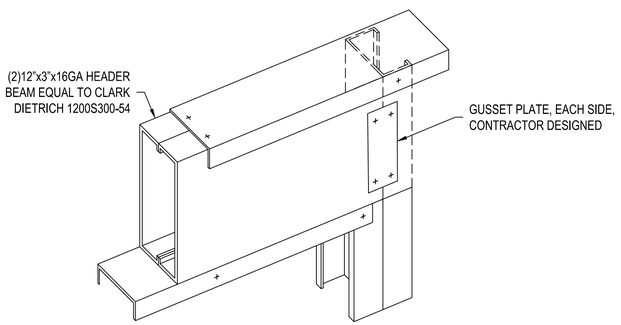
607 TYP



TYPICAL WALL/RAFTER CONNECTION

1" = 1'-0"

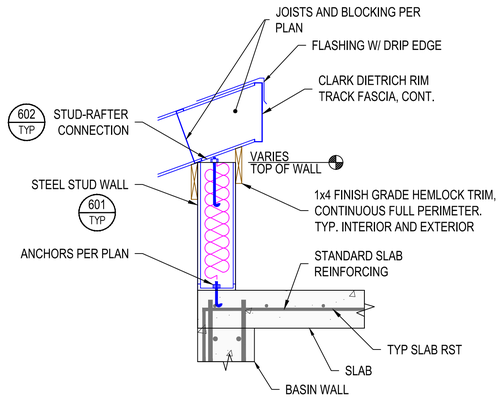
602 TYP



HEADER TO JAMB DETAIL

NTS

605 TYP



ROOF-WALL DETAIL

NOT TO SCALE

608 TYP

RH2 ENGINEERING, INC.
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Bellevue, WA 1.800.720.8052
22722 29th Drive SE, Suite 210

SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

STRUCTURAL DETAILS 5

REVISIONS			
NO.	DESCRIPTION	DATE	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_S01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: JLH
REVIEWED: JMC

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S005
SHEET NO.: 30

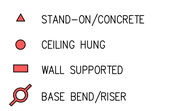
GENERAL MECHANICAL NOTES

1. CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, LABOR, AND EXPERTISE TO CONSTRUCT MAJOR AND MINOR PIPING SYSTEMS ACCORDING TO APPLICABLE CODES, STANDARDS, AND MANUFACTURER RECOMMENDATIONS.
2. CONTRACTOR SHALL CONFORM TO PIPE ROUTING AND ARRANGEMENT AS CLOSELY AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFY ALL PIPING DIMENSIONS. CONTRACTOR SHALL PREPARE AND SUBMIT DETAILED DIMENSIONAL SHOP DRAWINGS BASED ON APPROVED EQUIPMENT AND PIPING SYSTEMS. CONTRACTOR MAY SUBSTITUTE FLANGED CONNECTIONS FOR RIGID GROOVED CONNECTIONS FOR ALL PROCESS PIPING, EXCEPT AA PIPING, PENDING APPROVAL OF SHOP DRAWINGS.
3. NOT ALL PIPING, VALVES, FITTING AND ACCESSORIES ARE SHOWN. PROVIDE ALL PIPE, VALVES, AND ACCESSORIES AS SHOWN ON THE PROCESS AND INSTRUMENTATION (P&ID) DRAWINGS EVEN THOUGH NOT SHOWN ON MECHANICAL DRAWINGS.
4. FITTINGS AND/OR PIPING THAT MAY BE REQUIRED IN ORDER TO OPERATE SOME MINOR MECHANICAL SYSTEMS, INSTRUMENTATION, AND EQUIPMENT MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR SHALL PROVIDE FITTINGS AND PIPING AS NECESSARY TO HAVE A COMPLETE AND FUNCTIONAL SYSTEM.
5. CONTRACTOR SHALL CONNECT EQUIPMENT, VALVES, METERS, AND OTHER SIMILAR FITTINGS TO PIPING SYSTEM SUCH THAT IT CAN BE READILY DISASSEMBLED FOR MAINTENANCE OF THE EQUIPMENT. THIS MAY REQUIRE PROVIDING ADDITIONAL FITTINGS OR SUPPORTS NOT SHOWN IN THE PLANS.
6. DISSASSEMBLY JOINTS OR FLANGE COUPLING ADAPTORS WITH SHACKLE RODS MAY BE ADDED WITH ENGINEER APPROVAL TO FACILITATE PIPE ASSEMBLY.
7. CONTRACTOR SHALL PROVIDE ANY AND ALL VALVED VENTS AT HIGH POINTS AND VALVED DRAINS AT LOW POINTS AND ALL OTHER LOCATIONS AS NECESSARY TO SUCCESSFULLY TEST PIPING SYSTEMS.
8. PIPING, VALVES, SUPPORTS, AND OTHER APPURTENANCE HARDWARE THAT WILL BE SUBMERGED DURING NORMAL OPERATING CONDITIONS SHALL BE STAINLESS STEEL, UNLESS OTHERWISE NOTED.
9. NOT ALL PIPE SUPPORTS ARE SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE AND INSTALL PIPE SUPPORTS AS NECESSARY TO PROVIDE A RIGID, SECURE, NON-SAGGING SYSTEM. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
10. FITTING TAPS SHALL BE DONE AT THE FACTORY. PIPE TAPS MAY BE DONE ON SITE USING A TAPPING MACHINE BY AN EXPERIENCED OPERATOR. ALL TAPS ARE SUBJECT TO OWNER APPROVAL AND ANY REJECTED MATERIALS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. TAPPED DI PIPE SHALL BE CLASS 53 MINIMUM. DIRECT TAPS ON PIPE ARE TO BE LOCATED SUCH THAT ADJACENT FITTING BOLTS OR SHACKLE RODS DO NOT INTERFERE WITH INSTALLATION OF GAUGES, SWITCHES OR AIR VALVES. TAPPED PIPE WILL BE REJECTED IF EQUIPMENT CANNOT BE INSTALLED CLEANLY AND DISASSEMBLED EASILY.
11. MINOR MECHANICAL PIPING: ALL VALVES 2" AND LARGER SHALL INCLUDE HANDWHEEL OPERATORS. ALL BALL VALVES SMALLER THAN 2" SHALL HAVE ¼ TURN FULL HANDLES AND BE RATED FOR 300psi WORKING PRESSURE.
12. PLUMB ALL CONTROL VALVE PILOT DRAINS, AIR VALVE OUTLETS, AND PUMP HEAD DRAINS TO FLOOR DRAINS USING COPPER AND COMPRESSION FITTINGS OR SCH 40 PVC PIPE AND FITTINGS. SECURE TO PIPE RUNS OR SUPPORTS AWAY FROM TRAVELED PATHS. PROVIDE UNIONS OR COUPLINGS AS NECESSARY TO ALLOW COMPLETE DISASSEMBLY. MAINTAIN CONTINUOUS DRAINING GRADE ON PIPE RUNS.
13. CONTRACTOR SHALL PROVIDE ALL NECESSARY THRUST RESTRAINT, INCLUDING BUT NOT LIMITED TO CONCRETE BLOCKING, SHACKLE RODS MECHANICAL THRUST RESTRAINT (MEGALUGS OR EQUAL) AND TRUE RESTRAINED JOINT PIPE (TRJ) PIPE.
14. IN THE EVENT THAT A SECTION OF PIPING FAILS A PRESSURE TEST, AND ANY MECHANICAL JOINTS WITH MEGA-LUG STYLE RESTRAINTS NEED TO BE DISASSEMBLED, THE MEGA-LUGS AND THE ASSOCIATED PIPE MAY NOT BE REUSED AND MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE.
15. CONTRACTOR SHALL PROVIDE INSULATING FLANGE KITS OR TRANSITION COUPLINGS BETWEEN ALL DISSIMILAR PIPING MATERIALS.
16. ALL FLOW METERS SHALL BE INSTALLED SO THAT THERE IS A MINIMUM STRAIGHT RUN LENGTH OF 5 PIPE DIAMETERS UPSTREAM AND 2 PIPE DIAMETERS DOWNSTREAM.
17. ALL PVC FITTINGS SHALL BE SOCKET END-TYPE FITTINGS UNLESS OTHERWISE NOTED.
18. ALL BUTTERFLY VALVES (BFV) SHALL BE FULL LUG WAFER STYLE, UNLESS OTHERWISE NOTED.
19. ALL VALVES SHALL BE REMOVABLE WITHOUT HAVING TO CUT PIPE.
20. FLANGE COUPLING ADAPTERS (FCA), RESTRAINED FLANGE COUPLING ADAPTERS (RFCA), & COUPLINGS SHALL BE EQUAL TO ROMAC.
21. ALL PRESSURE PIPE SHALL HAVE RESTRAINED JOINTS. EXPOSED PIPING SHALL BE FLANGED OR GROOVED; BURIED PIPING SHALL BE MECHANICALLY RESTRAINED JOINTS. PUSH ON JOINTS WITH FIELD LOK (OR APPROVED EQUAL) ARE ACCEPTABLE RESTRAINED JOINT IN STRAIGHT SECTIONS WITH BLOCKING OR RESTRAINED FITTINGS AS SPECIFIED. PROVIDE TRUE (BOLTLESS) RESTRAINED JOINT PIPE AND CONCRETE BLOCKING WHERE SPECIFIED ON PLANS.
22. PIPING WHICH NORMALLY OPERATES UNDER FULL CONDITIONS WITH HYDROSTATIC HEAD HIGHER THAN THE CROWN OF THE PIPE SHALL BE CONSIDERED PRESSURE PIPING. PIPING WHICH NORMALLY OPERATES AT A HYDROSTATIC HEAD NO HIGHER THAN THE PIPE CROWN SHALL BE CONSIDERED GRAVITY PIPELINES. ALL PIPING SHALL BE HYDROSTATICALLY TESTED AND DISINFECTED (WHERE APPLICABLE) IN ACCORDANCE WITH THE GUIDELINES IDENTIFIED IN THE SPECIFICATIONS.
23. UNLESS OTHERWISE NOTED, PIPE MATERIAL SHALL BE USED BASED ON PIPE FUNCTION AND AS SPECIFIED IN THE PIPE SCHEDULE (SEE SPECIFICATIONS). PREPARE AND COAT ALL EXPOSED PIPING PER THE FINISHES SECTION OF THE SPECS.
24. ALL PIPE PENETRATIONS SHALL BE SEALED WATERTIGHT.
25. HEAT TRACE AND INSULATE ALL ABOVE GRADE, EXPOSED WATER AND FLUID PROCESS PIPES TO 3' BELOW GRADE.
26. ALL BURIED PIPING, INCLUDING SMALL PIPING, SHALL HAVE TWO FLEXIBLE JOINTS (5 DEG MIN.) OR FLEXIBLE COUPLINGS TO ACCOMMODATE MIN. 2" DIFFERENTIAL SETTLEMENT WHEN PENETRATING STRUCTURES.
27. COPPER PIPING MAY BE USED IN LIEU OF SCH 40 PVC FOR PLUMBING WATER SUPPLY LINES.
28. C900 PVC MAY BE USED IN LIEU OF DI FOR THE FOLLOWING PIPING SYSTEMS (YARD PIPING ONLY): D, RAS, WAS, SC, TD, FP, NPW, W3. ALL PIPING UNDER STRUCTURES SHALL BE DUCTILE IRON. CONTRACTOR SHALL TRANSITION PIPE MATERIALS WITHIN 5-FT OF THE STRUCTURE FOUNDATION. WHERE C900 PIPING IS USED, IT SHALL BE RESTRAINED USING APPROVED MECHANICAL RESTRAINT SYSTEM (EBAA IRON SERIES 2800/2800PV OR EQUAL).
29. ABS MAY BE USED IN LIEU OF SCH 40 PVC FOR PLUMBING DRAIN, WASTE, VENT LINES.

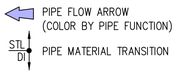
MAJOR MECHANICAL LEGEND:

PIPE AND PIPE JOINING (PLAN VIEW)

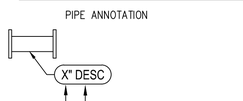
PIPE SUPPORTS (PLAN VIEW)



OTHER PIPING SYMBOLS

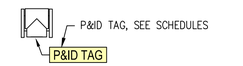


PROCESS PIPING LEGEND AND ABBREVIATIONS



PROCESS PIPING ABBREVIATIONS
SEE PIPE SCHEDULE.

VALVE, EQUIPMENT, OR INSTRUMENTATION ANNOTATION



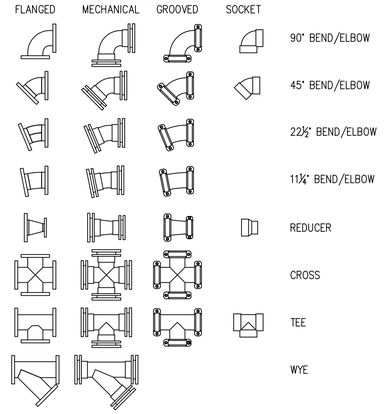
PIPE MATERIAL

MATERIAL ABBREVIATION	MATERIAL DESCRIPTION
DI	DUCTILE IRON
GSP	GALVANIZED STEEL PIPE
SSP	STAINLESS STEEL PIPE
STL	FABRICATED STEEL PIPE
HDPE	HIGH DENSITY POLY ETHYLENE
PE	POLY ETHYLENE
PVC	POLYVINYL CHLORIDE
CPEP	CORRUGATED POLYETHYLENE PIPE

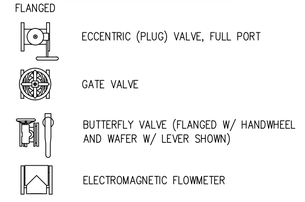
VALVE AND MECHANICAL EQUIPMENT ABBREVIATIONS

GV GATE VALVE
BFV BUTTERFLY VALVE
BV BALL VALVE
PV PLUG (ECCENTRIC) VALVE
CV CHECK VALVE
SG SLUICE GATE
WG WEIR GATE
SL STOP LOG

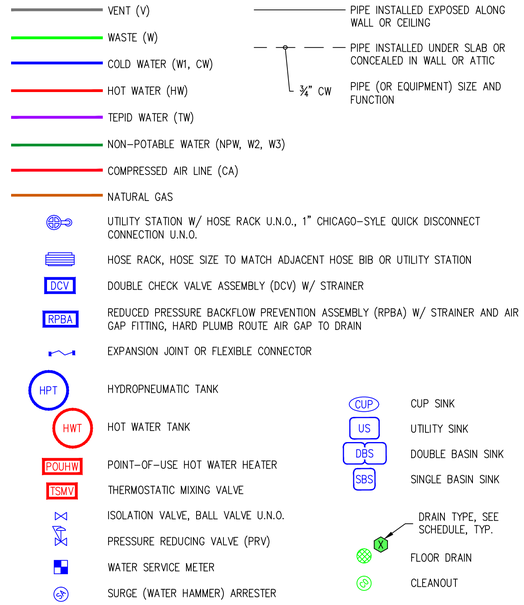
FITTINGS (PLAN VIEW)



VALVES AND METERS (PLAN VIEW)



MINOR MECHANICAL LEGEND:



DRAIN SCHEDULE:

1. 3" CAST IRON FLOOR DRAIN WITH 6" ADJUSTABLE STRAINER AND HEAVY DUTY GRATE (ZURN ZN415B-HD OR EQUAL).
2. 6" HDPE CHANNEL TRENCH DRAIN WITH DUCTILE IRON SLOTTED GRATE (ZURN Z886 OR EQUAL). MINIMUM INTERNAL DEPTH OF 6". LENGTH PER PLAN.
3. 3" CAST IRON CLEANOUT WITH ADJUSTABLE HEAVY DUTY TOP (ZURN ZS1400 OR EQUAL).

NOTE: PROVIDE P-TRAP, P-TRAP PRIMER, SEDIMENT BUCKET, AND BACKWATER VALVE FOR ALL DRAINS. SEE FLOOR DRAIN AND TRENCH DRAIN DETAILS FOR ADDITIONAL INFORMATION.

PIPE SCHEDULE

FUNCTIONAL ABBREV.	FUNCTION DESCRIPTION	EXPOSED	BURIED	SUBMERGED	NOTES	TEST PRESSURE	GAUGE RANGE
SECONDARY PROCESS PIPING							
GR	GRIT SLURRY	DI	NA	DI	GLASS LINED	100 PSI	0/60 PSI
WAS	WASTE ACTIVATED SLUDGE	DI	DI	DI		100 PSI	0/30 PSI
TS	THICKENED SLUDGE	DI	DI	DI		100 PSI	0/30 PSI
DS	DIGESTED SLUDGE	DI	DI	DI		100 PSI	0/30 PSI
AA	AERATION AIR – SH BUILDING	DI	DI	NA	UNLINED (BARE), HIGH TEMPERATURE GASKETS	100 PSI	0/30 PSI
AA	AERATION AIR – DIGESTERS	NA	NA	SST/PVC	PIPE MATERIAL AS SHOWN ON PLANS	100 PSI	N/A
SC	SCUM	DI	DI	DI		100 PSI	0/30 PSI
POL	POLYMER	BRAIDED TUBING	BRAIDED TUBING	NA	BURIED TUBING TO BE IN SCH. 80 PVC CARRIER PIPE	100 PSI	N/A
ANCILLARY PLANT AND YARD PIPING							
TD	TANK DRAIN	DI	DI	DI		100 PSI	N/A
DR	EQUIPMENT OR OTHER DRAIN	DI	DI	DI	EXPOSED PIPE IS DI OR SCH. 80 PVC WHERE NOTED	100 PSI	N/A
OV	OVERFLOW	DI	DI	DI	EXPOSED PIPE IS DI OR SCH. 80 PVC WHERE NOTED	N/A	N/A
SD	STORM DRAIN	NA	CPEP	NA	TRANSITION TO SCH. 40 PVC FOR ROOF DRAIN CONNECTIONS	4 PSI AIR	N/A
FA	FOUL AIR	FRP	FRP	NA		N/A	N/A
W2	POTABLE WATER FOR POLYMER MAKEDOWN	PEX	HDPE CL200	NA		200 PSI	0/160 PSI
W3	NON-POTABLE WATER	SST	HDPE CL200	NA	SMALLER THAN 3"	200 PSI	0/160 PSI
W3	NON-POTABLE WATER	DI	DI	NA	4" AND LARGER	200 PSI	0/160 PSI
G	NATURAL GAS	GSP	HDPE	NA	ALL 2" AND SMALLER BURIED GAS PIPE TO BE IPS, SDR 11		
PLUMBING							
W1	POTABLE WATER	COPPER	HDPE CL200	NA	1.5" AND LARGER	200 PSI	0/100 PSI
CH/HW/TW	POTABLE/HOT/TEMPERED WATER	PEX	NA	NA	SMALLER THAN 1.5"	200 PSI	0/100 PSI
DVW	BUILDING DRAINS AND VENT	SCH 40 DWV	SCH 40 DWV	NA		GRAVITY	N/A
CA	COMPRESSED AIR	COPPER	NA	NA		N/A	N/A

NOTE: ALL PIPE MATERIALS IN TABLE ARE UNLESS OTHERWISE NOTED ON PLANS.

MINOR MECHANICAL (PLUMBING) NOTES:

1. ALL MINOR MECHANICAL SYSTEMS SHOWN IN THE PLANS ARE DIAGRAMMATIC AND DOES NOT SHOW ALL DETAIL OR OFFSETS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CORRECTLY LOCATE AND INSTALL THE MINOR MECHANICAL PIPING SYSTEMS.
2. ALL DRAIN, WASTE AND VENT PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE, LATEST EDITION, AND ALL OTHER APPLICABLE CODES AND STANDARDS.
3. P-TRAP WATER SUPPLY AND PLUMBING IS NOT SHOWN IN THE PLANS AND SHALL BE PROVIDED PER PLUMBING CODE. PROVIDE P-TRAPS AT ALL FLOOR DRAINS UNLESS NOTED OTHERWISE. EXTEND DOMESTIC (POTABLE) WATER SYSTEM TO PROVIDE P-TRAP PRIMER WATER.
4. ALL WASTE PIPING TO BE SLOPED AT ¼"/FT MIN. UNLESS OTHERWISE NOTED. ALL ELEVATIONS AND SLOPES TO BE FIELD VERIFIED BEFORE INSTALLATION.
5. WASTE VENT PIPING IS NOT SHOWN IN THE PLANS AND SHALL BE PROVIDED PER PLUMBING CODE. CONNECT ALL WASTE VENT PIPING ABOVE CEILING. CONTRACTOR TO VENT PIPING TO BEST UTILIZE FIELD CONDITIONS, INSTALL IN A CONCEALED MANNER, AND MEET ALL APPLICABLE PLUMBING AND CONSTRUCTION CODES.
6. THE CONTRACTOR SHALL INSTALL ALL PIPING IN A RIGID, NON-SAGGING MANNER PARALLEL AND PERPENDICULAR TO WALLS, FLOOR AND CEILING. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS AND SUPPORTS. ALL PIPING SUPPORTS SHALL NOT HAVE METAL PIECES IN CONTACT WITH PIPING.
7. ALL PIPES SHALL BE LABELED WITH FUNCTION AND FLOW DIRECTION IN ACCORDANCE WITH THE SPECIFICATIONS AND PLUMBING CODE.
8. ALL WATER PIPING SHALL BE INSULATED AND SEAMS SEALED TO PREVENT CORROSION.
9. INSTALL DRAIN VALVE(S) AT COMPRESSED AIR LOW POINT(S).
10. INSULATE ALL COMPRESSED AIR PIPING ROUTED OUTSIDE.
11. PROVIDE AND INSTALL COMPRESSED AIR LINES AS NECESSARY FOR VALVES, EQUIPMENT AND OTHER DEVICES.

SIGNED: 09/19/17

SIGNED: 09/19/17

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22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

MECHANICAL DETAILS 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_M01.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M001
SHEET NO.: 31
158

ELECTRONIC ACTUATED VALVE SCHEDULE

No.	Description/Location	Pipe Size	Valve Type
7CV01	3-WAY WAS TO RDT/THICKENING ROOM	4"	PLUG
7CV02	RECUPERATIVE THICKENING/THICKENING ROOM	4"	PLUG

ACTUATOR NOTES
1. ACTUATOR TO BE COMPATIBLE WITH 3-WAY PLUG VALVE FOR WAS TO RDT VALVE..
2. QUARTER-TURN ACTUATOR REQUIRED FOR RECUPERATIVE THICKENING VALVE.

ELECTROMAGNETIC FLOW METER SCHEDULE

No.	Description	Location	Pipe Size	Flowrate (gpm) Min.		Flowrate (gpm) Max.	Velocity (ft/s) Min.		Velocity (ft/s) Max.	Fluid Type
5FE21	WAS FLOW METER NO. 1	WAS PUMP ROOM	4"	20	–	100	0.51	–	2.55	WASTE ACTIVATED SLUDGE
5FE22	WAS FLOW METER NO. 2	WAS PUMP ROOM	4"	20	–	100	0.51	–	2.55	WASTE ACTIVATED SLUDGE
7FE04	TS FLOW METER NO. 1	THICKENING ROOM	4"	20	–	100	0.51	–	2.55	THICKENED SLUDGE
7FE07	RECUPERATIVE FLOW METER NO. 1	THICKENING ROOM	4"	5	–	100	0.13	–	2.55	THICKENED SLUDGE
7FE05	DS FLOW METER NO. 1	DEWATERING ROOM	2"	20	–	100	2.04	–	10.21	DIGESTED SLUDGE
7FE06	DS FLOW METER NO. 2 (RELOCATED)	DEWATERING ROOM	2"	20	–	100	2.04	–	10.21	DIGESTED SLUDGE

AIR FLOW METER SCHEDULE

No.	Description	Location	Pipe Size	Flowrate (SCFM) Min.		Flowrate (SCFM) Max.	Velocity (ft/s) Min.		Velocity (ft/s) Max.	Fluid Type
7FExx	AIR FLOW METER NO. 1	SOLIDS HANDLING BLOWER ROOM	6"	200	–	650	N/A	–	N/A	AIR @ 10 PSI
7FExx	AIR FLOW METER NO. 2	SOLIDS HANDLING BLOWER ROOM	6"	200	–	650	N/A	–	N/A	AIR @ 10 PSI
7FExx	AIR FLOW METER NO. 3	SOLIDS HANDLING BLOWER ROOM	6"	200	–	650	N/A	–	N/A	AIR @ 10 PSI

AIR FLOW METER NOTES
1. AIR FLOW METERS TO BE PROVIDED WITH WAFER-STYLE CONDITIONERS AS SHOWN PER PLAN.

GAS-FIRED UNIT HEATER SCHEDULE

No.	Room	Manufacturer	Model Number	Input Capacity BTUH	Output Capacity BTUH	Voltage	Gas Connection inches	Approximate Weight lbs	Notes
UH-1	SOLIDS HANDLING TRUCK BAY	REZNOR	UDAS-125	120,000	99,600	120v, 1 PHASE	1/2	130	1-8
UH-2	SOLIDS HANDLING TRUCK BAY	REZNOR	UDAS-125	120,000	99,600	120v, 1 PHASE	1/2	130	1-8
UH-3	SOLIDS HANDLING THICKENING ROOM	REZNOR	UDAS-150	150,000	124,500	120v, 1 PHASE	1/2	215	1-8
UH-4	SOLIDS HANDLING DEWATERING ROOM	REZNOR	UDAS-225	225,000	186,750	120v, 1 PHASE	3/4	255	1-8
UH-5	HEADWORKS GRIT ROOM	REZNOR	UDAS-75	75,000	62,250	120v, 1 PHASE	1/2	100	1-4, 6-9

HEATER NOTES
1. UNIT SHALL OPERATE ON NATURAL GAS
2. UNIT SHALL BE A SEPARATE COMBUSTION SYSTEM WITH POWER VENTING WITH A TWO-STAGE NATURAL GAS VALVE AND A SUITABLY RATED, FACTORY INSTALLED BUILT-IN DISCONNECT SWITCH.
3. UNIT SHALL HAVE A MINIMUM THERMAL EFFICIENCY OF 83%
4. PROVIDE MANUAL SHUT-OFF VALVES AND A WALL MOUNTED TWO-STAGE THERMOSTAT.
5. PROVIDE A MANUFACTURER HORIZONTAL COMBUSTION AIR TERMINAL PACKAGE.
6. FIELD SUPPLY ALL VENT PIPES, COMBUSTION AIR PIPES, FITTINGS, THIMBLES (ONLY IF REQUIRED BY WALL MATERIAL), FLASHING, HIGH TEMPERATURE SEALANT, SHEET METAL SCREWS, AND STRUCTURAL SUPPORTS AND HANGING EQUIPMENT.
7. COORDINATE SERVICE INLET PRESSURE WITH UTILITY.
8. INSTALL UNIT FOLLOWING ALL MANUFACTURER INSTRUCTIONS
9. PROVIDE A MANUFACTURER VERTICAL COMBUSTION AIR TERMINAL PACKAGE.

GREASE FILTER SCHEDULE

No.	Location	Manufacturer	Model	Airflow (CFM)	Velocity (FPM)	Flange Size (in)	Notes
GF-1	HEADWORKS-CHANNEL EXHAUST	FANAIR	GT-700	700	311	12	–

SLIDE GATE SCHEDULE

No.	Description	Size Width	Size Height	Gate Type	Frame Type	Mounting Type	Actuator Type	Notes
G-701	AEROBIC DIGESTER 1-2 OVERFLOW GATE	24" X 12"		DWO WEIR	NSC	FLG	HW	GASKET ENCLOSURE ON ALL OPENING SIDES
G-702	AEROBIC DIGESTER 2-3 OVERFLOW GATE	24" X 12"		DWO WEIR	NSC	FLG	HW	GASKET ENCLOSURE ON ALL OPENING SIDES
G-703	DECANT BAY 1 GATE	12" X 18"		DWO WEIR	NSC	FLG	HW	GASKET ENCLOSURE ON ALL OPENING SIDES
G-704	DECANT BAY 2 GATE	12" X 18"		DWO WEIR	NSC	FLG	HW	GASKET ENCLOSURE ON ALL OPENING SIDES

GATE AND STOP LOG NOTES
1. GATES AND LOGS SHALL BE MOUNTED USING CONCRETE ANCHORS AND 316 SST HARDWARE.
2. NON-SELF CONTAINED (INCLUDING SPIGOT) GATES SHALL BE PROVIDED WITH FLOOR PEDESTAL. PROVIDE OFFSET PEDESTAL WHERE SHOWN ON PLANS.
3. GATES SHALL BE STAINLESS STEEL STEMS AND STEM GUIDES. STEM GUIDES SHALL BE SPACED PER MANUFACTURER RECOMMENDATIONS (MIN. 10' O.C.).
4. GATES SHALL BE PROVIDED WITH TRAVEL STOPS AND FRAMES THAT ALLOW GATE TO TRAVEL THE FULL OPENING HEIGHT PLUS 6".
5. GASKET ENCLOSURE ON ALL OPENING SIDES.

FAN SCHEDULE

No.	Description	Air Direction	Fan Type	Airflow (CFM)	SP (Inch WG)	Manufacturer	Model Number	Motor HP	Voltage	Notes
EF-1	SOLIDS HANDLING BLOWER ROOM	EXHAUST	PROPELLER	1,500	0.6	GREENHECK	SE2-16-430-A7	0.75	120v, 1 PHASE	1,2,5,7,8
EF-2	SOLIDS HANDLING UPPER LEVEL LOCKER ROOM	EXHAUST	WALL	400	0.4	GREENHECK	CW-090-D	0.1	120v, 1 PHASE	3,4,5,8
SF-1	SOLIDS HANDLING THICKENING ROOM	SUPPLY	CABINET	3,600	0.6	GREENHECK	BSQ-200-15	1.5	460v, 3 PHASE	1,5,6,7,8

VENTILATOR NOTES
1. PROVIDE WALL SLEEVE SIZED FOR FAN AND MOTORIZED DAMPER
2. PROVIDE MOTOR SIDE GUARD
3. PROVIDE GRAVITY BACK-DRAFT DAMPER
4. PROVIDE WITH GALVANIZED BIRDSCREEN
5. FAN TO OPERATE CONTINUOUSLY
6. FAN TO BE PROVIDED WITH MANUFACTURER FILTER SECTION
7. FAN TO BE PROVIDED WITH CORROSION RESISTANT FASTENERS AND TO BE FACTORY COATED WITH PERMATECTOR
8. MOTOR SHALL BE ECM OR HAVE A RATED EFFICIENCY OF AT LEAST 70% PER WSEC-2015

ODOR CONTROL FAN SCHEDULE

No.	Description	Air Direction	Fan Type	Airflow (CFM)	SP (Inch WG)	Manufacturer	Model Number	Motor HP	Enclosure	Voltage	Notes
FA-1	HEADWORKS FOUL AIR FAN NO. 1	EXHAUST	UTILITY	700	13	VERANTIS	CMHB-8	5	TEFC	460v, 3 PHASE	1-4
FA-2	HEADWORKS FOUL AIR FAN NO. 2	EXHAUST	UTILITY	1,600	13	VERANTIS	CLUB-1500	7.5	TEFC	460v, 3 PHASE	1-4
FA-3	SOLIDS HANDLING FOUL AIR FAN NO. 1	EXHAUST	UTILITY	11,300	13	VERANTIS	CLUB-3000	40	TEFC	460v, 3 PHASE	1-4
FA-4	SOLIDS HANDLING FOUL AIR FAN NO. 2	EXHAUST	UTILITY	11,400	13	VERANTIS	CLUB-3000	40	TEFC	460v, 3 PHASE	1-4

FOUL AIR FAN NOTES
1. FRP FAN WITH STAINLESS STEEL SHAFT
2. FAN MOTOR SHALL HAVE VFD
3. FAN MOTOR SHALL BE SMALLEST AVAILABLE MOTOR HP SIZE GREATER THAN FAN BHP.
4. TOTAL FAN EFFICIENCY SHALL BE WITHIN 15% OF THE FAN MAXIMUM TOTAL EFFICIENCY PER WSEC-2015

LOUVER AND DAMPER SCHEDULE

No.	Description	Air Direction	Airflow CFM	Manufacturer	Model Number	Size	Damper	Notes
L-1	HEADWORKS GRIT ROOM	INTAKE	1,600	POTTORFF	EFD-445	24"x24"	MOTORIZED	1-4
L-2	SOLIDS HANDLING BLOWER ROOM	INTAKE	3,450	POTTORFF	EFD-445	40"x32"	MOTORIZED	1-4
L-3	SOLIDS HANDLING BLOWER ROOM	EXHAUST	1,500	POTTORFF	EFD-445	40"x32"	MOTORIZED	1,2,4
L-4	SOLIDS HANDLING THICKENING ROOM	INTAKE	3,600	POTTORFF	EFD-445	54"x24"	MOTORIZED	1-4
L-5	SOLIDS HANDLING THICKENING ROOM	EXHAUST	3,400	POTTORFF	EFD-445	40"x32"	MOTORIZED	1,2,4
L-6	SOLIDS HANDLING DEWATERING ROOM	INTAKE	5,400	POTTORFF	EFD-445	48"x48"	MOTORIZED	1-4
L-7	SOLIDS HANDLING TRUCK BAY	INTAKE	2,700	POTTORFF	EFD-445	32"x32"	MOTORIZED	1-4
L-8	SOLIDS HANDLING TRUCK BAY	INTAKE	2,700	POTTORFF	EFD-445	32"x32"	MOTORIZED	1-4

LOUVER NOTES
1. CHANNEL FRAME FLUOROPOLYMER COATED EXTRUDED ALUMINUM WITH FACE MOUNTED STAINLESS STEEL INSECT SCREEN.
2. CONTRACTOR TO PROVIDE PROPER TRANSITION FROM FAN OR DUCTWORK TO LOUVER AS SHOWN ON PLANS.
3. PROVIDE LOUVER WITH 18" LONG SLEEVE TO ACCOMMODATE DAMPERS.
4. DAMPER SHALL BE EQUAL TO GREENHECK VCD-23 OR EQUAL.

HEAT PUMP SCHEDULE

Equipment Number	Area Served	Type	SUPPLY FAN Airflow (CFM)	SUPPLY FAN ESP in WG	SUPPLY FAN Motor HP	COOLING Capacity, Btuh	COOLING SEER	HEATING Capacity, Btuh	HEATING HSPF	HEATING Supplemental Heat, kW	NOTES
HP-1	SOLIDS HANDLING BUILDING UPPER LEVEL – OFFICE AND BREAKROOM AREA	PACKAGED UNIT	2,060	0.5	1.0	58,000	13.0	55,000	7.7	25	1-8

HEAT PUMP NOTES
1. UNIT SHALL HAVE 460v, 3 PHASE POWER
2. PROVIDE WITH FULLY MODULATING ECONOMIZER WITH 100% MODULATION AND INTEGRATED WITH THE MECHANICAL COOLING PER WSEC-2015 C403.3.1 ALL DAMPERS SHALL BE CLASS 1. CONTROLS SHALL BE OFF OF FIXED DRY BULB TEMPERATURE PER WSEC-2015. THE ECONOMIZER SHALL AUTOMATICALLY CHANGE TO MINIMUM OUTSIDE AIR SETTING WHEN THE OUTDOOR TEMPERATURE EXCEEDS 75°F PER THE HIGH-LIMIT SHUTOFF REQUIREMENT IN WSEC 2015.
3. FIRST STAGE OF HEATING SHALL BE WITH THE COMPRESSOR. SUPPLEMENTAL / EMERGENCY HEAT SHALL HAVE A MINIMUM OF 2 STAGES.
4. MOUNT UNIT ON 3" TALL CONCRETE SLAB
5. MINIMUM OUTSIDE AIR SETTING SHALL BE 200 CFM FOR MECHANICAL VENTILATION OF SPACES
6. HORIZONTAL SUPPLY AND RETURN DUCTING PER PLANS
7. PROVIDE 7-DAY PROGRAMMABLE WALL MOUNTED THERMOSTAT
8. PROVIDE FAULT DETECTION AND DIAGNOSTIC SYSTEM PER WSEC-2015 C403.2.4.7

DIFFUSER/GRILLE SCHEDULE

Tag	Manufacturer	MODEL	Air Direction	Nominal Size (in)	Airflow (CFM)	LOCATION	Notes
1	PRICE	RCDA	SUPPY	6	160	S.H. UPPER FLOOR	1
2	PRICE	RCDA	SUPPLY	6	160	S.H. LOWER FLOOR	2
3	PRICE	RCDA	SUPPY	8	200	S.H. UPPER FLOOR	1
4	PRICE	AMCD	SUPPY	8x8	220	S.H. UPPER FLOOR	2,7
5	PRICE	RECG	RETURN/EXHAUST	6	100	S.H. UPPER FLOOR	2
6	PRICE	RECG	RETURN/EXHAUST	8	160	S.H. UPPER/LOWER FLOOR	2
7	PRICE	530FF	TRANSFER	12x6	160	S.H. LOWER FLOOR	3,4
8	PRICE	530FF	RETURN	18X12	300	S.H. UPPER FLOOR	1,3,4
9	PRICE	530FF	RETURN	20X16	500	S.H. UPPER FLOOR	1,4
10	PRICE	80SR	RETURN	24X12	220	S.H. UPPER FLOOR	2,6
11	PRICE	530FF	TRANSFER	12x12	100	S.H. UPPER FLOOR	3,4
12	PRICE	RCDA	SUPPLY	16	900	S.H. LOWER FLOOR	1
13	PRICE	610	EXHAUST	30x16	1600	H.W. GRIT ROOM	1,4,5
14	PRICE	81	EXHAUST	30x30	5400	S.H. LOWER FLOOR	2

DIFFUSER/GRILLE NOTES
1. MOUNT TO EXPOSED DUCT
2. MOUNT TO HARD LID CEILING OR WALL
3. MOUNT TO WALL WITH COUNTER SUNK SCREWS
4. BLADES PARALLEL TO LONG DIMENSION
5. ALUMINUM CONSTRUCTION WITH ALUMINUM OPPOSED BLADE DAMPER
6. PROVIDE WITH TOP INLET INTEGRATED PLENUM
7. PROVIDE WITH SQUARE TO ROUND TRANSITION AND OPPOSED BLADE DAMPER. MAKE CONNECTION TO DIFFUSER WITH FLEXIBLE DUCT. NO MORE THAN 5 LINEAL FEET OF FLEXIBLE DUCT ALLOWED PER CONNECTION.

SPLIT SYSTEM A/C SCHEDULE

No.	Room	Manufacturer	Model Indoor/Outdoor	Cooling Capacity (BtuH)	SEER	Voltage	Notes
AC-1	SOLIDS HANDLING BUILDING-ELECTRICAL ROOM	MITSUBISHI	PKA-A36KA7/ PUY-A36NKA7	36,000	18.8	208/230V, 1 PHASE	1-6

SPLIT SYSTEM AIR CONDITIONING NOTES
1. UNIT EFFICIENCY IS REQUIRED TO BE 15% ABOVE THE MINIMUM EFFICIENCY STATED IN THE 2015 WSEC TO MEET SECTION C403.3 EXCEPTION NUMBER 10.
2. ROUTE A/C UNIT DRAIN TO THE OUTSIDE AND TO THE GROUND IN AN INCONSPICUOUS LOCATION WITH 1" SCH. 40 PVC CONDENSATE DRAIN LINE. PROVIDED CONDENSATE PUMP IF CONDENSATE CANNOT FLOW BY GRAVITY.
3. SECURELY MOUNT OUTDOOR UNIT TO CONCRETE PAD PER FACTORY REQUIREMENTS. SEE PLANS FOR LOCATION.
4. DO NOT MOUNT INDOOR UNIT ABOVE ANY ELECTRICAL EQUIPMENT
5. MOUNT INDOOR UNIT 8'-0" ABOVE FINISHED FLOOR TO UNDERSIDE OF UNIT
6. PROVIDE WALL-MOUNTED THERMOSTAT
7. MOTOR SHALL BE ECM OR HAVE A RATED EFFICIENCY OF AT LEAST 70% PER WSEC-2015

SMITH WASHINGTON REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17
BALLARD WASHINGTON REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17
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Bothell, WA 1.800.720.8052
www.rh2.com
22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

MECHANICAL DETAILS 2

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_M01.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

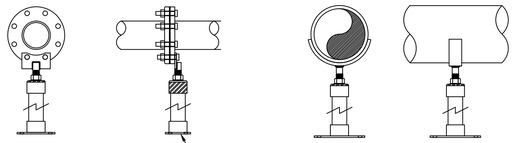
DWG NO.: M002
SHEET NO.: 32

GENERAL PIPE SUPPORT NOTES

1530 TYP.

TABLE A: PIPE SUPPORT DESIGN CRITERIA					
		MAX. SPAN FOR PIPE SUPPORTS (FT)			
PIPE SIZE	ROD SIZE	STEEL	DUCTILE IRON	COPPER	PLASTIC
1"	3/8"	7	10	5	5
1-1/2"	3/8"	9	10	7	5
2"	3/8"	10	10	8	6
2-1/2"	1/2"	10	10	9	6
3"	1/2"	10	10	10	7
4"	5/8"	10	10	10	7
6"	3/4"	10	10	10	8
8"	3/4"	10	10	10	8
10"	7/8"	10	10	10	10
12"	7/8"	10	10	10	10
14"	1"	10	10	–	10
16"	1"	10	10	–	10
18"	1-1/4"	10	10	–	10
20"	1-1/4"	10	10	–	10
24"	1-1/2"	10	10	–	10
30"	1-1/2"	10	10	–	10
36"	2"	10	10	–	10

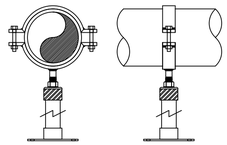
1. PIPE AND CONDUIT SUPPORT MATERIAL SHALL BE PER INSTALLATION LOCATION:
   - 1.1. STAINLESS STEEL SUPPORTS AND HARDWARE REQUIRED AT THE FOLLOWING LOCATIONS:
     - 1.1.1. EXTERIOR LOCATIONS
     - 1.1.2. SUBMERGED OR LOCATED BELOW THE TOP OF THE WALL WITHIN A WATER BEARING STRUCTURE,
     - 1.1.3. WITHIN THE FOLLOWING AREAS: GRIT, THICKENING, DEWATERING ROOMS AND TRUCK BAY
   - 1.2. IN ALL OTHER AREAS, MATERIALS SHALL BE HOT-DIP GALVANIZED UNLESS NOTED OTHERWISE.
2. FOR PIPE SIZES THAT ARE NOT LISTED IN ABOVE TABLE, THE NEXT LARGER PIPE SIZE SHALL BE USED FOR DETERMINING LOADING AND SUPPORT SPACING.
3. ROD SIZE IS BASED ON CARRYING SINGLE PIPE. WHEN MORE THAN ONE PIPE IS TO BE SUPPORTED, RODS SHALL BE SIZED USING SUM OF DESIGN WEIGHTS TO DETERMINE TOTAL LOAD.
4. PLASTIC PIPE SUPPORT SPACING BASED ON SCH 80 PIPE AT 100 DEG F. SCH 40 PIPE OR HIGHER TEMPERATURES REQUIRE SHORTER SPANS. SEE MANUFACTURER'S RECOMMENDATIONS.
5. INSTALL AT LEAST ONE HANGER PER PIPE LENGTH. LOCATE AS NEAR THE END CONNECTION AS POSSIBLE.
6. PROVIDE TURNBUCKLE WITH SUPPORT ROD FOR PIPES SUBJECT TO HORIZONTAL MOVEMENT.
7. PROVIDE LATERAL AND SEISMIC BRACING AS SPECIFIED & REQUIRED.
8. DESIGN WEIGHTS ARE BASED ON SCH 80 STEEL PIPE AT 10 FT SUPPORT SPACING.
9. ALL CONNECTIONS TO CONCRETE SHALL BE CONCRETE ANCHORS PER SPECIFICATIONS & STRUCTURAL DETAILS.
10. MSS REFERS TO MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY, STANDARD PRACTICE SP 58 AND SP 69.
11. CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, AND LABOR FOR CONSTRUCTING PIPE SUPPORT SYSTEMS.
12. PIPE SUPPORT SYSTEMS AS DETAILED PROVIDE GENERAL GUIDELINES FOR HOW PIPES SHALL BE SUPPORTED. ADDITIONAL SUPPORT CONFIGURATIONS MAY BE REQUIRED. CONTRACTOR SHALL SUBMIT ALTERNATE SUPPORT DETAILS FOR APPROVAL.
13. CONTRACTOR SHALL PROVIDE SUPPORTS AS NEEDED TO SECURE PIPING SYSTEM IN NORMAL AND TEST OPERATING CONDITIONS.
14. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF PIPE SUPPORTS, HANGERS AND SEISMIC BRACING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



TYPE A - FLANGE SUPPORT
(TYP. AT VALVES, METERS, AND FITTINGS)

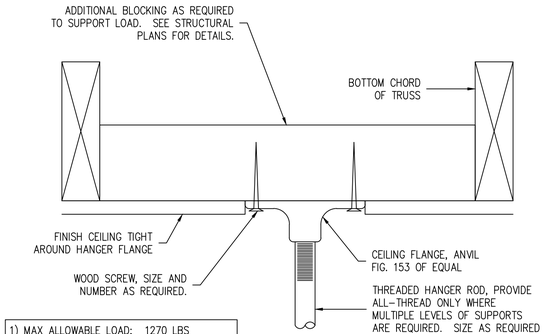
TYPE B - SADDLE SUPPORT
(AS SPECIFIED OR WITH ENGINEER APPROVAL)

SEE PIPE STANCHION DETAIL FOR MORE INFORMATION, TYP.



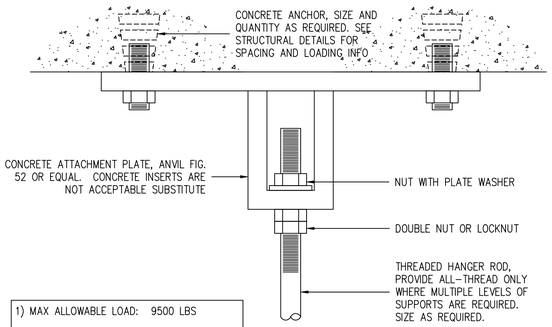
TYPE C - SADDLE CLAMP SUPPORT
(TYP. AT PIPING)

1. FLANGE, SADDLE, AND SADDLE CLAMP SUPPORTS SHALL BE "STANDON" BRAND AS MANUFACTURED BY MATERIAL RESOURCES OR EQUAL.



1) MAX ALLOWABLE LOAD: 1270 LBS
2) CENTER PIPE SUPPORT BETWEEN TRUSSES.

TYPE A - WOOD FRAMED CEILING



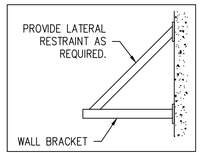
1) MAX ALLOWABLE LOAD: 9500 LBS
2) CEILING HANGER TO BE LOCATED SO AS TO PROVIDE MINIMUM EDGE CLEARANCE REQUIRED FOR CONCRETE ANCHOR.

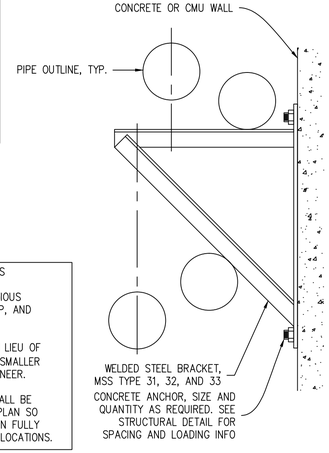
TYPE B - CONCRETE CEILING

PS1 - STANDON PIPE SUPPORT

1531 TYP.

NOT TO SCALE





1. MAX ALLOWABLE LOAD: 3000 LBS
2. BRACKET MAY BE USED WITH VARIOUS HANGER, ROLLER, GUIDE, U-CLAMP, AND ANCHOR ASSEMBLIES.
3. STRUT SUPPORT MAY BE USED IN LIEU OF WALL BRACKET FOR 6" DIA. AND SMALLER PIPING OR AS APPROVED BY ENGINEER.
4. LOCATION OF WALL SUPPORTS SHALL BE COORDINATED WITH STRUCTURAL PLAN SO THAT SUPPORTS ARE ANCHORED IN FULLY GROUTED VERTICAL CMU COLUMN LOCATIONS.

PS2 - WALL SUPPORTED PIPE SUPPORT

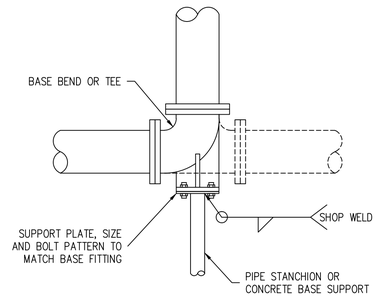
1533 TYP.

NOT TO SCALE

PS3 - CEILING SUPPORTED PIPE SUPPORT

1532 TYP.

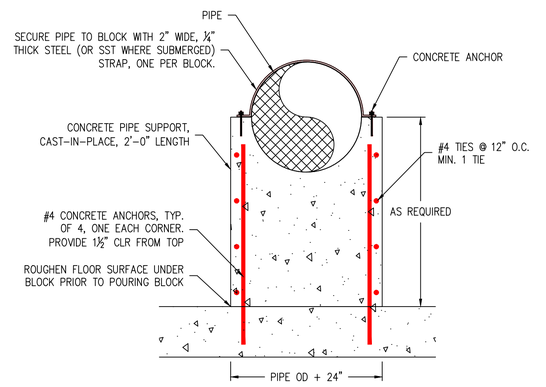
NOT TO SCALE



PS4 - BASE BEND/TEE PIPE SUPPORT

1534 TYP.

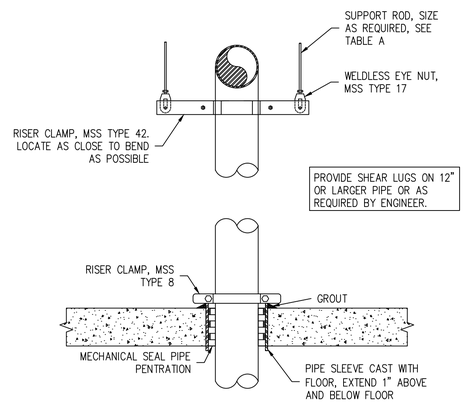
NOT TO SCALE



PS5 - CONCRETE PIPE SUPPORT

1535 TYP.

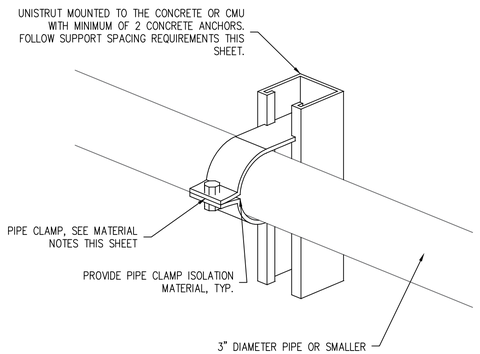
NOT TO SCALE



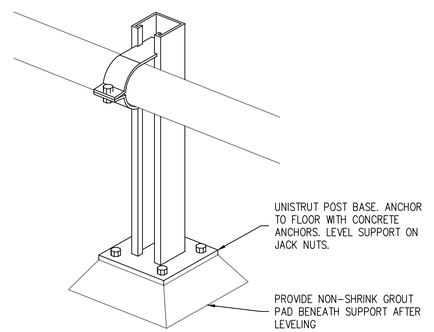
PS6 - RISER PIPE SUPPORT

1536 TYP.

NOT TO SCALE



3" DIAMETER PIPES AND SMALLER WALL-SUPPORTED



3" DIAMETER PIPES AND SMALLER FLOOR-SUPPORTED

UNISTRUT PIPE SUPPORT

1557 TYP.

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

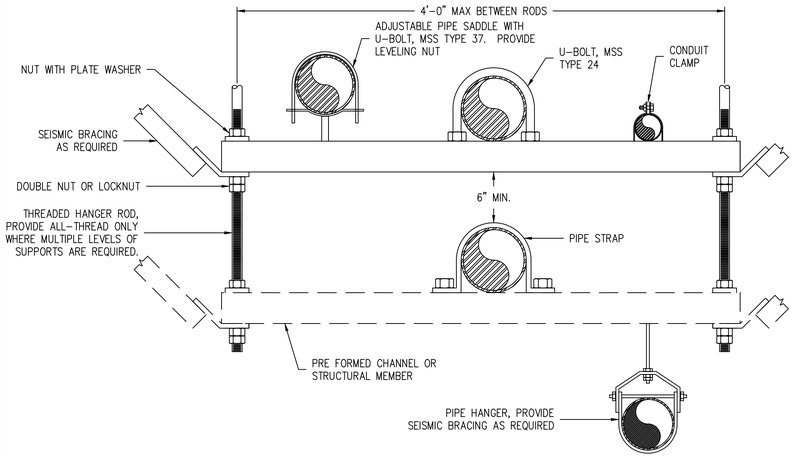
MECHANICAL DETAILS 3

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_M02.DWG
DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWER: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M003
SHEET NO.: 33
158



1) MAX ALLOWABLE LOAD: 3000 LBS

2) CHANNEL (STRUT) MAY BE USED WITH VARIOUS HANGER, ROLLER, GUIDE, U-CLAMP, AND ANCHOR ASSEMBLIES.

4) ISOLATE ALL COPPER AND PLASTIC PIPING WITH PVC TAPE OR PVC COATING ON HANGERS/CLAMPS. METAL HANGER/CLAMP SHALL NOT RUB ON PIPE.

5) MAXIMUM SUSPENDED PIPE SIZE SHALL NOT EXCEED 12" DIA. WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

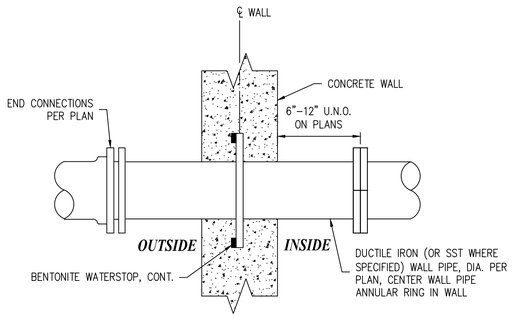
6) HANGERS USED FOR INSULATED PIPE SHALL INCLUDE MSS TYPE 39 SADDLE FOR HOT, AND MSS TYPE 40 FOR COLD.

7) CONTRACTOR SHALL SELECT HANGER OR CLAMP STYLE AS APPROPRIATE TO FOR SUPPORT CONDITION. ADDITIONAL HANGERS AND CLAMPS BEYOND THOSE SHOWN MAY BE USED WITH ENGINEER APPROVAL.

8) CONTRACTOR IS RESPONSIBLE FOR DESIGN OF PIPE HANGER AND SEISMIC BRACING. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

9) LATERAL AND SEISMIC BRACING NOT SHOWN, CONTRACTOR SHALL PROVIDE AS REQUIRED AND NECESSARY. IN GENERAL, PIPING LOCATED IN EXCESS OF 12" FROM CEILING SHALL HAVE BRACING.

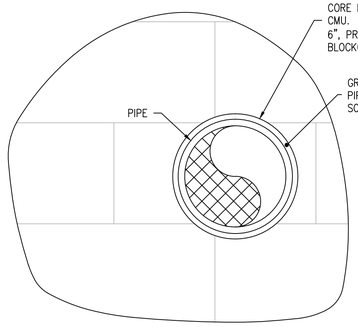
10) USE CONCRETE ANCHORS FOR ANCHORAGE INTO CONCRETE.



TYPICAL USAGE: WALL PENETRATION LOCATED BELOW THE HIGH WATER LEVEL WITHIN A WATER BEARING STRUCTURE.

PP1 - WALL THIMBLE PIPE PENETRATION (1541 TYP.)

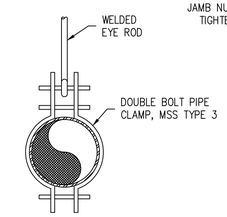
NOT TO SCALE



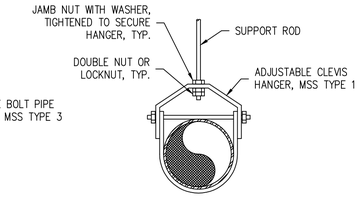
CMU WALL PIPE PENETRATION SHOWN

PP3 - GROUTED PIPE PENETRATION (1542 TYP.)

NOT TO SCALE



TYPE I



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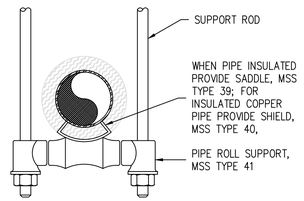

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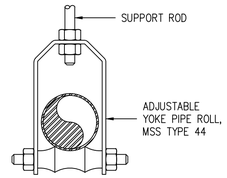
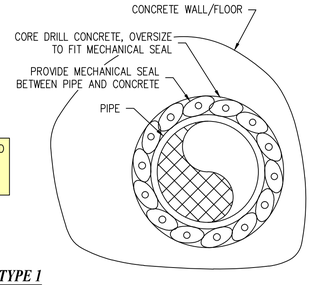


TYPE IV

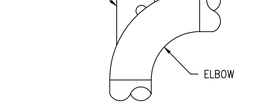
PIPE HANGER AND CLAMP DETAILS (1540 TYP.)

NOT TO SCALE

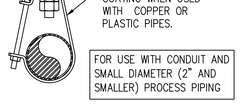
TYPICAL USAGE: WALL PENETRATIONS LOCATED AT NON-WATER BEARING STRUCTURES AND VAULTS. FLOOR PENETRATION AS SPECIFIED OR WITH ENGINEER APPROVAL.



TYPE 1



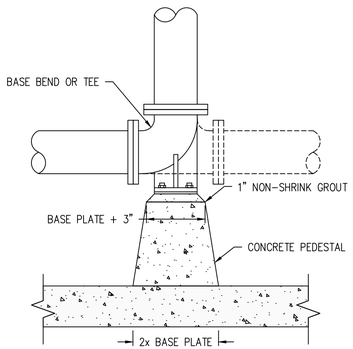
TYPE V



FOR USE WITH CONDUIT AND SMALL DIAMETER (2" AND SMALLER) PROCESS PIPING

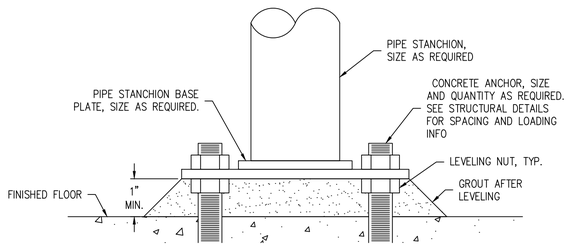
TYPE VI

1) MAXIMUM CONCRETE BASE SUPPORT HEIGHT WITHOUT ENGINEER APPROVAL IS 5'-0".



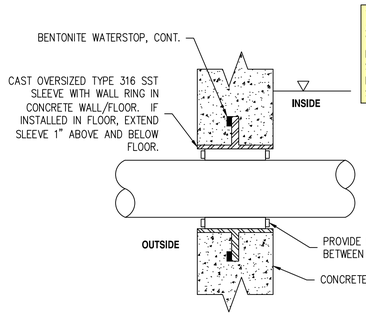
CONCRETE BASE SUPPORT (1544 TYP.)

NOT TO SCALE



PIPE STANCHION DETAIL (1545 TYP.)

NOT TO SCALE



TYPE 2

TYPICAL USAGE: WALL PENETRATIONS ABOVE THE NORMAL WATER LEVEL AT WATER BEARING STRUCTURES. MAY ALSO BE USED FOR PIPES PENTRATIONS 3" AND SMALLER BELOW THE NORMAL WATER LEVEL. PIPING LARGER THAN 3" AS SPECIFIED OR WITH ENGINEER APPROVAL.

	APPLICATION				
LINKSEAL MODEL	DIRECT BURY	WATER	WASTE WATER	CHEMICAL	AIR
MODEL "C"	X	X			
MODEL "L"	X	X			
MODEL "S-316"			X	X	
MODEL "T"					X

* CONTRACTOR SHALL VERIFY LINKSEAL SUITABILITY FOR CHEMICAL APPLICATIONS WITH MANUFACTURER.

MECHANICAL SEALS SHALL BE LINKSEAL OR APPROVED EQUAL. MECHANICAL SEALS SHALL BE SELECTED BASED ON THE APPLICATION.

APPLICATION MATRIX

PP2 - MECHANICAL SEAL PIPE PENETRATION (1546 TYP.)

NOT TO SCALE

GENERAL PIPE PENETRATION NOTES (1547 TYP.)

1. ALL PENETRATIONS SHALL BE SEALED TO MAINTAIN FIRE AND SOUND RATING OF INTERIOR.
2. ALL BELOW GRADE AND/OR SUBMERGED PENETRATIONS SHALL BE SEALED WATERTIGHT.
3. WHERE PIPE PENETRATION IS LOCATED IN THE FLOOR OVER A POTABLE WATER BEARING STRUCTURE, SLEEVE SHALL EXTEND 1" MIN. ABOVE FLOOR TO FURTHER PREVENT WATER INTRUSION.
4. ALL BURIED PIPING, INCLUDING SMALL PIPING, SHALL HAVE TWO FLEXIBLE JOINTS (5 DEG MIN.) OR FLEXIBLE COUPLINGS TO ACCOMMODATE MIN. 2" DIFFERENTIAL SETTLEMENT WHEN PENETRATING STRUCTURES.

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SIGNED: 09/19/17

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22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

MECHANICAL DETAILS 4

NO.	DESCRIPTION	DATE	BY
			REVIEW

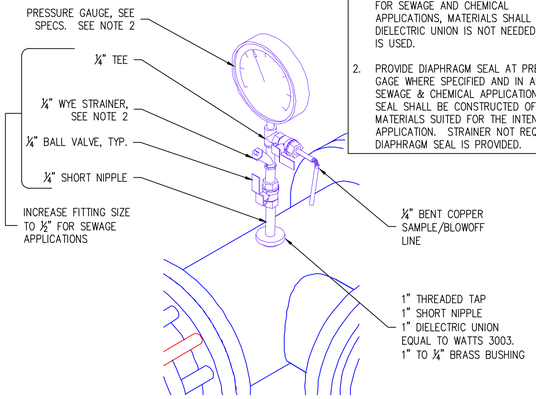
REVISIONS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_M02.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

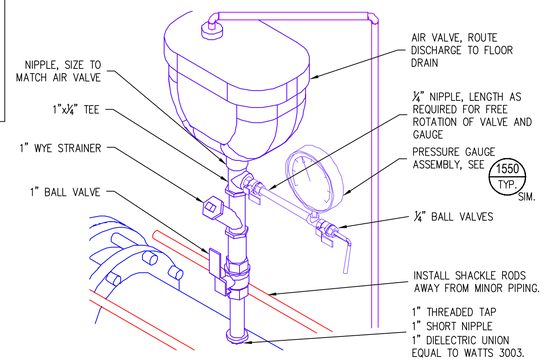
DWG NO.: M004
SHEET NO.: 34
158

NOTES:
1. FOR CLEAN WATER APPLICATIONS, ASSEMBLY SHALL BE CONSTRUCTED OF COPPER PIPE & BRASS FITTINGS/VALVES. FOR SEWAGE AND CHEMICAL APPLICATIONS, MATERIALS SHALL BE SST. DIELECTRIC UNION IS NOT NEEDED IF SST IS USED.
2. PROVIDE DIAPHRAGM SEAL AT PRESSURE GAGE WHERE SPECIFIED AND IN ALL SEWAGE & CHEMICAL APPLICATIONS. SEAL SHALL BE CONSTRUCTED OF MATERIALS SUITED FOR THE INTENDED APPLICATION. STRAINER NOT REQUIRED IF DIAPHRAGM SEAL IS PROVIDED.



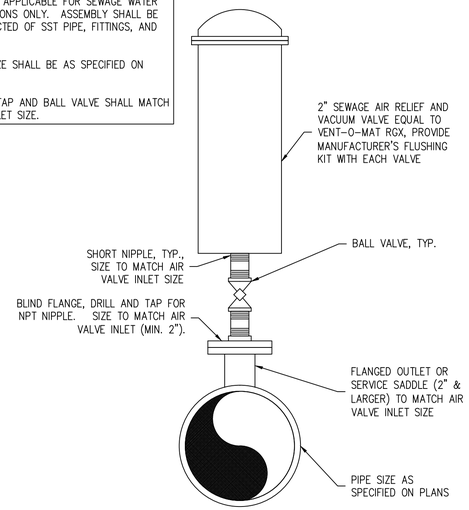
PRESSURE GAUGE ASSEMBLY
NOT TO SCALE (1550 TYP.)

NOTES:
1. DETAIL IS APPLICABLE FOR CLEAN WATER APPLICATIONS ONLY. ASSEMBLY SHALL BE CONSTRUCTED OF COPPER PIPE & BRASS FITTINGS/VALVES.

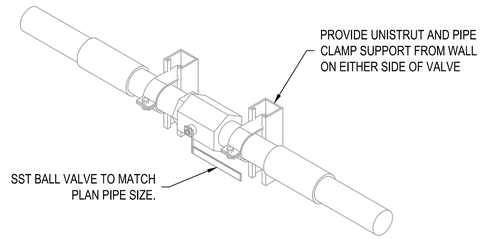


GAUGE AND AIR VALVE ASSEMBLY
NOT TO SCALE (1551 TYP.)

NOTES:
1. DETAIL IS APPLICABLE FOR SEWAGE WATER APPLICATIONS ONLY. ASSEMBLY SHALL BE CONSTRUCTED OF SST PIPE, FITTINGS, AND VALVES.
2. VALVE SIZE SHALL BE AS SPECIFIED ON PLANS.
3. SERVICE TAP AND BALL VALVE SHALL MATCH VALVE INLET SIZE.



SEWAGE AIR VACUUM AND AIR RELEASE VALVE ASSEMBLY
NOT TO SCALE (1553 TYP.)



W3 ISOLATION VALVE
A. NOT TO SCALE (1554 TYP.)

FLUID TYPE ➡

PID TAG #

NOTES:
1. PROVIDE SETON SETMARK SNA LABELS FOR EACH PIPE SYSTEM IDENTIFYING FLUID TYPE AND FLOW DIRECTION.
2. LABEL COLORS TO BE DETERMINED BY OWNER BASED ON A COLOR PALLET PROVIDED BY THE CONTRACTOR.
3. PROVIDE A MINIMUM OF ONE LABEL PER EACH PIPE OF DIFFERENT DIAMETER AND FLUID TYPE PER ROOM.

PIPE LABELS

NOTES:
1. PROVIDE 2" DIAMETER BRASS VALVE TAG AFFIXED TO BRASS CHAIN FOR EACH EXPOSED VALVE. VALVE TAGS EQUAL TO SETON.
2. FOR BURIED VALVES, AFFIX TAG TO UNDERSIDE OF VALVE BOX LID

VALVE TAGS

10" × 7"

POLYMER

DANGER

STATEMENT OF HAZARDS

PRECAUTIONARY MEASURES

INSTRUCTION IN CASE OF CONTACT

CAS NUMBER

(2) RIGHT-TO-KNOW LABEL REQUIRED MOUNT ONE ON EACH POLYMER TOTE AND MAKE DOWN UNIT IN PLAIN SIGHT

CHEMICAL HAZARD IDENTIFICATION SYSTEM

HEALTH HAZARD
4–DEADLY
3–EXTREME DANGER
2–HAZARDOUS
1–SLIGHTLY HAZARDOUS
0–NORMAL MATERIAL

FIRE HAZARD
FLASH POINTS
4–BELOW 73°F
3–BELOW 100°F
2–BELOW 200°F
1–ABOVE 200°F
0–WILL NOT BURN

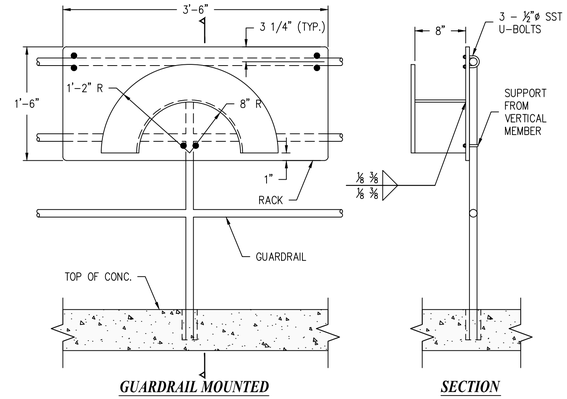
SPECIFIC HAZARD
OXY–OXIDIZER
ACID–ACID
ALK–ALKALI
COR–CORROSIVE
W–USE NO WATER

REACTIVITY
4–MAY DETONATE
3–SHOCK AND HEAT MAY DETONATE
2–VIOLENT CHEMICAL CHANGE
1–UNSTABLE IF HEATED
0–STABLE

(1) NFPA 704 DIAMOND SIGN REQUIRED MOUNT ADJACENT TO THICKENING AND DEWATERING ROOM MAN–DOORS

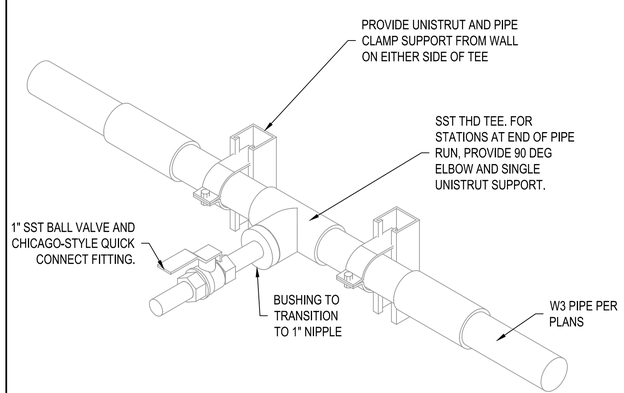
CHEMICAL HAZARD SIGNAGE

LABELS AND SIGNAGE
NOT TO SCALE (1552 TYP.)

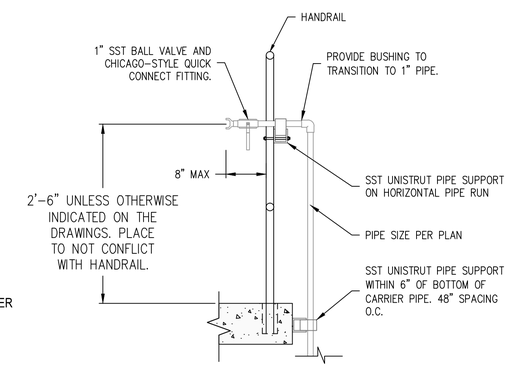


NOTES:
1. HOSE RACK SHALL BE FABRICATED FROM 3/16" ALUMINUM PLATE. ROUND ALL EDGES SMOOTH.
2. HOUSE RACKS INSTALLED IN YARD LOCATIONS SHALL BE FREESTANDING AND MOUNTED ON REINFORCED CONCRETE PAD.
3. WALL MOUNTED HOSE RACKS ON MASONRY WALL SHALL BE FASTENED TO GROUTED CELLS.

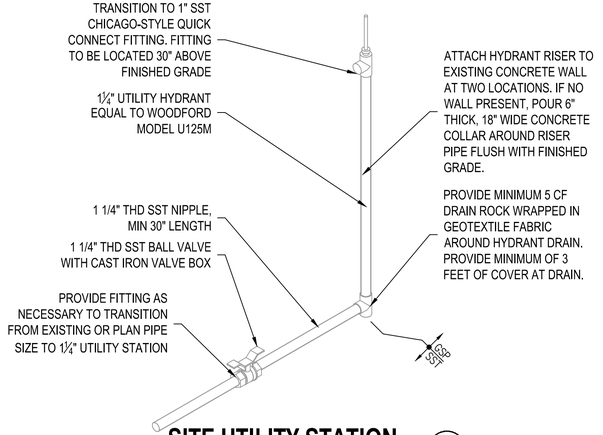
HOSE RACK
NOT TO SCALE (1555 TYP.)



INDOOR BUILDING UTILITY STATION
NOT TO SCALE (1556 TYP.)

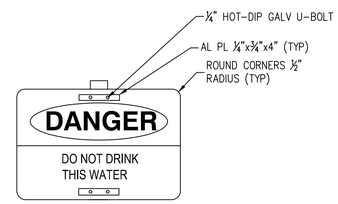


EXTERIOR BUILDING UTILITY STATION
NOT TO SCALE (1557 TYP.)



SITE UTILITY STATION
NOT TO SCALE (1558 TYP.)

NOTES:
1. ALL EXTERIOR STRUCTURE UTILITY STATIONS SHALL BE SST PIPE AND FITTINGS. TRANSITION TO SST INSIDE BUILDING.
2. HEAT TRACE AND INSULATE ALL EXPOSED PIPING FOR EXPOSED STRUCTURE UTILITY STATIONS. PROVIDE SST BALL VALVE FOR ISOLATION AND ¼" BRONZE BALL VALVE (WITH TEE) FOR DRAIN AT BEGINNING OF W3 LINE.
2. INSTALL HOSE RACK AT EACH UTILITY STATION.
3. SIGN SHALL BE 7"x10"x3/8" THICK PLASTIC RESISTANT TO SUNLIGHT (ULTRAVIOLET) DETERIORATION AND MOUNT TO PERMIT EASY READING.PROVIDE SIMILAR SIGN AT STRUCTURE AND SITE UTILITY STATIONS:



UTILITY STATION NOTES
NOT TO SCALE

SMITH WASHINGTON REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

BALLARD WASHINGTON REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

MECHANICAL DETAILS 5

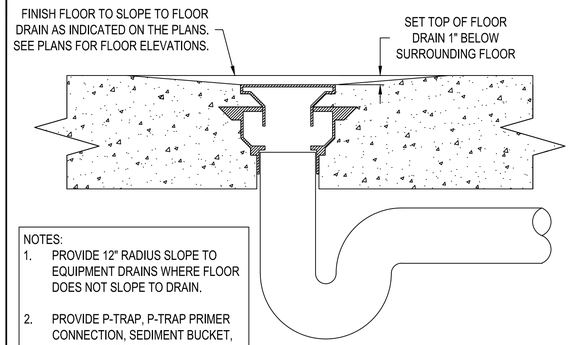
REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNO
FILENAME: WRF02-D-GEN_M002.DWG
JOB NO.: 116-028

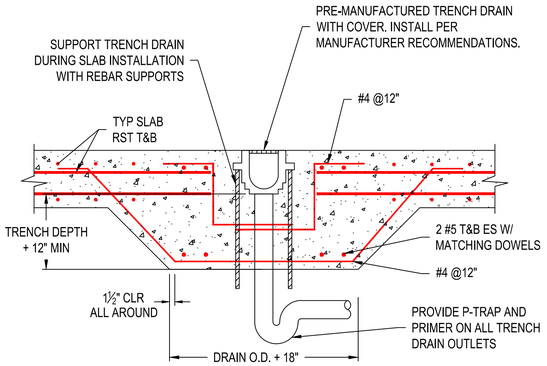
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M005
SHEET NO.: 35
158

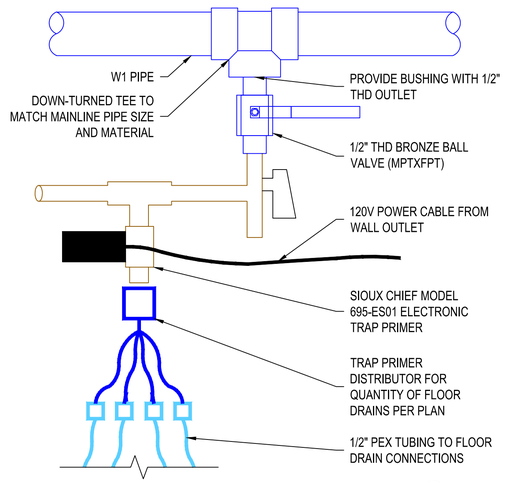


NOTES:
1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.
2. PROVIDE P-TRAP, P-TRAP PRIMER CONNECTION, SEDIMENT BUCKET, VANDAL-PROOF SCREW, AND BACKWATER VALVE AT ALL DRAINS AND PER PLUMBING CODE.

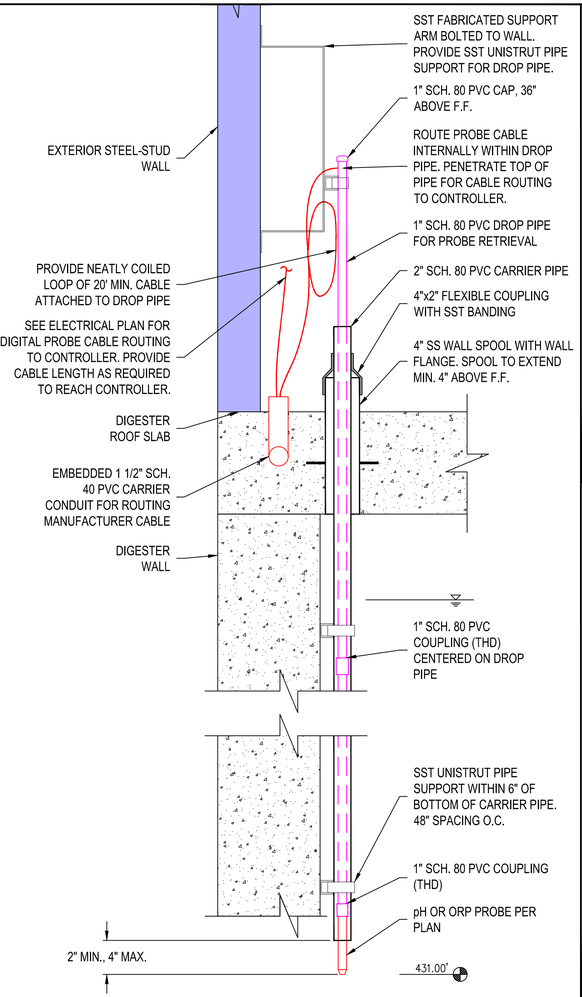
FLOOR DRAIN DETAIL
NOT TO SCALE — 1560 TYP.



TRENCH DRAIN
NOT TO SCALE — 1561 TYP.



TRAP PRIMER CONNECTION
NOT TO SCALE — 1562 TYP



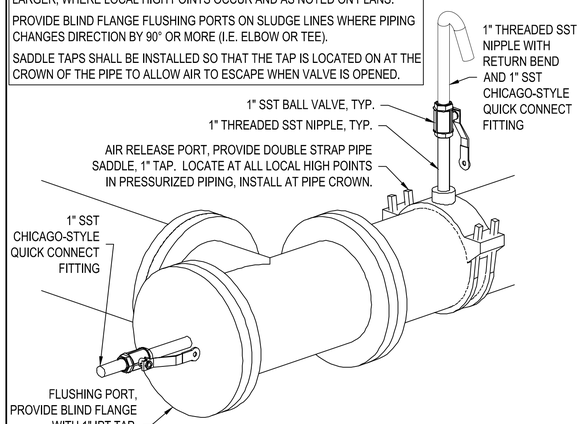
PROBE MOUNTING DETAIL
NOT TO SCALE — 1565 TYP

FLUSHING/AIR RELEASE PORT NOTES:

PROVIDE AIR RELEASE PORT ON ALL PRESSURIZED PIPING LINES, 3" AND LARGER, WHERE LOCAL HIGH POINTS OCCUR AND AS NOTED ON PLANS.

PROVIDE BLIND FLANGE FLUSHING PORTS ON SLUDGE LINES WHERE PIPING CHANGES DIRECTION BY 90° OR MORE (I.E. ELBOW OR TEE).

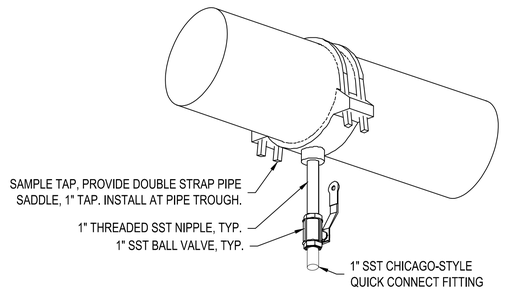
SADDLE TAPS SHALL BE INSTALLED SO THAT THE TAP IS LOCATED ON AT THE CROWN OF THE PIPE TO ALLOW AIR TO ESCAPE WHEN VALVE IS OPENED.



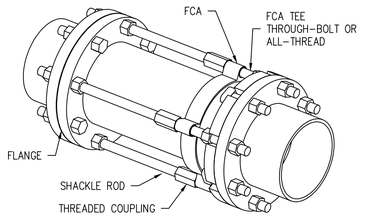
FLUSHING AND AIR RELEASE PORT
NOT TO SCALE — 1563 TYP.

SAMPLE TAP NOTES:
PROVIDE SAMPLE TAPS AS NOTED ON THE PLANS.

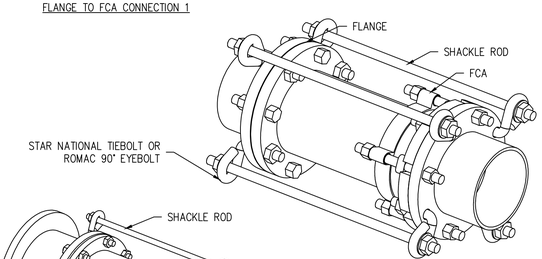
SADDLE TAPS SHALL BE INSTALLED SO THAT THE TAP IS LOCATED AT THE TROUGH OF THE PIPE.



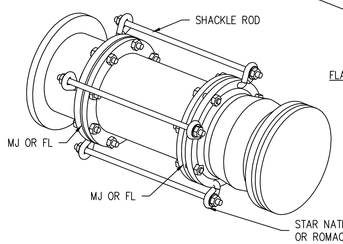
SAMPLE TAP
NOT TO SCALE — 1564 TYP.



FLANGE TO FCA CONNECTION 1



FLANGE TO FCA CONNECTION 2



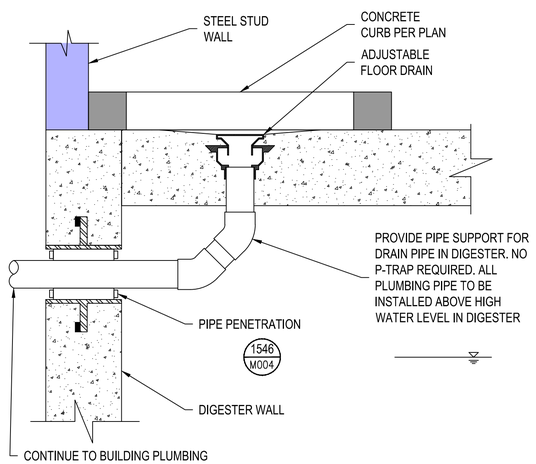
FLANGE TO MJ OR MJ TO MJ CONNECTION

SHACKLE ROD SIZING

PIPE SIZE	MINIMUM ROD DIAMETER	MINIMUM # OF RODS
4"–6"	3/4"	2
8"–12"	3/4"	4

1. THIS TABLE ASSUMES HIGH-STRENGTH A588, GRADE B (COR-TEN TYPE) STEEL.
2. SHACKLE PLATES MAY BE SUBSTITUTED FOR EYE BOLTS PENDING REVIEW AND APPROVAL BY ENGINEER. SUBMIT PLANS AND CALCULATIONS SUPPORTING DESIGN.
3. DUC-LUGS ARE NOT ALLOWED.
4. SYSTEMS SHOWN HERE ARE OPTIONS AVAILABLE TO THE CONTRACTOR, BUT ARE NOT THE ONLY CONFIGURATIONS ACCEPTABLE. CONTRACTOR TO PROVIDE ALL MATERIALS AND METHODS AS REQUIRED FOR A COMPLETE THRUST RESTRAINT SYSTEM. ANY METHODS OTHER THAN SHOWN HERE MUST BE APPROVED BY THE OWNER.

SHACKLE ROD ASSEMBLY
NOT TO SCALE — 1566 TYP.



BOOT WASH DRAIN CONNECTION
NOT TO SCALE — 1567 TYP

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SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

MECHANICAL DETAILS 6

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_M002.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M006
SHEET NO.: 36
158

ONE-LINE DIAGRAM SYMBOLS

- CIRCUIT BREAKER
  XXX/YY – CB SIZE & NO. OF POLES
  ET – ELECTRONIC TRIP
  TM – THERMAL MAGNETIC BREAKER
  MCP – MOTOR CIRCUIT PROTECTOR
  SE – SERVICE ENTRANCE
  GFI – GROUND FAULT INTERRUPTER
- FUSE
- FUSED DISCONNECT SWITCH
- PLUG–IN CONNECTION
- RTM — RUN TIME METER
- OC — MOTOR OPERATION COUNTER
- SSRVS — SSRVS – SOLID STATE REDUCED VOLTAGE STARTER
- VARIABLE FREQUENCY DRIVE
- MOTOR STARTER
- MOTOR STARTER W/ OPERATOR DEVICES (A B / C D)
  A – HAND–OFF–AUTO
  B – OPERATIONAL COUNTER
  C – RUN TIME METER
  D – RUN LIGHT
  E – FAIL LIGHT
  F – EMERGENCY STOP
- K — KIRK KEY INTERLOCK
- POWER TRANSFORMER
- CONTROL POWER TRANSFORMER
- TRANSFORMER
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- CONTACTOR
- CAPACITOR
- ENGINE GENERATOR
- GENERATOR CONNECTION RECEPTACLE
- S/N — SOLID NEUTRAL
- TB — TERMINAL BLOCK
- SURGE PROTECTION DEVICE
- SPD — SURGE PROTECTION DEVICE (ALTERNATIVE)

GROUNDING SYSTEM SYMBOLS

- GROUND
- METAL PIPE GROUND
- CONNECTION POINT, EXOTHERMIC WELD. CADWELD OR APPROVED EQUAL.
- GROUND ROD SIZED PER N.E.C. USE EXOTHERMIC WELD CONNECTION AT THE GROUND ROD.
- PIGTAIL, BARE COPPER, LENGTH AS REQUIRED, 8' MINIMUM.
- CONNECTION POINT, MECHANICAL, COMPRESSION TYPE.

ELECTRICAL SITE PLAN SYMBOLS

- UTILITY POLE AND GUY WIRE
- HH — MANHOLE OR HANDHOLE
- P — BURIED POWER VAULT OR MANHOLE
- T — TELEPHONE VAULT OR PEDESTAL
- F — FIBER OPTICS VAULT OR PEDESTAL
- LUMINAIRE
- PAD–MOUNT TRANSFORMER

PANELBOARDS, SWITCHES, AND EQUIPMENT

- SERVICE ENTRANCE, SWITCHGEAR, MOTOR CONTROL CENTER, OR PANELBOARD
- SURFACE MOUNTED PANELBOARD
- FLUSHED MOUNTED PANELBOARD
- NXX — FIELD CONTROL STATION WITH NEMA REQUIREMENTS.
  N1 – NEMA 1
  N3R – NEMA 3R
  N4 – NEMA 4
  N4SS – NEMA 4 STAINLESS STEEL
  N4F – NEMA 4 FIBERGLASS
  N6 – NEMA 6
  N12 – NEMA 12 GASKETED
- EQUIPMENT MOUNTING STAND
- T — HEATER, WATTAGE NOTED
- EQUIPMENT CONNECTION
- M — SINGLE PHASE MOTOR. HORSEPOWER AS NOTED
- HP — THREE PHASE MOTOR. HORSEPOWER AS NOTED
- HP — SINGLE PHASE MOTOR. HORSEPOWER AS NOTED
- ELECTRICAL PLUG
- DISCONNECT SWITCH
- F — FUSED DISCONNECT SWITCH
- COMBINATION MOTOR STARTER AND DISCONNECT SWITCH

RECEPTACLES AND JUNCTION BOX SYMBOLS

- J — CEILING JUNCTION BOX
- J — WALL JUNCTION BOX
- J — FLOOR JUNCTION BOX
- DUPLEX WALL RECEPTACLE , 120V
  WP = WEATHERPROOF
  G = GROUNDED
  IG = ISOLATED GROUND
  GFI = GROUND FAULT INTERRUPTER
- DOUBLE DUPLEX
- SINGLE RECEPTACLE, 120V
- SINGLE RECEPTACLE, 208V
- DUPLEX FLOOR RECEPTACLE, 120V
- SPECIAL PURPOSE WALL RECEPTACLE, RATING AS NOTED
- CLOCK
- TV — TELEVISION
- TELEPHONE
- TELEPHONE/DATA WITH CABLE
- TELEPHONE/DATA WITHOUT CABLE

SWITCH OUTLETS

- S — STANDARD SWITCH, 120VAC, 20 AMP
- S_3 — 3WAY — 3–WAY SWITCH, 120VAC, 20 AMP
- S_{HOA} — HOA — 3–POSITION SWITCH, 120VAC, 20 AMP, LABEL SWITCH POSITION HAND–OFF–MOTION OR PHOTO

- S_{DEE} SINGLE–POLE
- S_2 DOUBLE–POLE
- S_3 THREE WAY
- S_4 FOUR WAY
- S_D DIMMER
- S_{OS} OCCUPANCY SENSOR
- S_P PILOT–LIGHTED
- S_K KEY–OPERATED
- S_{LV} LOW VOLTAGE
- S_M MASTER
- PUSHBUTTON

LIGHTING FIXTURES/DEVICES

- FLUORESCENT FIXTURE
- WALL/CEILING MOUNTED FIXTURE
- EMERGENCY LIGHT WITH SELF CONTAINED BATTERY
- SURFACE OR PENDANT MOUNTED FIXTURE
- RECESSED FIXTURE
- MD — MOTION DETECTOR
- PC — PHOTO CONTROL CELL

FIRE SYSTEM SYMBOLS

- H — HEAT DETECTOR
- S — SMOKE DETECTOR
- D — FIRE ALARM DISPATCH STROBE ALARM
- A — FIRE ALARM AUDIBLE/VISUAL ALARM
- F — FIRE ALARM MANUAL PULL STATION

ADDITIONAL SYMBOLS

- S — SOUND SYSTEM SPEAKER
- V — SOUND SYSTEM VOLUME CONTROL
- B — DOORBELL

VALVE SYMBOLS

- PILOT VALVE SOLENOID
- VALVE
- CHECK VALVE
- CONTROL VALVE

PID FORMAT

- XYZ / ABC — INSTRUMENT BUBBLE
  X=MEASURED OR INITIATING VARIABLE
  Y=READOUT OR FUNCTION
  Z=MODIFIER
  ABC=LOOP NUMBER

ISA STANDARDS FOR P&ID

	1st LETTER (MEASURED OR INITIATING VARIABLE)	2nd LETTER (READOUT OR FUNCTION)	3rd LETTER (MODIFIER)
A	ANALYSIS	ALARM	
B	BURNER (BATTERY)		(BACK)
C	COMMUNICATION	CONTROL	CLOSED
D	DENSITY	(DELAY)	
E	VOLTAGE		
F	FLOW		FAIL (FLOW)
G	GAS		GREEN BULB
H	HAND	MANUAL	HIGH
I	CURRENT (INTRUSION)	INDICATE	
J	POWER (EQUIPMENT)		
K	TIME	CONTROL STATION	
L	LEVEL	LIGHT	LOW
M	MOTION		MIDDLE
N	USERS CHOICE		
O	USERS CHOICE		OPEN
P	PRESSURE	(PUMP)	(PRESSURE)
Q	QUANTITY (EVENT)	TOTALIZE	
R	RADIATION (REQ'D)	RECORD	RED BULB
S	SPEED (SMOKE)	SWITCH	SOLENOID
T	TEMPERATURE	TRANSMITTER	(TRANSMITTER)
U	MULTI VARIABLE	MULTI FUNCTION	
V	VISCOSITY (pH)	VALVE	
W	WEIGHT		
X	UNCLASSIFIED	RELAY (TRANSDUCER)	
Y	USERS CHOICE		
Z	POSITION		

ABBREVIATIONS

SPDT – SINGLE POLE, DOUBLE THROW
SPST – SINGLE POLE, SINGLE THROW
DPST – DOUBLE POLE, SINGLE THROW
WP – WEATHER–PROOF
GFI – GROUND FAULT INTERRUPT
P – POWER
C – CONTROL
J – INSTRUMENTATION
PC – POWER & CONTROL
CJ – CONTROL & INSTRUMENTATION
CKT. – CIRCUIT
C.O. – CONDUIT ONLY
N.L. – NIGHT LIGHT
AL. – ALUMINUM
CU. – COPPER

HOA	HAND–OFF–AUTO SWITCH
RTM	RUN TIME METER
OC	OPERATION COUNTER
MRIL	MOTOR RUN INDICATION LIGHT
SFIL	SEAL FAIL INDICATION LIGHT
SFTR	SEAL FAIL TRIP RESET
OTIL	OVER TEMPERATURE INDICATION LIGHT
MOIL	MOTOR OVERLOAD INDICATION LIGHT

INDICATE TYPE BY LETTER

- V
- AH

INSTRUMENT METER

A – AMMETER
AH – AMPERE–HOUR
PF – POWER FACTOR
V – VOLTMETER
VA – VOLT AMMETER
VAR – VARMETER
VARH – VARHOUR METER
W – WATTMETER
WH – WATTHOUR METER

RACEWAY LEGEND

SITE PLAN LEGEND

- P — PROPOSED POWER
- TEL — PROPOSED TELEPHONE
- TELM — PROPOSED INSTRUMENTATION
- FO — PROPOSED FIBER OPTICS

BUILDING OR FACILITY PLAN LEGEND

- 480 VOLT EXPOSED RACEWAY
- 480 VOLT WIRING CONCEALED, UNDERGROUND, EMBEDDED, OR CONCRETE ENCASED RACEWAY
- 120/208/240 VOLT EXPOSED RACEWAY
- 120/208/240V WIRING CONCEALED, UNDERGROUND, EMBEDDED, OR CONCRETE ENCASED RACEWAY
- CONTROL OR INSTRUMENTATION EXPOSED RACEWAY
- CONTROL OR INSTRUMENTATION, UNDERGROUND, EMBEDDED, OR CONCRETE ENCASED RACEWAY
- HOME RUN TO PANELBOARD OR AS INDICATED
- CONDUIT RUN, BROKEN AND CONTINUED SAME SHEET OR AS NOTED
- FLEXIBLE CONDUIT
- CONDUIT RUN. HATCH MARKS INDICATE NUMBER OF CONDUCTORS
- ½" GRC, 2–#12 — CALLOUT INDICATING CONDUIT SIZE, NUMBER AND SIZE OF WIRE.
- XXX — CALLOUT INDICATING CONDUIT PER SCHEDULE
- CONDUIT BENT UP OR TOWARD
- CONDUIT BENT DOWN OR AWAY
- CAPPED CONDUIT

ONE-LINE DIAGRAM INFORMATION

- EXISTING EQUIPMENT AND CONDUIT
- PROPOSED EQUIPMENT AND CONDUIT
- GROUNDING EQUIPMENT AND CONDUCTORS
- CONDUIT, WIRING OR EQUIPMENT TO BE REMOVED

LADDER LOGIC SYMBOL LEGEND

INDICATOR LIGHT	INDICATOR LIGHT A – AMBER G – GREEN B – BLUE R – RED C – CLEAR W – WHITE
RELAY (XYZ 123)	RELAY TR – TIMED RELAY CR – CONTROL RELAY
LIMIT SWITCH	LIMIT SWITCH, NORMALLY OPEN
FLOAT SWITCH	FLOAT SWITCH, NORMALLY OPEN
LIMIT SWITCH	LIMIT SWITCH, NORMALLY CLOSED
FLOAT SWITCH	FLOAT SWITCH, NORMALLY CLOSED
TIME DELAY CONTACT	TIME DELAY CONTACT, NORMALLY OPEN, TIME TO CLOSE
PUSHBUTTON	PUSHBUTTON, NORMALLY CLOSED
TIME DELAY CONTACT	TIME DELAY CONTACT, NORMALLY CLOSED, TIME TO OPEN
PUSHBUTTON	PUSHBUTTON, NORMALLY OPEN
TIME DELAY CONTACT	TIME DELAY CONTACT, NORMALLY OPEN, TIME TO OPEN
THERMOSTAT	THERMO SWITCH, NORMALLY OPEN
TIME DELAY CONTACT	TIME DELAY CONTACT, NORMALLY CLOSED, TIME TO CLOSE
THERMOSTAT	THERMO SWITCH, NORMALLY CLOSED
RELAY CONTACT, NC / RELAY CONTACT, NO	RELAY CONTACT, INSTANTANEOUS CHANGE
FLOWSWITCH	FLOWSWITCH, NORMALLY OPEN
PRESSURE SWITCH	PRESSURE SWITCH, NORMALLY OPEN
FLOWSWITCH	FLOWSWITCH, NORMALLY CLOSED
PRESSURE SWITCH	PRESSURE SWITCH, NORMALLY CLOSED
	2 POLE SWITCH
LADDER LOGIC LINETYPES	
	3 POLE SWITCH
COMPONENT INSTALLED INSIDE ENCLOSURE	
COMPONENT INSTALLED ON FRONT OF ENCLOSURE	
FIELD CONNECTED COMPONENT	

P&ID BUBBLE IDENTIFICATION CHART

EXISTING	FUNCTION
	INSTRUMENT IDENTIFICATION BUBBLE
	FIELD MOUNTED DEVICE OR INSTRUMENT
	FRONT PANEL MOUNTED INSTRUMENT OR DEVICE (LOCAL PANEL)
	BACK PANEL MOUNTED INSTRUMENT OR DEVICE (LOCAL PANEL)
	FRONT PANEL MOUNTED INSTRUMENT OR DEVICE (LAB ROOM PANEL)
	OPERATOR INTERFACE DISPLAY (LOCAL PANEL)
	OPERATOR INTERFACE DISPLAY (LAB ROOM PANEL)

GENERAL NOTES

1. THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS PAGE WILL APPEAR IN THIS SET OF PLANS.

2. THESE DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.

3. NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION OR ANY OTHER REASON. NO PAYMENT WILL BE MADE FOR CHANGES WHICH HAVE NOT BEEN REVIEWED BY THE ENGINEER.

CHRISTOPHER M. RIMERMAN — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD L. BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ELECTRICAL LEGEND

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_E01.DWG
DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E001
SHEET NO.: 37
158

EXISTING PAD-MOUNT TRANSFORMER TO BE REPLACED WITH PROPOSED PAD-MOUNTED TRANSFORMER.

PRIMARY SERVICE

480/277 VOLT

UTILITY METER

M

CURRENT TRANSFORMER

MAIN SWITCHBOARD
480V, 60 HZ, 3Ø, 4W, 42 KAIC, 2000A BUS

2000/3

AUTOMATIC TRANSFER SWITCH, "ATS"

TO STANDBY GENERATOR

MCC A

MOTOR CONTROL CENTER "MCC B"
480V, 3Ø, 3W, 42 KAIC, 2000A BUS

600/3

15/3 — 3 HP — DITCH #1 ANAEROBIC MIXER #1 3MX11

15/3 — 3 HP — DITCH #1 ANAEROBIC MIXER #2 3MX12

60/3 — 20 HP — WAS PUMP NO. 1. 5P11

60/3 — 20 HP — WAS PUMP NO. 2. 5P12

15/3 TM — 4 — P030 — 5 HP — WAS PUMP NO. 1 — 5P11

15/3 TM — 4 — P031 — 5 HP — WAS PUMP NO. 2 — 5P12

15/3 TM — 4 — P032 — 5 HP — WAS PUMP NO. 3 — 5P13

MOTOR CONTROL CENTER "MCC C"
480V, 3Ø, 4W, 42 KAIC, 2000A BUS

400/3

600/3

NEUTRAL

PNL A
(DRYER BUILDING)
480/277V

MOTOR CONTROL CENTER "MCC E"
480V, 3Ø, 3W, 42 KAIC, 600A BUS

300/3 TM

100/3

TO HEADWORKS BUILDING
DWG NO. E201

MOTOR CONTROL CENTER "MCC D"
480V, 3Ø, 3W, 42 KAIC, 600A BUS

600/3 TM — 6

5 — NEUTRAL

P700

20/3 — 3 HP — DITCH 2 ANEROBIC MIXER NO. 1 3MX21

20/3 — 3 HP — DITCH 2 ANEROBIC MIXER NO. 2 3MX22

20/3 — 7.5 HP — DITCH 2 ANOXIC MIXER NO.1 3MX23

20/3 — 3 HP — FILTER #3 CONTROL PANEL — FILTER NO.3 BACKWASH ASSEMBLY 6ME03

TO SOLIDS HANDLING BUILDING
DWG NO. E701

MOTOR STARTER BUCKETS SHALL BE REMOVED AND REPLACED WITH BLANK DOORS.

INSTALL PROPOSED CIRCUIT BREAKER IN EXISTING "MCC-D" IN EMPTY SPACES.

EXISTING MCC-D
NOT TO SCALE

ONE-LINE DIAGRAM - EQUIPMENT BUILDING MODIFICATIONS
NOT TO SCALE

ELECTRICAL NOTES	
	1. CONTRACTOR RESPONSIBLE FOR DISPOSAL OF ALL REMOVED ELECTRICAL EQUIPMENT.
P0XX	2. SEE DWG NO. E501 FOR CONDUIT AND CONDUCTOR SCHEDULE.
P7XX	3. SEE DWG NO. E725 FOR CONDUIT AND CONDUCTOR SCHEDULE.
4	4. INSTALL PROPOSED VFD'S IN EXISTING "MCC-B". EXISTING MCC IS AN EATON (CUTLER HAMMER) FREEDOM SERIES MCC. SEE DWG NO. E502 FOR DETAILS.
5	5. INSTALL PROPOSED NEUTRAL PLATE AND LUGS IN EXISTING ROCKWELL AUTOMATION MCC FOR CONVERTING MCC FROM A 3-WIRE TO A 4-WIRE MCC. INSTALL NEUTRAL WIRE AND CONDUIT BETWEEN MCC-C AND MCC-D AND TERMINATE NEUTRAL WIRE AND PROPOSED NEUTRAL PLATE. NEUTRAL WIRE AND CONDUIT SHALL BE SIZED BY CONTRACTOR.
6	6. INSTALL PROPOSED CIRCUIT BREAKER IN EXISTING "MCC-D". EXISTING MCC IS A ROCKWELL AUTOMATION CENTERLINE MCC.

RICHARD MICHAEL PERKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

EQUIPMENT BUILDING ONE-LINE DIAGRAM

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_E02.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E002
SHEET NO.: 38
158

SITE ACCESS ROAD TO CITY PUBLIC WORKS OFFICE

SECONDARY CLARIFIER NO. 1 AND 2 SCUM PITS. SEE DWG NO. E401 FOR DETAIL.

HEADWORKS LOWER LEVEL ADDITION

HEADWORKS BIOFILTER AND FAN PAD

LOCATION OF OXIDATION DITCH FIBER PATCH PANEL

OXIDATION DITCH NO. 2 ELECTRICAL EQUIPMENT, SEE DWG NO. E301 FOR DETAIL

OXIDATION DITCH NO. 1 ELECTRICAL EQUIPMENT, SEE DWG NO. E301 FOR DETAIL

SLUDGE STORAGE TANK

SOLIDS HANDLING BUILDING

SECONDARY CLARIFIER NO. 2

OPERATIONS BUILDING

FILTER AND UV DISINFECTION BUILDING

EQUIPMENT BUILDING

SECONDARY CLARIFIER NO. 1

OXIDATION DITCH NO. 2

OXIDATION DITCH NO. 1

EG

PROPOSED SOLIDS HANDLING FACILITY

SOLIDS HANDLING BIOFILTER

SOLIDS HANDLING BIOFILTER FAN PAD

UTILITY DECANT FACILITY

SEWER DECANT FACILITY

ELECTRICAL NOTES

1	1. LOCATE END OF EXISTING BURIED CONDUITS AND INTERCEPT EXISTING CONDUITS WITH PROPOSED CONDUITS.
2	2. LOCATE EXISTING CONDUIT STUB UPS AND INTERCEPT EXISTING CONDUITS WITH PROPOSED CONDUITS.
3	3. POLE MOUNTED SITE LIGHT, SEE DWG NO. E722 FOR DETAIL.
X2XX	4. SEE DWG NO. E204 FOR CONDUIT AND CONDUCTOR SCHEDULES.
X3XX	5. SEE DWG NO. E301 FOR CONDUIT AND CONDUCTOR SCHEDULES.
X4XX	6. SEE DWG NO. E402 FOR CONDUIT AND CONDUCTOR SCHEDULES.
X7XX	7. SEE DWG NO. E725, E726 AND E727 FOR CONDUIT AND CONDUCTOR SCHEDULES.
8	8. EXISTING PAD-MOUNT TRANSFORMER AND VAULT TO BE REPLACED. SEE SPECIFICATIONS.

WRF ELECTRICAL SITE PLAN

1" = 30'

FOR CONTINUATION SEE WRF ELECTRICAL SITE PLAN, THIS SHEET, FOR DETAIL.

OXIDATION DITCH FIBER PATCH PANEL

NO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WRF ELECTRICAL SITE PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-GEN_E03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

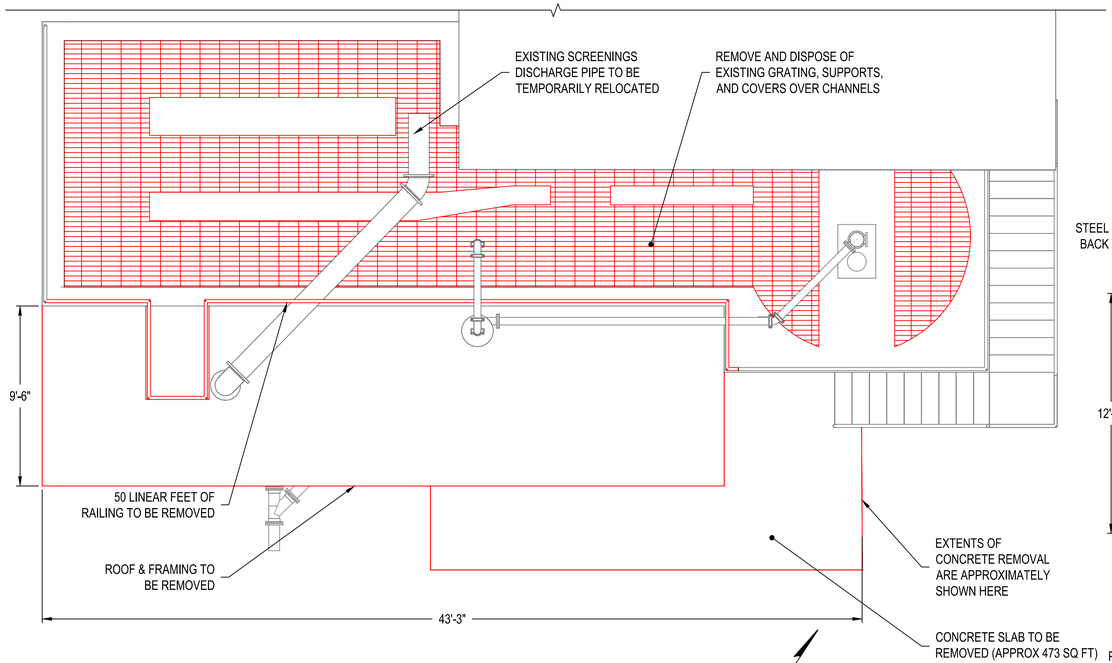
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

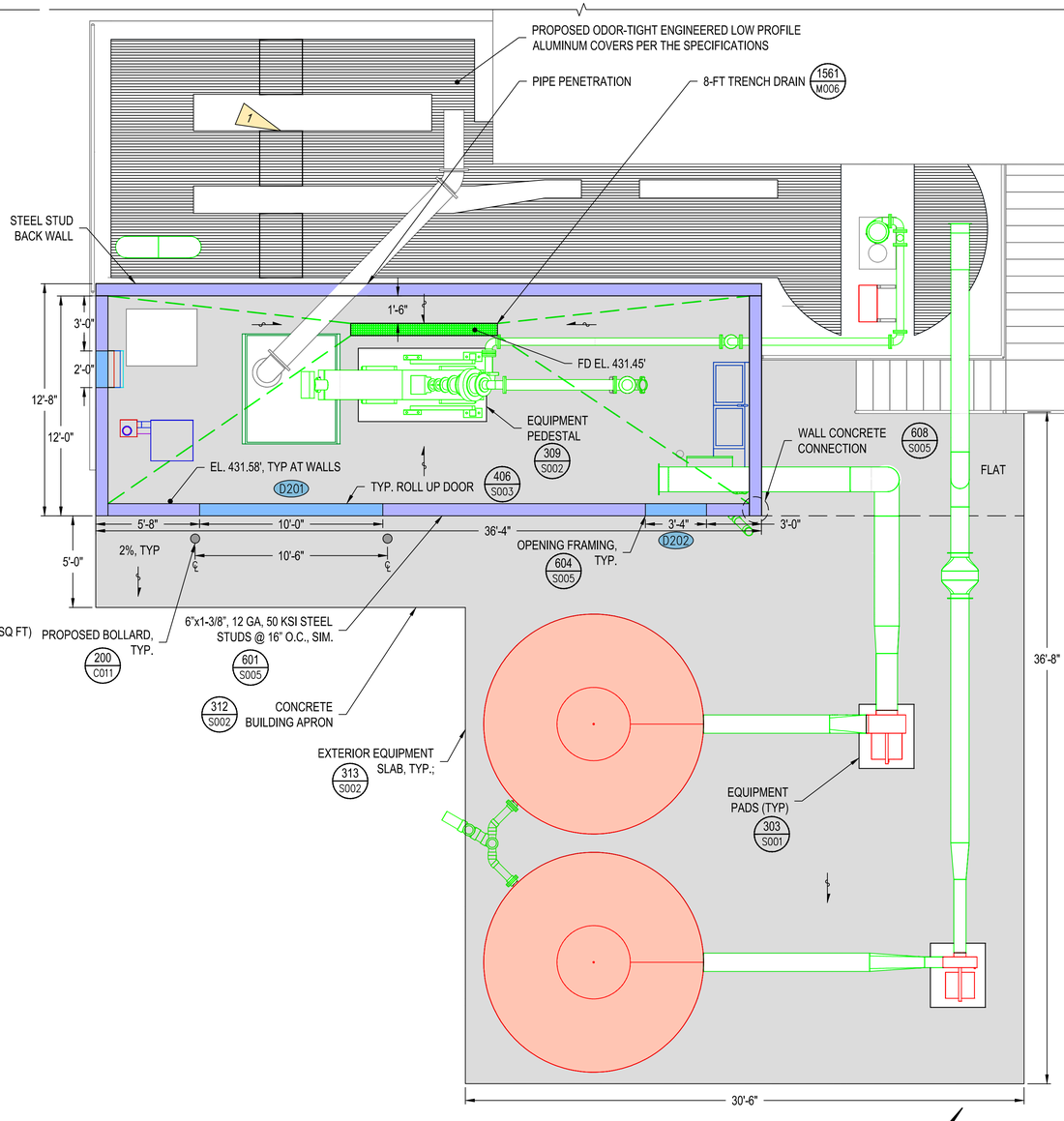
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E003
SHEET NO.: 39 / 158



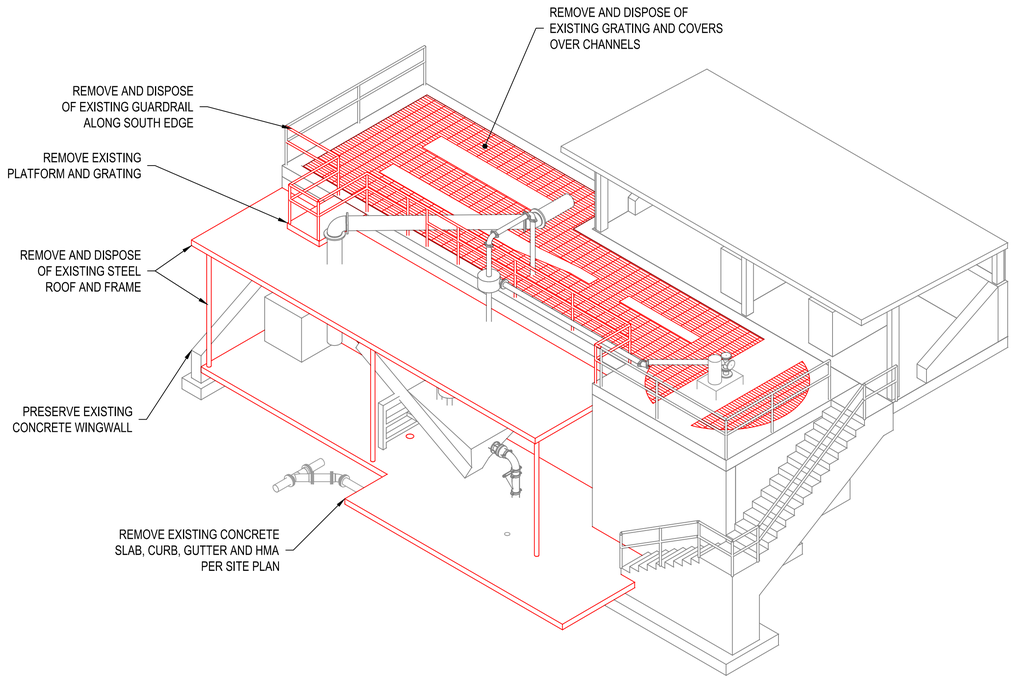
HEADWORKS DEMOLITION PLAN

1/4" = 1'-0"



PROPOSED HEADWORKS FLOOR PLAN

1/4" = 1'-0"



DEMOLITION OBLIQUE

NOT TO SCALE

NOTES

1. COAT HEADWORKS INTERIOR FLOOR, EQUIPMENT PADS AND 24" UP WALLS PER THE SPECIFICATIONS.
2. COAT EXTERIOR BIOFILTER AND FAN PAD PER THE SPECIFICATIONS.
3. CONTRACTOR DESIGNED ALUMINUM LOW-PROFILE COVERS AND ASSOCIATED SUPPORTS SHALL BE PER THE SPECIFICATIONS. ALL EXISTING EQUIPMENT, PENETRATIONS, ETC. HAVE NOT BEEN SHOWN HERE. CONTRACTOR SHALL USE PHOTOS ON M206 AND SITE VISITS TO COMPLETE COVER SYSTEM DESIGN.

1 PROVIDE (3) REMOVABLE SECTIONS IN CHANNEL COVERS AS SHOWN. SECTIONS TO PROVIDE MIN. 24" OF CLEAR SPACE FOR EACH. LOCATE AT MANUAL BAR SCREEN, UPSTREAM OF MECHANICAL SCREEN AND OVER FLUME. VERIFY EXACT LOCATIONS IN FIELD WITH OWNER.

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SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

STRUCTURAL DEMOLITION PLAN AND PROPOSED FLOOR PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_S01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

REVISIONS

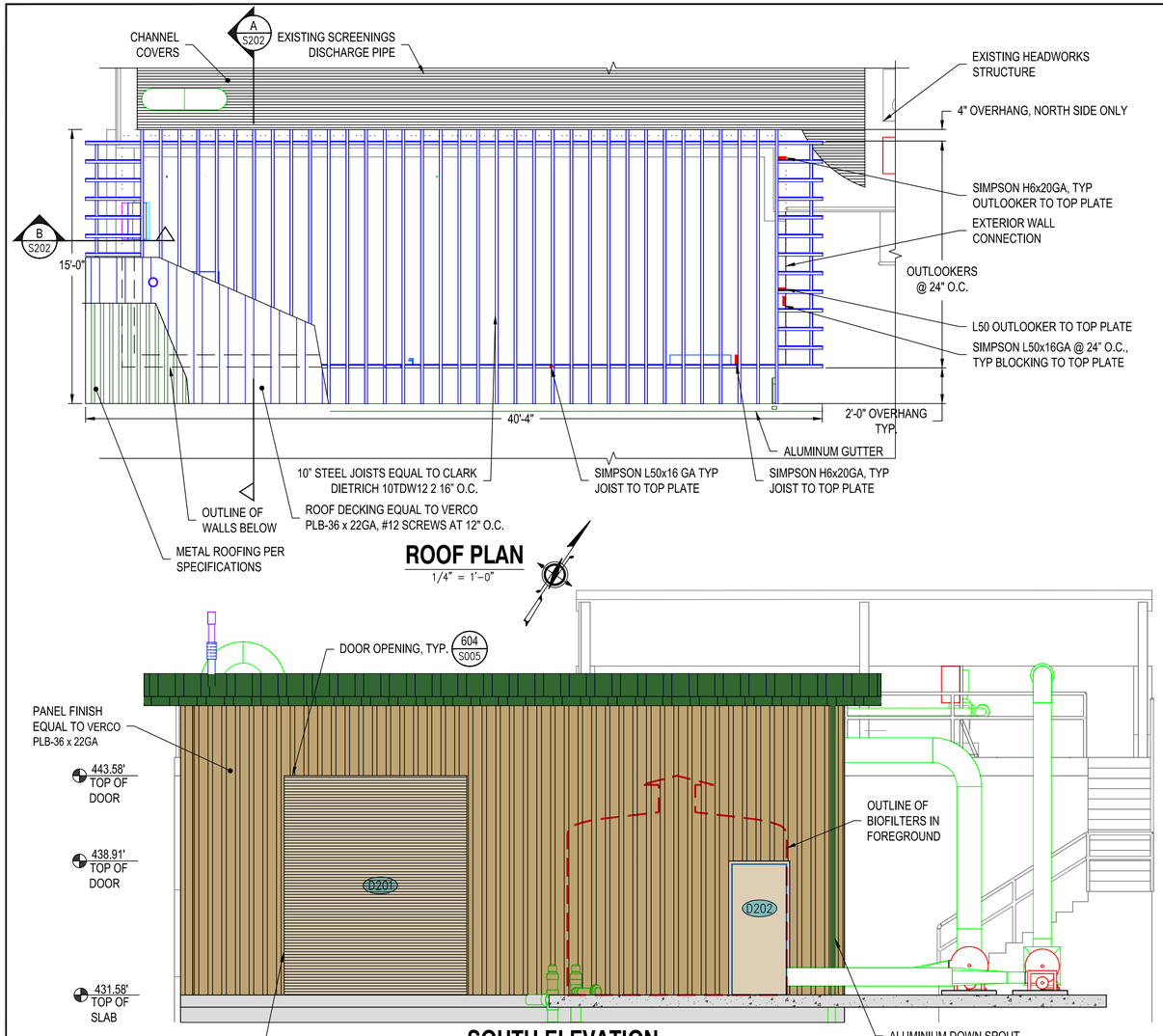
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

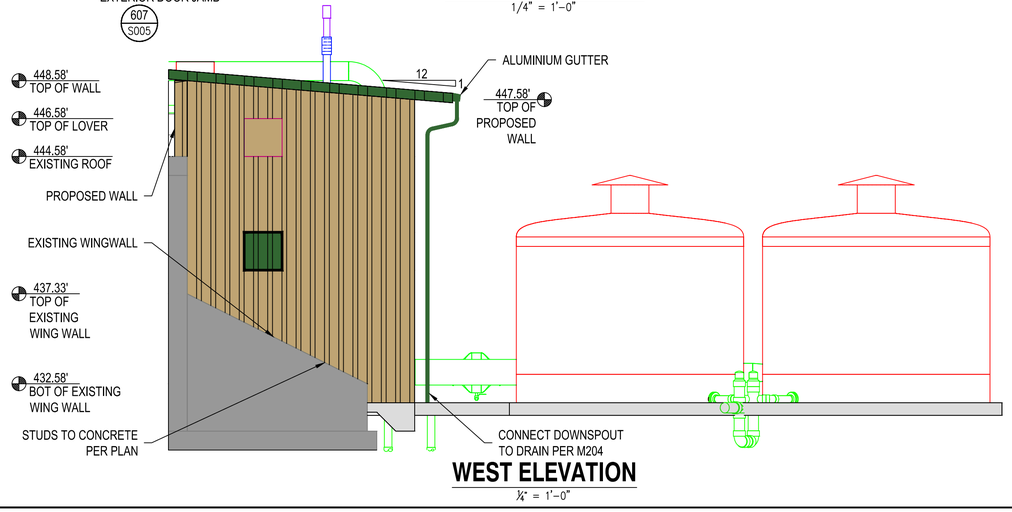
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S201
SHEET NO.: 40
158

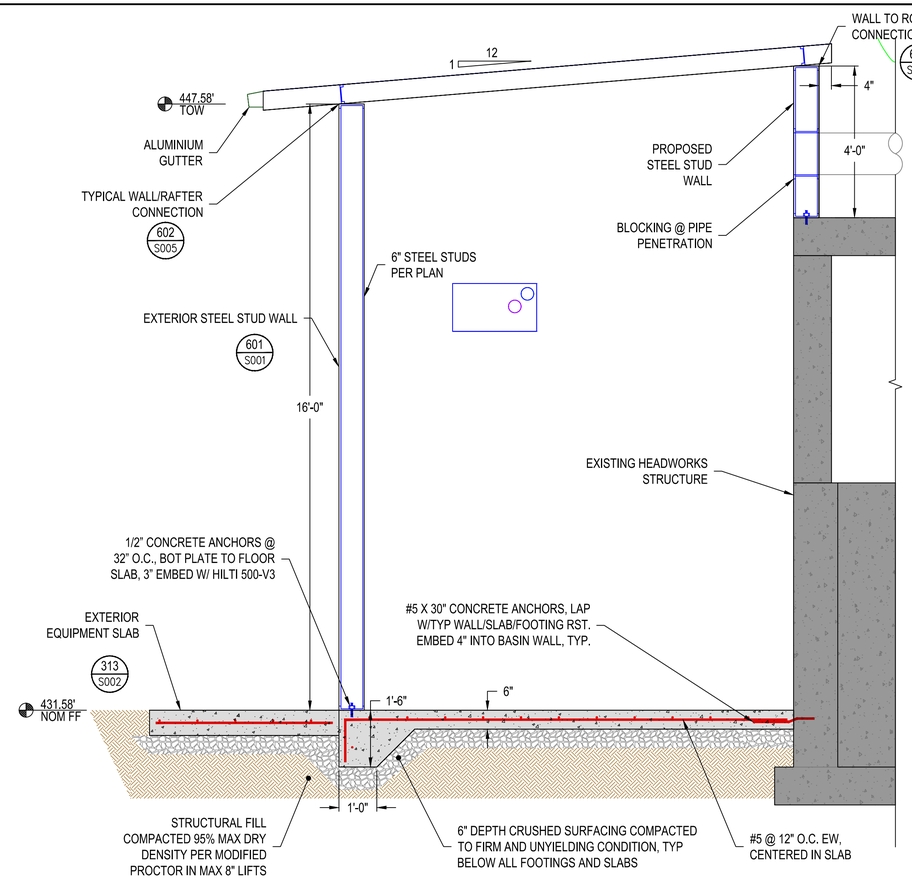


ROOF PLAN
1/4" = 1'-0"

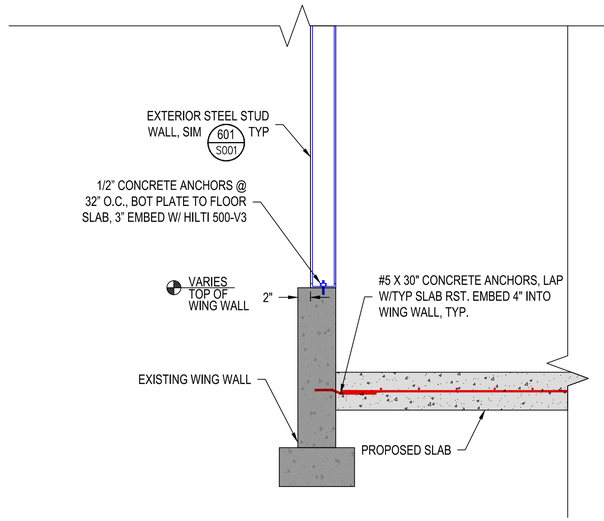
SOUTH ELEVATION
1/4" = 1'-0"



WEST ELEVATION
1/4" = 1'-0"



SECTION
1/2" = 1'-0"
A S202



WING WALL SECTION
1" = 1'-0"
B S202

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS STRUCTURAL PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_S01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

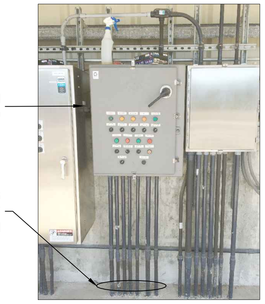
DWG NO.: S202
SHEET NO.: 41
158

NOTES

1. DEMOLITION OF EQUIPMENT, PIPE AND APPURTENANCES IS SHOWN HERE. CONTRACTOR SHALL PERFORM DEMOLITION IN ACCORDANCE WITH THE PHASING PLAN. SCHEDULING AND PHASING REQUIREMENTS ARE IN THE SPECIFICATIONS.
2. SOME EXISTING EQUIPMENT AND PIPING OMITTED FROM THIS DRAWING FOR CLARITY.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMPLETING THE WORK.
4. CONTRACTOR SHALL COMPLETELY DISPOSE OF ALL ITEMS, EQUIPMENT, PIPE AND APPURTENANCES THAT ARE SHOWN AS BEING REMOVED.

1 THE CONTRACTOR SHALL PROVIDE A TEMPORARY DISCHARGE SYSTEM FOR THE HEADWORKS SCREEN IN ORDER TO ALLOW FOR REMOVAL OF THE EXISTING DISCHARGE PIPE AND CONSTRUCTION OF THE PROPOSED LOWER LEVEL BUILDING. IF A TEMPORARY DISCHARGE PIPE IS PROPOSED BY THE CONTRACTOR, THEY MUST VERIFY WITH THE SCREEN MANUFACTURER THAT THE EXISTING DRIVE WILL WORK ADEQUATELY WITH THE TEMPORARY SYSTEM. THE CONTRACTOR MAY ALSO MANUALLY REMOVE SCREENINGS FROM THE UPPER LEVEL. THE CONTRACTOR MUST PROVIDE AN ADEQUATE CATCHMENT SYSTEM TO HOLD SCREENINGS BETWEEN REMOVALS. AT LEAST DAILY REMOVAL OF SCREENINGS (7 DAYS PER WEEK) IS REQUIRED TO ENSURE PROPER SCREEN OPERATION. THE TEMPORARY REMOVAL SYSTEM MUST BE CONTINUALLY IN PLACE UNTIL THE EXISTING DISCHARGE CHUTE AND BIN ARE REPLACED, ALLOWING CONTINUAL ACCESS TO THE SCREENINGS BIN BY THE OWNER. APPROXIMATELY 1 CUBIC YARD OF SCREENINGS ARE EXPECTED PER DAY.

2 FOR EQUIPMENT AND SUPPORTS TO BE REMOVED, CHIP OR GRIND OUT EXISTING GROUT PADS. GRIND OR TORCH OUT ANCHOR BOLTS TO 3/4" BELOW SURFACE OF CONCRETE AND PATCH HOLES SMOOTH WITH EXISTING CONCRETE. GRIND AND SACK FINISH SURFACE TO MATCH EXISTING.



EXISTING GRIT SYSTEM PANEL TO BE REMOVED

EXTEND EXISTING CONDUIT TO NEW GRIT SYSTEM PANEL LOCATION

1

REMOVE EXISTING LIGHT

REMOVE EXISTING STRUCTURAL SUPPORT FROM SCREENINGS PIPE. SUPPORT PIPE FROM PROPOSED CONCRETE WALL.

REMOVE OVERFLOW PIPE AND PIPE SUPPORT

REMOVE EXISTING RAILING AND TOEKICK

REMOVE EXISTING SCREENINGS DISCHARGE CHUTE.

TEMPORARILY REROUTE EXISTING NPW TO SCREEN AND UTILITY STATION AS NECESSARY TO COMPLETE HEADWORKS IMPROVEMENTS

REMOVE AND REPLACE PIPE SUPPORT

1

2

EXISTING BLOWERS, EQUIPMENT PADS AND ALL ASSOCIATED AIR PIPING, CONDUIT AND CONDUCTORS TO BE REMOVED (TYP OF 2 BLOWERS)

2

3

REORIENT TEE FOR TEMPORARY PIPING

REMOVE CONNECTION FITTING BETWEEN EXISTING GRIT SLURRY AND DRIVE UNIT

REMOVE AIR PIPING AND VALVES BETWEEN BLOWERS AND GRIT UNIT CONNECTION (TYP OF 2)

REMOVE ALL GRIT SLURRY PIPE. RELOCATE SUPPORTS FOR USE WITH NEW GRIT SLURRY PIPE.

REMOVE ALL EXISTING GROUT PADS AND ANCHOR BOLTS (TYP)

2

4

REMOVE GRIT SLURRY PIPE AND SUPPORTS

DO NOT DISTURB EXISTING CONDUIT OR NPW PIPE (TYP)

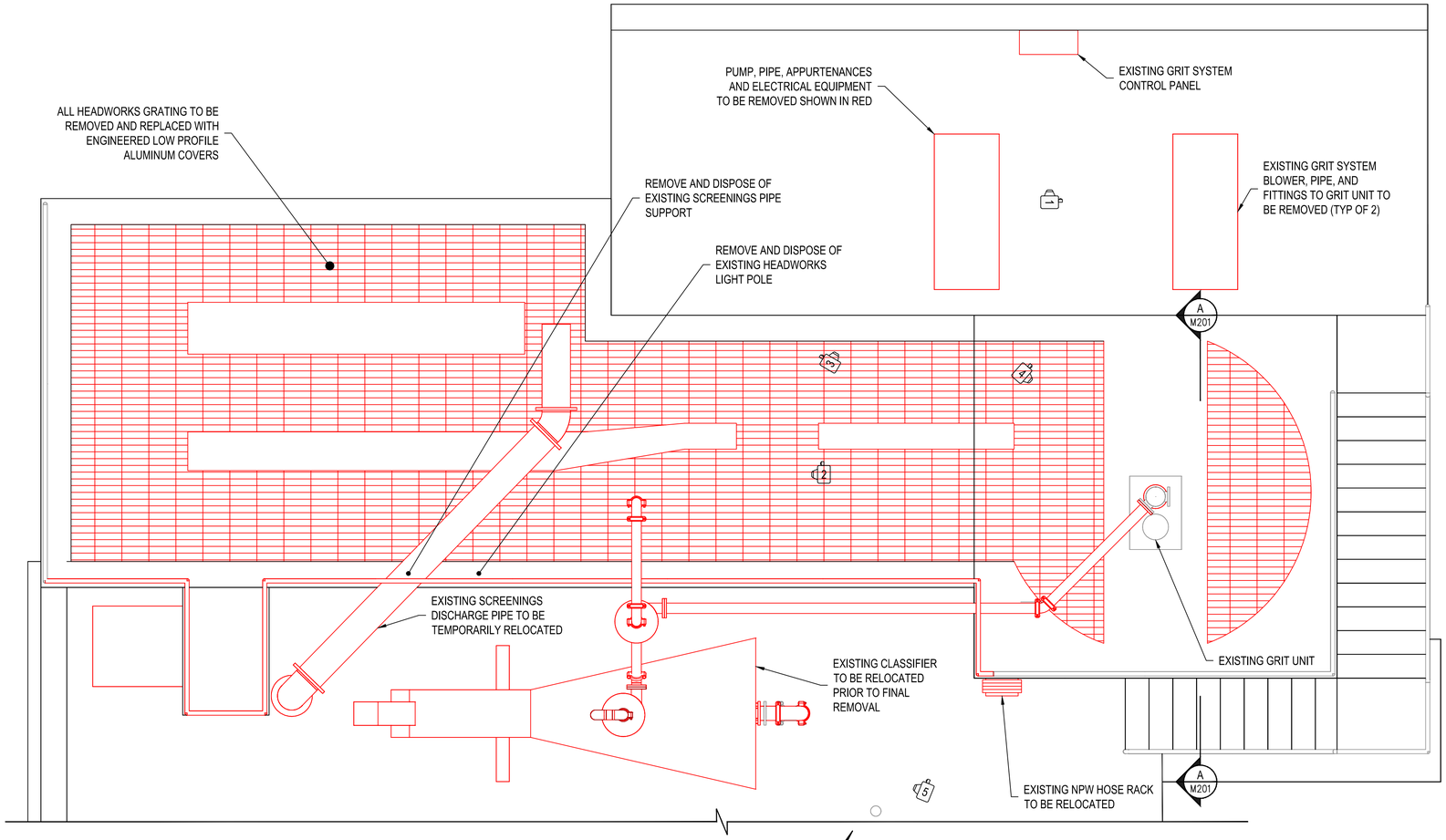
EXISTING GRIT CLASSIER TO BE TEMPORARILY RELOCATED PRIOR TO FINAL REMOVAL

REMOVE CLASSIFIER EQUIPMENT PADS AND ANCHOR BOLTS

2

REUSE EXISTING PIPE AND FITTINGS PER MECHANICAL PLAN

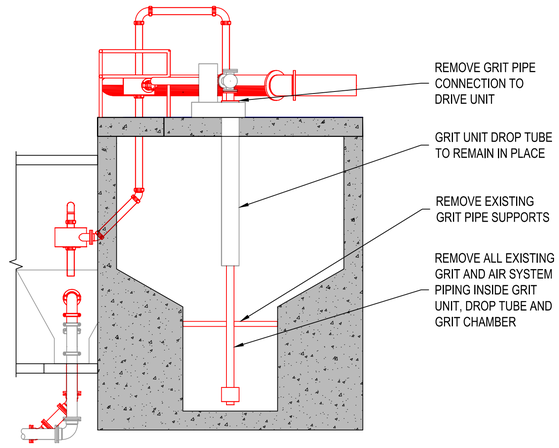
5



HEADWORKS MECHANICAL DEMOLITION PLAN

3/8" = 1'-0"

EXISTING UPPER AND LOWER LEVEL AWNINGS HAVE BEEN OMITTED FROM THIS VIEW FOR CLARITY.



SECTION

1/4" = 1'-0"

A M201

SMITH WASHINGTON SECRETARY REGISTERED PROFESSIONAL ENGINEER STATE OF — SIGNED: 09/19/17

RICHARD BALLARD WASHINGTON SECRETARY REGISTERED PROFESSIONAL ENGINEER STATE OF — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

MECHANICAL DEMOLITION PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_M01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

REVISIONS

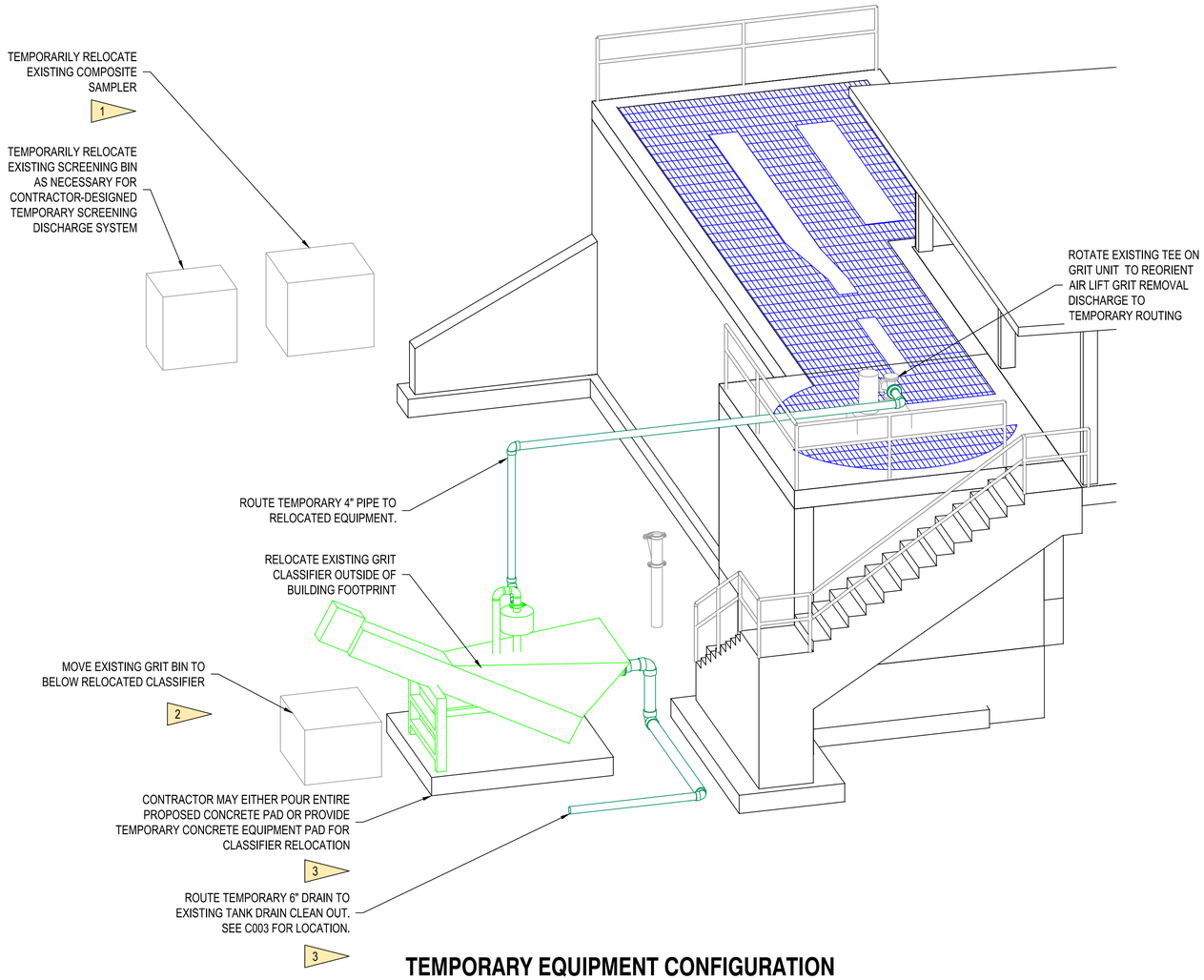
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

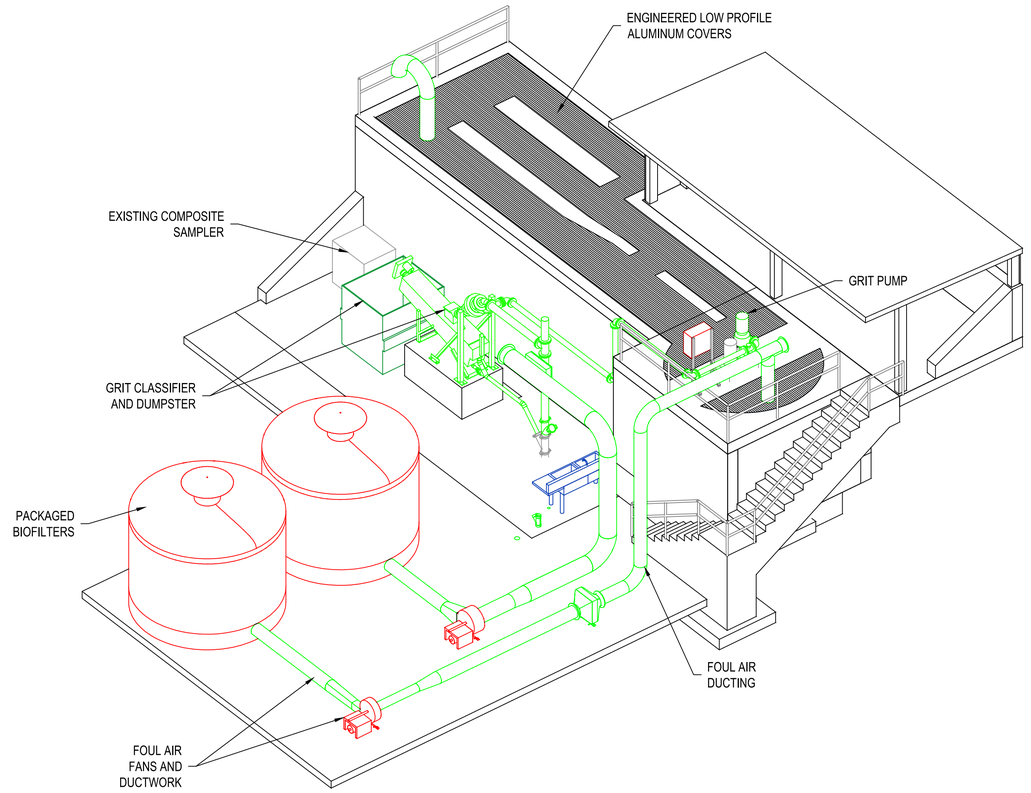
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M201
SHEET NO.: 42



TEMPORARY EQUIPMENT CONFIGURATION

NOT TO SCALE



FINAL EQUIPMENT CONFIGURATION

NOT TO SCALE

NOTES

1. PROPOSED BUILDING STRUCTURE HAS BEEN OMITTED HERE FOR CLARITY.
2. TEMPORARY RELOCATION OF EQUIPMENT AND UTILITIES SHALL BE COMPLETED PER THE SCHEDULE AND PHASING REQUIREMENTS IN THE SPECIFICATIONS.

1. EXTEND EXISTING COMPOSITE SAMPLER POLY TUBING TO NEW LOCATION. PROVIDE TEMPORARY POWER TO SAMPLER AT NEW LOCATION (120v, 1 PHASE).
2. LOCATE AND ORIENT THE RELOCATED CLASSIFIER TO ALLOW THE CITY TO EASILY ACCESS THE GRIT BIN DURING CONSTRUCTION.
3. TEMPORARY PIPE AND FITTINGS HAVE NOT BEEN CALLED OUT IN DETAIL HERE. CONTRACTOR SHALL PROVIDE 4" SCH. 40 SOLVENT WELD PVC PIPE AND FITTINGS AS NECESSARY TO COMPLETE THE TEMPORARY SYSTEM. PROVIDE SUPPORT AND RESTRAINT AS NEEDED.

JAMES D. SMITH — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17
RICHARD BALLARD — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS MECHANICAL PHASING PLAN

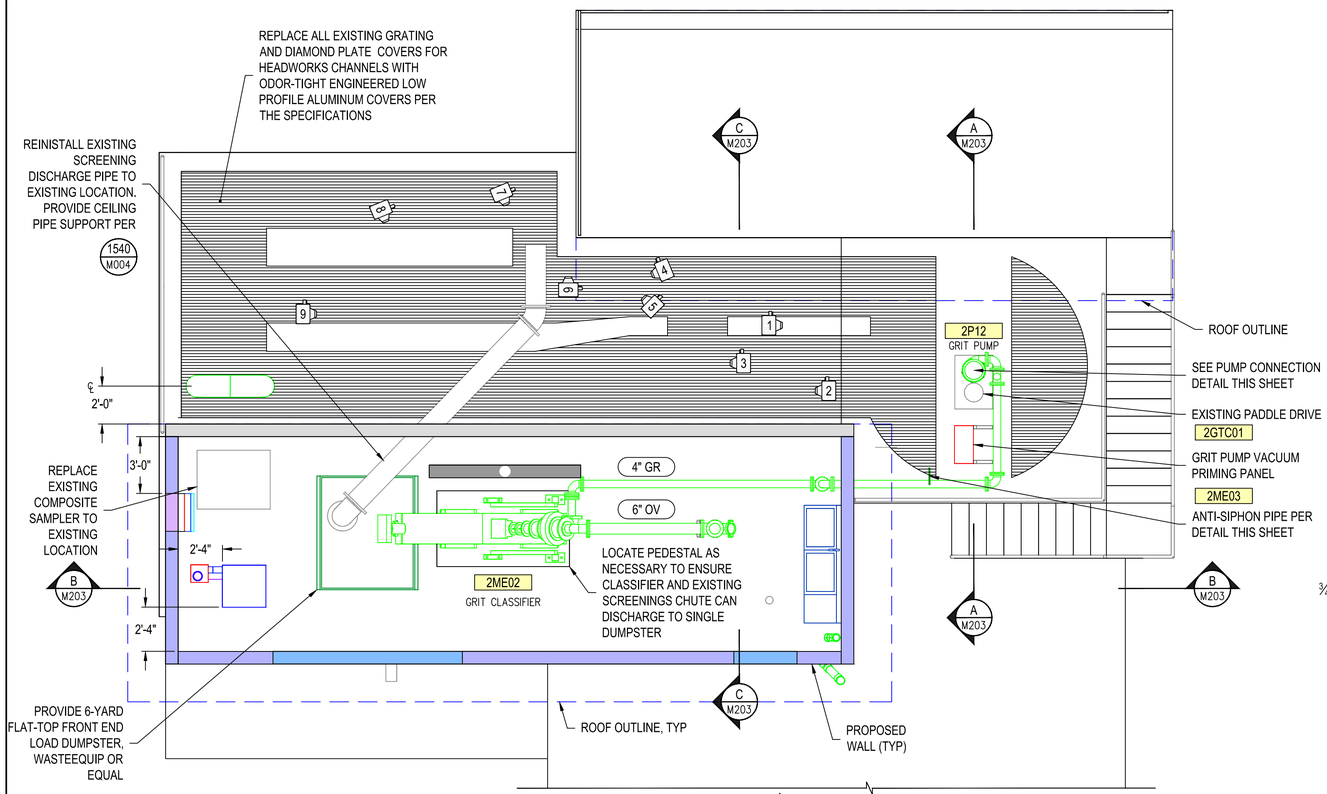
REVISIONS

NO.	DATE	DESCRIPTION

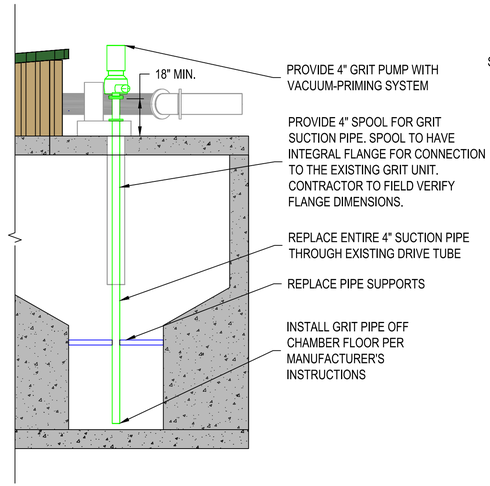
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HWV_M01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS
BY
REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

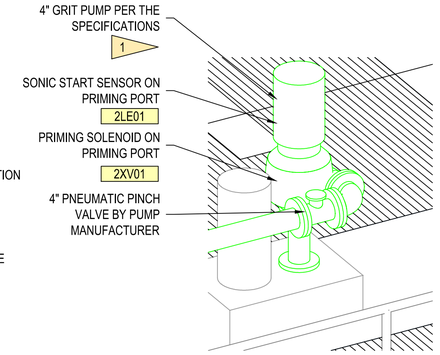
DWG NO.: M202
SHEET NO.: 43
158



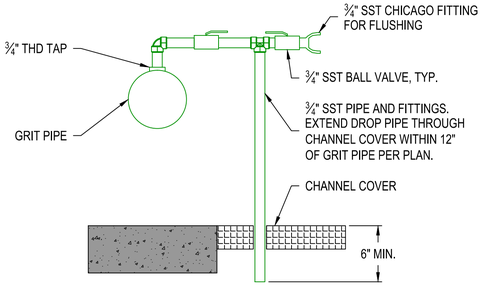
HEADWORKS MECHANICAL PLAN
1/4" = 1'-0"



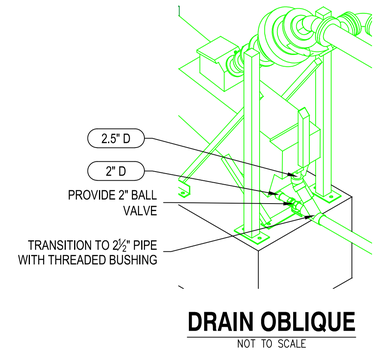
SECTION
1/4" = 1'-0" A M203



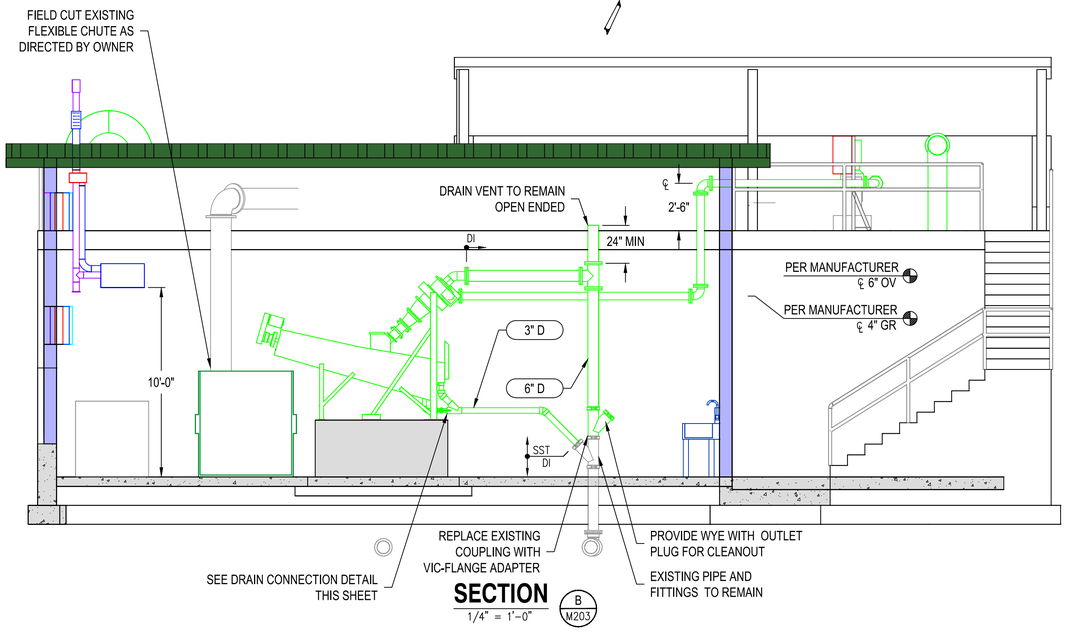
PUMP OBLIQUE
NOT TO SCALE



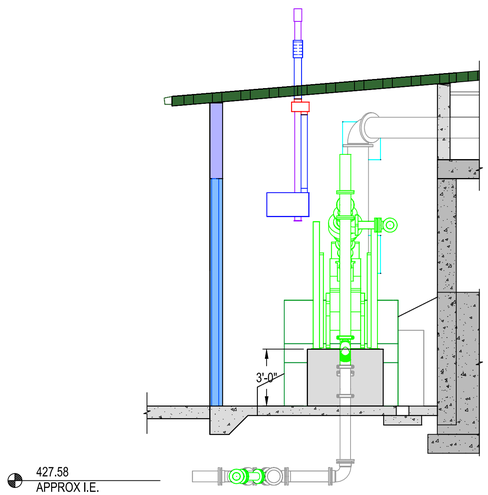
ANTI-SIPHON PIPE
NOT TO SCALE



DRAIN OBLIQUE
NOT TO SCALE



SECTION
1/4" = 1'-0" B M203



SECTION
1/4" = 1'-0" C M203

NOTES

1. SOME EXISTING EQUIPMENT, PIPING AND STRUCTURAL FEATURES HAVE BEEN OMITTED FROM THIS SHEET FOR CLARITY.
2. ODOR CONTROL IMPROVEMENTS HAVE BEEN OMITTED FROM THIS SHEET FOR CLARITY.
3. THE EXISTING HEADWORKS CHANNELS HAVE BEEN APPROXIMATELY OUTLINED HERE. THE CONTRACTOR SHALL COMPLETE ALL FIELD MEASUREMENTS NECESSARY TO ENSURE PROPER MANUFACTURING OF THE PROPOSED CHANNEL COVERS.
4. EXISTING NPW PIPE SIZE AND MATERIAL UNKNOWN. CONTRACTOR VERIFY SIZE AND MATERIAL ONSITE IN ORDER TO COMPLETE CONNECTIONS.
5. EXISTING GRIT UNIT SHOP DRAWINGS AND GRIT CHAMBER ASBUILTS ARE AVAILABLE TO THE CONTRACTOR AT THEIR REQUEST.
6. ALL REFERENCES ARE TO PHOTOS ON SHEET M206.
7. A BYPASS CHANNEL EXISTS FOR BYPASSING THE GRIT CHAMBER. THE SLIDE GATES THAT ISOLATE THE GRIT CHAMBER MAY NOT BE ENTIRELY WATERTIGHT. CONTRACTOR TO PROVIDE SUMP PUMP IF NECESSARY TO KEEP GRIT CHAMBER EMPTY FOR SUCTION PIPE WORK.
8. CONTRACTOR SHALL PROVIDE ACCESS TO GRIT CHAMBER FOR OWNER INSPECTION DURING SUCTION PIPE REPLACEMENT.
9. ALL EXPOSED GRIT DRAIN PIPING SHALL BE SST OR DUCTILE IRON AS SHOWN.
10. CONTRACTOR SHALL DESIGN ALL PIPE SUPPORT SYSTEMS PER M004.

1 CONTRACTOR TO COMPLETE CONNECTION BETWEEN PRIMING SOLENOID AND SONIC START LOCATED ON GRIT PUMP PRIMING PORT (NOT SHOWN). PROVIDE ¾" POLY TUBING CONNECTIONS BETWEEN THE VACUUM PANEL CONNECTIONS AND THE PUMP PRIMING PORT AND DISCHARGE PINCH VALVE. ALL CONNECTIONS SHALL BE PER THE MANUFACTURER'S REQUIREMENTS AND SHOP DRAWINGS.

SMITH ENGINEERING SEAL — SIGNED: 09/19/17
RICHARD BALLARD ENGINEERING SEAL — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS MECHANICAL PLAN

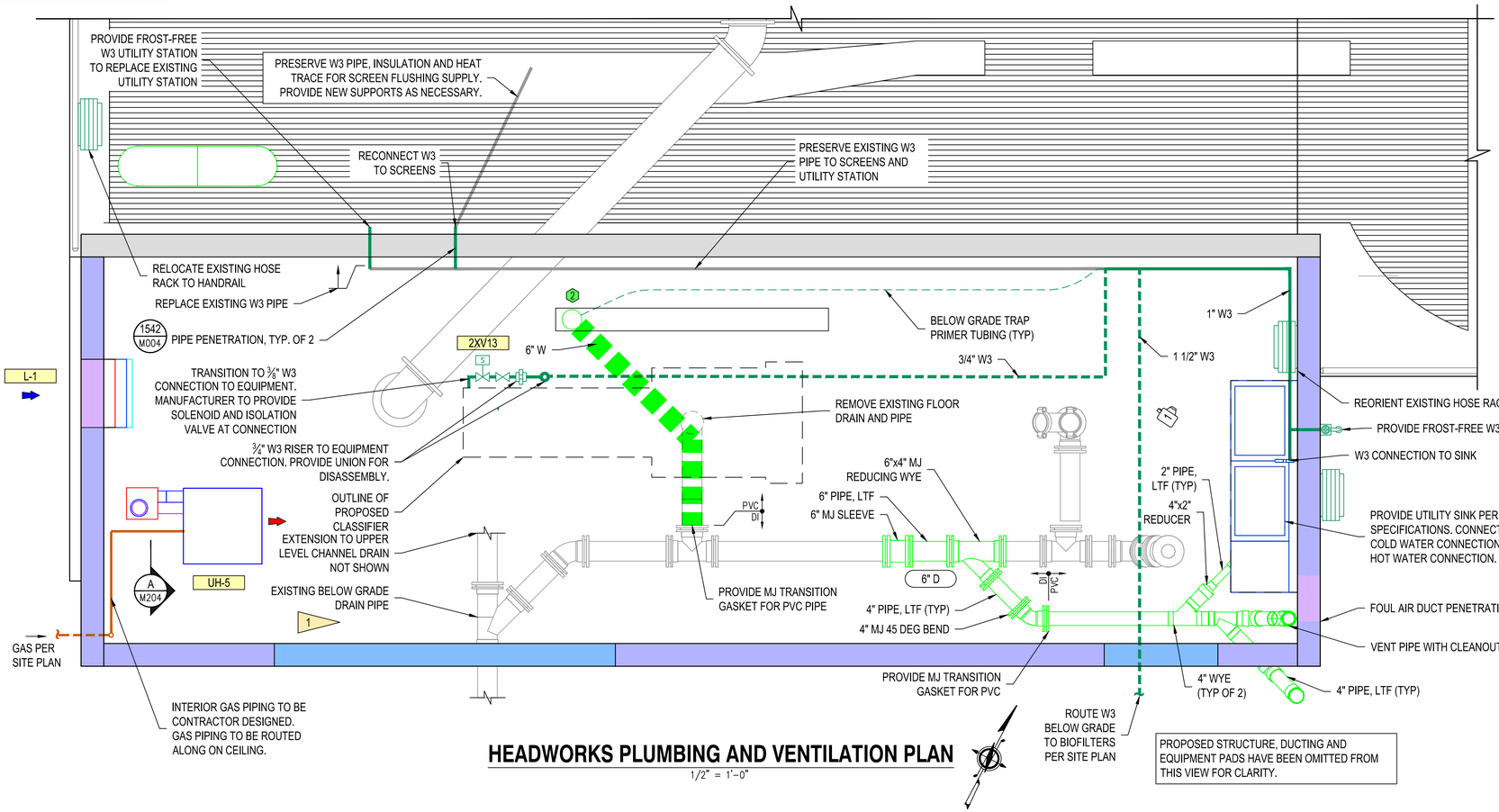
REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-DHW_M01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M203
SHEET NO.: 44
158



HEADWORKS PLUMBING AND VENTILATION PLAN

1/2" = 1'-0"

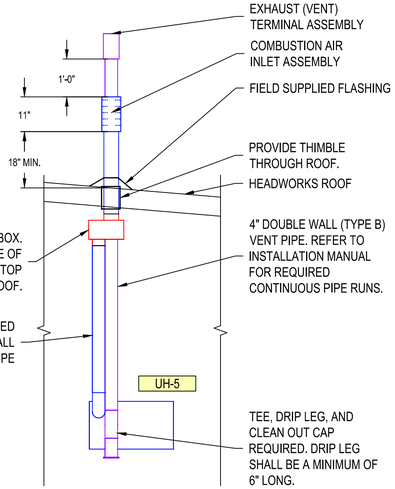
PROPOSED STRUCTURE, DUCTING AND EQUIPMENT PADS HAVE BEEN OMITTED FROM THIS VIEW FOR CLARITY.

NOTES

1. THIS DRAWING IS SCHEMATIC IN NATURE IN ORDER TO SHOW THE GENERAL ROUTING OF PLUMBING PIPING. ALL PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE UPC. PIPES AND PLUMBING ITEMS SHALL BE ROUTED EXPOSED ALONG THE NEAREST WALL TO LOCATIONS SHOWN HERE. THE CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY TO TRANSITION AND CONNECT TO EQUIPMENT AND PLUMBING ITEMS. ATTACH PIPES TO WALLS WITH UNISTRUT. MULTIPLE PIPES ALONG THE SAME ALIGNMENT SHALL BE RACKED TO UNISTRUT TO FORM A RACEWAY. ROUTE ALL PIPES NEATLY PARALLEL OR PERPENDICULAR TO WALLS, CEILING, AND FLOOR. SEE DRAWING M001 FOR ADDITIONAL INFORMATION.
2. EXISTING BELOW GRADE PIPING IS SHOWN PER BEST AVAILABLE ASBUILT INFORMATION. ACTUAL SIZE AND ORIENTATION MAY DIFFER FROM THAT SHOWN HERE.
3. PROVIDE TEMPORARY W3 SERVICE TO HEADWORKS SCREEN AND GRIT UNIT WHILE CONNECTIONS AND TIE-INS ARE BEING MADE. TEMPORARY SERVICE SHALL BE CONTRACTOR-DESIGNED.
4. GAS PIPING SYSTEM SHALL BE CONTRACTOR-DESIGNED.
5. PROVIDE PORTABLE SALINE EYEWASH BOTTLE MOUNTED TO WALL ABOVE SINK.

1 EXISTING BELOW GRADE DRAIN PIPING APPEARS TO BE 6" DI PIPE PER THE ASBUILTS. THE CONTRACTOR SHALL EXPOSE DRAIN PIPE AND VERIFY MATERIAL, SIZE AND ORIENTATION PRIOR TO PURCHASING PARTS TO COMPLETE THE WORK.

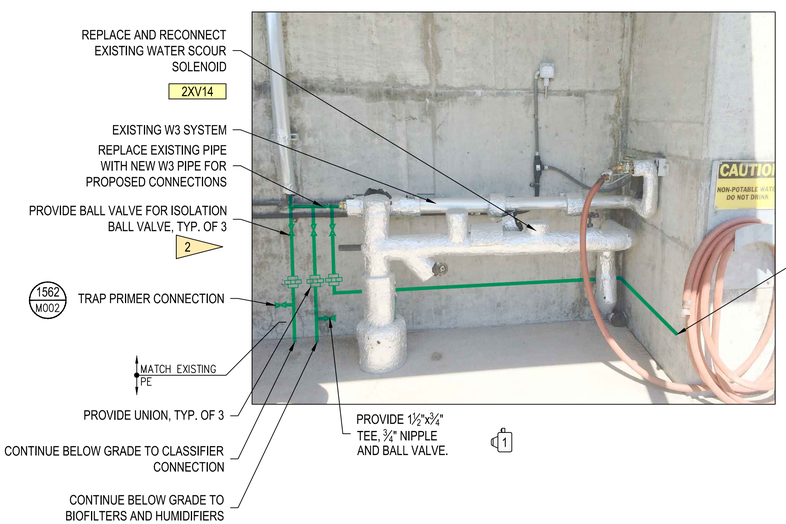
2 PROVIDE PIPE AND FITTINGS AS NECESSARY TO EXTEND W3 TO CLASSIFIER, SINK, AND BIOFILTER CONNECTIONS.

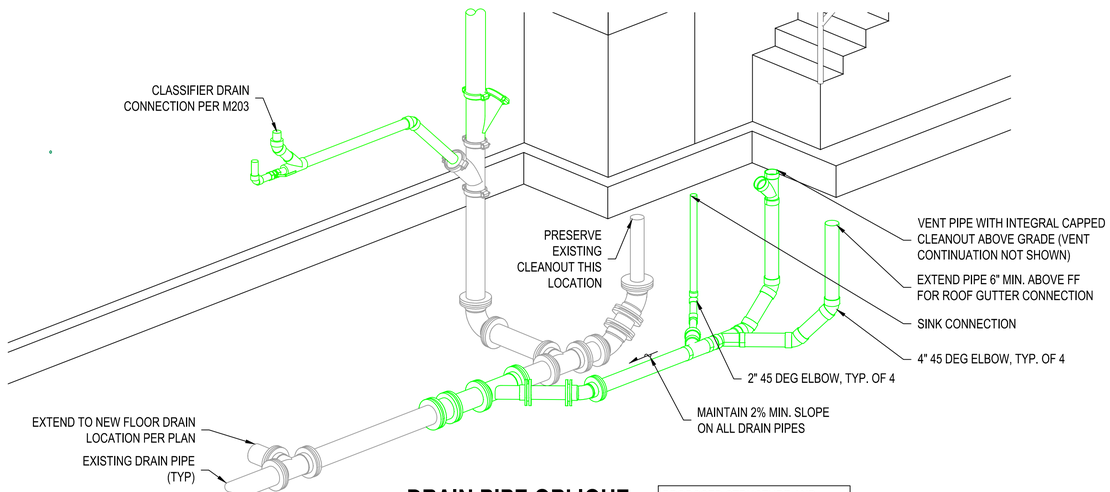


GAS HEATER ELEVATION VIEW

A M204

1/2" = 1'-0"





DRAIN PIPE OBLIQUE

NOT TO SCALE

PROPOSED STRUCTURE AND EQUIPMENT HAS BEEN OMITTED FROM THIS VIEW FOR CLARITY.

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS MINOR MECHANICAL PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

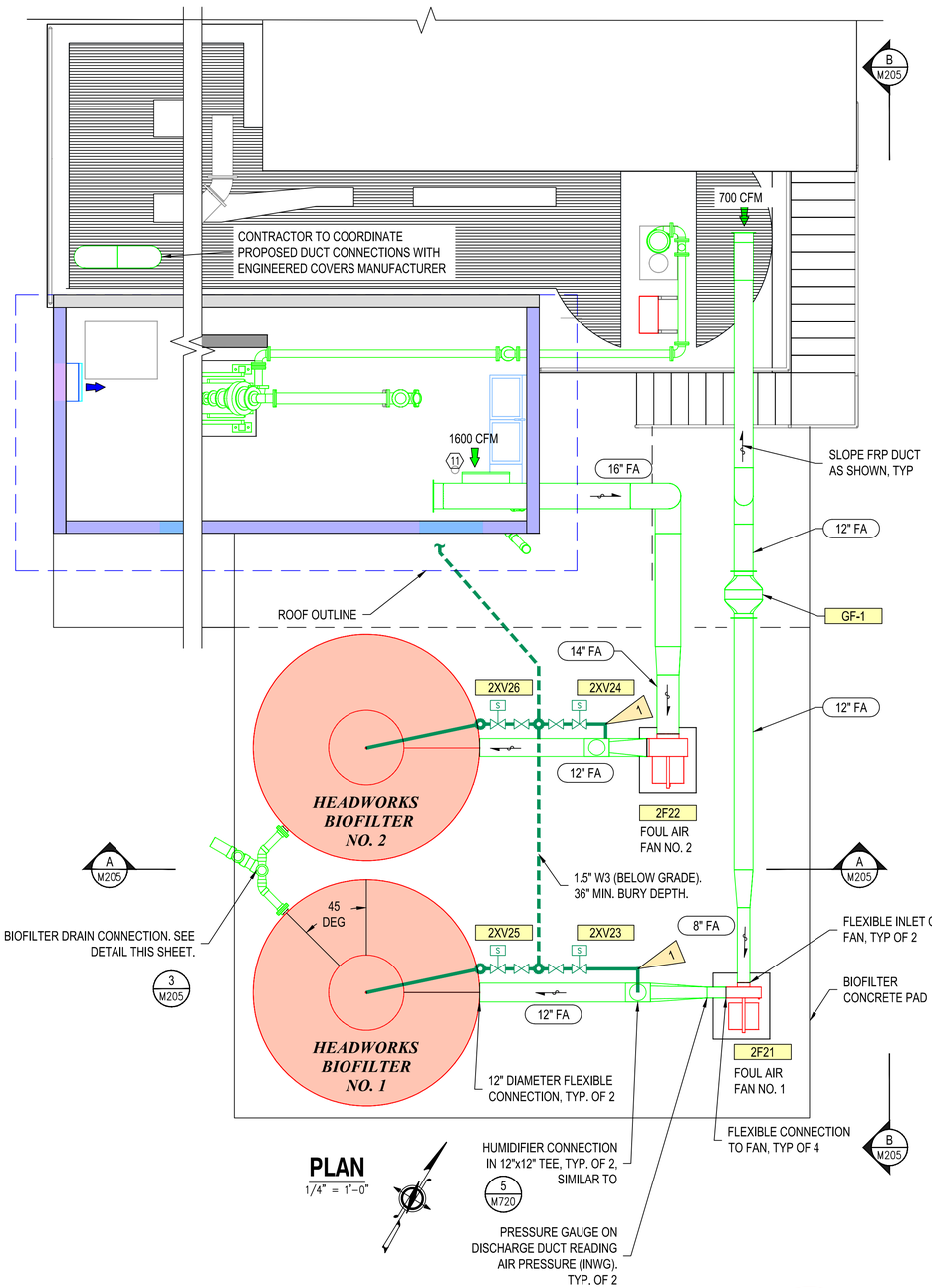
JOB NO.: 116-028
CLERK: SNQ
FILENAME: WRF02-DHW_M01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

SCALE: SHOWN

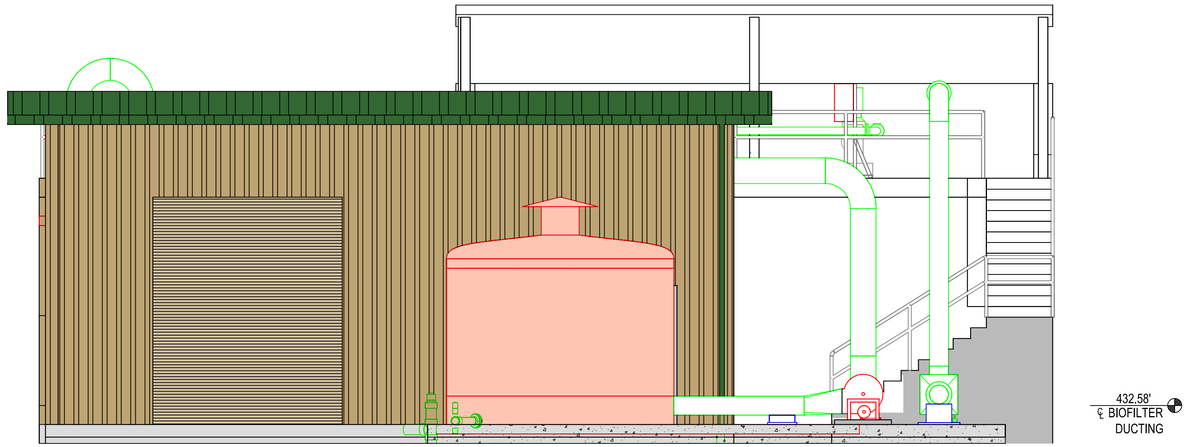
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M204
SHEET NO.: 45
158

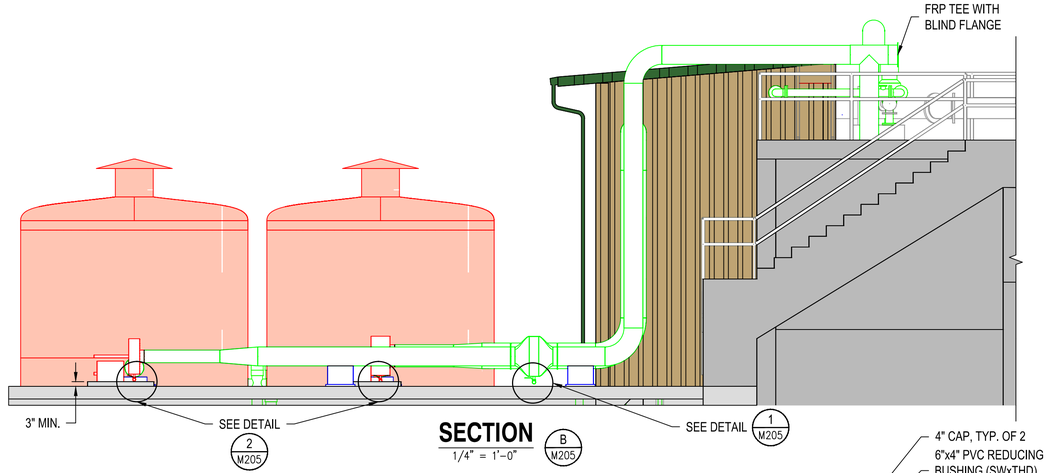


PLAN
1/4" = 1'-0"

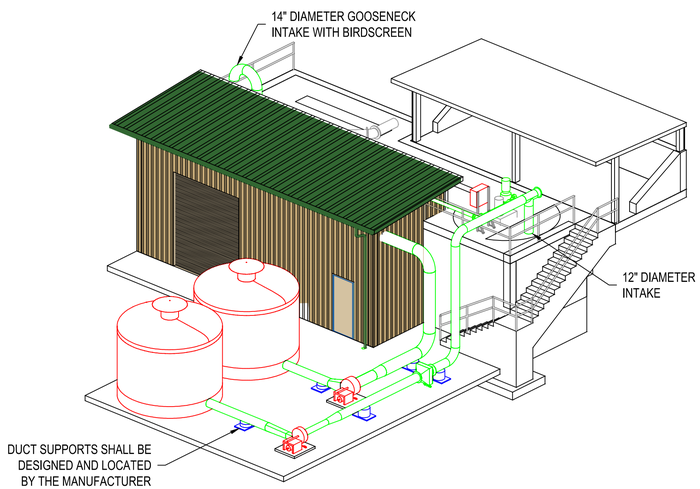


SECTION
1/4" = 1'-0"
A
M205

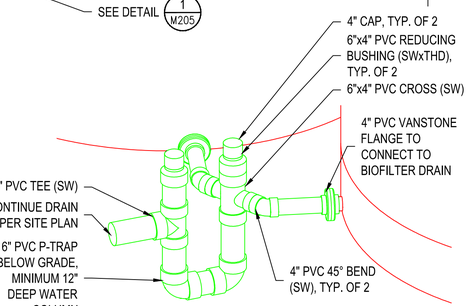
433.16'
℄ SUCTION DUCTING



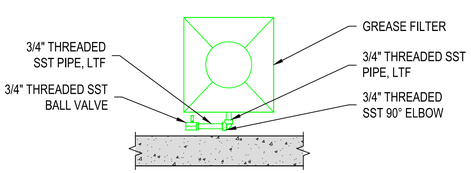
SECTION
1/4" = 1'-0"
B
M205



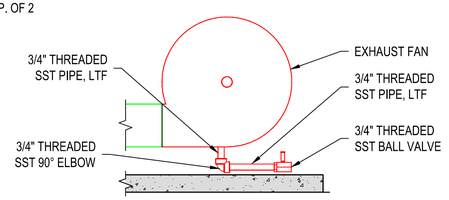
OBLIQUE
NOT TO SCALE



BIOFILTER DRAIN
NOT TO SCALE
3
M205



GREASE FILTER DRAIN
NOT TO SCALE
1
M205



FAN DRAIN
NOT TO SCALE
2
M205

GENERAL NOTES

1. SLOPE ALL FOUL AIR DUCTWORK AS SHOWN ON THE PLANS AT A MINIMUM OF 1% SLOPE. REFER TO M002 FOR HVAC EQUIPMENT SCHEDULES
2. ALL FOUL AIR FRP DUCT INSIDE THE GRIT ROOM SHALL BE FIRE RETARDANT.
3. HEAT TRACE AND INSULATE ALL EXPOSED W3 PIPE AND FITTINGS.
4. SECURELY MOUNT GREASE FILTER SUPPORTS TO CONCRETE PAD.

1 PROVIDE 1" W3 RISER PER PLAN. TRANSITION FROM PE TO SST PIPE 6" ABOVE F.F. PROVIDE ISOLATION BALL VALVE AND SOLENOID FOR HUMIDIFICATION AND IRRIGATION SYSTEM CONNECTIONS. ROUTE EXPOSED PIPE NEATLY ALONG DUCTING. COMPLETE CONNECTIONS PER MANUFACTURER REQUIREMENTS.

NATHAN YOUNG — 36868 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17
RICHARD BALLARD — 21441 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17
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Bellevue, WA
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS ODOR CONTROL PLAN

REVISIONS			
NO.	DESCRIPTION	DATE	BY
			REVIEW

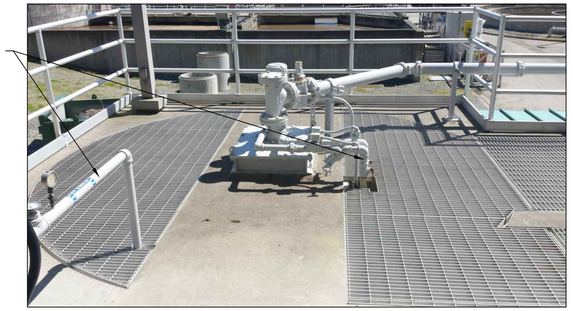
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_OC.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M205
SHEET NO.: 46
158

NOTE:
THESE PHOTOS HAVE BEEN PROVIDED FOR VISUAL REFERENCE OF THE EXISTING UPPER LEVEL CHANNEL LAYOUT FOR USE IN DESIGNING THE PROPOSED CHANNEL COVER SYSTEM. NOT ALL PIPE PENETRATIONS, EQUIPMENT, ETC. ARE SHOWN HERE. THE CONTRACTOR SHALL COMPLETE ALL FIELD MEASUREMENTS NECESSARY TO COMPLETE THE DESIGN OF THE CHANNEL COVER SYSTEM.

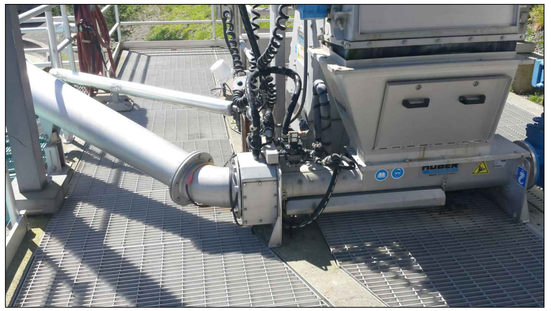
REMOVE ALL EXISTING AIR PIPE AND FITTINGS



1

2

3

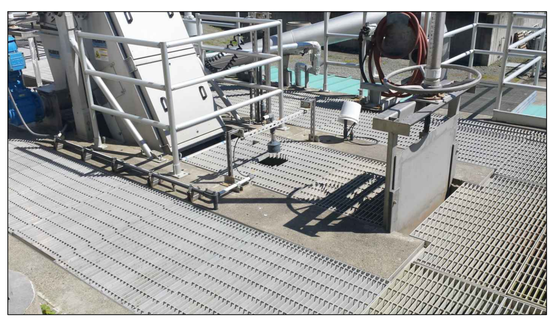


4

5

6

7



8

9

SMITH OF WASHINGTON STATE OF WASHINGTON DANIEL E. SMITH 19344 REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

BALLARD OF WASHINGTON STATE OF WASHINGTON RICHARD S. BALLARD 19344 REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS CHANNEL PHOTOS

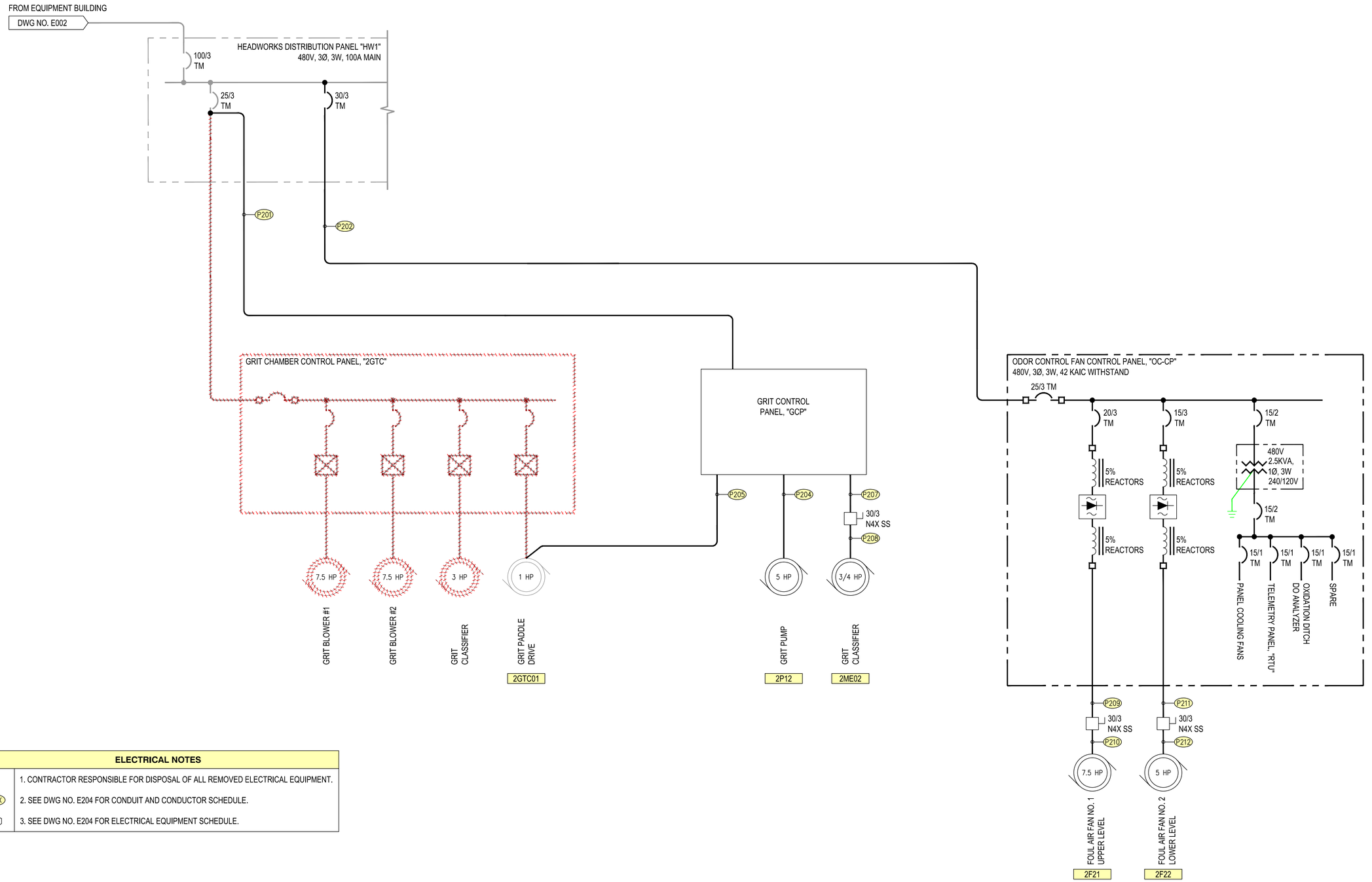
ENGINEER: DND
REVIEWED: ETS
SAVE DATE: Aug 21, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-HW_PHOTOS.DWG
JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M206
SHEET NO.: 47
158



ELECTRICAL NOTES	
	1. CONTRACTOR RESPONSIBLE FOR DISPOSAL OF ALL REMOVED ELECTRICAL EQUIPMENT.
XXX	2. SEE DWG NO. E204 FOR CONDUIT AND CONDUCTOR SCHEDULE.
X	3. SEE DWG NO. E204 FOR ELECTRICAL EQUIPMENT SCHEDULE.

ONE-LINE DIAGRAM - HEADWORKS MODIFICATIONS

NOT TO SCALE

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

MICHAEL KAMERRER — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS ONE-LINE DIAGRAM

ENGINEER: KMS	JOB NO.: 116-028
REVIEWED: CMR	CLIENT: SNQ
SAVE DATE: Sep 19, 2017	FILENAME: WRF02-D-HW_E01.DWG
PLOT DATE: Sep 19, 2017	

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

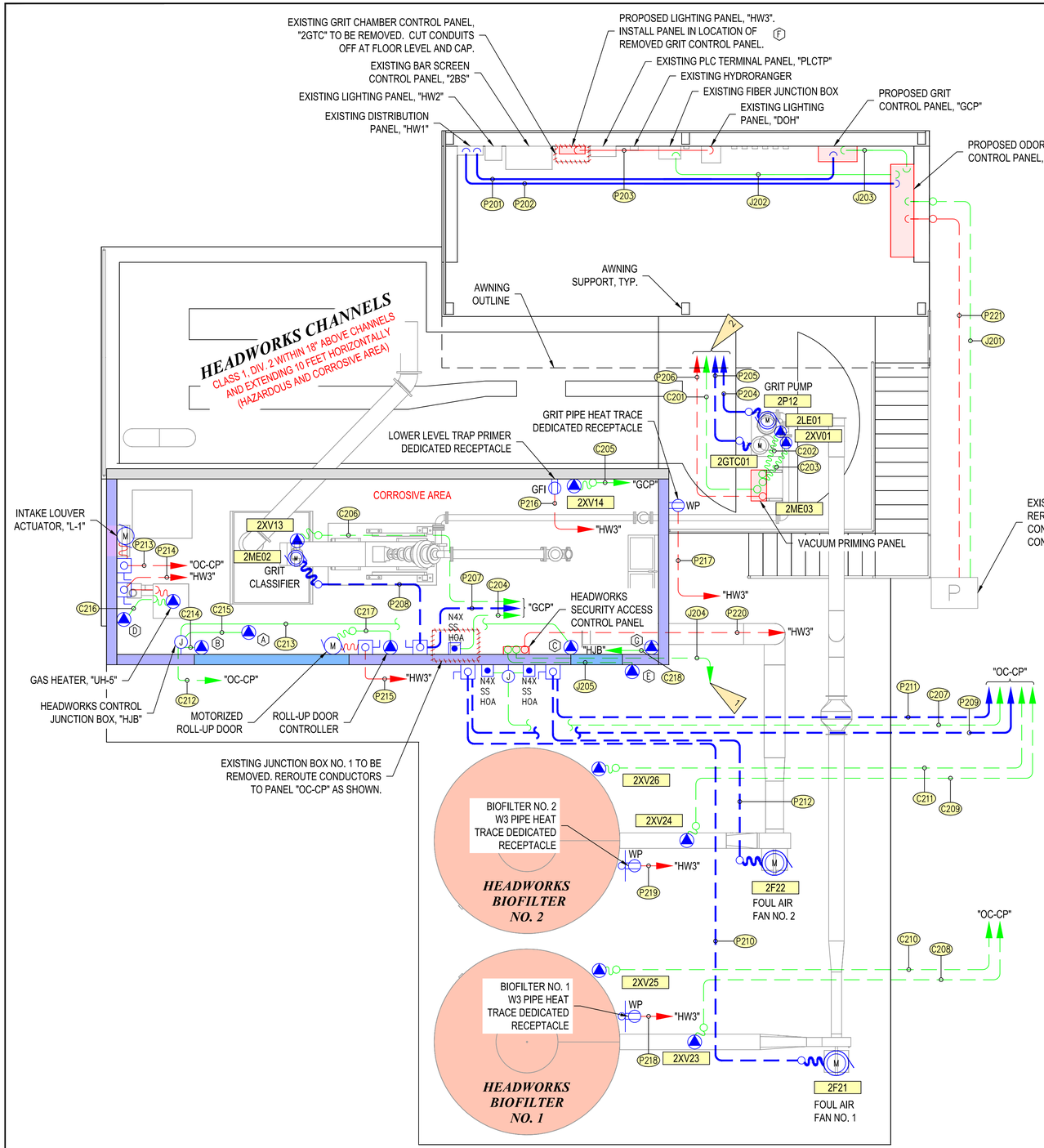
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

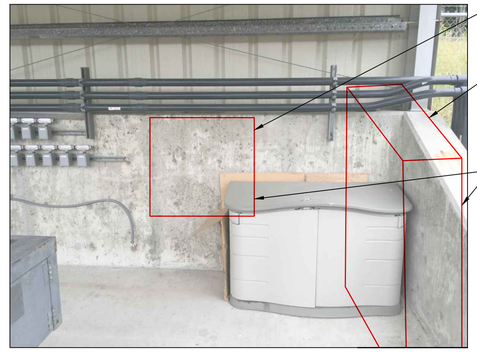
DWG NO.: E201

SHEET NO.: 48



HEADWORKS POWER DISTRIBUTION & SIGNAL PLAN

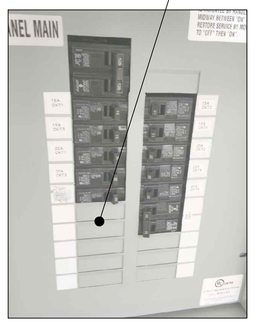
1/4" = 1'-0"



HEADWORKS UPPER LEVEL

NO SCALE

CONTRACTOR TO INSTALL PROPOSED 50 AMP 240 VAC PANEL "HW3" CIRCUIT BREAKER IN EXISTING PANEL "DOH"



PANEL "DOH"

NO SCALE

CONTRACTOR TO REUSE EXISTING 25 AMP GRIT CHAMBER CONTROL PANEL CIRCUIT BREAKER FOR PROPOSED GRIT CONTROL PANEL "GCP"

CONTRACTOR TO REMOVE EXISTING 20 AMP SPARE CIRCUIT BREAKER AND INSTALL 30 AMP CIRCUIT BREAKER FOR PROPOSED ODOR CONTROL FAN CONTROL PANEL "OC-CP"

PANEL "HW1"

NO SCALE

ELECTRICAL NOTES

1. SEE ELECTRICAL SITE PLAN DWG NO. E003 FOR CONTINUATION.
2. ROUTE CONDUIT CONCEALED BENEATH GRATING, UP EXISTING AWNING SUPPORT, AND ON THE UNDERSIDE OF AWNING TO PANEL "GCP".
3. SEE DWG NO. E721, E722, AND E723 FOR ELECTRICAL DETAILS.
4. PROVIDE TEMPORARY POWER FOR RELOCATED GRIT CLASSIFIER PER DRAWING M201.
5. SEE DWG NO. E204 FOR CONDUIT AND CONDUCTOR SCHEDULE.
6. SEE DWG NO. E204 FOR ELECTRICAL EQUIPMENT SCHEDULE.

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22722 29th Drive SE, Suite 210

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS POWER DISTRIBUTION & SIGNAL PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

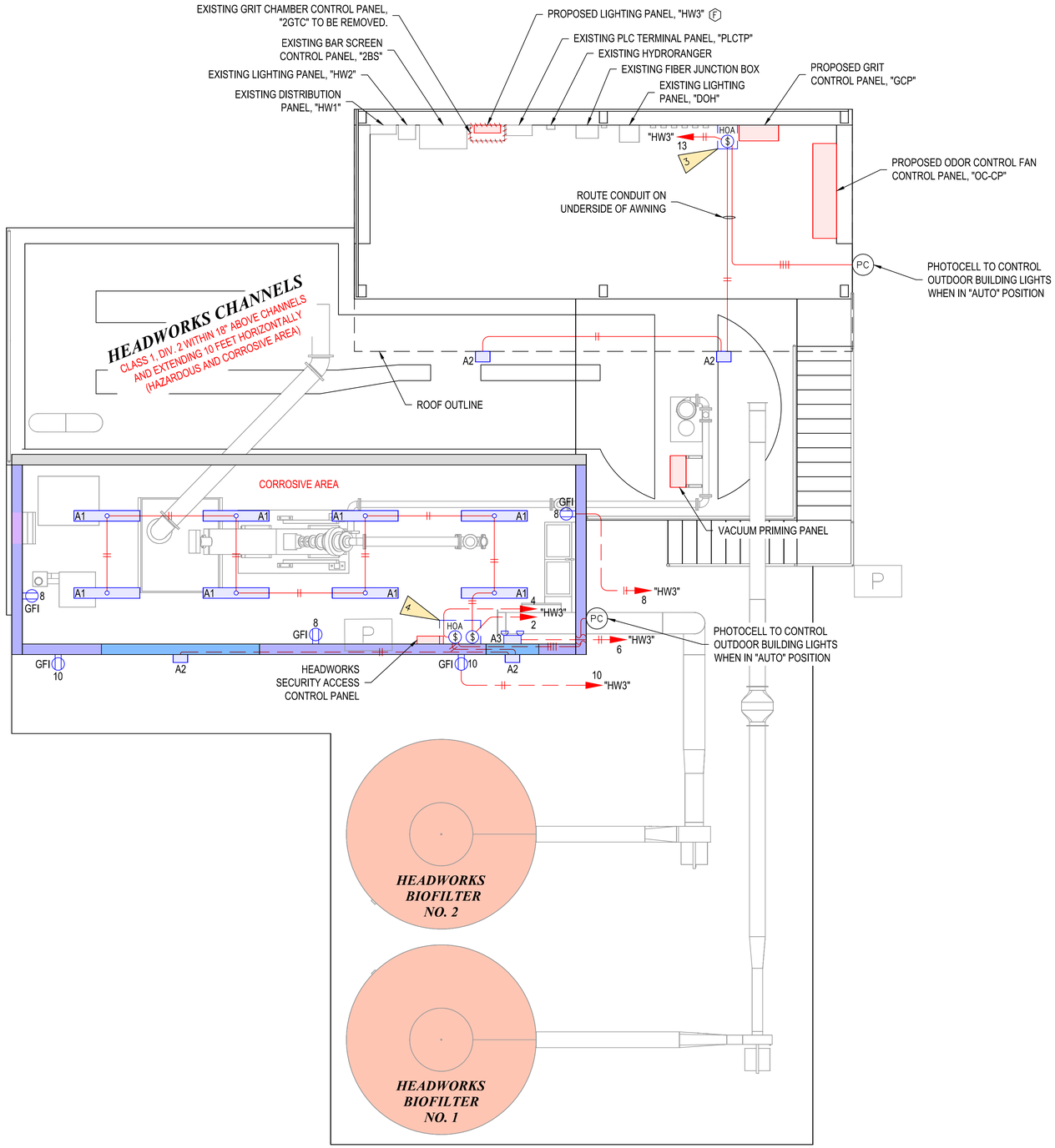
ENGINEER: KMS
REVIEWED: CMR
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-HW_E002.DWG
JOB NO.: 116-028

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E202
SHEET NO.: 49
158



HEADWORKS LIGHTING AND RECEPTACLE PLAN

1/4" = 1'-0"

ELECTRICAL NOTES

1. PROVIDE AND INSTALL LABELS FOR ALL LIGHT SWITCHES. LABELS SHALL INDICATE THE DEVICE CONTROLLED BY THE SWITCH.
2. LOCATE ALL LIGHT FIXTURES, SWITCHES, AND DEVICES IN LOCATION SHOWN ON THE PLANS USING ENGINEERING SCALE. ADJUST LOCATION AS NECESSARY TO AVOID INTERFERENCE WITH OTHER EQUIPMENT.
3. SINGLE GANG BOX AND SWITCH SURFACE MOUNTED ON WALL.
4. DOUBLE GANG BOX AND SWITCH RECESSED IN WALL.
5. SEE DWG NO. E204 FOR LIGHTING FIXTURE SCHEDULE.
6. SEE DWG NO. E204 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CHRISTOPHER MICHAEL RAWLINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS LIGHTING AND RECEPTACLE PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-HW_E02.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E203
SHEET NO.: 50
158

POWER CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
P201	DISTRIBUTION PANEL, "HW1"	GRIT CONTROL PANEL, "GCP"	3/4"	(3) – #12, (1) – #12 GRD	
P202	DISTRIBUTION PANEL, "HW1"	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	3/4"	(3) – #10, (1) – #10 GRD	
P203	LIGHTING PANEL, "DOH"	LIGHTING PANEL, "HW3"	3/4"	(2) – #8, (1) – #8 N, (1) – #10 GRD	
P204	GRIT CONTROL PANEL, "GCP"	GRIT PUMP, "2P12"	3/4"	(3) – #12, (1) – #12 GRD	
P205	GRIT CONTROL PANEL, "GCP"	GRIT PADDLE DRIVE, "2GTC01"	3/4"	(3) – #12, (1) – #12 GRD	
P206	GRIT CONTROL PANEL, "GCP"	VACUUM PRIMING PANEL, "2ME03"	3/4"	(2) – #12, (1) – #12 GRD	
P207	GRIT CONTROL PANEL, "GCP"	GRIT CLASSIFIER DISCONNECT	3/4"	(3) – #12, (1) – #12 GRD	
P208	GRIT CLASSIFIER DISCONNECT	GRIT CLASSIFIER, "2ME02"	3/4"	(3) – #12, (1) – #12 GRD	
P209	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	FOUL AIR FAN NO. 1 DISCONNECT	3/4"	(3) – #12, (1) – #12 GRD	
P210	FOUL AIR FAN NO. 1 DISCONNECT	FOUL AIR FAN NO. 1, "2F21"	3/4"	(3) – #12, (1) – #12 GRD	
P211	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	FOUL AIR FAN NO. 2 DISCONNECT	3/4"	(3) – #12, (1) – #12 GRD	
P212	FOUL AIR FAN NO. 2 DISCONNECT	FOUL AIR FAN NO. 2, "2F22"	3/4"	(3) – #12, (1) – #12 GRD	
P213	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	INTAKE LOUVER ACTUATOR, "L–1"	3/4"	(2) – #12, (1) – #12 GRD	
P214	LIGHTING PANEL, "HW3"	LOWER LEVEL GAS HEATER, "UH–5"	3/4"	(2) – #12, (1) – #12 GRD	
P215	LIGHTING PANEL, "HW3"	LOWER LEVEL ROLL–UP DOOR MOTOR	3/4"	(2) – #12, (1) – #12 GRD	
P216	LIGHTING PANEL, "HW3"	LOWER LEVEL TRAP PRIMER DEDICATED RECEPTACLE	3/4"	(2) – #12, (1) – #12 GRD	
P217	LIGHTING PANEL, "HW3"	GRIT PIPE HEAT TRACE DEDICATED RECEPTACLE	3/4"	(2) – #12, (1) – #12 GRD	
P218	LIGHTING PANEL, "HW3"	BIOFILTER NO. 1 HEAT TRACE DEDICATED RECEPTACLE	3/4"	(2) – #12, (1) – #12 GRD	
P219	LIGHTING PANEL, "HW3"	BIOFILTER NO. 2 HEAT TRACE DEDICATED RECEPTACLE	3/4"	(2) – #12, (1) – #12 GRD	
P220	LIGHTING PANEL, "HW3"	HEADWORKS SECURITY ACCESS CONTROL PANEL	3/4"	(2) – #12, (1) – #12 GRD	
P221	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	EXISTING JUNCTION BOX NO. 2	3/4"	EXISTING CONDUCTORS	REROUTE EXISTING CONDUCTORS FOR OXIDATION DITCH DO ANALYZER POWER CIRCUIT

CONTROL CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C201	GRIT CONTROL PANEL, "GCP"	VACUUM PRIMING PANEL, "2ME03"	3/4"	(2) – #14, (1) – #14 GRD	
C202	VACUUM PRIMING PANEL, "2ME03"	SONIC START LEVEL SENSOR, "2LE01"	3/4"	(6) – #14, (1) – #14 GRD	
C203	VACUUM PRIMING PANEL, "2ME03"	GRIT PUMP PRIMING SOLENOID, "2XV01"	3/4"	(2) – #14, (1) – #14 GRD	
C204	GRIT CONTROL PANEL, "GCP"	GRIT CLASSIFIER HOA SWITCH	3/4"	(8) – #14, (1) – #14 GRD	
C205	GRIT CONTROL PANEL, "GCP"	GRIT CHAMBER SOLENOID, "2XV14"	3/4"	(2) – #14, (1) – #14 GRD	
C206	GRIT CONTROL PANEL, "GCP"	GRIT CLASSIFIER WASHWATER SOLENOID, "2XV13"	3/4"	(2) – #14, (1) – #14 GRD	
C207	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	FOUL AIR FAN HOA SWITCHES	1"	(16) – #14, (1) – #14 GRD	
C208	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	HUMIDIFIER SOLENOID NO. 1, "2XV23"	3/4"	(2) – #14, (1) – #14 GRD	
C209	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	HUMIDIFIER SOLENOID NO. 2, "2XV24"	3/4"	(2) – #14, (1) – #14 GRD	
C210	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	IRRIGATION SOLENOID NO. 1, "2XV25"	3/4"	(2) – #14, (1) – #14 GRD	
C211	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	IRRIGATION SOLENOID NO. 2, "2XV26"	3/4"	(2) – #14, (1) – #14 GRD	
C212	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	HEADWORKS CONTROL JUNCTION BOX, "HJB"	3/4"	(10) – #14, (1) – #14 GRD	
C213	HEADWORKS CONTROL JUNCTION BOX, "HJB"	MAN DOOR INTRUSION SWITCH	3/4"	(2) – #14, (1) – #14 GRD	
C214	HEADWORKS CONTROL JUNCTION BOX, "HJB"	ROLL–UP DOOR INTRUSION SWITCH	3/4"	(2) – #14, (1) – #14 GRD	
C215	HEADWORKS CONTROL JUNCTION BOX, "HJB"	HEADWORKS LOWER LEVEL SMOKE DETECTOR	3/4"	(4) – #14, (1) – #14 GRD	
C216	GAS HEATER, "UH–5"	HEATER "UH–5" HEATING THERMOSTAT	3/4"	(4) – #14, (1) – #14 GRD	
C217	LOWER LEVEL ROLL–UP DOOR MOTOR	LOWER LEVEL ROLL–UP DOOR CONTROLLER	3/4"	(4) – #14, (1) – #14 GRD	
C218	LOWER LEVEL OPERATOR IN TROUBLE PUSHBUTTON	HEADWORKS CONTROL JUNCTION BOX, "HJB"	3/4"	(2) – #14, (1) – #14 GRD	

INSTRUMENTATION CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
J201	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	EXISTING JUNCTION BOX NO. 2	2"	EXISTING FIBER OPTIC CABLE	REROUTE EXISTING FIBER OPTIC CABLE
J202	HEADWORKS FIBER JUNCTION BOX	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	1"	(1) – FIBER OPTIC PATCH CABLE	
J203	GRIT CONTROL PANEL, "GCP"	ODOR CONTROL FAN CONTROL PANEL, "OC–CP"	3/4"	(1) – CAT 5E SHIELDED ETHERNET CABLE	
J204	HEADWORKS SECURITY ACCESS CONTROL PANEL	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL	1"	(1) – SERIAL CABLE	
J205	HEADWORKS SECURITY ACCESS CONTROL PANEL	HEADWORKS LOWER LEVEL CARD READER	3/4"	(1) – 6–CONDUCTOR CABLE (1) – 2–CONDUCTOR CABLE	

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER NAME	MANUFACTURER CATALOG NO.	LAMP QTY. *	LAMP CATALOG NO.	REMARKS
A1	LED LIGHT FIXTURE, 120 VAC, 4'–4" LONG, 45 WATT, 60,000 HOUR LED, HIGH EFFICIENCY DRIVER, HIGH–IMPACT ACRYLIC LENS, MOLDED FIBERGLASS HOUSING, CEILING MOUNTED, U.L. LISTED FOR WET LOCATIONS.	LITHONIA	FEM L48 6000LM IMAFL	1	INTEGRATED LED	
A2	LED OUTDOOR AREA LIGHT – (1)–27W 10C LED. 700mA, 5000K COLOR TEMPERATURE, 120VAC, MOUNT BOTTOM OF FIXTURE 1'–0" ABOVE DOOR, U.L. LISTED FOR WET LOCATIONS.	LITHONIA	DSXW1 LED 10C 700 50K T3M 120 DDBXD	1	INTEGRATED LED	
A3	DUAL HEAD EMERGENCY LIGHT – (2)–1.8W LED LAMPS, DUAL–VOLTAGE INPUT 120VAC/270VAC, 3 3/4" H, 14 5/8" W, THERMOPLASTIC HOUSING, INTEGRATED RECHARGEABLE BATTERY, MOUNT BOTTOM OF FIXTURE 1'–0" ABOVE DOOR, U.L. LISTED FOR DAMP LOCATIONS.	LITHONIA	EU2 LED M12	2	1.5 WATT DC	

* NUMBER OF LAMPS PER FIXTURE

ELECTRICAL EQUIPMENT AND INSTRUMENTATION SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL NO.
A	SMOKE DETECTOR – PHOTOELECTRIC, 24 VDC POWERED WITH LOCAL AND AUDIBLE ALARM SIGNAL AND CONTACTS FOR REMOTE ANNUNCIATION THROUGH FOUR WIRE CONNECTION TO RTU.	SYSTEMS SENSOR	4WTAR–B OR EQUAL
B	OVERHEAD DOOR INTRUSION ALARM SWITCH – INDUSTRIAL OVERHEAD DOOR SWITCH WITH MAGNETIC CONTACTS AND STAINLESS STEEL ARMORED CABLE.	SENTROL	2202AU OR EQUAL
C	INTRUSION ALARM SWITCH – CONTRACTOR SHALL SELECT ACTUATOR LEVER ARM BEST SUITED FOR MOUNTING CONFIGURATION	SQUARE D	HEAVY DUTY TYPE C, CLASS 9007 OR EQUAL
D	WALL MOUNTED HEATING THERMOSTAT – 24V, SPST, 2 HEATING STAGES, 2 COOLING STAGES, RANGE: 40° – 90°F, SET AT 60°F, MOUNT 4 FEET ABOVE FINISHED FLOOR.	HONEYWELL	TH6220D1002 OR EQUAL
E	CARD READER. SEE DWG NO. E718 FOR DETAIL.	SEE SPECIFICATIONS	SEE SPECIFICATIONS
F	LIGHTING PANELBOARD – 120/240V, 1φ, 3W, NEMA TYPE 4X SS, 18 CIRCUIT, 50A MAIN CIRCUIT BREAKER, COPPER BUSSING.	SIEMENS	TYPE P1 OR EQUAL
G	OPERATOR IN TROUBLE PUSHBUTTON	SEE SPECIFICATIONS	SEE SPECIFICATIONS

PANEL SCHEDULE HW3

NO. HW3 | LOCATION: HEADWORKS UPPER LEVEL | SERVING: HEADWORKS LOADS | 240/120 VOLTS 1φ 3 WIRE | 50 AMP MAIN

CIRCUIT DESCRIPTION	KVA	AMP		AMP	KVA	CIRCUIT DESCRIPTION
LOWER LEVEL ROLL–UP DOOR	1.92	20	1 – 2	20	0.36	HEADWORKS LOWER LEVEL INTERIOR LIGHTING
	–	2P	3 – 4	20	0.06	HEADWORKS LOWER LEVEL EXTERIOR LIGHTING
LOWER LEVEL TRAP PRIMER DEDICATED RECEPTACLE	0.01	20	5 – 6	20	0.01	HEADWORKS LOWER LEVEL EMERGENCY LIGHTING
BIOFILTER NO. 1 HEAT TRACE DEDICATED RECEPTACLE	0.50	* 20	7 – 8	20	0.54	HEADWORKS LOWER LEVEL INTERIOR RECEPTACLES
BIOFILTER NO. 2 HEAT TRACE DEDICATED RECEPTACLE	0.50	* 20	9 – 10	20	0.36	HEADWORKS LOWER LEVEL EXTERIOR RECEPTACLES
GRIT PIPE HEAT TRACE DEDICATED RECEPTACLE	0.50	* 20	11 – 12	20	0.41	HEADWORKS LOWER LEVEL GAS HEATER
HEADWORKS UPPER LEVEL CHANNEL LIGHTING	0.06	20	13 – 14	20	0.20	HEADWORKS CARD READER CONTROL PANEL
SPARE	–	20	15 – 16	20	–	SPARE
SPARE	–	20	17 – 18	20	–	SPARE

CONNECTION LOAD: 5.43 KVA 22.6 AMPS

DEMAND: LIGHTING & RECEPTACLE LOAD

DEMAND LOAD: 5.43 KVA 22.6 AMPS

* – DENOTES GFI RATED CIRCUIT BREAKER WITH 30mA TRIP RATING. PROVIDE INTEGRATED POWER SUPPLY FOR GFI TRIP UNIT INTERNAL TO PANEL.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

HEADWORKS ELECTRICAL SCHEDULES

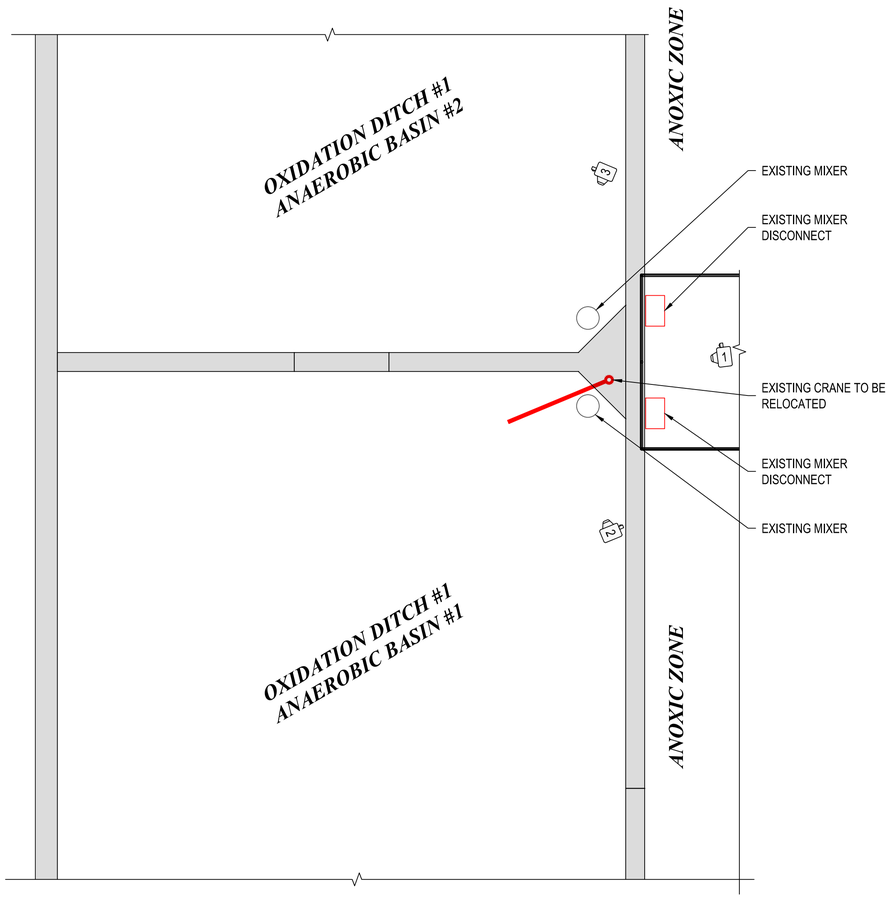
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-DHW_E03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

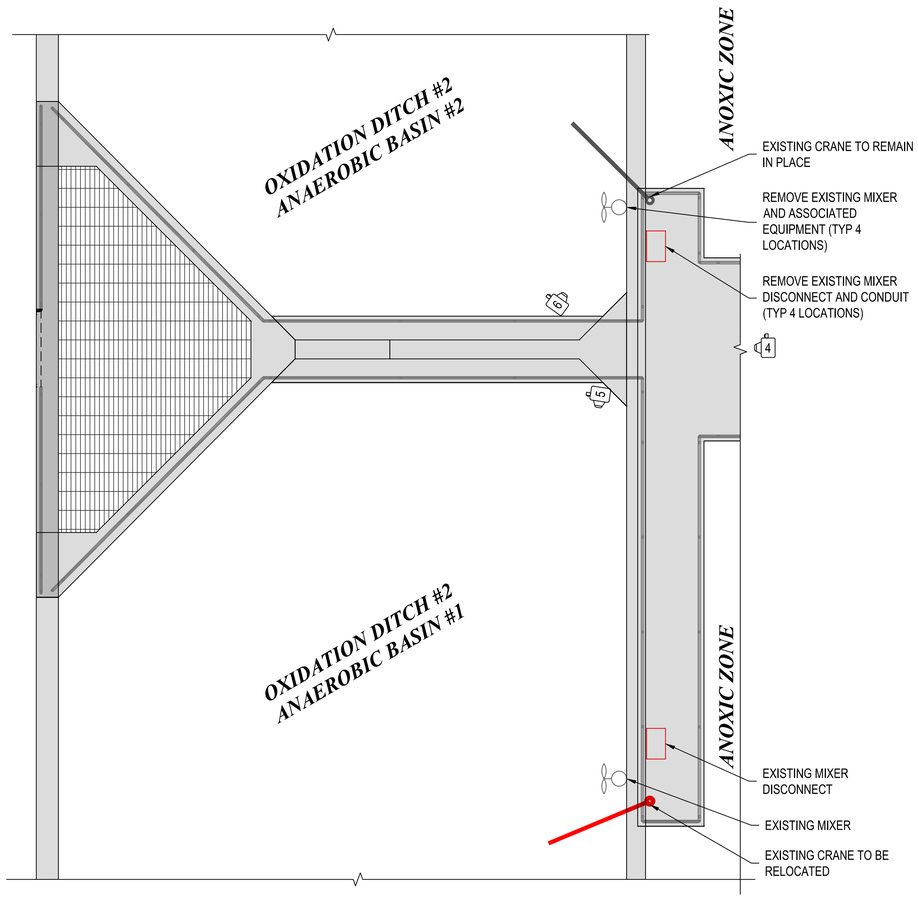
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E204
SHEET NO.: 51
158



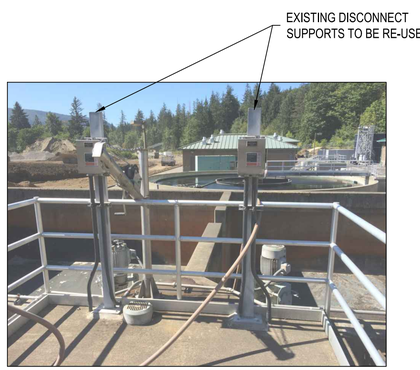
OXIDATION DITCH NO. 1 EXISTING ANAEROBIC MIXER PLAN

¼" = 1'–0"



OXIDATION DITCH NO. 2 EXISTING ANAEROBIC MIXER PLAN

¼" = 1'–0"



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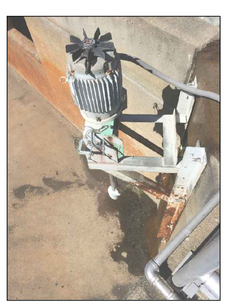
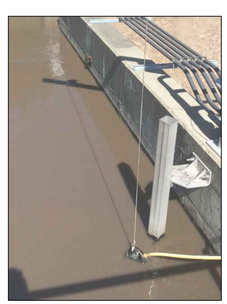


2

3

4

5



6

GENERAL NOTES

1. MIXER REPLACEMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATIONS.
2. EXISTING MIXER REMOVAL INCLUDES REMOVAL AND DISPOSAL OF THE MIXER BODY, SUPPORT AND GUIDES, ELECTRICAL EQUIPMENT, AND ALL OTHER MATERIALS AS NECESSARY TO COMPLETE DEMOLITION OF THE EXISTING MIXER SYSTEMS.
3. GRIND OR TORCH OUT EXISTING ANCHORS FOR CRANE BASES AND MIXER MOUNTS AND DISCONNECT SUPPORTS. GROUT PLUG ANCHOR HOLES FLUSH WITH EXISTING CONCRETE SURFACE.

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

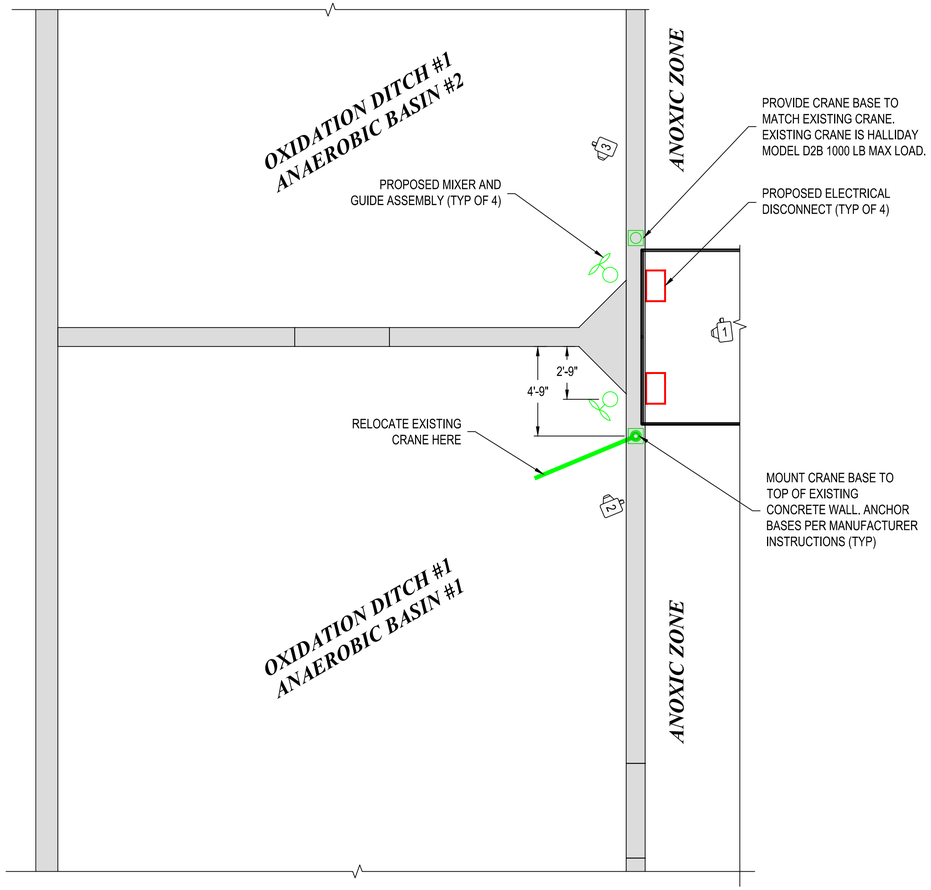
OX. DITCH ANAEROBIC MIXER DEMOLITION PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-OX_M01.DWG
SAVE DATE: Aug 21, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MJV
REVIEWED: ETS

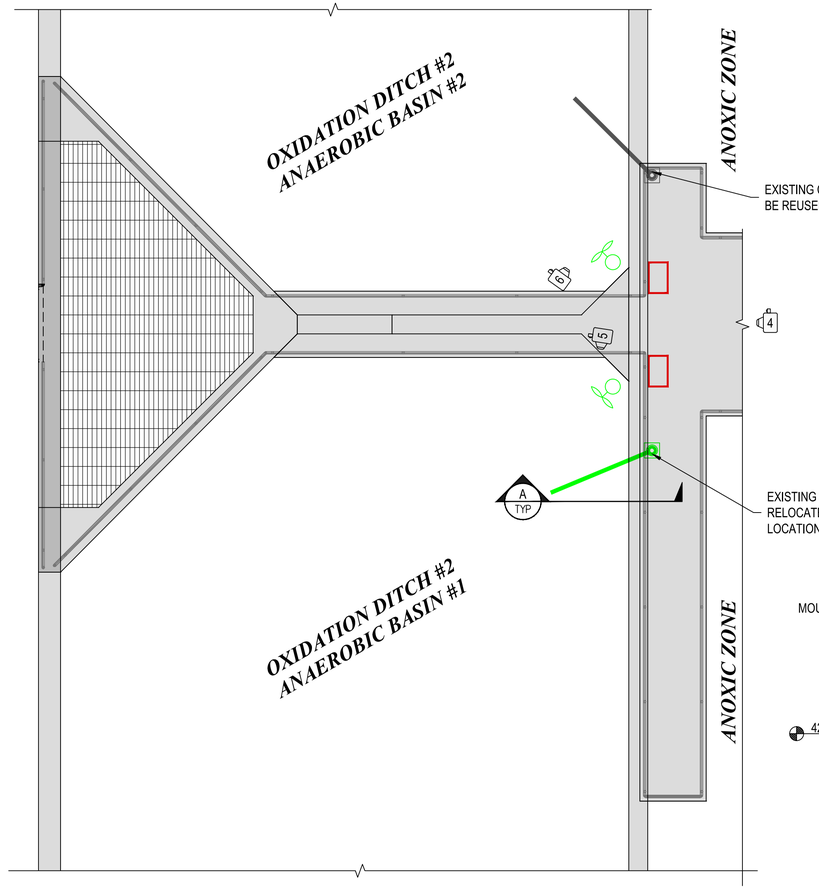
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M301
SHEET NO.: 52



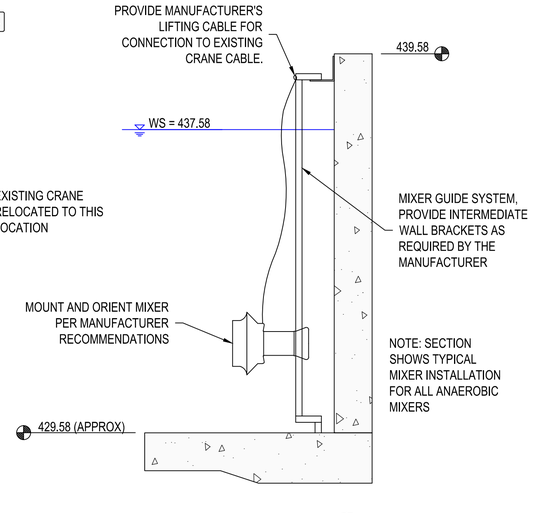
OXIDATION DITCH NO. 1 PROPOSED ANAEROBIC MIXER PLAN

¼" = 1'–0"



OXIDATION DITCH NO. 2 PROPOSED ANAEROBIC MIXER PLAN

¼" = 1'–0"



SECTION A

½" = 1'–0"

GENERAL NOTES

1. MIXER REPLACEMENT SHALL BE COMPLETED IN ACCORDANCE WITH THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATIONS.
2. EXISTING MIXER REMOVAL INCLUDES REMOVAL AND DISPOSAL OF THE MIXER BODY, SUPPORT AND GUIDES, ELECTRICAL EQUIPMENT, AND ALL OTHER MATERIALS AS NECESSARY TO COMPLETE DEMOLITION OF THE EXISTING MIXER SYSTEMS.
3. PROPOSED MIXERS LOCATIONS ARE SHOWN APPROXIMATELY. PLACEMENT TO BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. CRANE REPLACEMENT LOCATIONS ARE SHOWN APPROXIMATELY. CONTRACTOR TO VERIFY EXACT PLACEMENT LOCATION WITH OWNER TO ENSURE PROPER REMOVAL OF THE PROPOSED MIXERS.

SIGNED: 09/19/17
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

OX. DITCH ANAEROBIC MIXER REPLACEMENT PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

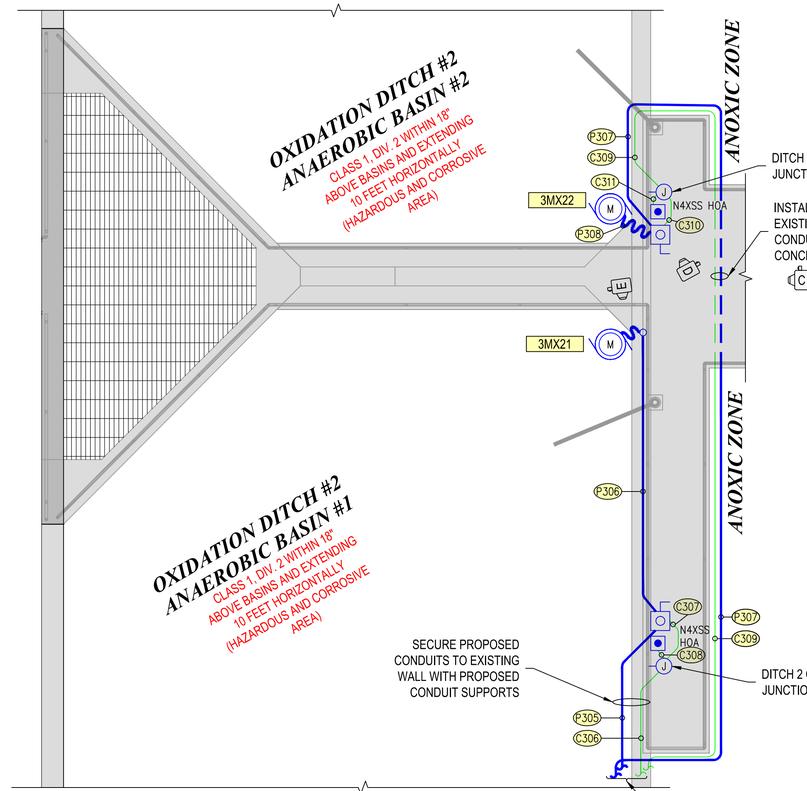
ENGINEER: MJV
REVIEWED: ETS
SAVE DATE: Aug 21, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-OX_M01.DWG
JOB NO.: 116-028

SCALE: SHOWN

0" 1" 2"

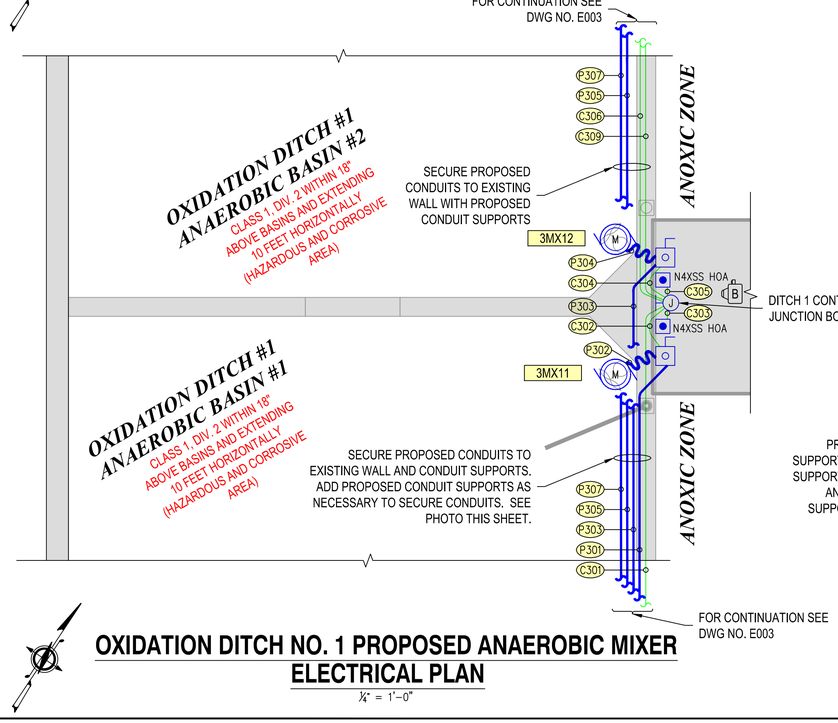
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M302
SHEET NO.: 53



OXIDATION DITCH NO. 2 PROPOSED ANAEROBIC MIXER ELECTRICAL PLAN

¼" = 1'-0"



OXIDATION DITCH NO. 1 PROPOSED ANAEROBIC MIXER ELECTRICAL PLAN

¼" = 1'-0"

POWER CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
P301	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 1 MIXER DISCONNECT	1 1/2"	(3) - #12, (1) - #12 GRD	INTERCEPT AND CONNECT PROPOSED CONDUIT TO EXISTING 1 1/2" CONDUIT UNDERNEATH ACCESS ROAD.
P302	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 1 MIXER DISCONNECT	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 1 MIXER, 3MX11	3/4"	(3) - #12, (1) - #12 GRD, (5) - #14	
P303	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 2 MIXER DISCONNECT	1"	(3) - #12, (1) - #12 GRD	INTERCEPT AND CONNECT PROPOSED CONDUIT TO EXISTING 1" CONDUIT UNDERNEATH ACCESS ROAD.
P304	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 2 MIXER DISCONNECT	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 2 MIXER, 3MX12	3/4"	(3) - #12, (1) - #12 GRD, (5) - #14	
P305	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 1 MIXER DISCONNECT	1"	(3) - #12, (1) - #12 GRD	INTERCEPT AND CONNECT PROPOSED CONDUIT TO EXISTING 1" CONDUIT UNDERNEATH ACCESS ROAD.
P306	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 1 MIXER DISCONNECT	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 1 MIXER, 3MX21	3/4"	(3) - #12, (1) - #12 GRD, (5) - #14	
P307	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 2 MIXER DISCONNECT	1"	(3) - #12, (1) - #12 GRD	INTERCEPT AND CONNECT PROPOSED CONDUIT TO EXISTING 1" CONDUIT UNDERNEATH ACCESS ROAD.
P308	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 2 MIXER DISCONNECT	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 2 MIXER, 3MX22	3/4"	(3) - #12, (1) - #12 GRD, (5) - #14	

CONTROL CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C301	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	DITCH 1 CONTROL JUNCTION BOX	1 1/2"	(56) - #14, (1) - #14 GRD	INTERCEPT AND CONNECT PROPOSED CONDUIT TO EXISTING 1 1/2" CONDUIT UNDERNEATH ACCESS ROAD.
C302	DITCH 1 CONTROL JUNCTION BOX	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 1 MIXER DISCONNECT	3/4"	(4) - #14, (1) - #14 GRD	
C303	DITCH 1 CONTROL JUNCTION BOX	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 1 MIXER HOA	3/4"	(10) - #14, (1) - #14 GRD	
C304	DITCH 1 CONTROL JUNCTION BOX	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 2 MIXER DISCONNECT	3/4"	(4) - #14, (1) - #14 GRD	
C305	DITCH 1 CONTROL JUNCTION BOX	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 2 MIXER HOA	3/4"	(10) - #14, (1) - #14 GRD	
C306	DITCH 1 CONTROL JUNCTION BOX	DITCH 2 CONTROL JUNCTION BOX 1	3/4"	(14) - #14, (1) - #14 GRD	
C307	DITCH 2 CONTROL JUNCTION BOX 1	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 1 MIXER DISCONNECT	3/4"	(4) - #14, (1) - #14 GRD	
C308	DITCH 2 CONTROL JUNCTION BOX 1	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 1 MIXER HOA	3/4"	(10) - #14, (1) - #14 GRD	
C309	DITCH 1 CONTROL JUNCTION BOX	DITCH 2 CONTROL JUNCTION BOX 2	3/4"	(14) - #14, (1) - #14 GRD	
C310	DITCH 2 CONTROL JUNCTION BOX 2	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 2 MIXER DISCONNECT	3/4"	(4) - #14, (1) - #14 GRD	
C311	DITCH 2 CONTROL JUNCTION BOX 2	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 2 MIXER HOA	3/4"	(10) - #14, (1) - #14 GRD	

EXISTING MIXER DISCONNECTS, TO BE REMOVED. INSTALL PROPOSED MIXER DISCONNECTS ON EXISTING SUPPORT.

INSTALL PROPOSED MIXER HOA SWITCH ON EXISTING SUPPORT

EXISTING MIXER DISCONNECT CONDUITS, REMOVE CONDUCTORS. CUT AND CAP CONDUITS 2" ABOVE WALKWAY

INSTALL PROPOSED MIXER HOA SWITCH AND DITCH 1 CONTROL JUNCTION BOX ON EXISTING SUPPORT

OXIDATION DITCH NO. 1, MIXER 3MX11 AND 3MX12 DISCONNECTS

NO SCALE

EXISTING MIXER DISCONNECT, TO BE REMOVED. INSTALL PROPOSED MIXER DISCONNECT ON EXISTING SUPPORT.

INSTALL PROPOSED MIXER HOA SWITCH AND DITCH 2 CONTROL JUNCTION BOX 2 ON EXISTING SUPPORT

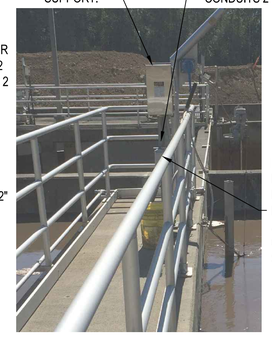
EXISTING MIXER DISCONNECT CONDUITS, REMOVE CONDUCTORS. CUT AND CAP CONDUITS 2" ABOVE WALKWAY

OXIDATION DITCH NO. 2, MIXER 3MX22 DISCONNECT

NO SCALE

EXISTING MIXER DISCONNECT, TO BE REMOVED. INSTALL PROPOSED MIXER DISCONNECT ON EXISTING SUPPORT.

EXISTING MIXER DISCONNECT CONDUITS, REMOVE CONDUCTORS. CUT AND CAP CONDUITS 2" ABOVE WALKWAY



INSTALL PROPOSED MIXER HOA SWITCH AND DITCH 2 CONTROL JUNCTION BOX 1 ON EXISTING SUPPORT

OXIDATION DITCH NO. 2, MIXER 3MX21 DISCONNECT

NO SCALE

INSTALL PROPOSED CONDUIT SUPPORTS AND CONDUITS ON TOP OF EXISTING WALL

INSTALL PROPOSED CONDUIT SUPPORTS ON TOP OF EXISTING WALL

PROPOSED CONDUITS TO BE SUPPORTED BY EXISTING CONDUIT SUPPORTS WHERE SPACE ALLOWS AND BY PROPOSED CONDUIT SUPPORTS WHERE NECESSARY.

OXIDATION DITCH NO. 1

NO SCALE

INSTALL PROPOSED CONDUIT SUPPORTS AND CONDUITS ON TOP OF EXISTING WALL

INSTALL CONDUITS UNDERNEATH EXISTING WALKWAY

OXIDATION DITCH NO. 2

NO SCALE

RICHARD MICHAEL RAWLINS — STATE OF WASHINGTON — 19448 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

RICHARD ALLEN BALLARD — STATE OF WASHINGTON — 22031 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

OX. DITCH ANAEROBIC MIXER REPLACEMENT ELECTRICAL PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-OX_E01.DWG
DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
DESIGNED: KMS
REVIEWED: CMR

REVISIONS

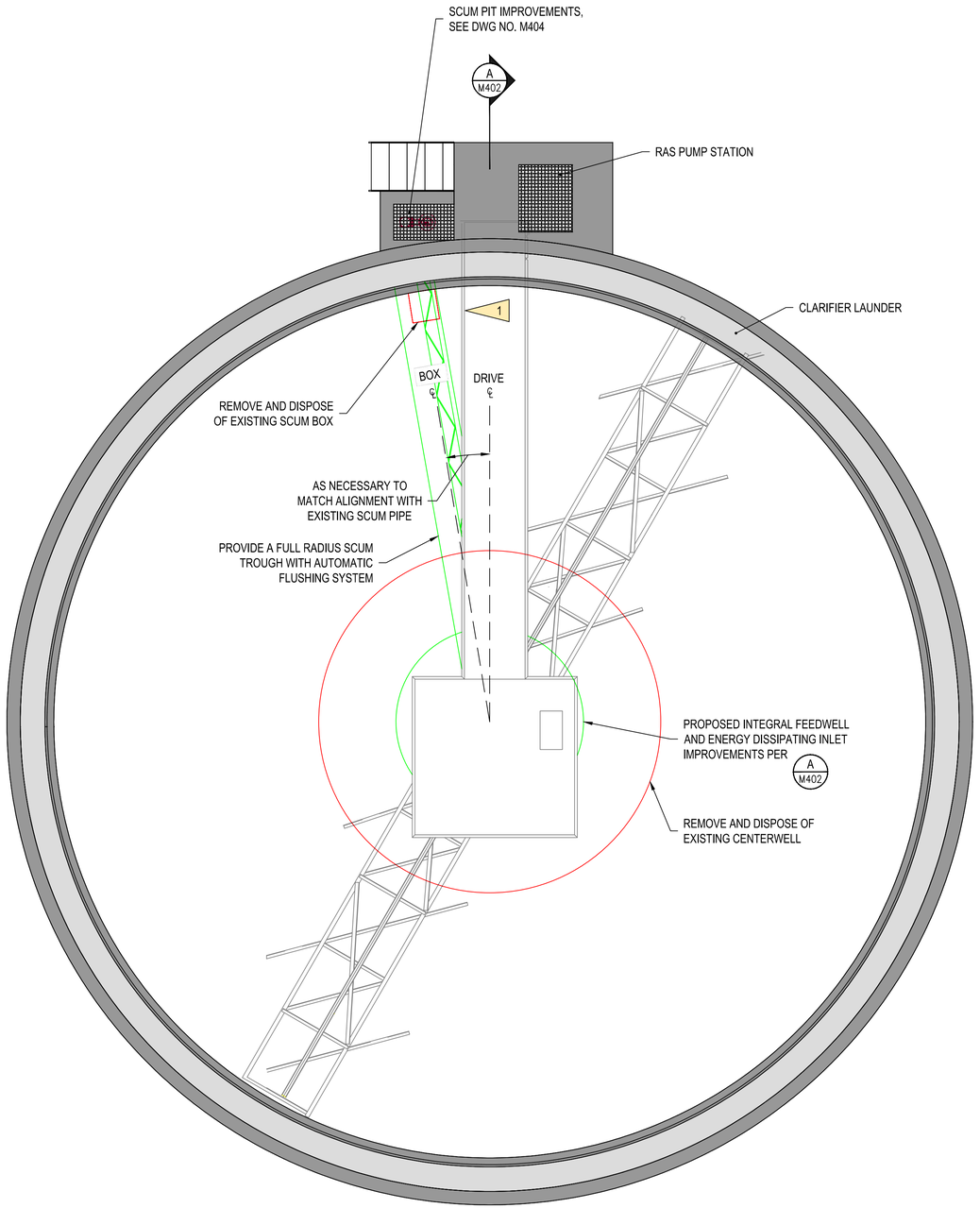
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E301
SHEET NO.: 54
158



A M402

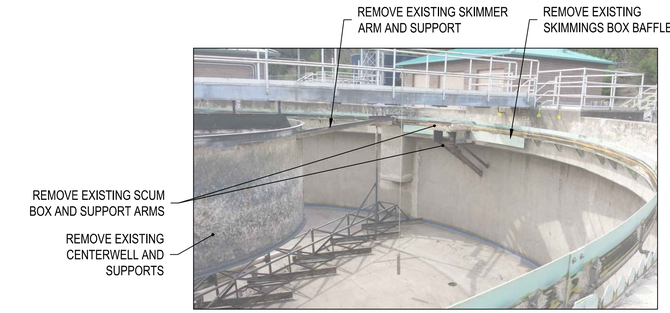
SECONDARY CLARIFIER NO. 1 MECHANICAL PLAN

3/16" = 1'-0"

GENERAL NOTES

1. THE CLARIFIER MECHANISM SHOWN IN THIS DRAWING IS PROVIDED FOR REFERENCE ONLY. IT IS NOT TO SCALE AND DOES NOT EXACTLY MATCH THE MECHANISM IN THE FIELD.THE CONTRACTOR SHALL FIELD VERIFY ALL NECESSARY DIMENSIONS AND CONNECTION POINTS FOR THIS WORK.
2. ALL CLARIFIER WORK SHALL BE PERFORMED PER THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATIONS.
3. THE CONTRACTOR SHALL COORDINATE ALL CLARIFIER WORK WITH THE EXISTING MECHANISM MANUFACTURER TO ENSURE EXISTING MECHANISM CAN SUPPORT THE PROPOSED IMPROVEMENTS.
4. THE CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION OF THE PROPOSED EQUIPMENT AND REMOVAL OF EXISTING BRIDGE, PLATFORM AND OTHER ITEMS AS NECESSARY TO COMPLETE THE WORK.
5. PROVIDE ALL SUPPORT TO EXISTING MECHANISM DURING WORK AS REQUIRED BY MANUFACTURER.
6. CONTRACTOR SHALL PROVIDE TOUCH-UP PAINTING OF EXISTING MECHANISM, PIPING, OR OTHER MATERIALS DAMAGED DURING INSTALLATION. COATING SHALL BE PER THE SPECIFICATIONS.
7. PROVIDE ALL NEW FASTENERS FOR CLARIFIER COMPONENT REPLACEMENT. ALL FASTENERS SHALL BE 316 STAINLESS STEEL.
8. THE OWNER WILL ISOLATE THE CLARIFIER USING GATES IN THE MIXED LIQUOR CONTROL STRUCTURE. THE GATES DO NOT HOLD COMPLETELY WATERTIGHT. THE CONTRACTOR SHALL PROVIDE A SMALL SUMP PUMP TO REMOVE ANY EXCESS LEAKAGE WATER AS NECESSARY.

1 DISCONNECT EXISTING CONDUIT AND CONDUCTORS BENEATH BRIDGE FOR TEMPORARY BRIDGE REMOVAL.



1

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SECONDARY CLARIFIER NO. 1 PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SC_M02.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

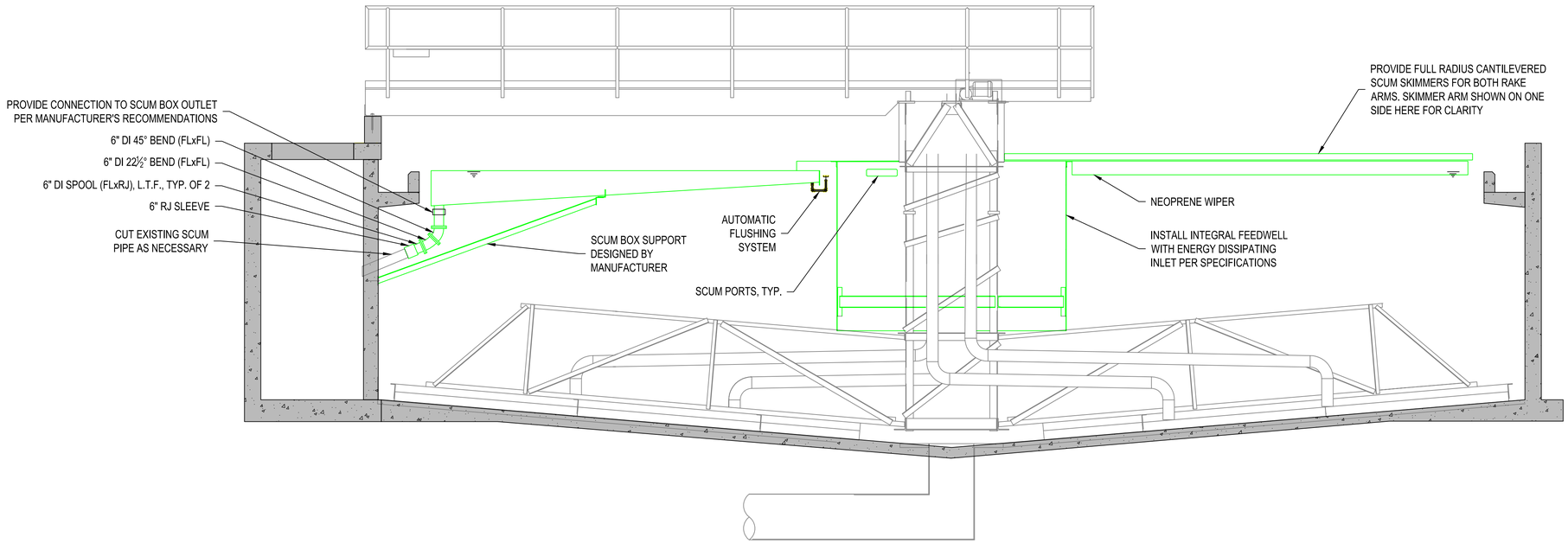
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M401
SHEET NO.: 55
158



SECONDARY CLARIFIER NO. 1 MECHANICAL SECTION

A / M401

¼" = 1'-0"

GENERAL NOTES

1. THE CLARIFIER MECHANISM SHOWN IN THIS DRAWING IS PROVIDED FOR REFERENCE ONLY. IT IS NOT TO SCALE AND DOES NOT EXACTLY MATCH THE MECHANISM IN THE FIELD.THE CONTRACTOR SHALL FIELD VERIFY ALL NECESSARY DIMENSIONS AND CONNECTION POINTS FOR THIS WORK.
2. CLARIFIER MECHANISM AND SCUM BOX HAVE BEEN ROTATED IN THIS VIEW TO ALIGN WITH SECTION. FOR ACTUAL ALIGNMENT OF SCUM BOX, SEE M401.
3. GRIND COATING TO BARE METAL ON EXISTING SCUM PIPE. RE-COAT PER THE REQUIREMENTS OF DIVISION 9.
4. CONTRACTOR SHALL PROVIDE PIPE SUPPORT DESIGN AND LAYOUT FOR PROPOSED SCUM PIPE IMPROVEMENTS.
5. CONTRACTOR SHALL VERIFY EXISTING SCUM PIPE ORIENTATION AND PROVIDE FITTINGS AS NECESSARY TO ACHIEVE THE DESIGN INTENT SHOWN HERE.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CLARIFIER NO. 1 SECTION

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

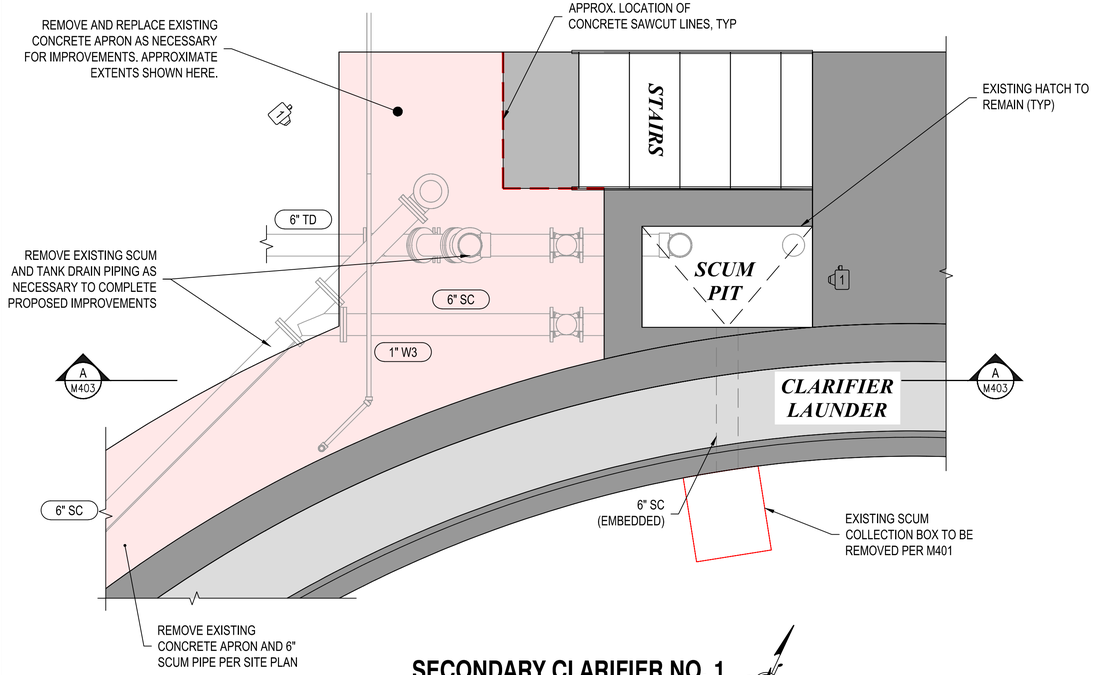
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SC_M02.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN

0" 1" 2"

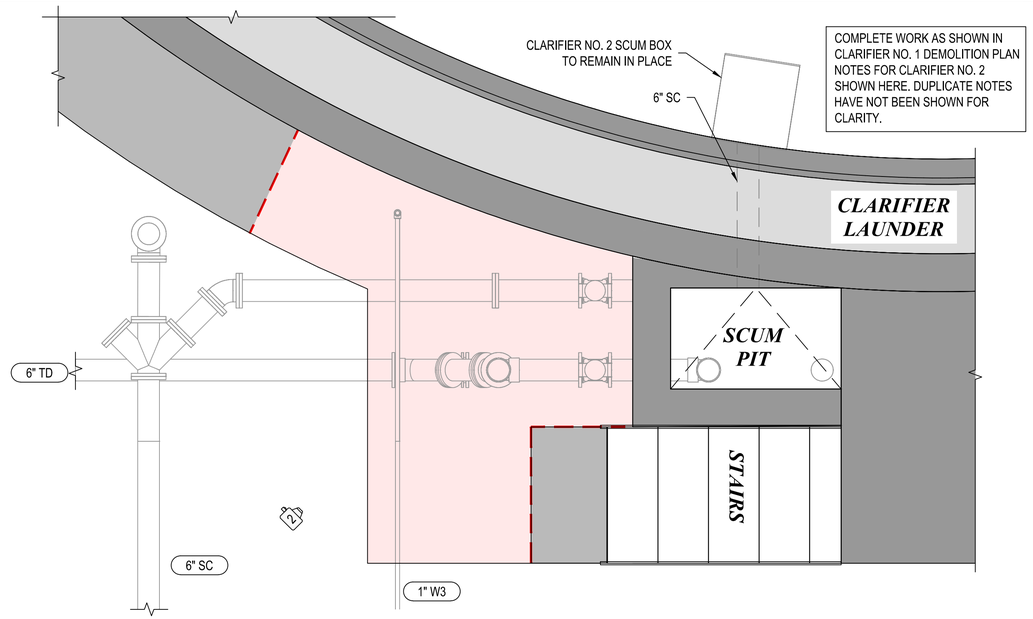
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M402
SHEET NO.: 56
158



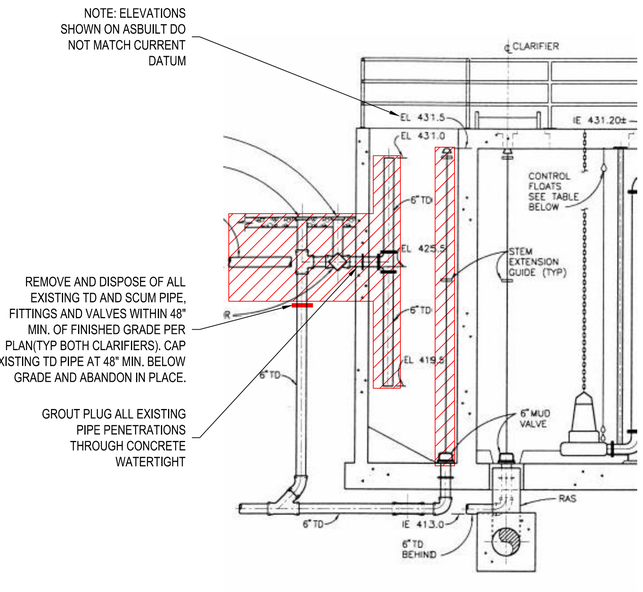
SECONDARY CLARIFIER NO. 1 DEMOLITION PLAN

NOT TO SCALE



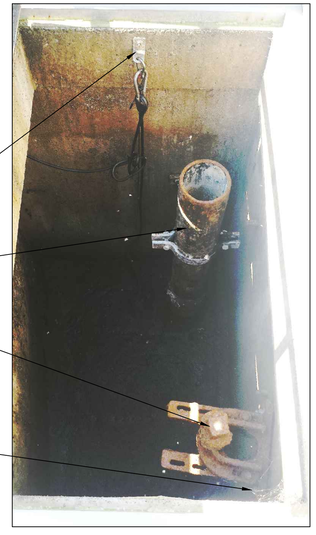
SECONDARY CLARIFIER NO. 2 DEMOLITION PLAN

NOT TO SCALE



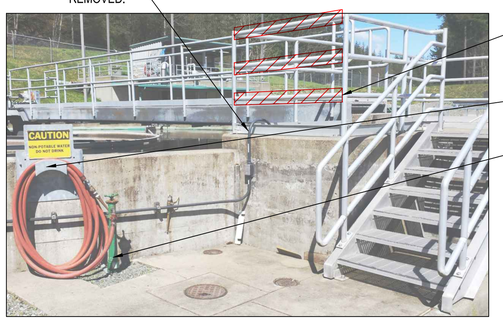
EXISTING SCUM PIT ASBUILT

A M403



1

2



2

GENERAL NOTES

1. DIMENSIONS SHOWN ARE PER ASBUILT DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO BEGINNING THE WORK.
2. EXACT ORIENTATION OF BELOW GRADE SCUM PIPING IS NOT KNOWN. CONTRACTOR SHALL VERIFY PIPE SIZES, LOCATIONS AND PIPE MATERIAL VIA POTHOLING IN THE PRESENCE OF THE OWNER PRIOR TO COMPLETING REMOVAL AND REPLACEMENT WORK.
3. BELOW GRADE ELECTRICAL AND TELEMETRY ROUTING IN THIS AREA IS UNKNOWN AND SHALL BE LOCATED VIA POTHOLING PRIOR TO MAKING IMPROVEMENTS.
4. COMPLETE ALL SCUM PUMP STATION WORK WITH THE SCHEDULING AND PHASING REQUIREMENTS IN THE SPECIFICATIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING THE SCUM PITS NECESSARY TO COMPLETE INSTALLATION WORK.

SMITH STATE OF WASHINGTON SECRETARIAL PROFESSIONAL — SIGNED: 09/19/17

RICHARD BALLARD STATE OF WASHINGTON SECRETARIAL PROFESSIONAL — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CLARIFIER SCUM PUMP STATION DEMOLITION PLAN

ENGINEER: PNY	JOB NO.: 116-028
REVIEWED: ETS	CLIENT: SNQ
SAVE DATE: Sep 14, 2017	FILENAME: WRF02-D-SC_M01.DWG
PLOT DATE: Sep 19, 2017	

REVISIONS

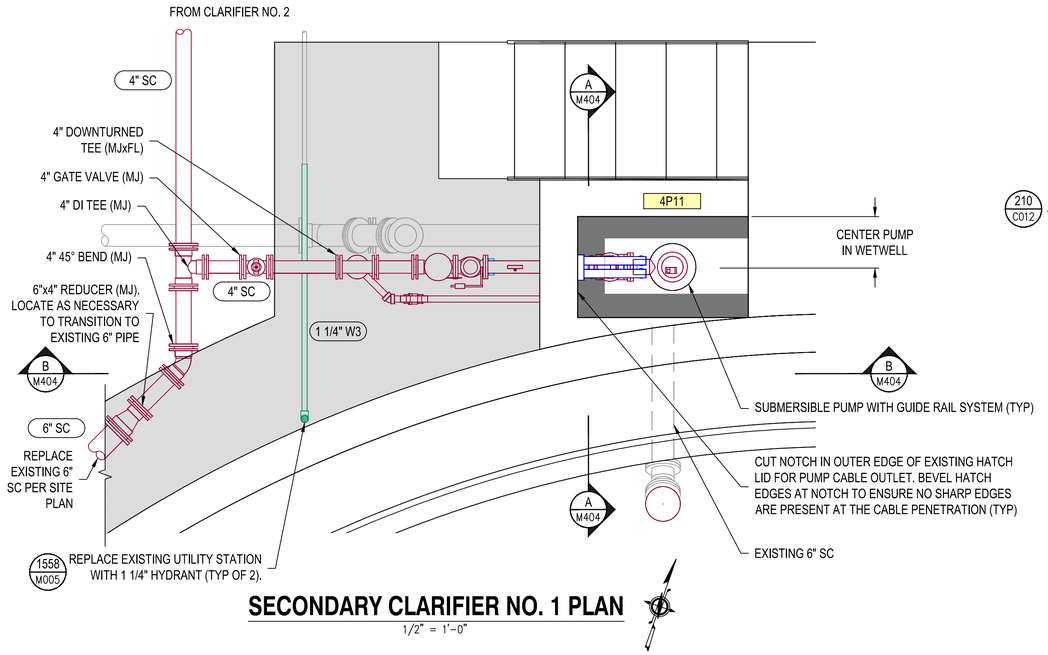
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

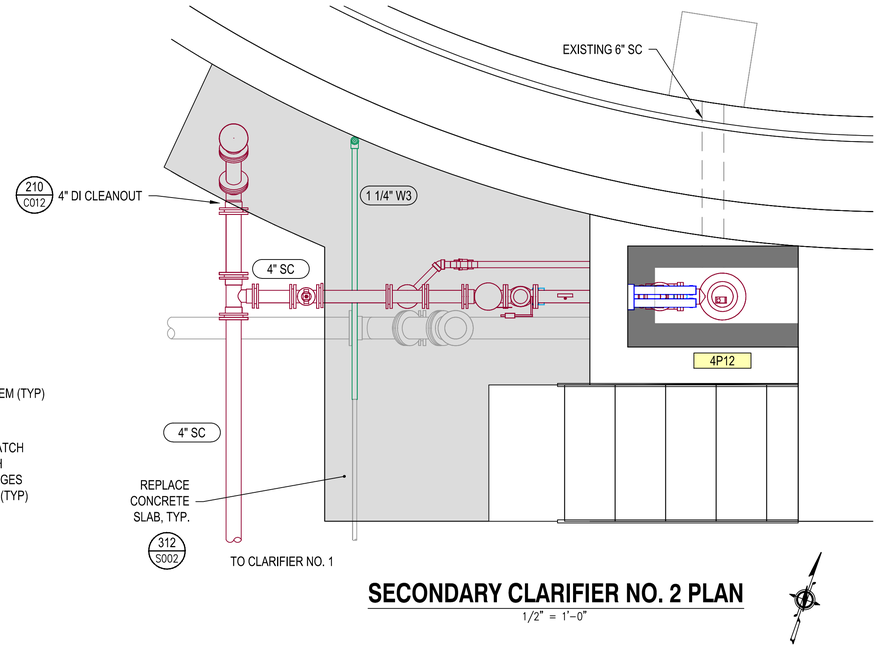
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M403 SHEET NO.: 57



SECONDARY CLARIFIER NO. 1 PLAN

1/2" = 1'-0"

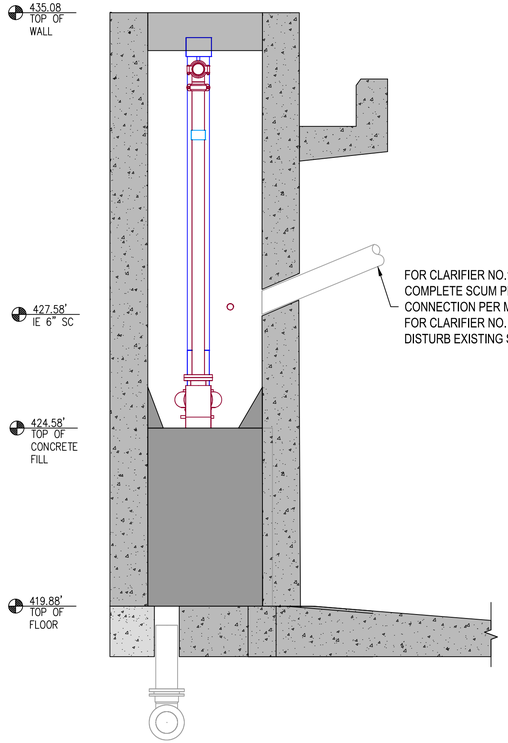


SECONDARY CLARIFIER NO. 2 PLAN

1/2" = 1'-0"

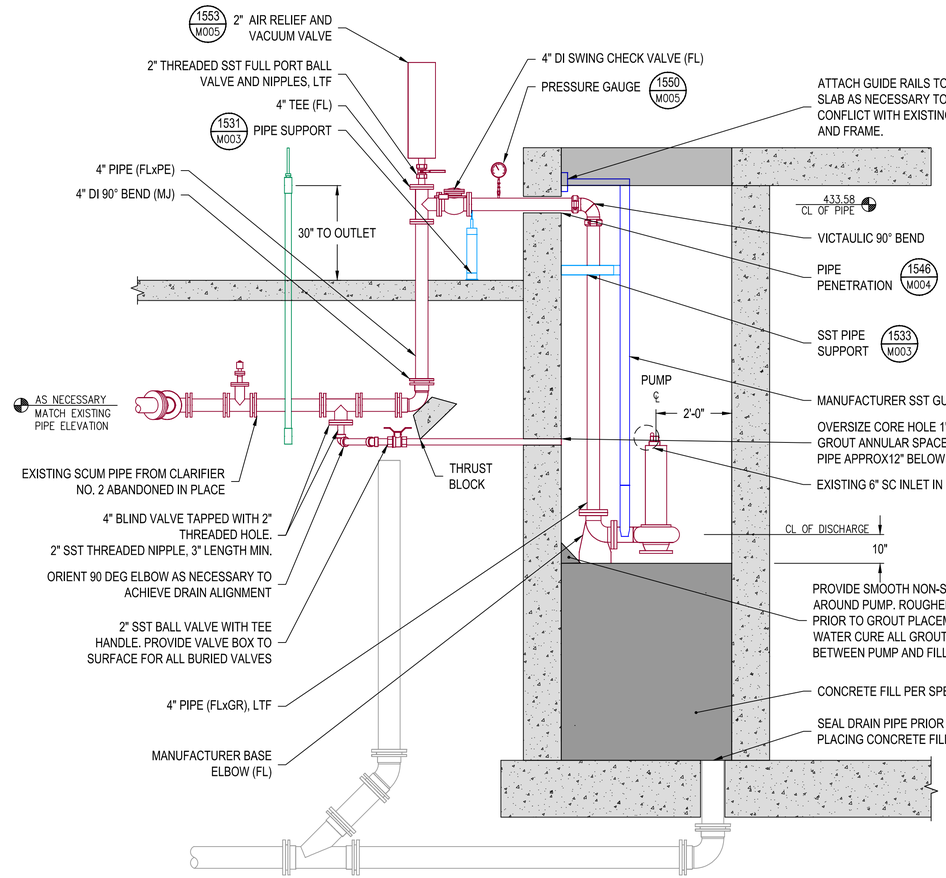
GENERAL NOTES

1. INSTALLATION NOTES HAVE NOT BEEN DUPLICATED TO BOTH CLARIFIER PLANS FOR CLARITY. IDENTICAL WORK IS TO BE COMPLETED FOR BOTH CLARIFIERS.
2. ALL SECTION VIEWS ARE FOR CLARIFIER NO. 1. THE CLARIFIER NO. 2 SCUM BOX IS A MIRROR IMAGE OF CLARIFIER NO. 1.
3. CONTRACTOR SHALL POTHOLE PROPOSED SCUM PIPE CONNECTION LOCATIONS PRIOR TO INSTALLATION. EXACT PIPE ROUTING IS UNKNOWN. THE DESIGN IS BASED ON BEST AVAILABLE INFORMATION.
4. HEAT TRACE AND INSULATE EXPOSED SCUM PIPING PER THE SPECIFICATIONS.
5. COAT ALL CONCRETE SURFACES WITHIN THE SCUM COLLECTION BOXES PER THE SPECIFICATIONS.
6. EXISTING BURIED W3 PIPE MATERIAL IS UNKNOWN AND SHALL BE VERIFIED BY POTHOLING.
7. VALVE BOXES HAVE BEEN OMITTED IN THIS PLAN FOR CLARITY. CONTRACTOR SHALL PROVIDE VALVE BOXES FOR ALL BURIED VALVES.
8. CONTRACTOR TO TEMPORARILY PLUG INFLUENT SCUM PIPE TO SCUM BOX TO COMPLETE WORK. IT IS ASSUMED THAT CLARIFIERS WILL REMAIN IN SERVICE DURING SCUM BOX WORK.



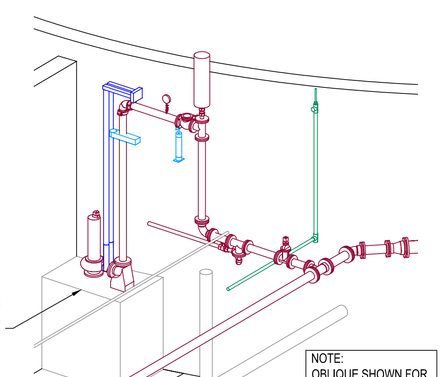
SECTION A M404

1/2" = 1'-0"



SECTION B M404

1/2" = 1'-0"



OBLIQUE

NOT TO SCALE

NOTE: OBLIQUE SHOWN FOR CLARIFIER NO. 1 ONLY.

SMITH STATE OF WASHINGTON SECTION SECTION SECTION PROFESSIONAL ENGINEER — SIGNED: 09/19/17

BALLARD STATE OF WASHINGTON SECTION SECTION SECTION PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

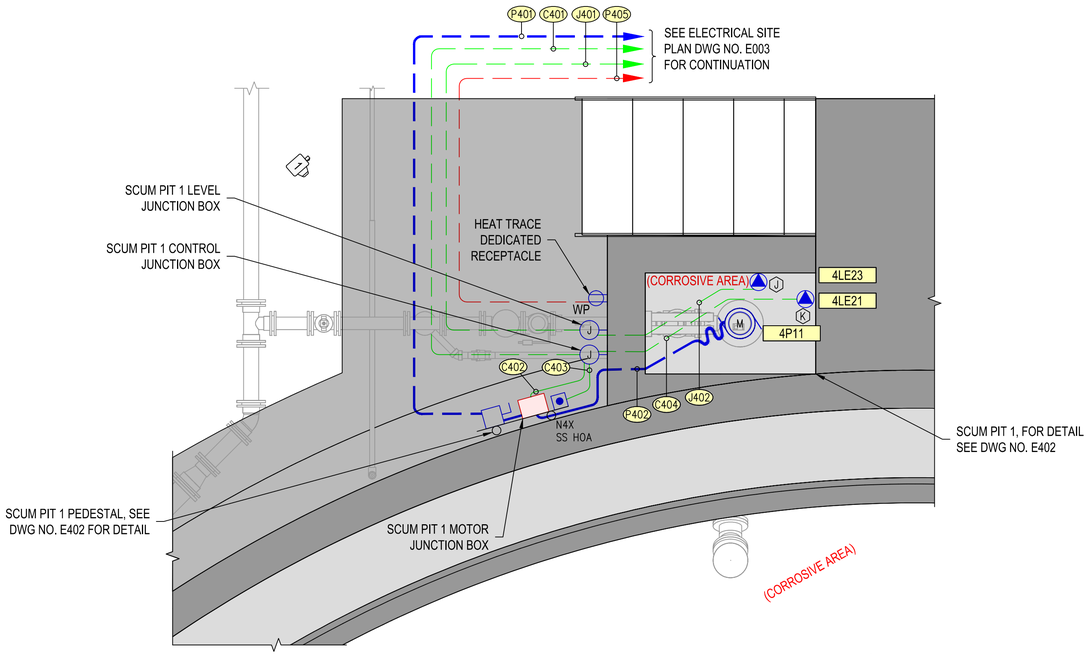
CLARIFIER SCUM PUMP STATION MECHANICAL PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SC_M01.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

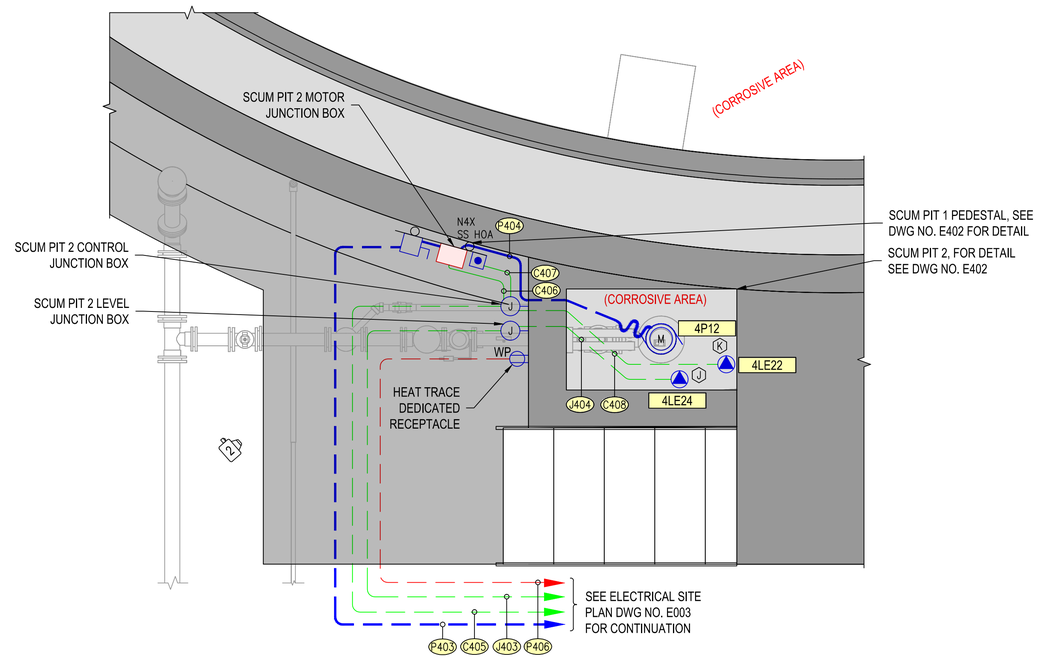
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M404
SHEET NO.: 58
158



SECONDARY CLARIFIER NO. 1
SCUM PIT ELECTRICAL PLAN

½" = 1'-0"



SECONDARY CLARIFIER NO. 2
SCUM PIT ELECTRICAL PLAN

½" = 1'-0"

INSTALL PROPOSED SCUM PUMP DISCONNECT, HOA SWITCH, AND JUNCTION BOXES ON WALL. SECURE EQUIPMENT USING SS UNISTRUT AND HARDWARE

SECONDARY CLARIFIER NO. 1 SCUM PIT

1

ELECTRICAL NOTES	
XX	1. SEE DWG NO. E402 FOR CONDUIT AND CONDUCTOR SCHEDULE.
X	2. SEE DWG NO. E724 FOR ELECTRICAL EQUIPMENT SCHEDULE.

INSTALL PROPOSED SCUM PUMP DISCONNECT, HOA SWITCH, AND JUNCTION BOXES ON WALL. SECURE EQUIPMENT USING SS UNISTRUT AND HARDWARE

SECONDARY CLARIFIER NO. 2 SCUM PIT

2

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SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CLARIFIER SCUM PUMP STATION ELECTRICAL PLAN

JOB NO.:	116-028
CLIENT:	SNQ
FILENAME:	WRF02-D-SC_E01.DWG
SAVE DATE:	Sep 19, 2017
PLOT DATE:	Sep 19, 2017
ENGINEER:	KMS
REVIEWED:	CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E401

SHEET NO.: 59

POWER CONDUIT AND CONDUCTOR SCHEDULE

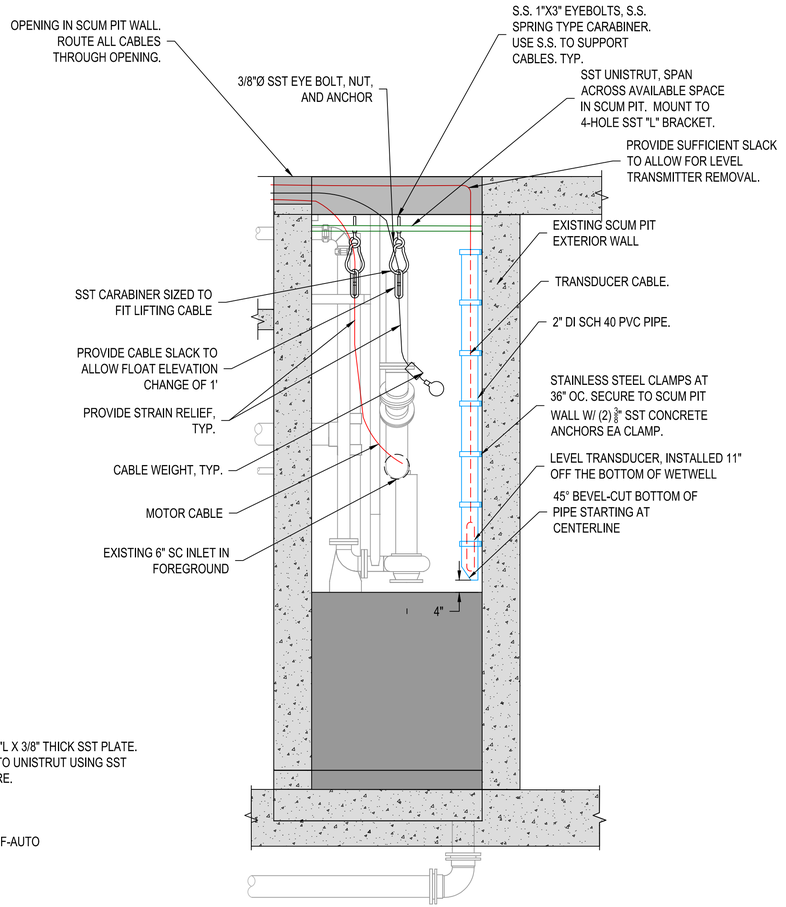
CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
P401	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	SCUM PIT 1 MOTOR JUNCTION BOX	1"	(3) - #12, (1) - #12 GRD	
P402	SCUM PIT 1 MOTOR JUNCTION BOX	CLARIFIER NO. 1 SCUM PUMP, "4P11"	N/A	MANUFACTURE'S CABLE	PROVIDE MATCHING MELTRIC PLUG TO MELTRIC RECEPTACLE FOR MANUFACTURE'S CABLE
P403	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	SCUM PIT 2 MOTOR JUNCTION BOX	1"	(3) - #12, (1) - #12 GRD	
P404	SCUM PIT 2 MOTOR JUNCTION BOX	CLARIFIER NO. 2 SCUM PUMP, "4P12"	N/A	MANUFACTURE'S CABLE	PROVIDE MATCHING MELTRIC PLUG TO MELTRIC RECEPTACLE FOR MANUFACTURE'S CABLE
P405	SOLIDS HANDLING BUILDING PANEL, "L1"	HEAT TRACE DEDICATED RECEPTACLE (SCUM PIT 1)	3/4"	(2) - #10, (1) - #10 GRD	
P406	SOLIDS HANDLING BUILDING PANEL, "L1"	HEAT TRACE DEDICATED RECEPTACLE (SCUM PIT 2)	3/4"	(2) - #10, (1) - #10 GRD	

CONTROL CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C401	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	SCUM PIT 1 CONTROL JUNCTION BOX	1"	(16) - #14, (1) - #14 GRD	
C402	SCUM PIT 1 CONTROL JUNCTION BOX	SCUM PUT 1 MOTOR JUNCTION BOX	3/4"	(4) - #14, (1) - #14 GRD	
C403	SCUM PIT 1 CONTROL JUNCTION BOX	CLARIFIER NO. 1 SCUM PUMP, "4P11", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C404	SCUM PIT 1 CONTROL JUNCTION BOX	FLOAT SWITCH, "4LE21"	1"	MANUFACTURER'S CABLE	
C405	SOLIDS HANDLING BUILDING MOTOR CONTROL CENTER, "MCC-SH1"	SCUM PIT 2 CONTROL JUNCTION BOX	1"	(16) - #14, (1) - #14 GRD	
C406	SCUM PIT 2 CONTROL JUNCTION BOX	SCUM PUT 2 MOTOR JUNCTION BOX	3/4"	(4) - #14, (1) - #14 GRD	
C407	SCUM PIT 2 CONTROL JUNCTION BOX	CLARIFIER NO. 2 SCUM PUMP, "4P12", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C408	SCUM PIT 2 CONTROL JUNCTION BOX	FLOAT SWITCH, "4LE22"	1"	MANUFACTURER'S CABLE	

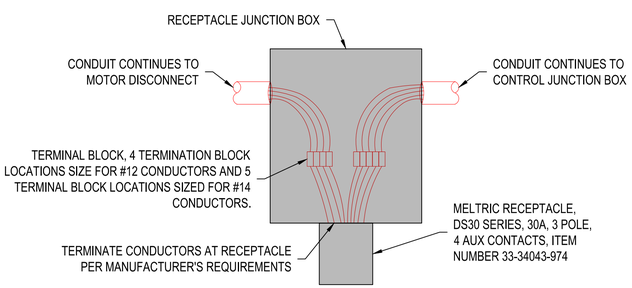
INSTRUMENTATION CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
J401	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SCUM PIT 1 LEVEL JUNCTION BOX	1"	(1) 2-CONDUCTOR SHIELDED CABLE	
J402	SCUM PIT 1 LEVEL JUNCTION BOX	LEVEL TRANSDUCER, "4LE23"	1"	MANUFACTURER'S CABLE	
J403	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SCUM PIT 2 LEVEL JUNCTION BOX	1"	(1) 2-CONDUCTOR SHIELDED CABLE	
J404	SCUM PIT 2 LEVEL JUNCTION BOX	LEVEL TRANSDUCER, "4LE24"	1"	MANUFACTURER'S CABLE	



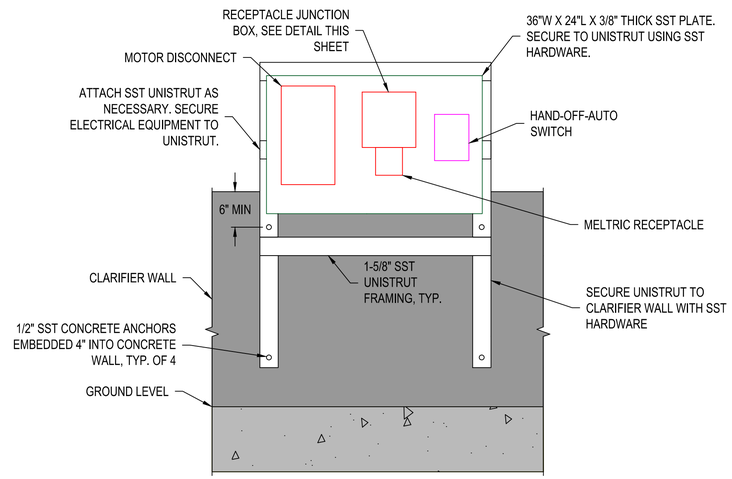
SCUM PIT SECTION, TYPICAL

1/2" = 1'-0"



RECEPTACLE JUNCTION BOX DETAIL

NOT TO SCALE



SCUM PIT MOTOR DISCONNECT AND HOA SWITCH PEDESTAL DETAIL, TYPICAL

NOT TO SCALE

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BALLARD K. MARSH — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CLARIFIER SCUM PUMP STATION ELECTRICAL DETAILS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SC_E01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

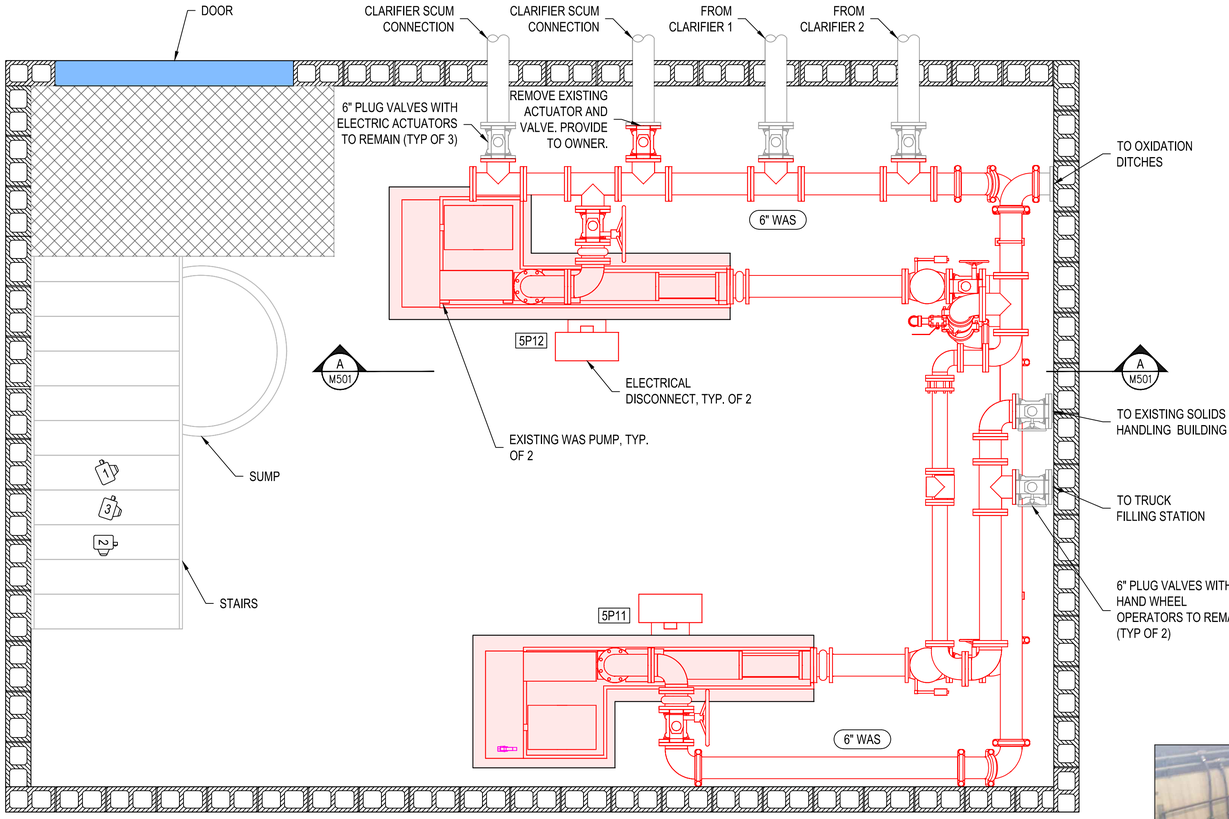
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

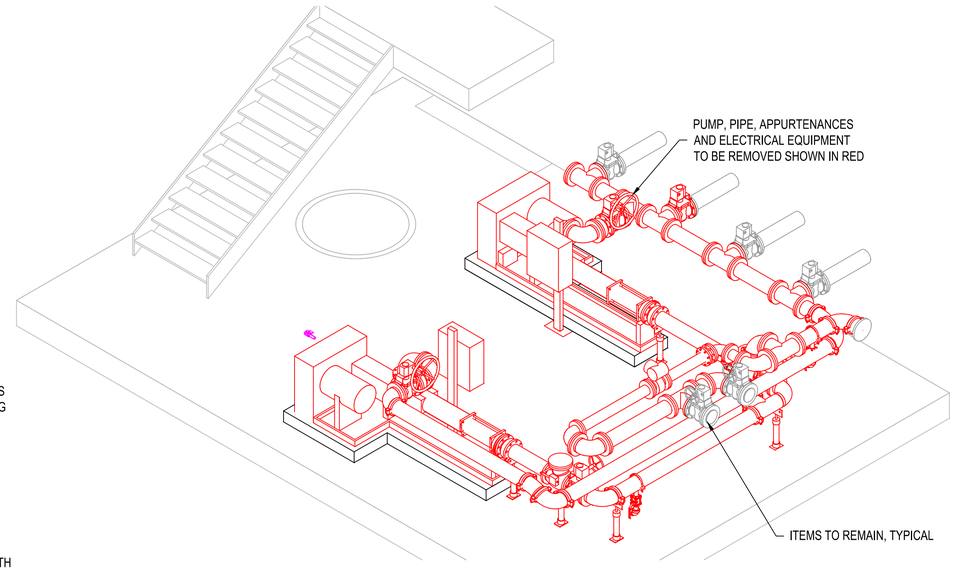
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E402
SHEET NO.: 60



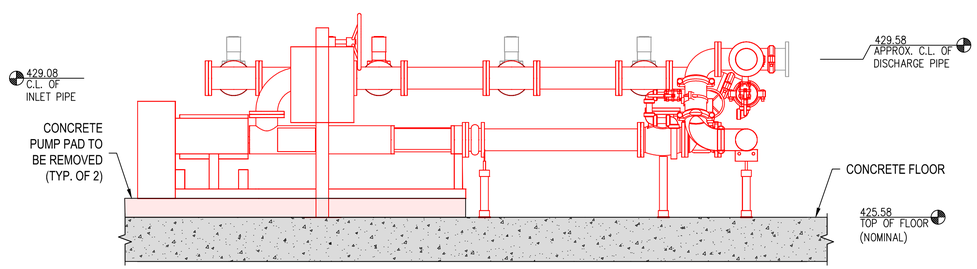
WAS PUMP STATION DEMOLITION PLAN

1/2" = 1'-0"



OBLIQUE

NOT TO SCALE

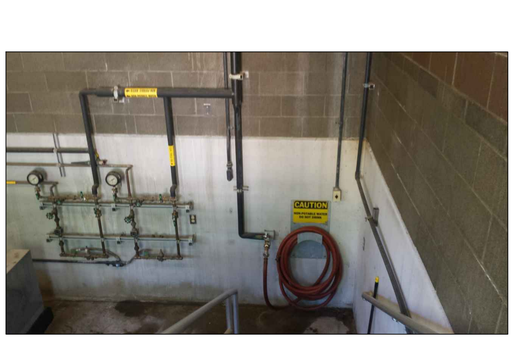


SECTION

1/2" = 1'-0"

A
M501

1



2

3

GENERAL NOTES

1. DEMOLITION OF ALL EQUIPMENT, PIPE AND APPURTENANCES IS SHOWN HERE. CONTRACTOR SHALL PERFORM DEMOLITION IN ACCORDANCE WITH THE WAS IMPROVEMENTS PHASING PLAN. SCHEDULING AND PHASING REQUIREMENTS ARE IN THE SPECIFICATIONS. AT LEAST ONE WAS PUMP SHALL BE OPERATION AT ALL TIMES.
2. SOME EXISTING EQUIPMENT AND PIPING OMITTED FROM THIS DRAWING FOR CLARITY.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMPLETING THE WORK.
4. CONTRACTOR SHALL COMPLETELY DISPOSE OF ALL ITEMS, EQUIPMENT, PIPE AND APPURTENANCES THAT ARE SHOWN AS BEING REMOVED FROM WAS ROOM.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WAS PUMP STATION DEMOLITION PLAN

JOB NO.:	116-028
CLIENT:	SNQ
FILENAME:	WRF02-D-WAS_M01.DWG
SAVE DATE:	Sep. 1, 2017
PLOT DATE:	Sep. 19, 2017
ENGINEER:	PNY
REVIEWED:	ETS

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

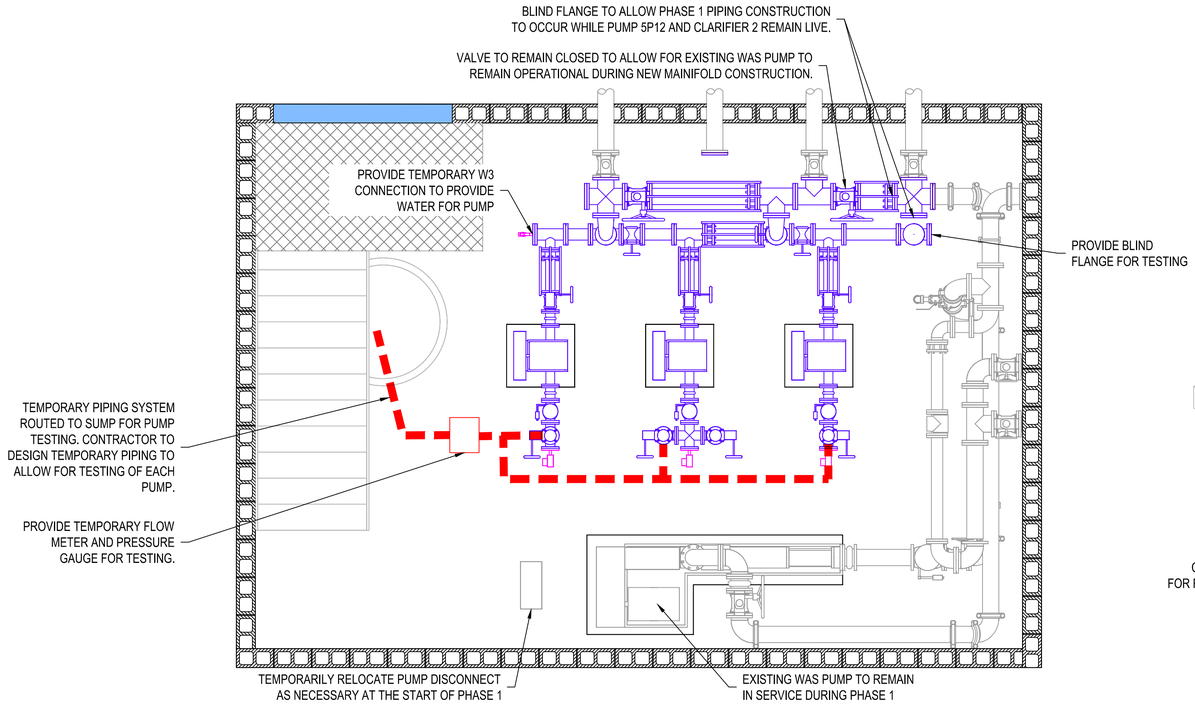
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

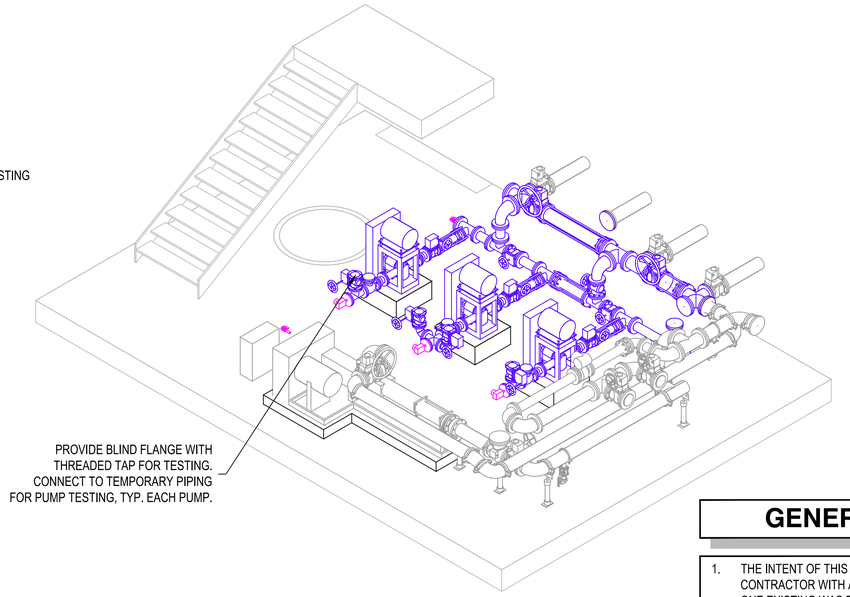
DWG NO.: M501

SHEET NO.: 61



WAS PHASE 1 INSTALLATION PLAN

3/8" = 1'-0"

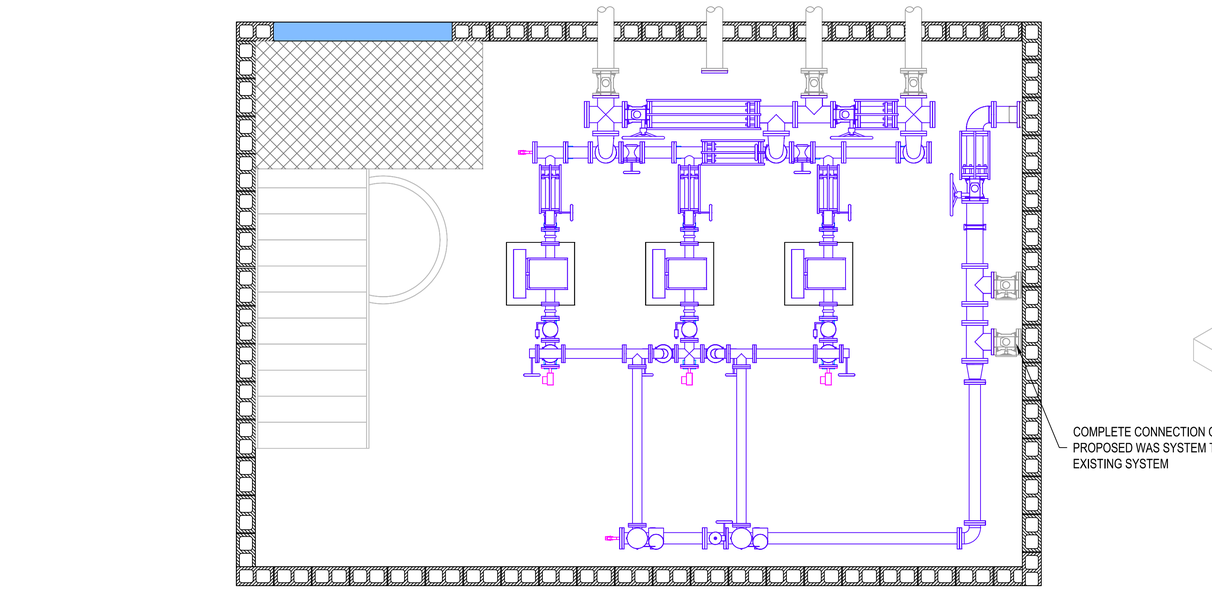


PHASE 1 OBLIQUE

NOT TO SCALE

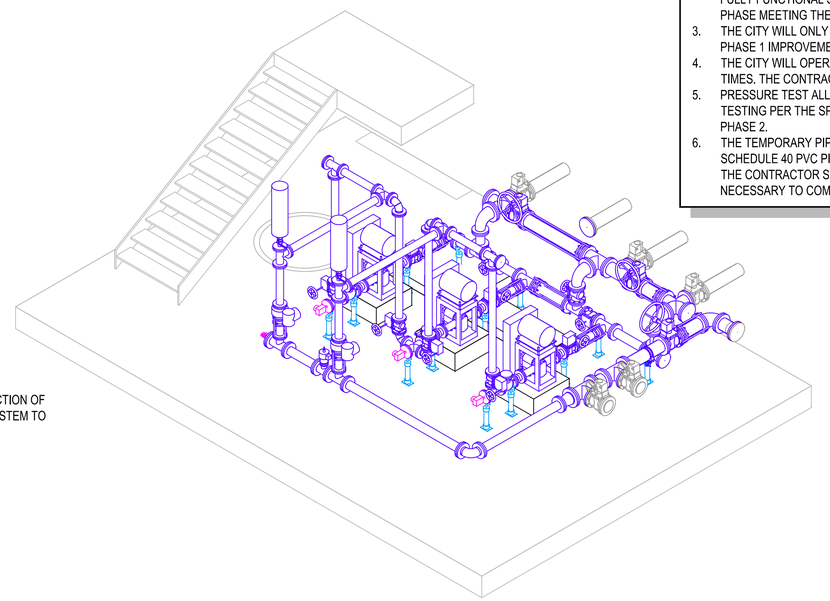
GENERAL NOTES

1. THE INTENT OF THIS PHASING PLAN IS TO PROVIDE THE CONTRACTOR WITH A METHOD OF INSTALLATION THAT ALLOWS ONE EXISTING WAS PUMP TO REMAIN IN SERVICE DURING THE CONSTRUCTION OF THE NEW PUMP STATION. SHORT DURATION SHUTDOWNS (LESS THAN 8 HOURS) OF WAS PUMPING WILL BE REQUIRED TO COMPLETE THE WORK SHOWN HERE. SHUTDOWNS LASTING LONGER THAN 8 HOURS WILL NOT BE ACCEPTABLE. THE CONTRACTOR SHALL ADHERE TO THE SCHEDULING AND NOTIFICATION REQUIREMENTS IN THE SPECIFICATIONS PRIOR TO PERFORMING ANY PHASE 1 WAS IMPROVEMENTS OR SHUTDOWNS.
2. THIS DRAWING DEPICTS THE MAJOR WORK FOR EACH PHASE BUT DOES NOT SHOW ALL WORK NECESSARY TO COMPLETE THE PHASES. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULLY FUNCTIONAL SYSTEM AT THE COMPLETION OF EACH PHASE MEETING THE INTENT OF THIS DRAWING.
3. THE CITY WILL ONLY OPERATE ONE CLARIFIER DURING THE PHASE 1 IMPROVEMENTS.
4. THE CITY WILL OPERATE EXISTING PUMPS AND VALVES AT ALL TIMES. THE CONTRACTOR MAY NOT OPERATE THESE.
5. PRESSURE TEST ALL PHASE 1 PIPING AND COMPLETE WAS PUMP TESTING PER THE SPECIFICATIONS PRIOR TO PROCEEDING TO PHASE 2.
6. THE TEMPORARY PIPING SYSTEM SHALL BE SOLVENT-WELDED SCHEDULE 40 PVC PIPE INSTALLED ON THE PUMP ROOM FLOOR. THE CONTRACTOR SHALL PROVIDE PIPE RESTRAINT AS NECESSARY TO COMPLETE TESTING.



WAS PHASE 2 INSTALLATION PLAN

3/8" = 1'-0"



PHASE 2 OBLIQUE

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WAS PUMP STATION MECHANICAL PHASING PLAN

REVISIONS

NO.	DESCRIPTION	DATE

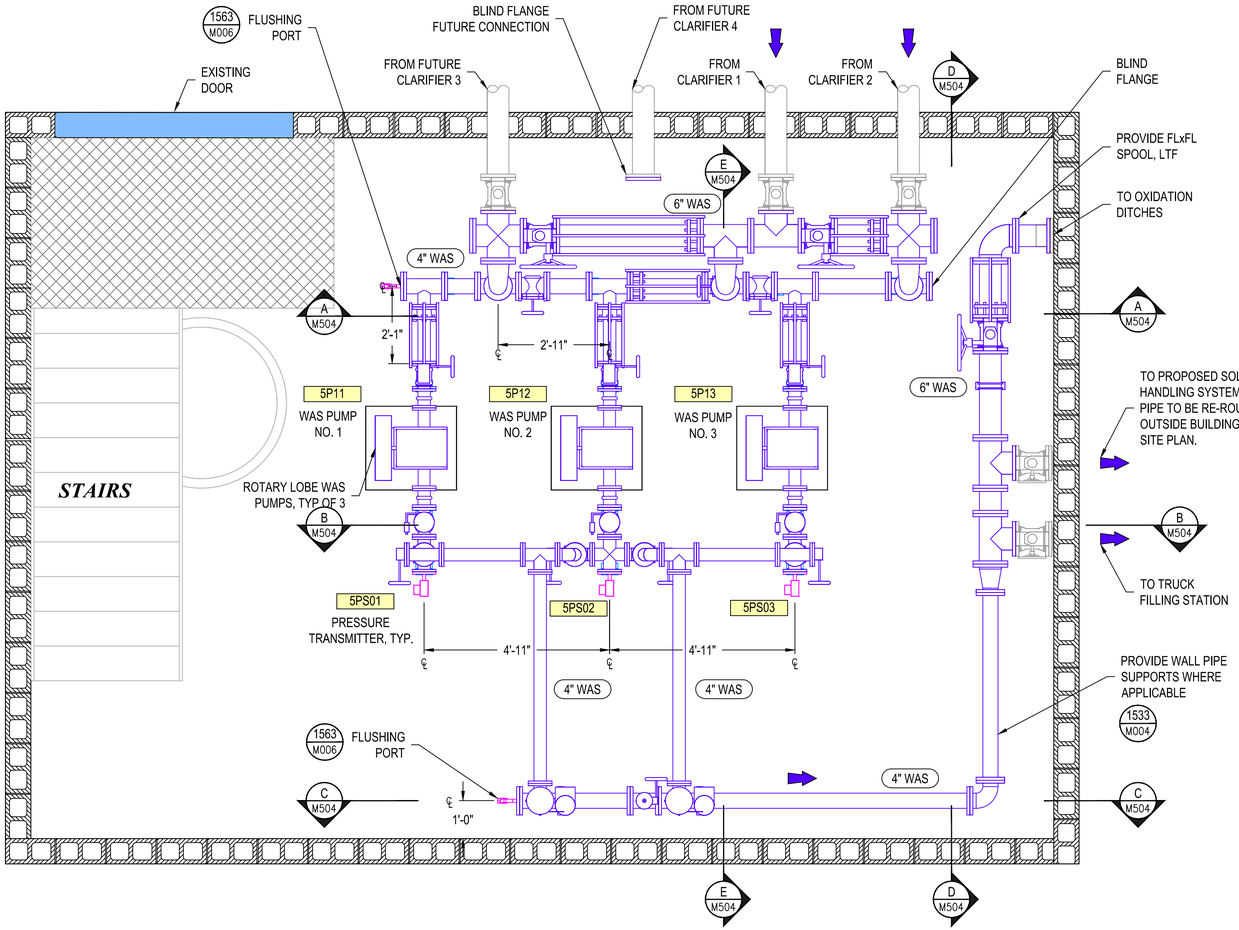
ENGINEER: PNY
REVIEWED: ETS
SAVE DATE: Sep 1, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-WAS_M01.DWG
JOB NO.: 116-028
BY
REVIEW

SCALE: SHOWN

0" 1" 2"

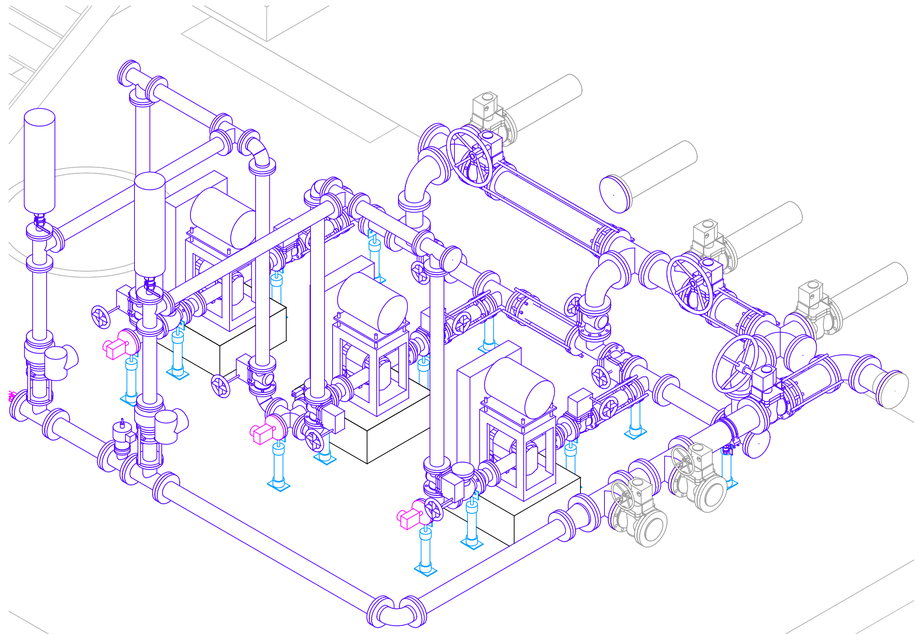
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M502
SHEET NO.: 62



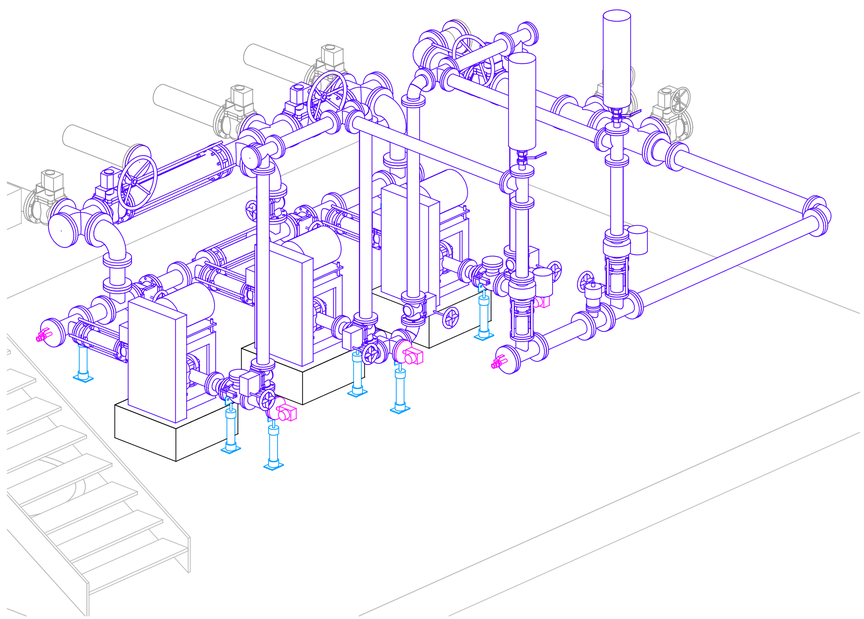
WAS PUMP STATION MECHANICAL PLAN

1/2" = 1'-0"



OBLIQUE

NOT TO SCALE



OBLIQUE

NOT TO SCALE

GENERAL NOTES

1. SOME EXISTING EQUIPMENT AND PIPING OMITTED FROM THIS DRAWING FOR CLARITY.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMPLETING THE WORK.
3. CONTRACTOR IS RESPONSIBLE FOR PIPE SUPPORT DESIGN. PIPE SUPPORTS SHOWN HERE ARE FOR REFERENCE ONLY AND DO NOT EXHIBIT ALL REQUIRED SUPPORT LOCATIONS.
4. SEE PARTIAL ROOM MECHANICAL SECTIONS FOR PIPE AND EQUIPMENT LAYOUT.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WAS PUMP STATION MECHANICAL PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

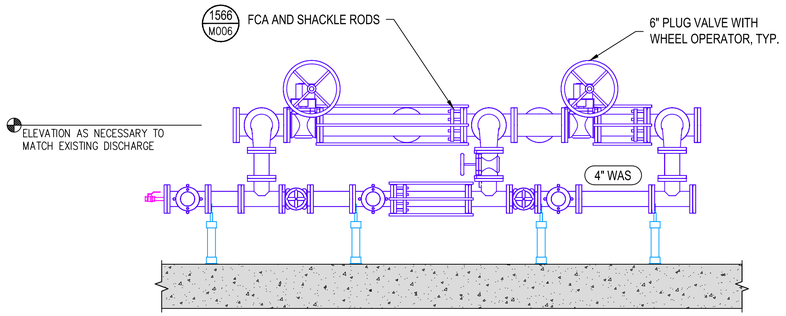
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-WAS_M01.DWG
SAVE DATE: Sep 1, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

SCALE: SHOWN

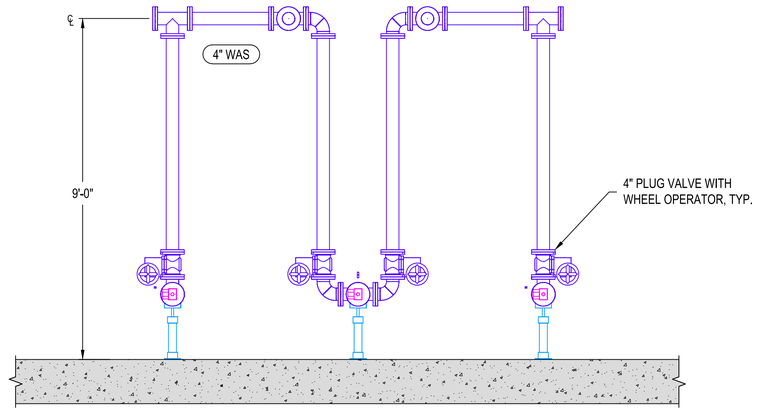
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

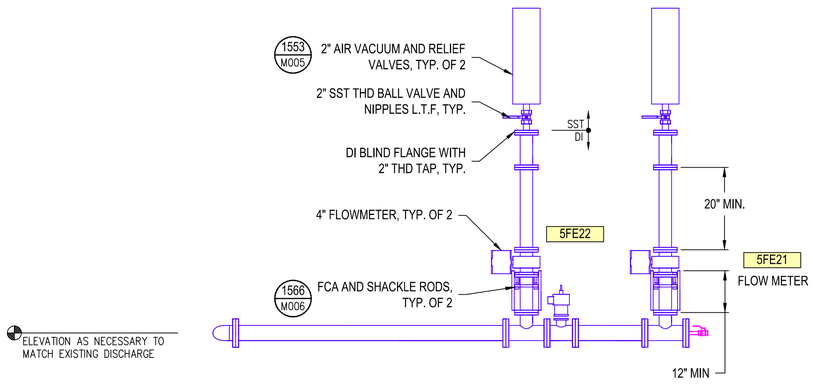
DWG NO.: M503
SHEET NO.: 63
158



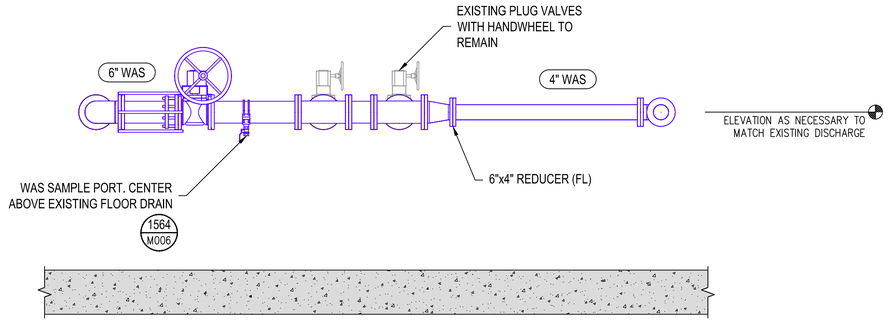
SECTION A / M503
1/2" = 1'-0"



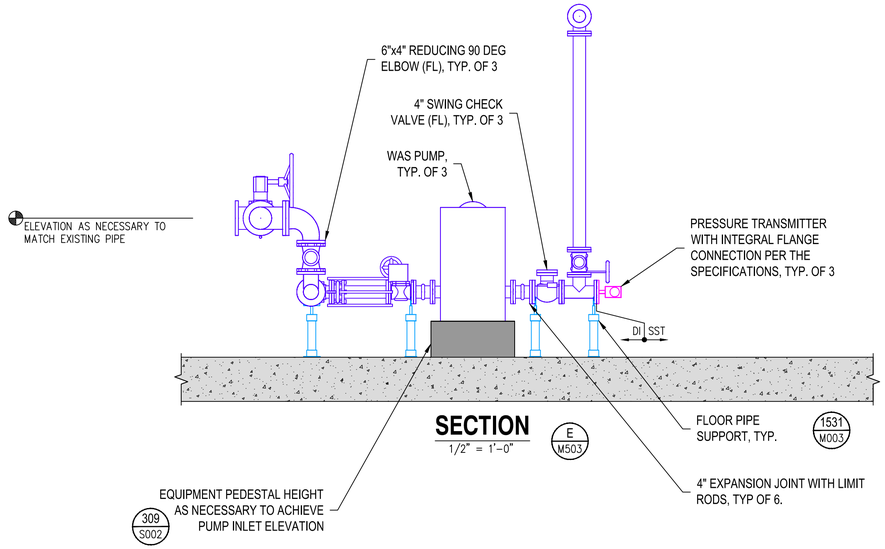
SECTION B / M503
1/2" = 1'-0"



SECTION C / M503
1/2" = 1'-0"



SECTION D / M503
1/2" = 1'-0"



SECTION E / M503
1/2" = 1'-0"

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BALLARD OF WASHINGTON STATE PROFESSIONAL ENGINEERS — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WAS PUMP STATION MECHANICAL SECTIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-WAS_M01.DWG
SAVE DATE: Sep 1, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M504
SHEET NO.: 64

POWER CONDUIT AND CONDUCTOR SCHEDULE

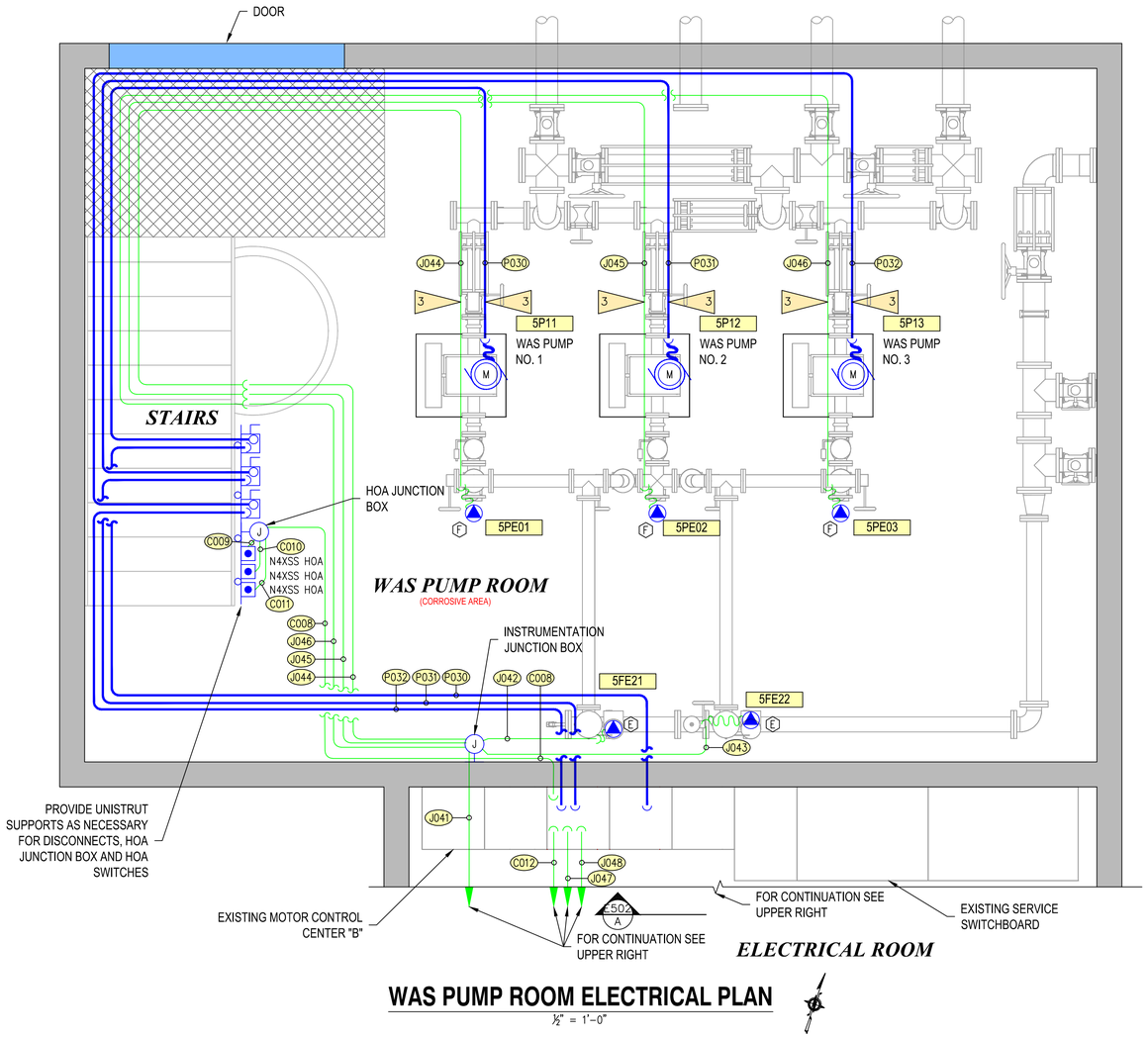
CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
P030	EXISTING MOTOR CONTROL CENTER, MCC "B"	WAS PUMP NO. 1, "5P11"	3/4"	(3) - #12, (1) - #12 GRD	
P031	EXISTING MOTOR CONTROL CENTER, MCC "B"	WAS PUMP NO. 2, "5P12"	3/4"	(3) - #12, (1) - #12 GRD	
P032	EXISTING MOTOR CONTROL CENTER, MCC "B"	WAS PUMP NO. 2, "5P13"	3/4"	(3) - #12, (1) - #12 GRD	

INSTRUMENTATION CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
J041	EXISTING CONTROL PANEL, "CP"	INSTRUMENTATION JUNCTION BOX	2"	(2) CAT 5E ETHERNET CABLES, (3) 2-CONDUCTOR SHIELDED CABLES, (4) - #14, (1) - #14 GRD	
J042	INSTRUMENTATION JUNCTION BOX	FLOW METER, "2FE21"	1"	(1) CAT 5E ETHERNET CABLE, (2) - #14, (1) - #14 GRD	
J043	INSTRUMENTATION JUNCTION BOX	FLOW METER, "2FE22"	1"	(1) CAT 5E ETHERNET CABLE, (2) - #14, (1) - #14 GRD	
J044	INSTRUMENTATION JUNCTION BOX	WAS PUMP NO. 1 PRESSURE TRANSMITTER, "5PE01"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J045	INSTRUMENTATION JUNCTION BOX	WAS PUMP NO. 2 PRESSURE TRANSMITTER, "5PE02"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J046	INSTRUMENTATION JUNCTION BOX	WAS PUMP NO. 3 PRESSURE TRANSMITTER, "5PE03"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J047	EXISTING CONTROL PANEL, "CP"	EXISTING MOTOR CONTROL CENTER, MCC "B"	2"	(6) 2-CONDUCTOR SHIELDED CABLES	
J048	EXISTING CONTROL PANEL, "CP"	EXISTING MOTOR CONTROL CENTER, MCC "B"	1 1/2"	(3) CAT 5E ETHERNET CABLES	

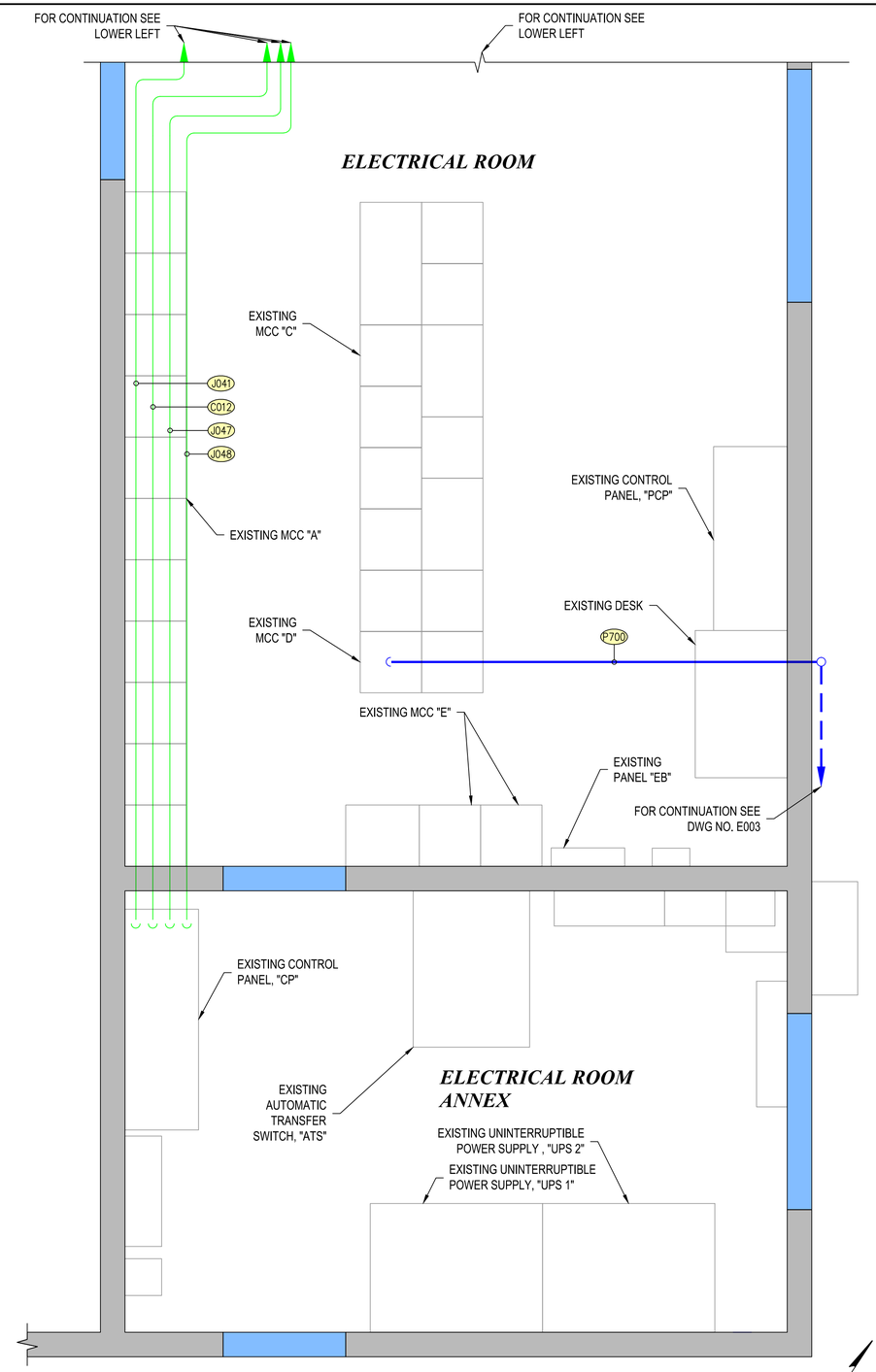
CONTROL CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C008	EXISTING MOTOR CONTROL CENTER, MCC "B"	HOA JUNCTION BOX	1"	(30) - #14, (1) - #14 GRD	
C009	HOA JUNCTION BOX	WAS PUMP NO. 1, "5P11", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C010	HOA JUNCTION BOX	WAS PUMP NO. 2, "5P12", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C011	HOA JUNCTION BOX	WAS PUMP NO. 3, "5P13", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C012	EXISTING CONTROL PANEL, "CP"	EXISTING MOTOR CONTROL CENTER, MCC "B"	1"	(30) - #14, (1) - #14 GRD	



WAS PUMP ROOM ELECTRICAL PLAN

1/2" = 1'–0"



ELECTRICAL ROOM ELECTRICAL PLAN

1/2" = 1'–0"

ELECTRICAL NOTES

X

1. SEE DWG NO. E724 FOR ELECTRICAL EQUIPMENT SCHEDULE.
2. THE CEILING HEIGHT IN THE WAS PUMP ROOM IS 20 FEET. SUPPORT CONDUITS FROM EQUIPMENT TO CEILING PER NEC REQUIREMENTS.

3

3. USE CONDUIT SUPPORTS AND UNISTRUT TO ROUTE CONDUIT IN LINE WITH PROPOSED PIPING. CONDUITS TO MAINTAIN MINIMUM 6" CLEARANCE TO FINISHED FLOOR.

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SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WAS PUMP STATION ELECTRICAL PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

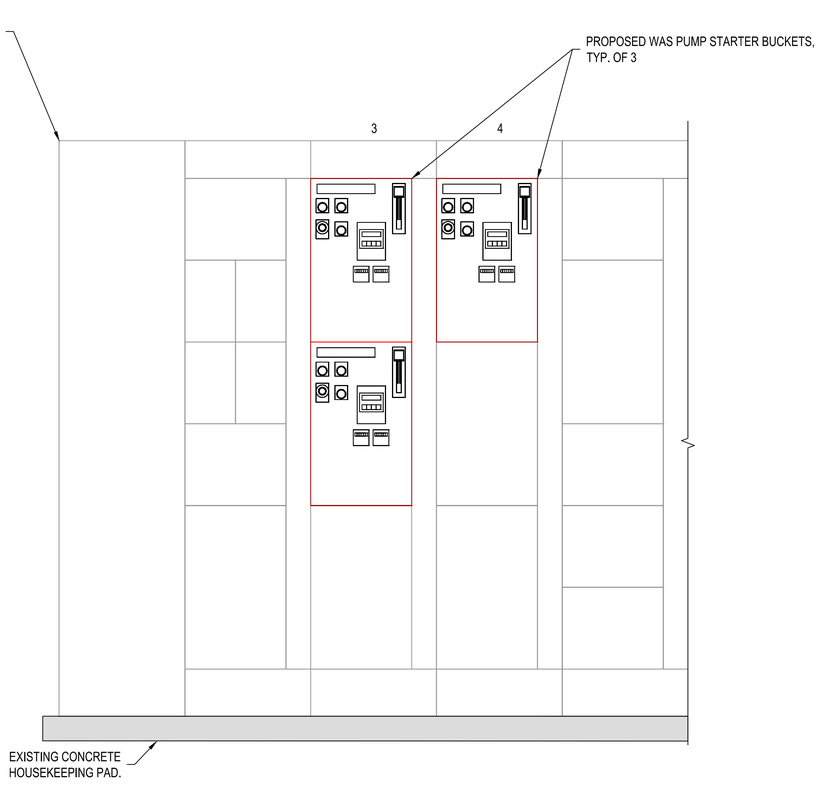
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-WAS_E01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

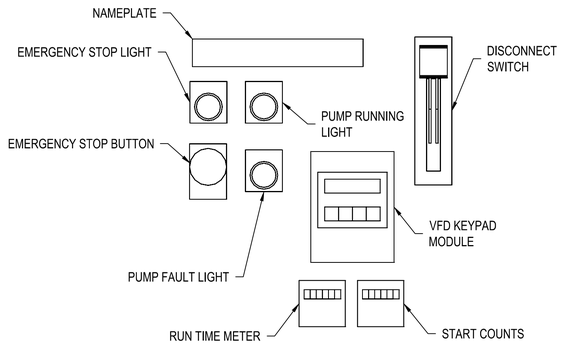
DWG NO.: E501
SHEET NO.: 65



EXISTING MOTOR CONTROL CENTER "B" LAYOUT (A/E501)

1"=1'-0"

MCC CONTROL DEVICES		
MCC SECTION	NAMEPLATE SCHEDULE	CONTROL LOGIC DIAGRAM
3	WAS PUMP NO 1, 5P11 ELAPSED TIME (HOURS) START COUNTS EMERGENCY STOP PUMP RUNNING PUMP FAULT PUMP HAND-OFF-AUTO EMERGENCY STOP	E715
3	WAS PUMP NO 2, 5P12 ELAPSED TIME (HOURS) START COUNTS EMERGENCY STOP PUMP RUNNING PUMP FAULT PUMP HAND-OFF-AUTO EMERGENCY STOP	E715
4	WAS PUMP NO 3, 5P13 ELAPSED TIME (HOURS) START COUNTS EMERGENCY STOP PUMP RUNNING PUMP FAULT PUMP HAND-OFF-AUTO EMERGENCY STOP	E715



WAS PUMP STARTER PANEL LAYOUT

NO SCALE

EXISTING MOTOR CONTROL CENTER "B"

NO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

WAS PUMP STATION MCC MODIFICATION DETAILS

JOB NO.: 116-028
CLIENT: SNO
FILENAME: WRF02-D-WAS_E01.DWG
DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

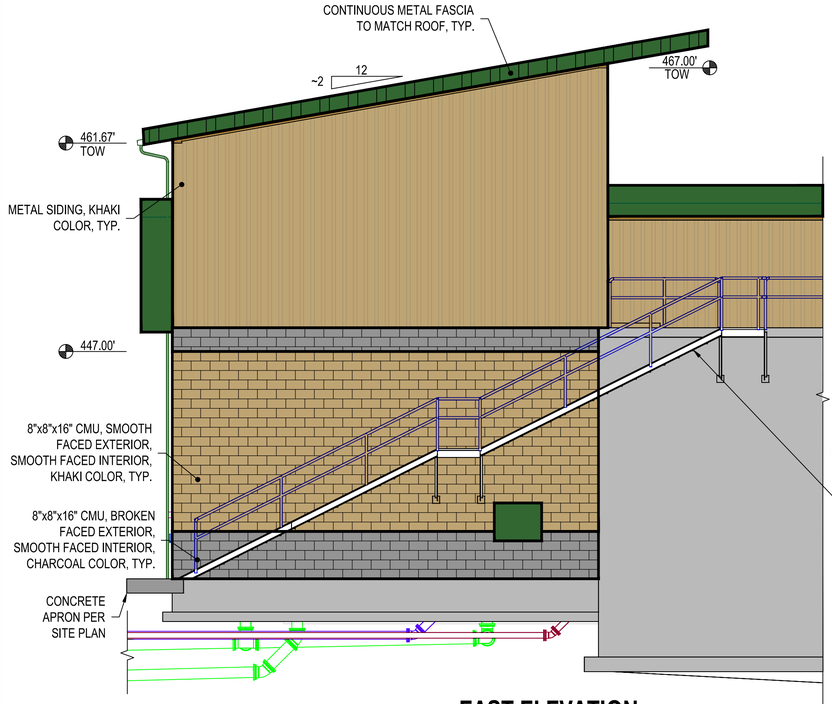
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E502
SHEET NO.: 66
158

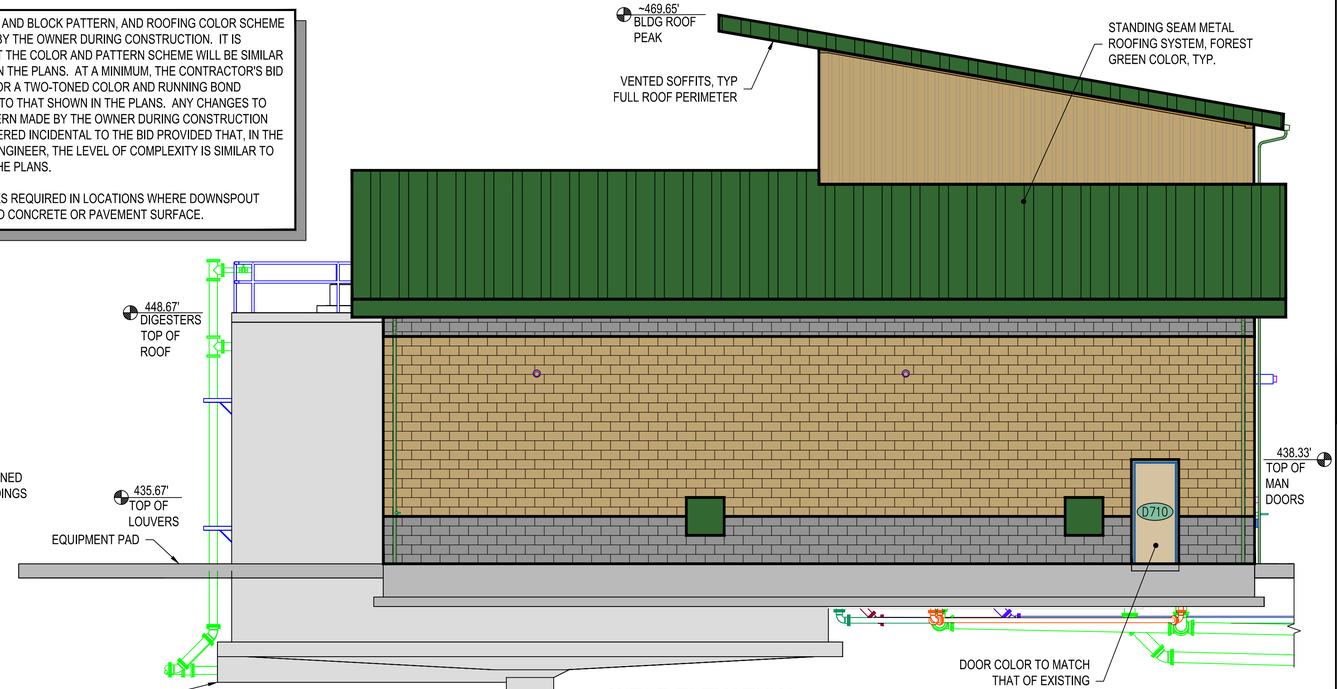
GENERAL NOTES

1. FINAL CMU COLOR AND BLOCK PATTERN, AND ROOFING COLOR SCHEME TO BE SELECTED BY THE OWNER DURING CONSTRUCTION. IT IS ANTICIPATED THAT THE COLOR AND PATTERN SCHEME WILL BE SIMILAR TO THAT SHOWN IN THE PLANS. AT A MINIMUM, THE CONTRACTOR'S BID SHALL PROVIDE FOR A TWO-TONED COLOR AND RUNNING BOND PATTERN SIMILAR TO THAT SHOWN IN THE PLANS. ANY CHANGES TO COLOR AND PATTERN MADE BY THE OWNER DURING CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO THE BID PROVIDED THAT, IN THE OPINION OF THE ENGINEER, THE LEVEL OF COMPLEXITY IS SIMILAR TO THAT SHOWN IN THE PLANS.
2. NO SPLASH BLOCKS REQUIRED IN LOCATIONS WHERE DOWNSPOUT DISCHARGES ONTO CONCRETE OR PAVEMENT SURFACE.



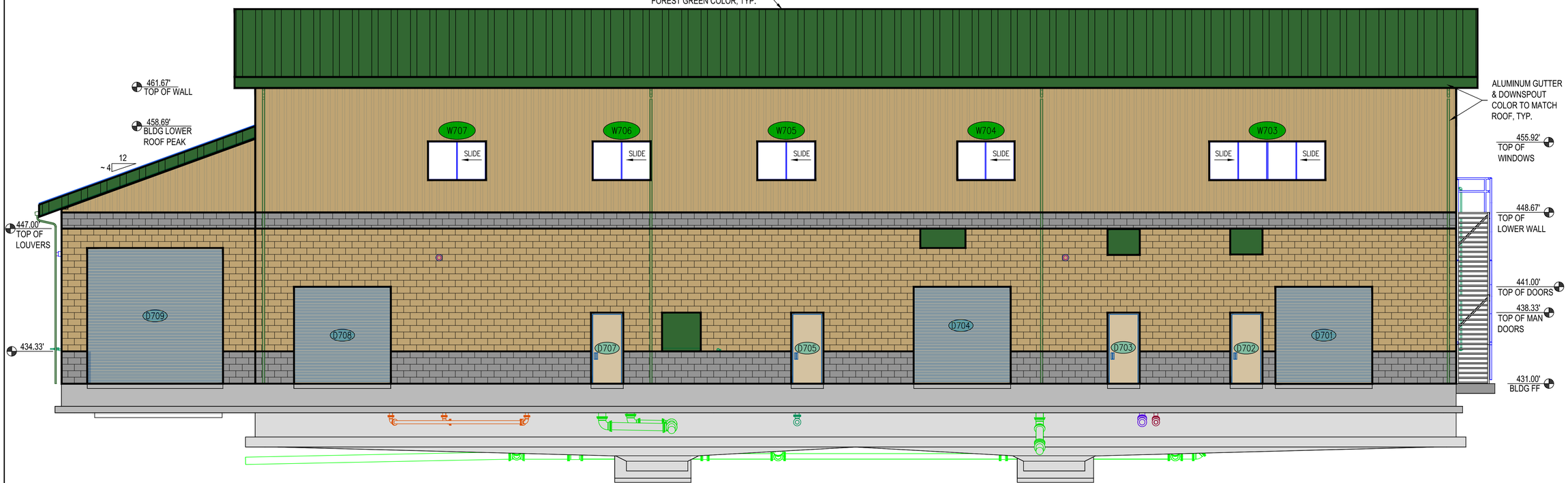
EAST ELEVATION

3/16" = 1'-0"



WEST ELEVATION

3/16" = 1'-0"



NORTH ELEVATION

3/16" = 1'-0"

SMITH STATE OF WASHINGTON SECURITY ARCHITECTURAL PROFESSIONAL — SIGNED: 09/19/17

RICHARD BALLARD STATE OF WASHINGTON SECURITY ARCHITECTURAL PROFESSIONAL — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING ARCHITECTURAL ELEVATIONS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

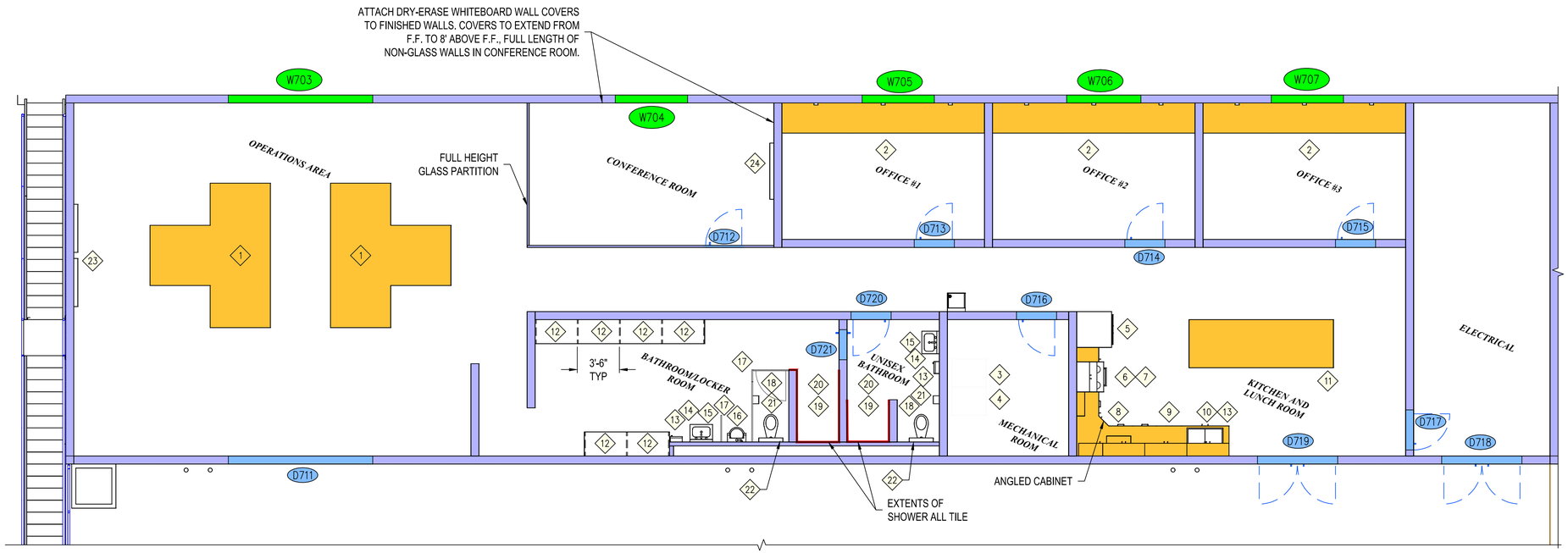
ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-SH_A01.DWG
JOB NO.: 116-028

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: A701
SHEET NO.: 67



SOLIDS HANDLING UPPER LEVEL FURNISHING PLAN

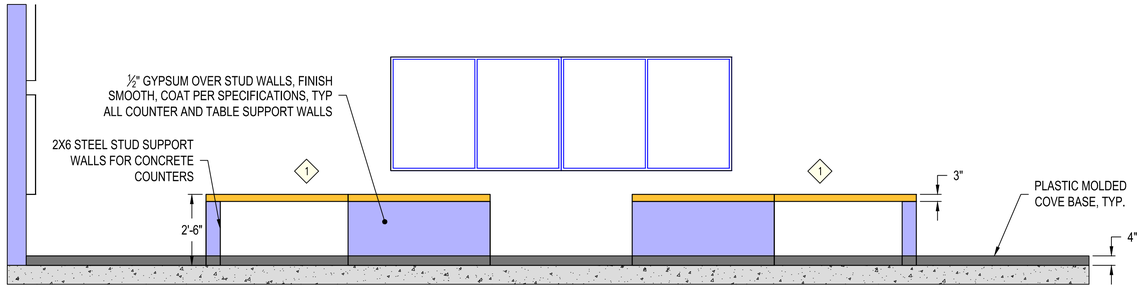
3/16" = 1'-0"

FURNISHINGS LEGEND

1. CONCRETE-TOPPED OPERATIONS DESK
2. DESK W/ CONCRETE TOP
3. WASHER
4. DRYER
5. REFRIGERATOR
6. RANGE
7. FUMEHOOD
8. COUNTER-TOP MICROWAVE
9. DISHWASHER
10. SINK
11. CONCRETE-TOPPED LUNCH TABLE
12. CLOSET PARTITION
13. PAPER TOWEL DISPENSER
14. LAVATORY SINK
15. MIRROR
16. URINAL
17. RESTROOM STALL PARTITION
18. TOILET
19. SHOWER FAUCET AND HEAD
20. ROD & SHOWER CURTAIN
21. TOILET PAPER DISPENSER
22. SANITARY COVER DISPENSER
23. RELOCATED SCADA HMI WITH NEW 4TH MONITOR. MONITOR TREE MOUNTED TO CITY-PROVIDED DESK.
24. NEW 55-INCH MONITOR

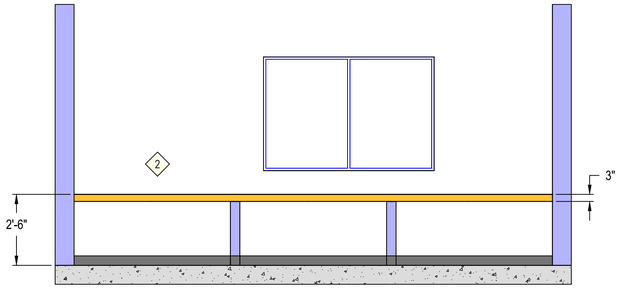
GENERAL NOTES

1. THIS PLAN PROVIDES THE BASIS FOR CASEWORK DESIGN. MANUFACTURER SHALL BE RESPONSIBLE FOR DETAILED CABINETRY DESIGN. ALL FINISHES SHALL PER SELECTED BY THE OWNER DURING CONSTRUCTION PER THE SPECIFICATIONS.
2. ALL FURNISHINGS SHALL BE PER THE SPECIFICATIONS.
3. ALL CABINETRY TO BE PROVIDE BY A SINGLE MANUFACTURER.
4. PROVIDE MOISTURE-RESISTANT GYPSUM WALL BOARD FOR SHOWER WALLS AND CEILING.
5. ALL COUNTERTOPS, DESKS AND TABLE TOPS TO BE CONCRETE AND STAINED PER THE SPECIFICATIONS.



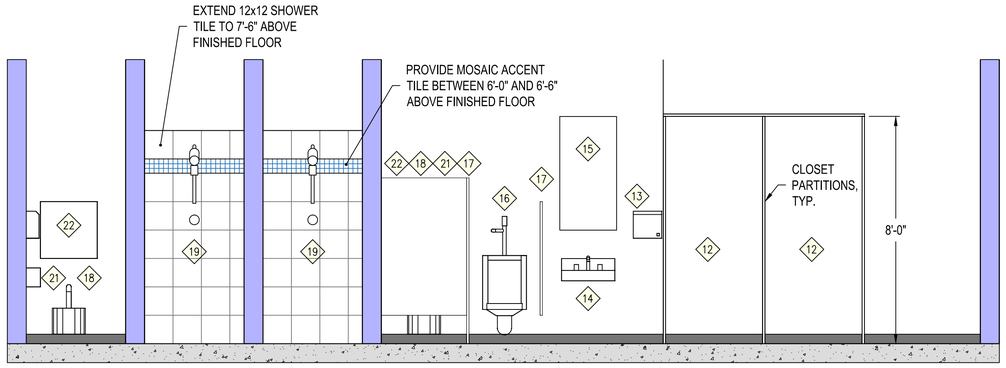
OPERATIONS ROOM NORTH ELEVATION

3/8" = 1'-0"



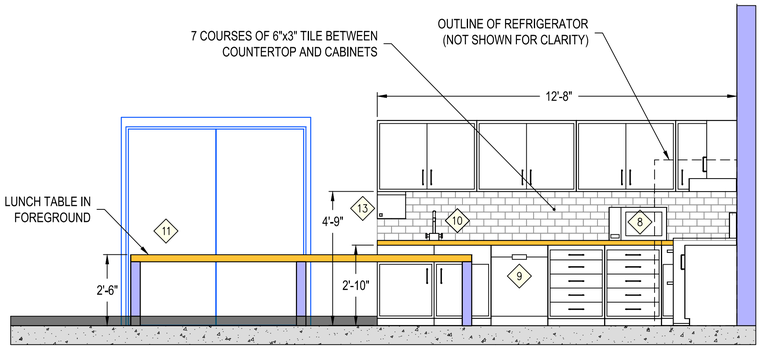
TYPICAL OFFICE NORTH ELEVATION

3/8" = 1'-0"



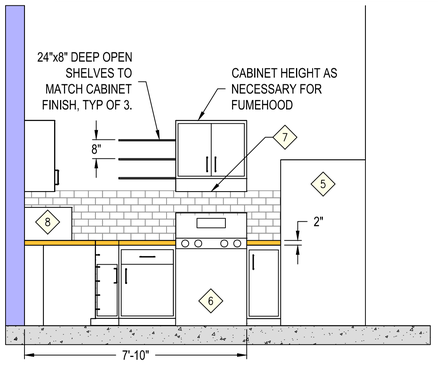
MEN'S BATHROOM/LOCKER ROOM SOUTH ELEVATION

3/8" = 1'-0"



SOUTH ELEVATION

3/8" = 1'-0"



KITCHEN WEST ELEVATION

3/8" = 1'-0"

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING UPPER LEVEL FURNISHING PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_A02.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

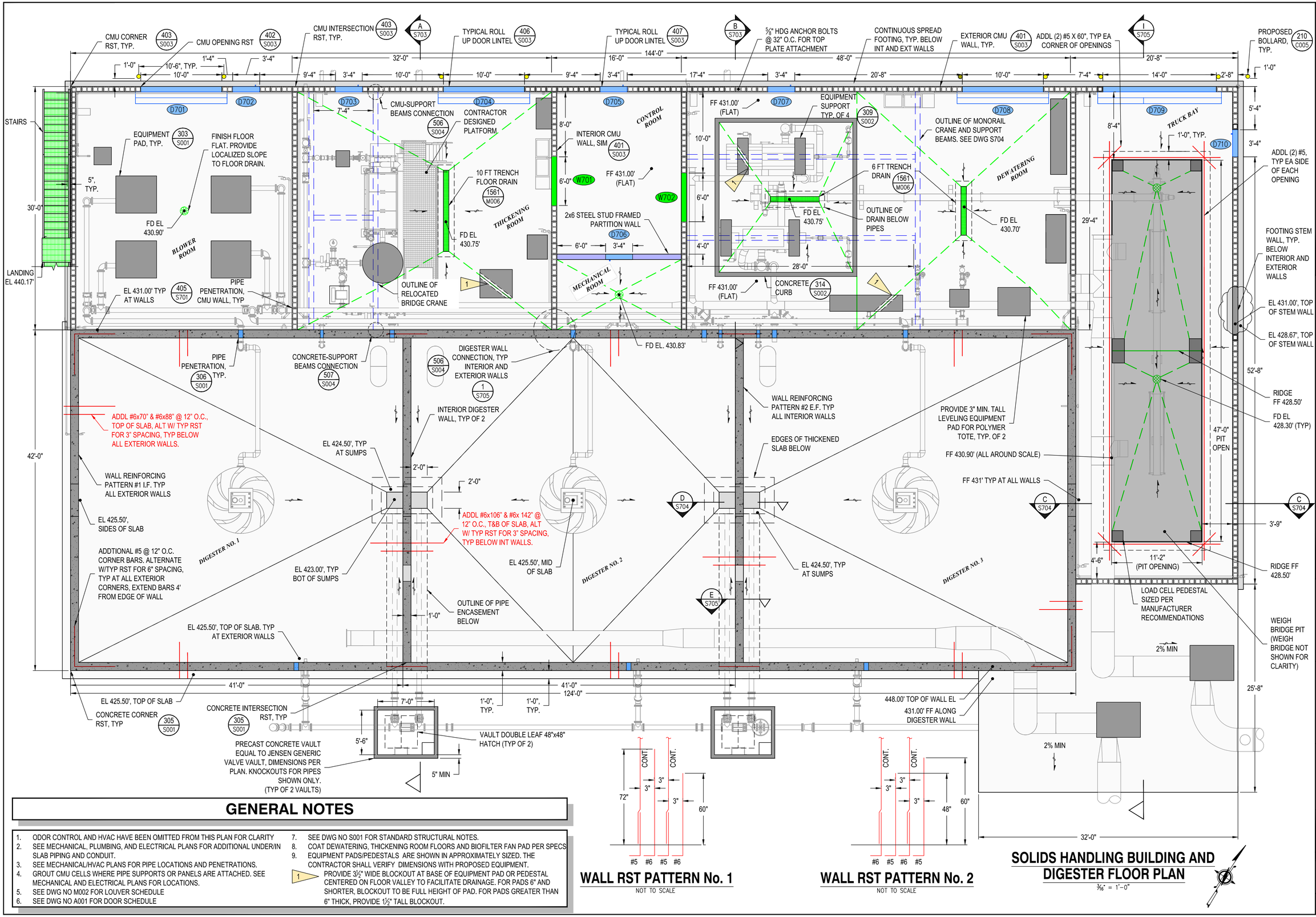
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: A702
SHEET NO.: 68



GENERAL NOTES

1. ODOR CONTROL AND HVAC HAVE BEEN OMITTED FROM THIS PLAN FOR CLARITY
2. SEE MECHANICAL, PLUMBING, AND ELECTRICAL PLANS FOR ADDITIONAL UNDER/IN SLAB PIPING AND CONDUIT.
3. SEE MECHANICAL/HVAC PLANS FOR PIPE LOCATIONS AND PENETRATIONS.
4. GROUT CMU CELLS WHERE PIPE SUPPORTS OR PANELS ARE ATTACHED. SEE MECHANICAL AND ELECTRICAL PLANS FOR LOCATIONS.
5. SEE DWG NO M002 FOR LOUVER SCHEDULE
6. SEE DWG NO A001 FOR DOOR SCHEDULE
7. SEE DWG NO S001 FOR STANDARD STRUCTURAL NOTES.
8. COAT DEWATERING, THICKENING ROOM FLOORS AND BIOFILTER FAN PAD PER SPECS
9. EQUIPMENT PADS/PEDESTALS ARE SHOWN IN APPROXIMATELY SIZED. THE CONTRACTOR SHALL VERIFY DIMENSIONS WITH PROPOSED EQUIPMENT.

1 PROVIDE 3½" WIDE BLOCKOUT AT BASE OF EQUIPMENT PAD OR PEDESTAL CENTERED ON FLOOR VALLEY TO FACILITATE DRAINAGE. FOR PADS 6" AND SHORTER, BLOCKOUT TO BE FULL HEIGHT OF PAD. FOR PADS GREATER THAN 6" THICK, PROVIDE 1½" TALL BLOCKOUT.

WALL RST PATTERN No. 1
NOT TO SCALE

WALL RST PATTERN No. 2
NOT TO SCALE

SOLIDS HANDLING BUILDING AND DIGESTER FLOOR PLAN
3/16" = 1'-0"

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

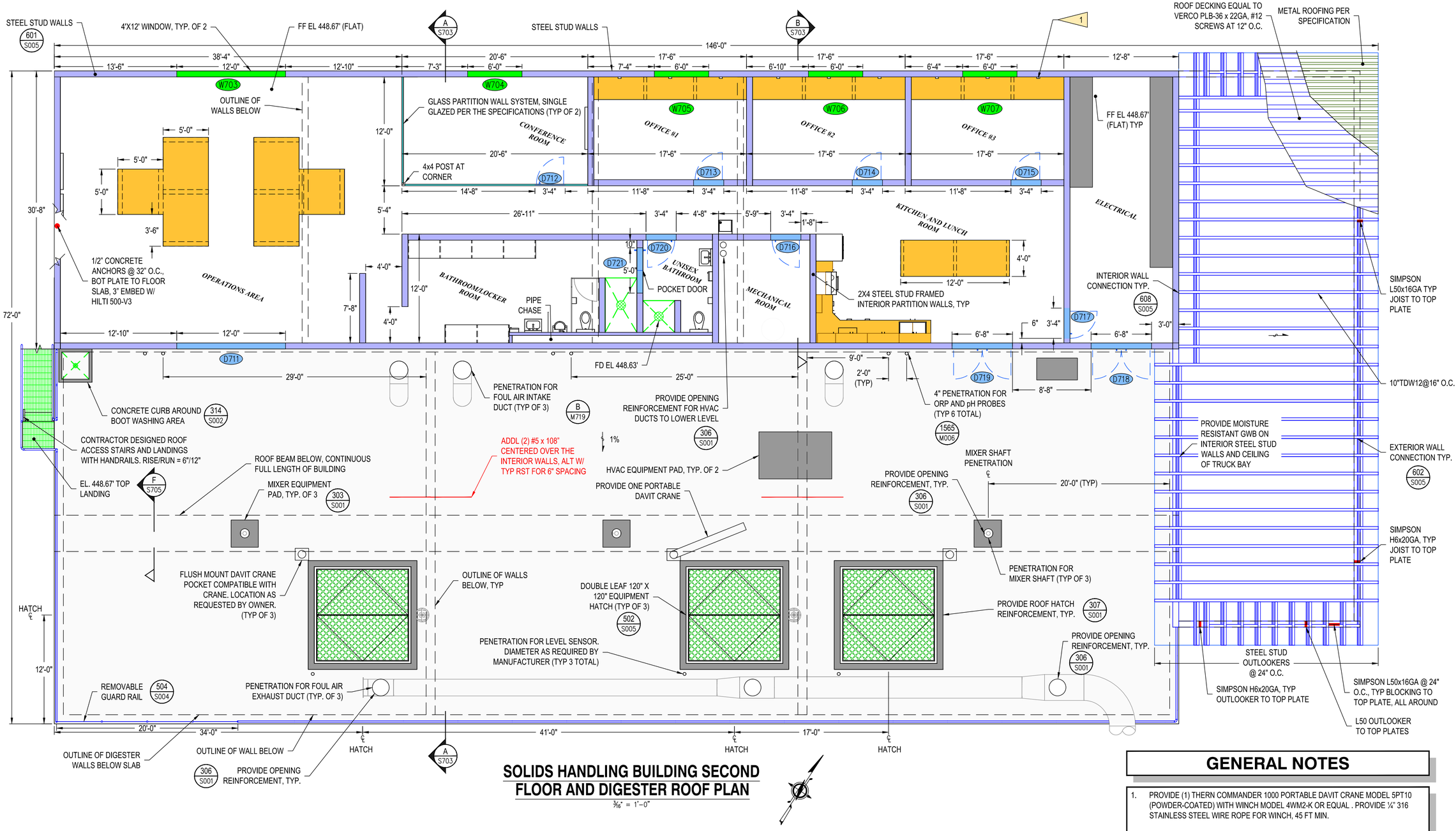
SOLIDS HANDLING BUILDING AND DIGESTER FLOOR PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-SH_S01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S701
SHEET NO.: 69
158



SOLIDS HANDLING BUILDING SECOND FLOOR AND DIGESTER ROOF PLAN

3/16" = 1'-0"

GENERAL NOTES

1. PROVIDE (1) THERN COMMANDER 1000 PORTABLE DAVIT CRANE MODEL 5PT10 (POWDER-COATED) WITH WINCH MODEL 4WM2-K OR EQUAL . PROVIDE ¼" 316 STAINLESS STEEL WIRE ROPE FOR WINCH, 45 FT MIN.
2. UPPER LEVEL INTERIOR FLOORS (EXCEPT ELECTRICAL ROOM) SHALL BE COATED PER THE SPECIFICATIONS.
3. DIGESTER ROOF SLAB TO SLOPE CONTINUOUSLY AWAY FROM BUILDING PER PLAN.
4. SEE ODOR CONTROL DUCTING PLANS FOR DUCT PENETRATION LOCATIONS.

1 PROVIDE THREE (3) 2"x4" BLOCKOUTS FOR ELECTRICAL CORDS EVENLY SPACED IN EACH OFFICE COUNTER. LOCATE AGAINST COUNTER AND WALL INTERFACE.

STATE OF WASHINGTON — MARSHALL CONNER — 21830 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

STATE OF WASHINGTON — RICHARD BALLARD — 21830 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING UPPER FLOOR AND DIGESTER ROOF PLAN

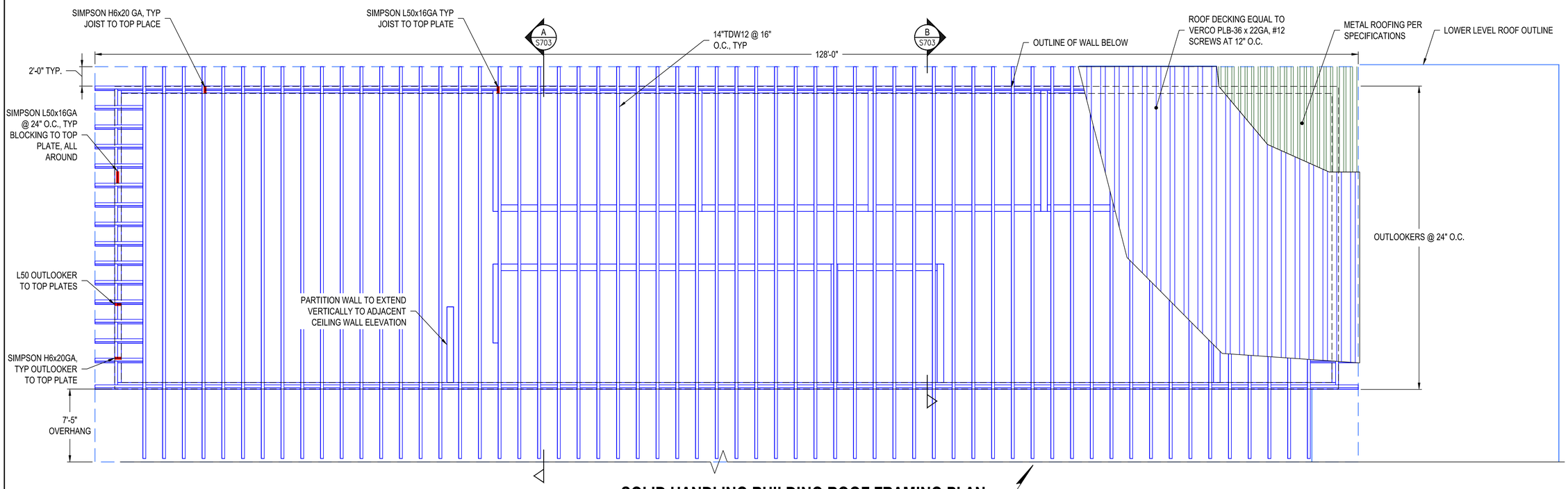
REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-Sht_S01.DWG
JOB NO.: 116-028

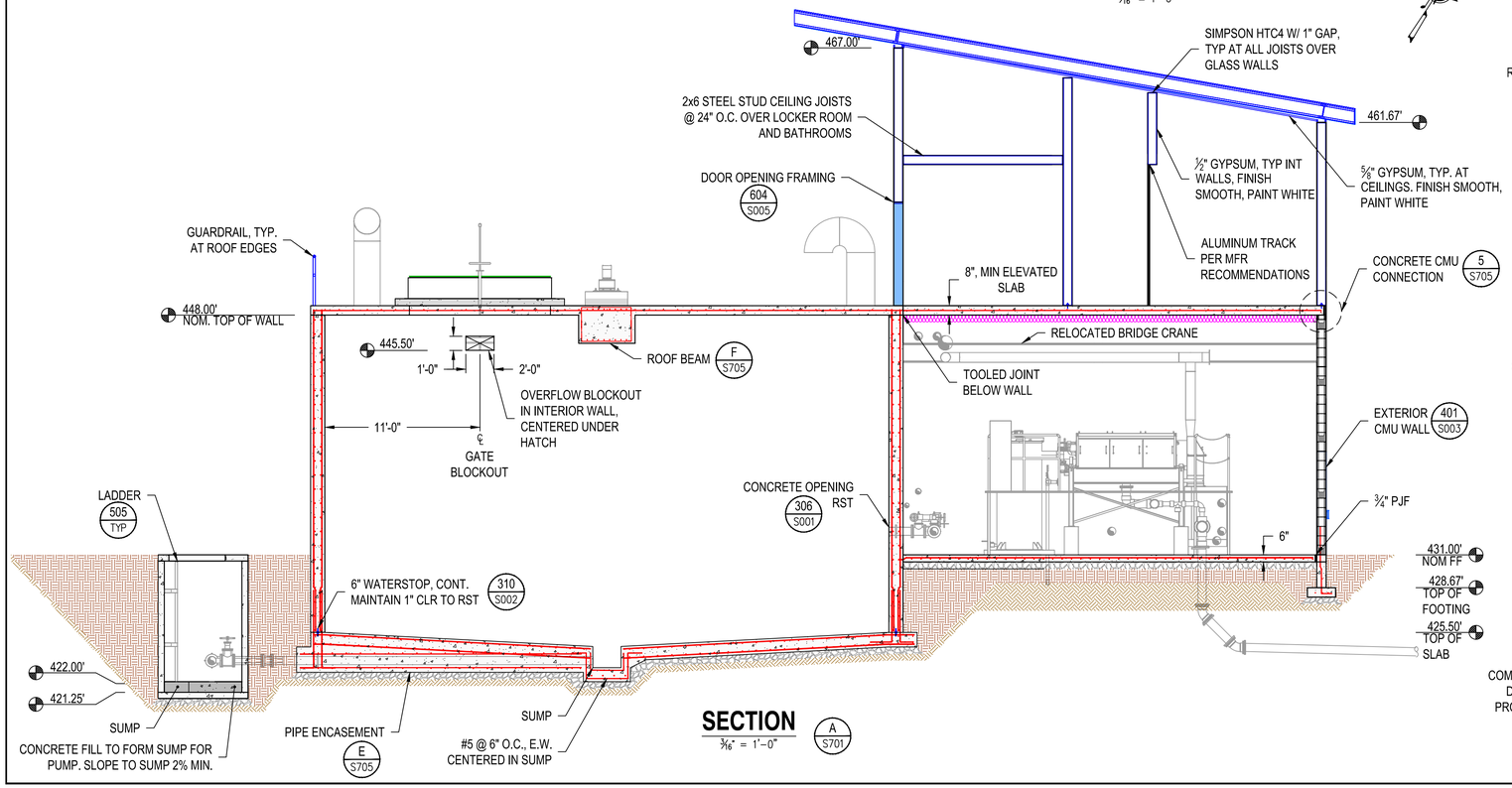
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S702
SHEET NO.: 70
158



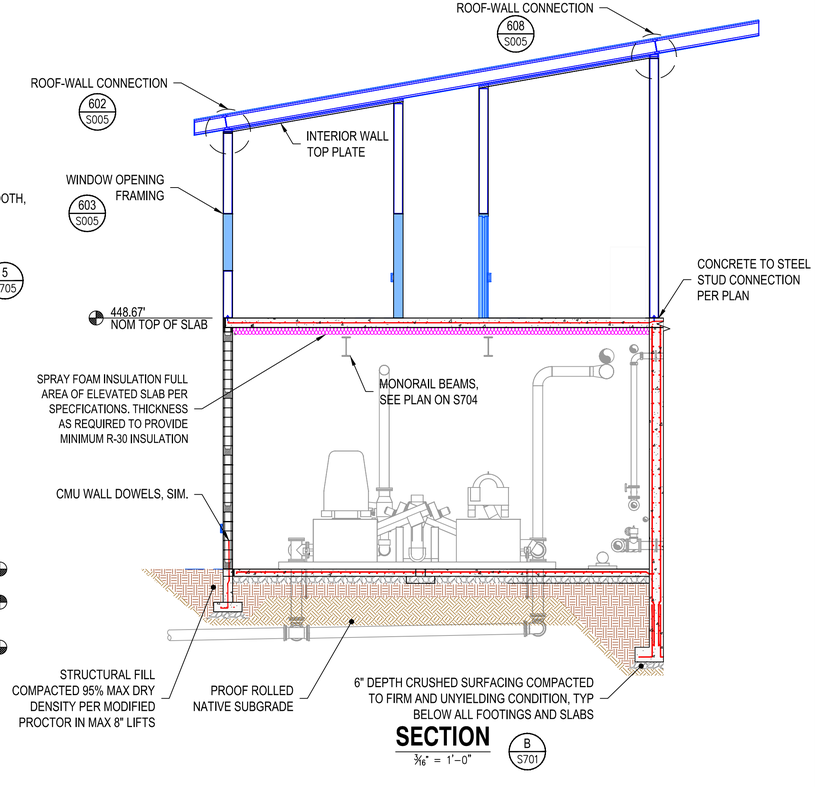
SOLID HANDLING BUILDING ROOF FRAMING PLAN

3/16" = 1'-0"



SECTION

3/16" = 1'-0" A S701



SECTION

3/16" = 1'-0" B S701

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING ROOF AND SECTION

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

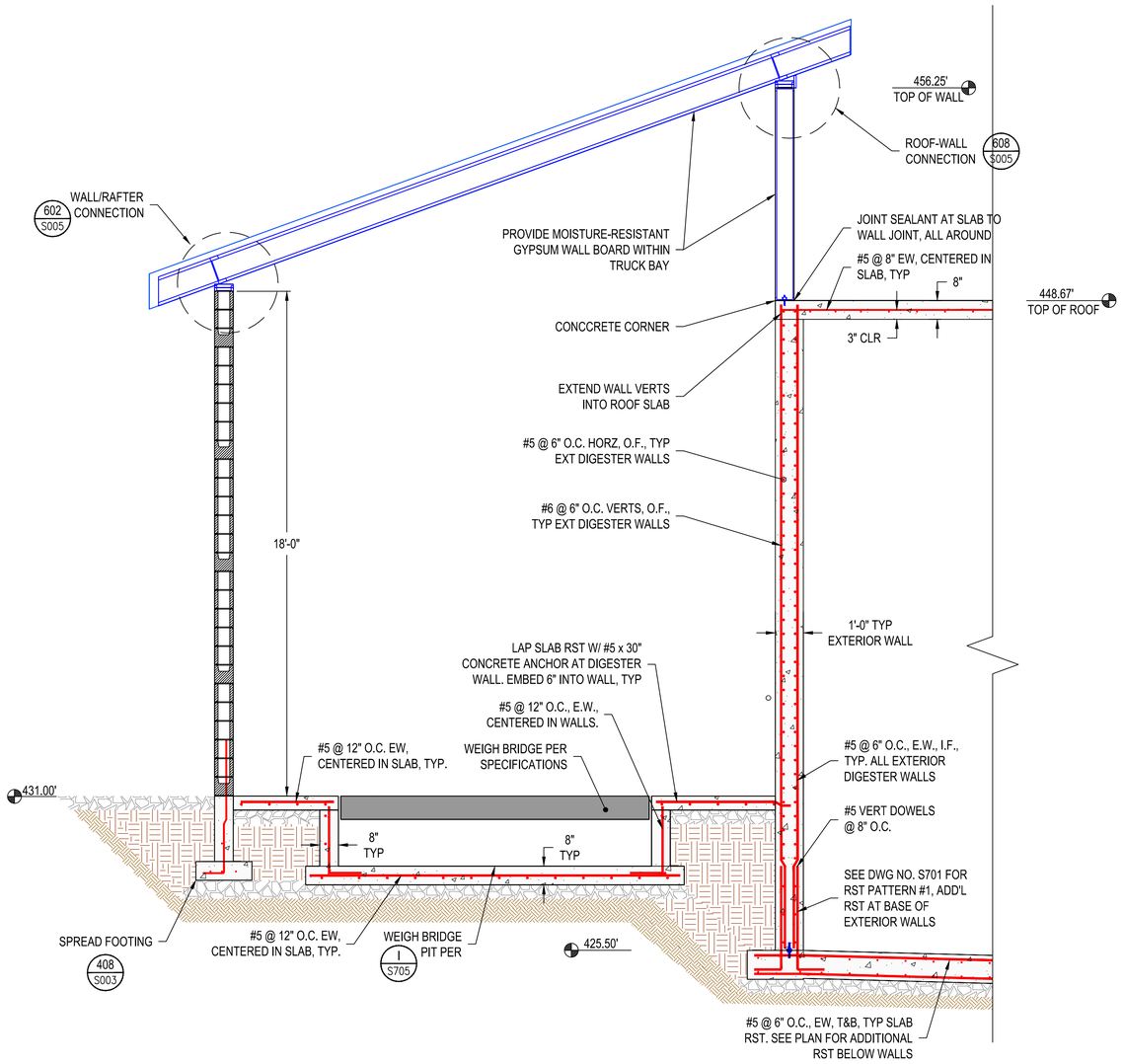
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-0-SH_S01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

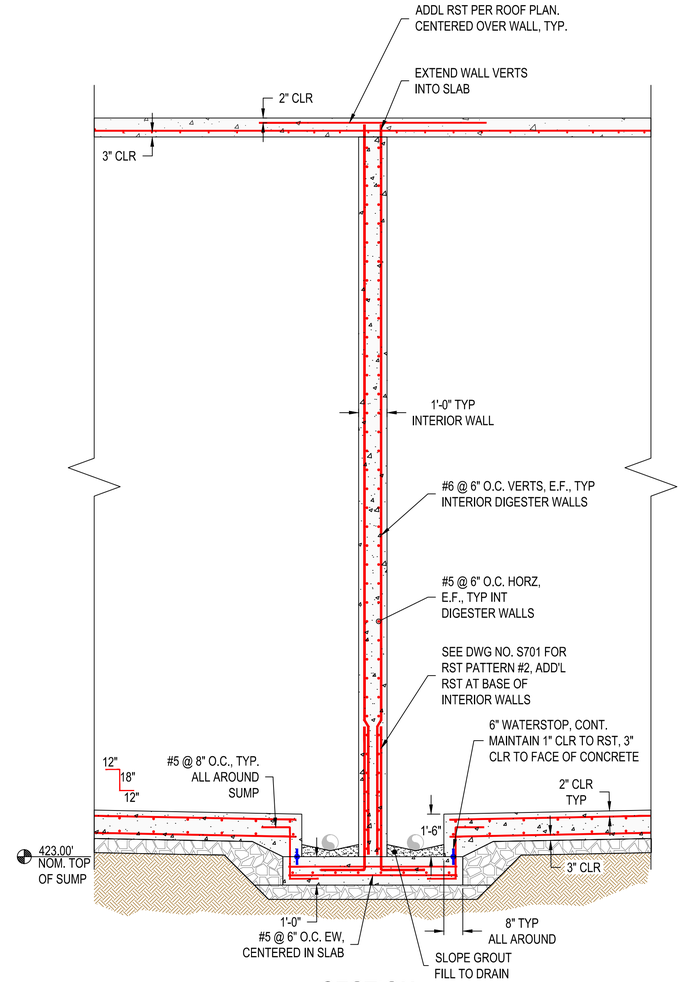
DWG NO.: S703
SHEET NO.: 71



GARAGE SECTION

3/8" = 1'-0"

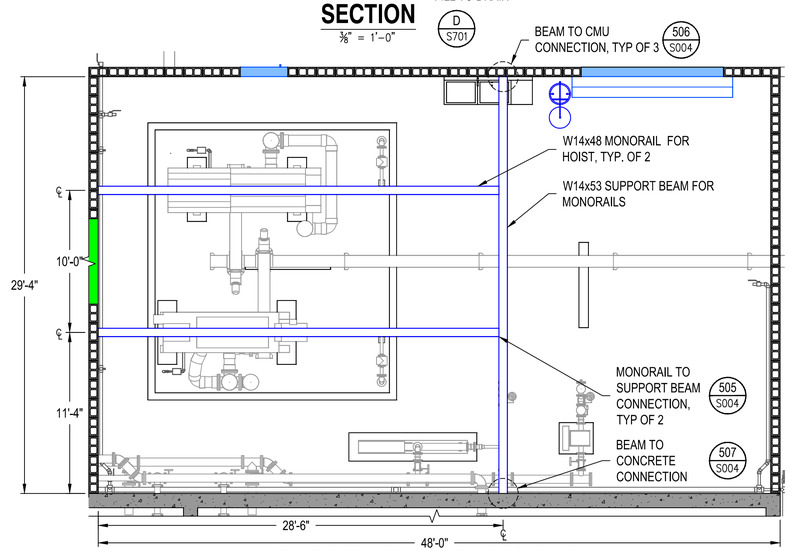
C
S701



SECTION

3/8" = 1'-0"

D
S701



MONORAIL CRANE SUPPORT PLAN

3/16" = 1'-0"

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SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING AND DIGESTER STRUCTURAL SECTIONS 2

ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-SH_S02.DWG
JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

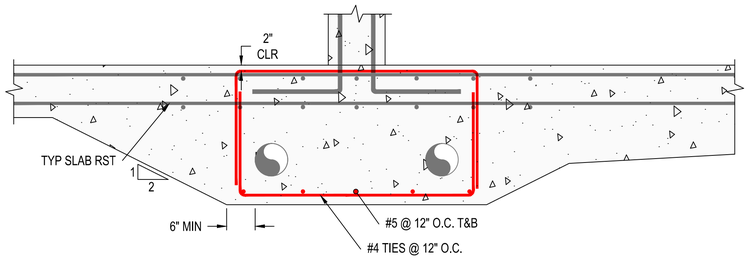
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S704

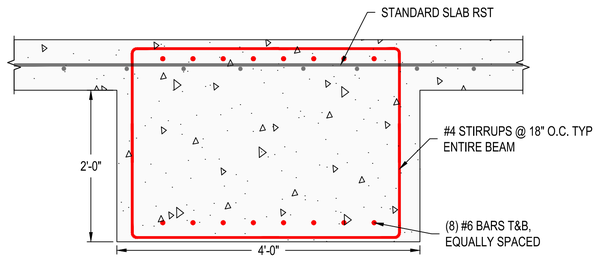
SHEET NO.: 72



PIPE ENCASEMENT SECTION

¾" = 1'–0"

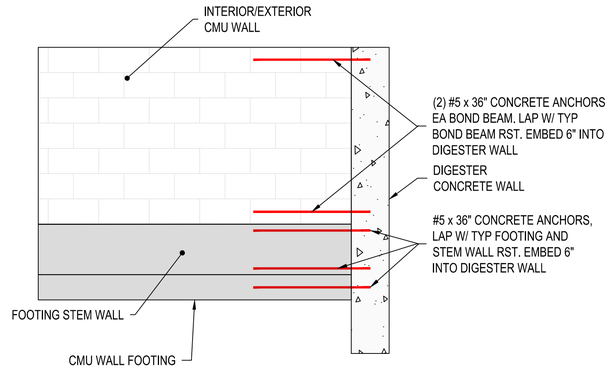
E / S701



BEAM SECTION

1" = 1'–0"

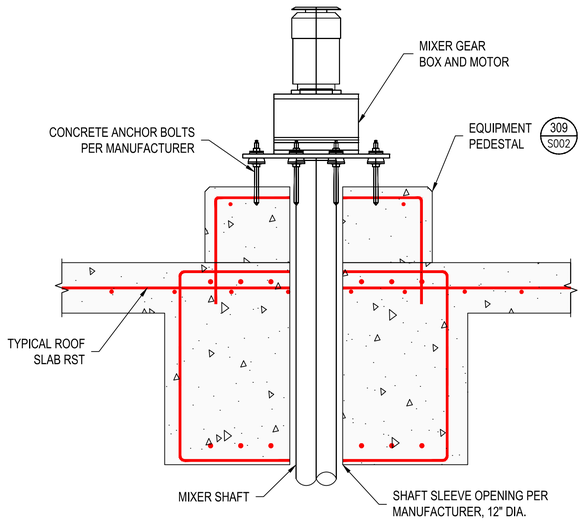
F / S701



DIGESTER WALL CONNECTION

½" = 1'–0"

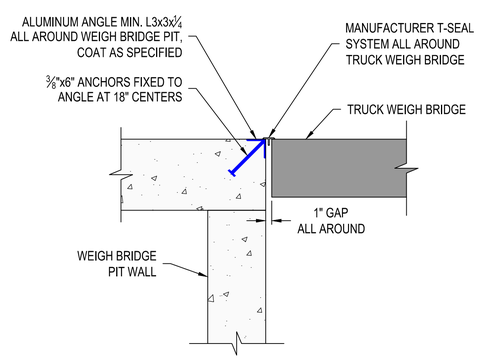
1 / S701



MIXER SUPPORT

NOT TO SCALE

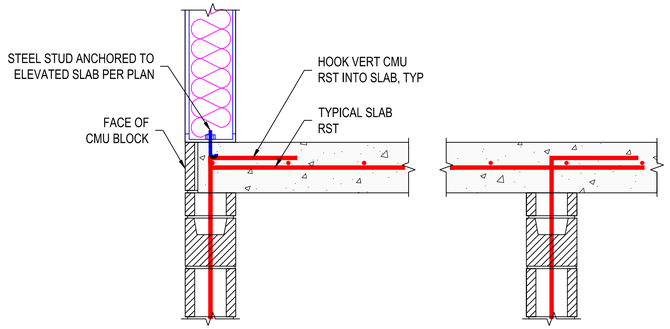
2 / S705



WEIGH BRIDGE CONNECTION

NOT TO SCALE

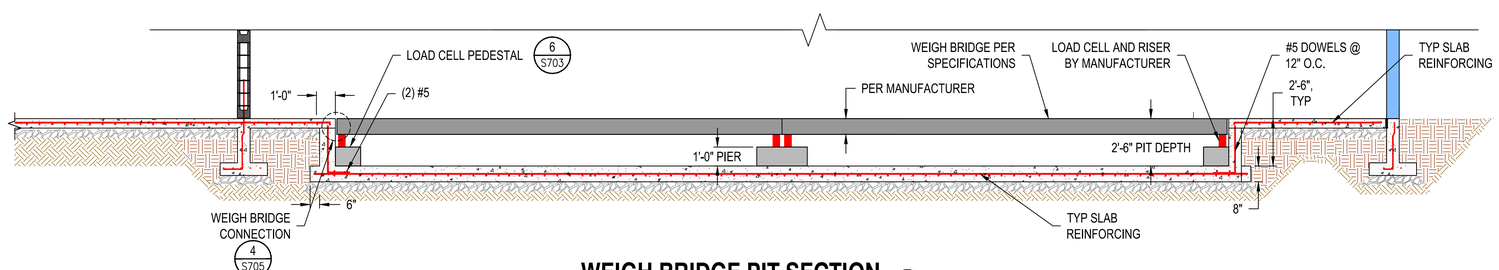
4 / S705



CONCRETE-CMU CONNECTION

1" = 1'–0"

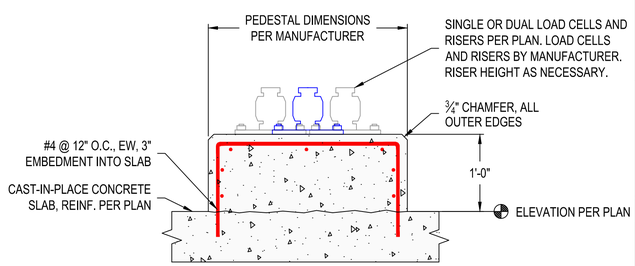
5 / S703



WEIGH BRIDGE PIT SECTION

¼" = 1'–0"

1 / S705



LOAD CELL PEDESTAL

NOT TO SCALE

6 / S703

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLID HANDLING BUILDING AND DIGESTER STRUCTURAL DETAILS 1

RICHARD M. BALLARD — 19009 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — STRUCTURAL

SIGNED: 09/19/17

RICHARD M. BALLARD — 19009 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — STRUCTURAL

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REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_S902.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JLH
REVIEWED: JMC

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S705
SHEET NO.: 73
158

D M708

E M709

LIQUID SLUDGE HAULING VEHICLE CONNECTION

SCUM

WAS

EQUIPMENT DRAIN

W3

EQUIPMENT DRAIN

BLOWER ROOM

THICKENING ROOM

CONTROL ROOM

MECHANICAL ROOM

DEWATERING ROOM

TRUCK BAY

A M707

B M707

DROP PIPE FOR INSTRUMENT PROBES, TYP. OF 6

1565 M006

SCH. 80 SST

MIXER BODY (TYP)

DRAIN SUMP (TYP)

DIGESTER NO. 1

DIGESTER NO. 2

DIGESTER NO. 3

20'-0"

℄

WEIGH BRIDGE

G701

OUTLINE OF HATCH OPENING, TYP.

OVERFLOW WEIR GATE (TYP OF 2)

G701

20'-0"

6" D, TYP.

12'-0"

12'-0"

14'-0"

7'-0"

1'-0", TYP.

6" D

8" D

D M708

E M709

C M708

DRAIN VAULT NO. 1

DRAIN VAULT NO. 2

6" DIGESTER DECANT AND BACK-UP OVERFLOW PIPE, TYP. OF 3

8"x6" TEE (MJ)

SUMP PUMP CENTERED IN SUMP, TYP. OF 2

ROUTE 2" SCH. 80 PVC DISCHARGE PIPE THROUGH DRAIN ROCK. PROVIDE TRUE UNION BALL VALVE AND CHECK VALVE AT SUMP PUMP, TYP. OF 2

PROVIDE 1 CY WASHED DRAIN ROCK WRAPPED IN GEOTEXTILE FABRIC, TYP. OF 2

FANS AND DUCT WORK PER FOUL AIR SYSTEM MECHANICAL PLAN

SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL PLAN

3/16" = 1'-0"

SMITH STATE OF WASHINGTON SECRETARIAL GRADE PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD STATE OF WASHINGTON SECRETARIAL GRADE PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

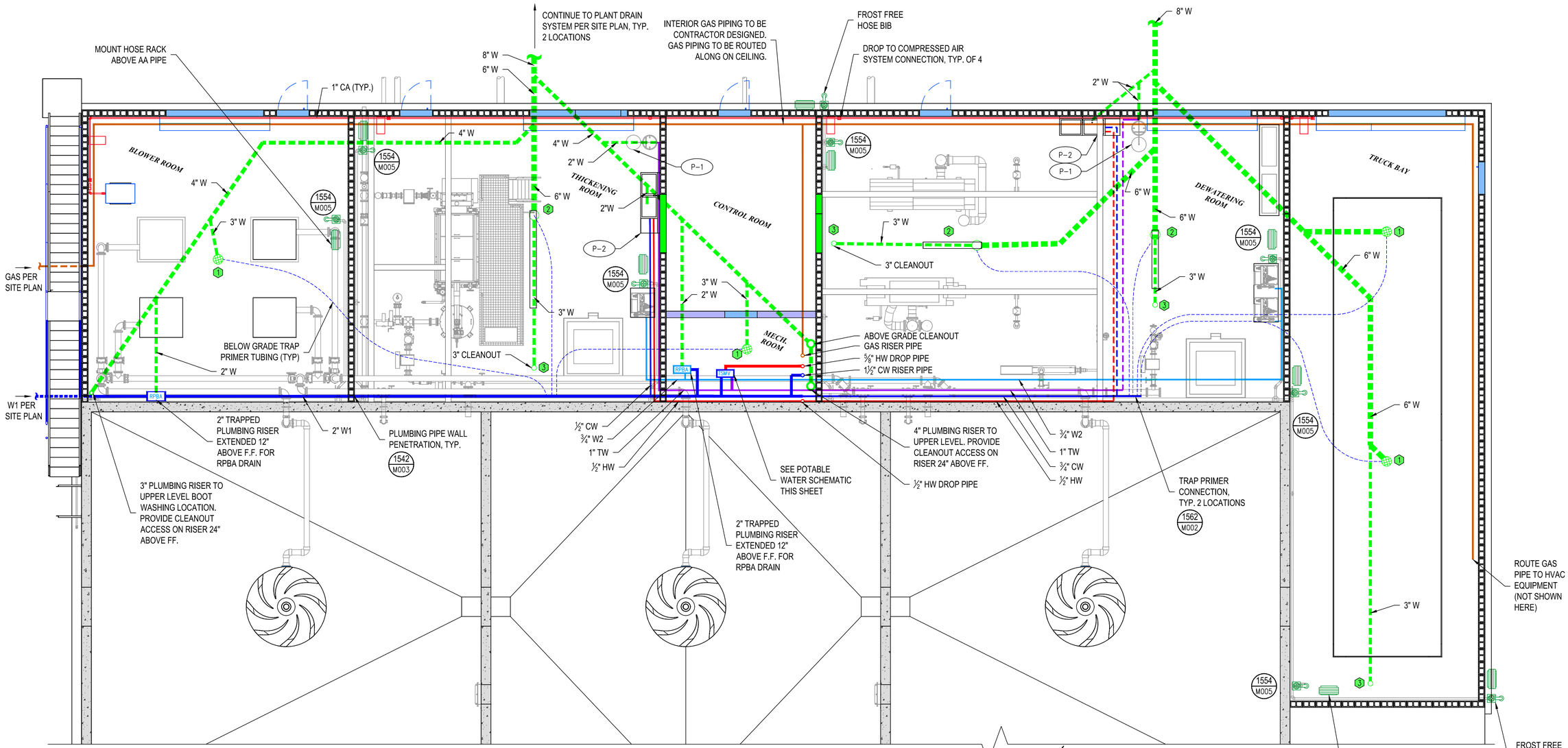
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M01.DWG
SAVE DATE: Sep 2, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

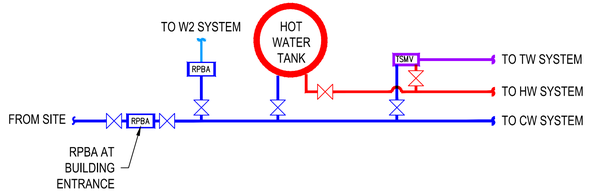
DWG NO.: M701
SHEET NO.: 74



SOLIDS HANDLING BUILDING FIRST FLOOR PLUMBING PLAN

3/16" = 1'–0"

NOTE: OVERHEAD CONVEYORS, HVAC, AND FOUL AIR DUCTING HAS BEEN OMITTED FROM THIS DRAWING FOR CLARITY.



POTABLE WATER SYSTEM SCHEMATIC

NOT TO SCALE

NOTES

1. THIS DRAWING IS SCHEMATIC IN NATURE IN ORDER TO SHOW THE GENERAL ROUTING OF PLUMBING PIPING. ALL PLUMBING PIPE SHALL BE REROUTED AS NECESSARY TO AVOID CONFLICT WITH MECHANICAL PIPING, EQUIPMENT, HVAC ITEMS, ETC. ALL PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE UPC. ON THE LOWER LEVEL OF THE SOLIDS HANDLING FACILITY, ALL PLUMBING PIPES AND ITEMS SHALL BE ROUTED EXPOSED ALONG THE NEAREST WALL TO LOCATIONS SHOWN HERE, EXCEPT FOR BELOW-GRADE PLUMBING. THE CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY TO TRANSITION AND CONNECT TO EQUIPMENT AND PLUMBING ITEMS. ATTACH PIPES TO WALLS WITH UNISTRUT. MULTIPLE PIPES ALONG THE SAME ALIGNMENT SHALL BE RACKED TO UNISTRUT TO FORM A RACEWAY. ROUTE ALL PIPES NEATLY PARALLEL OR PERPENDICULAR TO WALLS, CEILING, AND FLOOR. SEE DRAWING M001 FOR ADDITIONAL INFORMATION. VENT PIPES SHALL BE LOCATED PER THE UPC AND ROUTED EXPOSED IN THE LOWER LEVEL AND CONCEALED IN WALLS WITHIN THE UPPER LEVEL.
2. PLUMBING PIPE SUPPORTS TO BE IN ACCORDANCE WITH M003 AND APPLICABLE CODE REQUIREMENTS.
3. TIGHT LINE DRAIN OR OVERPRESSURE RELIEF PIPING ON POLYMER UNITS WITH SCH. 40 PVC TO DISCHARGE TO POLYMER SPILL CONTAINMENT PALLETS.
4. GAS PIPING SYSTEM SHALL BE CONTRACTOR-DESIGNED.

FIXTURE SCHEDULE

P–#	FIXTURE	COLD WATER	HOT WATER	TEPID WATER	DRAIN
1	SAFETY SHOWER	–	–	1"	2"
2	TUB SINK	½"	½"	–	1–½"

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BALLARD OF WASHINGTON — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING AND DIGESTER PLUMBING AND VENTILATION PLAN 1

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M05.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

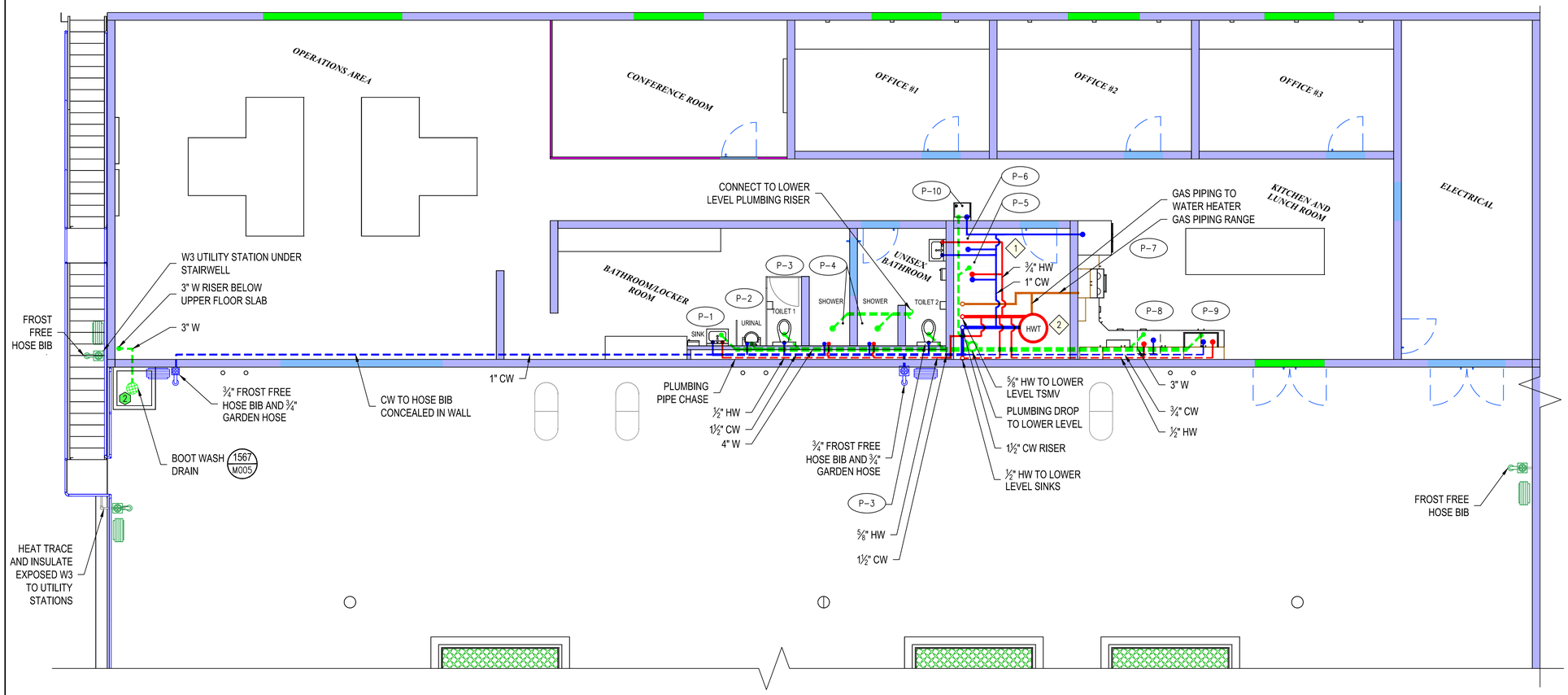
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M702
SHEET NO.: 75
158



SOLIDS HANDLING BUILDING SECOND FLOOR PLUMBING PLAN

3/16" = 1'-0"

FIXTURE SCHEDULE

P-#	FIXTURE	COLD WATER	HOT WATER	DRAIN
1	LAVATORY	½"	½"	1-½"
2	URINAL	¾"	–	2"
3	TOILET	1-½"	–	3"
4	SHOWER	½"	½"	2"
5	CLOTHES WASHER	¾"	¾"	2"
6	CLOTHES DRYER	½"	–	–
7	REFRIGERATOR	¼"	–	–
8	DISH WASHER	½"	½"	1-½"
9	KITCHEN SINK	½"	½"	1-½"
10	DRINKING FOUNTAIN	½"	–	1-½"

NOTES

1. THIS DRAWING IS SCHEMATIC IN NATURE IN ORDER TO SHOW THE GENERAL ROUTING OF PLUMBING PIPING. ALL PLUMBING PIPE SHALL BE REROUTED AS NECESSARY TO AVOID CONFLICT WITH MECHANICAL PIPING, EQUIPMENT, HVAC ITEMS, ETC. ALL PLUMBING INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE UPC. ON THE UPPER LEVEL OF THE SOLIDS HANDLING FACILITY, ALL PLUMBING PIPES AND ITEMS SHALL BE ROUTED CONCEALED WITHIN THE NEAREST WALL TO LOCATIONS SHOWN HERE EXCEPT WITHIN THE MECHANICAL ROOM. THE CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY TO TRANSITION AND CONNECT TO EQUIPMENT AND PLUMBING ITEMS. ROUTE ALL PIPES NEATLY PARALLEL OR PERPENDICULAR TO WALLS, CEILING, AND FLOOR. SEE DRAWING M001 FOR ADDITIONAL INFORMATION.
2. PLUMBING PIPE SUPPORTS TO BE IN ACCORDANCE WITH M003 AND APPLICABLE CODE REQUIREMENTS.
3. GAS PIPING SYSTEM SHALL BE CONTRACTOR-DESIGNED.
4. VENT PIPES SHALL BE LOCATED PER THE UPC AND ROUTED EXPOSED IN THE LOWER LEVEL AND CONCEALED IN WALLS WITHIN THE UPPER LEVEL.
5. PLUMBING PIPE PENETRATIONS 3" AND LARGER THROUGH SLAB PER 1546 / M003
6. PLUMBING PIPE PENETRATIONS SMALLER THAN 3" THROUGH SLAB PER 1542 / M003

1. WASHER AND DRYER , INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PER APPLICABLE CODES. PROVIDE WALL VENT WITH SCREEN AND CAP, LOCATE 12" MIN ABOVE FINISH GRADE.
2. GAS-FIRED HOT WATER TANK WITH EXPANSION TANK. INSTALL HOT WATER TANK ON INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND PER APPLICABLE CODES. PROVIDE ISOLATION, FLOOR DRAIN, DRAIN PAN AND PRESSURE RELIEF VALVES AND ROUTE TO FLOOR DRAINS AS APPROPRIATE, SEE POTABLE WATER SCHEMATIC FOR ADDITIONAL INFO. SEE HVAC SHEET FOR VENTILATION PIPING SCHEMATIC.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING AND DIGESTER PLUMBING AND VENTILATION PLAN 2

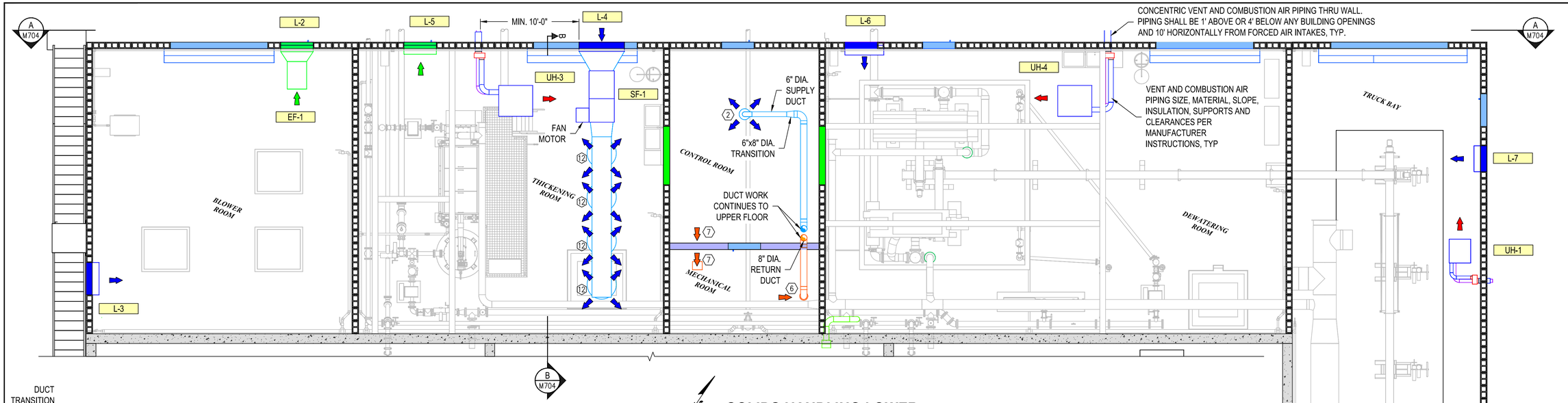
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M05.DWG
DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

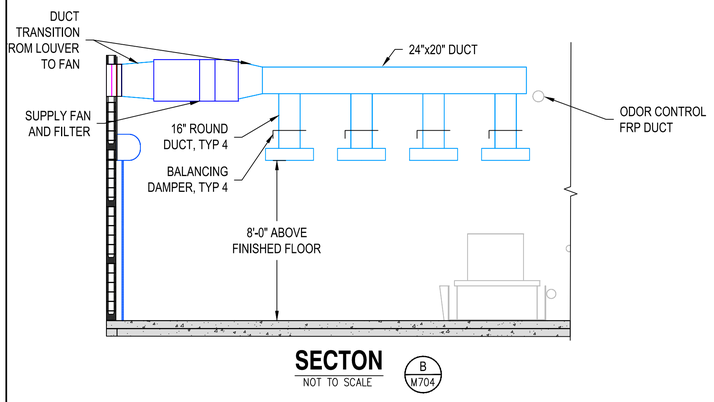
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M703
SHEET NO.: 76
158



SOLIDS HANDLING LOWER FLOOR HVAC PLAN

3/16" = 1'-0"



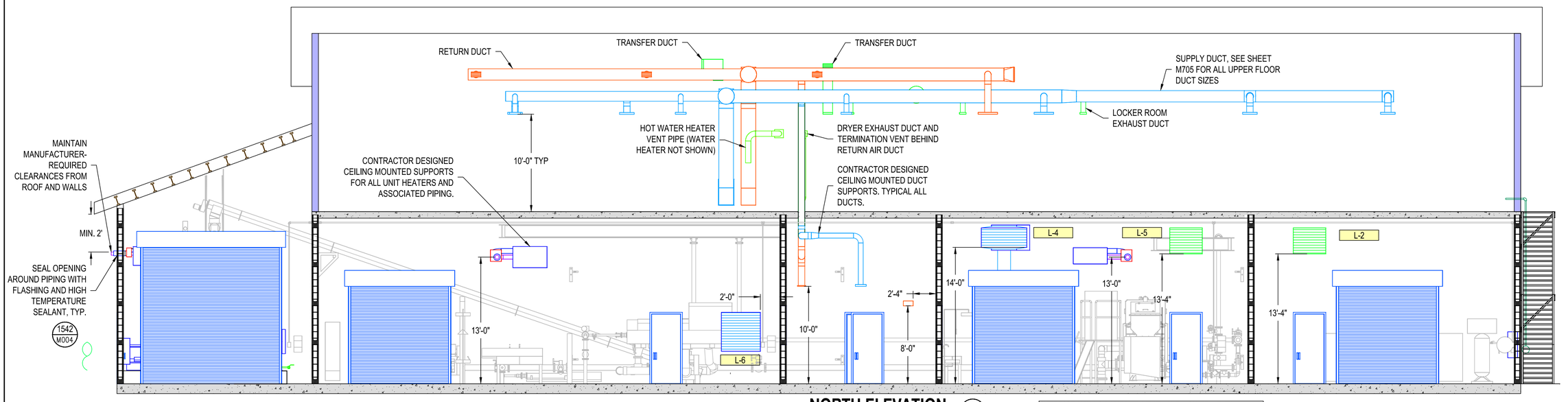
SECTON

NOT TO SCALE

B M704

GENERAL NOTES

1. REFER TO M002 FOR DIFFUSER/GRILL SCHEDULE
2. ALL HVAC SYSTEM SUPPORTS SHALL BE CONTRACTOR-DESIGNED.
3. ALL HVAC DUCT SHALL BE INSULATED PER WSEC-2015.



NORTH ELEVATION

3/16" = 1'-0"

A M704

INTERIOR WALLS IN UPPER LEVEL AND LOWER LEVEL CONTROL AND MECHANICAL ROOMS OMITTED FOR CLARITY.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING HVAC PLAN - LOWER FLOOR

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-P-SH_HVAC.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

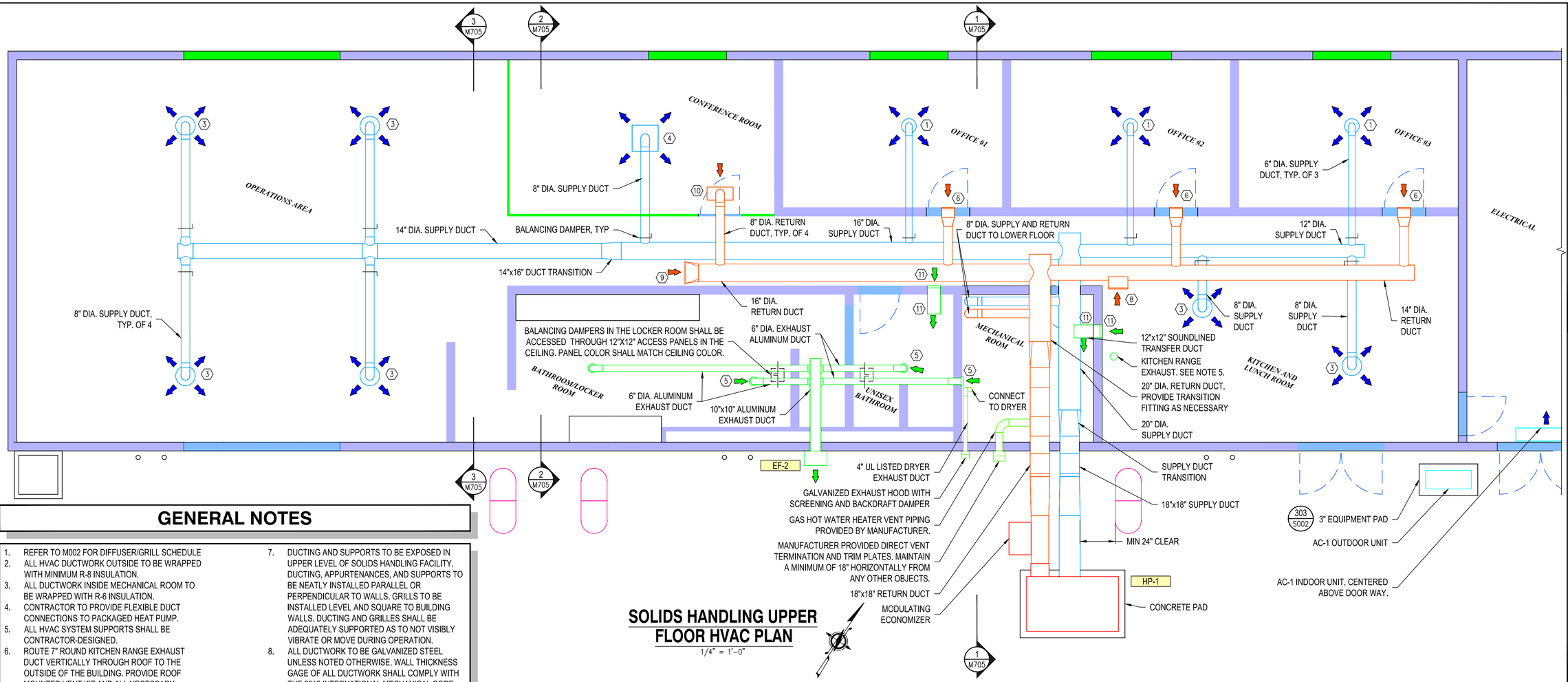
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M704

SHEET NO.: 77 158

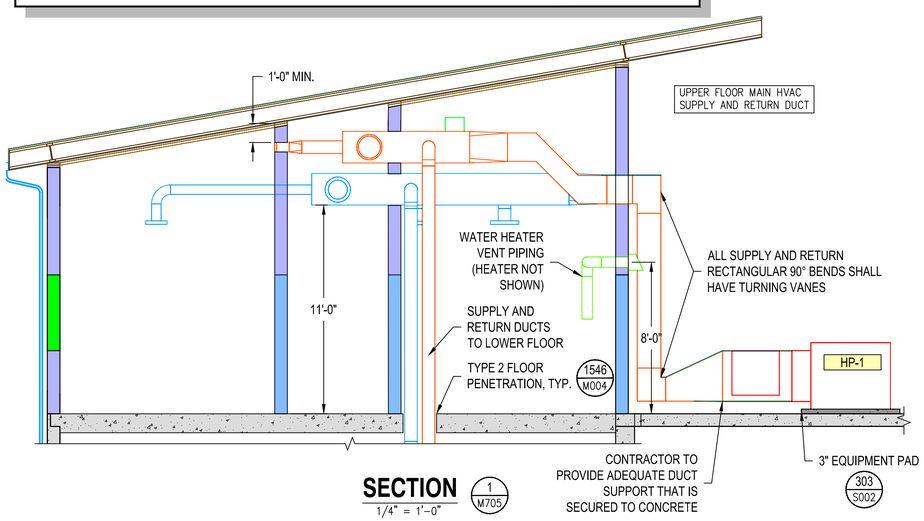


SOLIDS HANDLING UPPER FLOOR HVAC PLAN

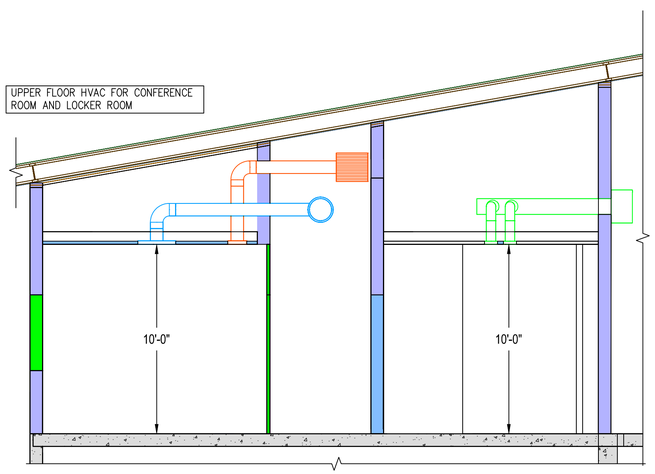
1/4" = 1'-0"

GENERAL NOTES

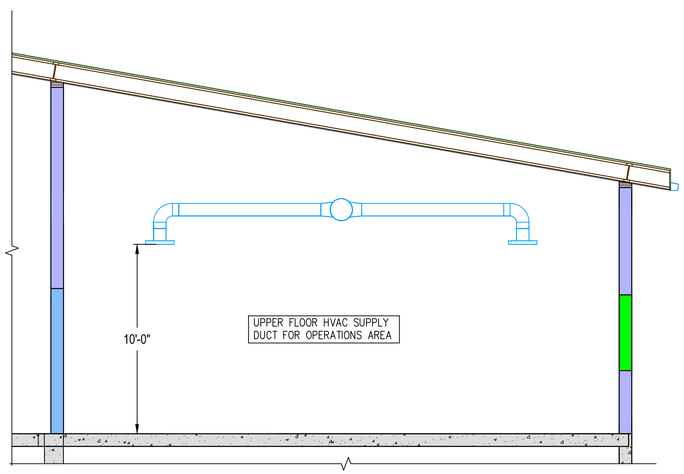
1. REFER TO M002 FOR DIFFUSER/GRILL SCHEDULE
2. ALL HVAC DUCTWORK OUTSIDE TO BE WRAPPED WITH MINIMUM R-8 INSULATION.
3. ALL DUCTWORK INSIDE MECHANICAL ROOM TO BE WRAPPED WITH R-6 INSULATION.
4. CONTRACTOR TO PROVIDE FLEXIBLE DUCT CONNECTIONS TO PACKAGED HEAT PUMP.
5. ALL HVAC SYSTEM SUPPORTS SHALL BE CONTRACTOR-DESIGNED.
6. ROUTE 7" ROUND KITCHEN RANGE EXHAUST DUCT VERTICALLY THROUGH ROOF TO THE OUTSIDE OF THE BUILDING. PROVIDE ROOF MOUNTED VENT KIT AND ALL NECESSARY MATERIALS TO INTEGRATE VENT KIT INTO THE ROOFING MATERIAL. SEAL OPENING IN ROOF WATER TIGHT.
7. DUCTING AND SUPPORTS TO BE EXPOSED IN UPPER LEVEL OF SOLIDS HANDLING FACILITY. DUCTING, APPURTENANCES, AND SUPPORTS TO BE NEATLY INSTALLED PARALLEL OR PERPENDICULAR TO WALLS. GRILLS TO BE INSTALLED LEVEL AND SQUARE TO BUILDING WALLS. DUCTING AND GRILLES SHALL BE ADEQUATELY SUPPORTED AS TO NOT VISIBLY VIBRATE OR MOVE DURING OPERATION.
8. ALL DUCTWORK TO BE GALVANIZED STEEL UNLESS NOTED OTHERWISE. WALL THICKNESS GAGE OF ALL DUCTWORK SHALL COMPLY WITH THE 2015 INTERNATIONAL MECHANICAL CODE.
9. ALL EXPOSED DUCTWORK INSIDE THE UPPER LEVEL OF THE FACILITY SHALL BE UNWRAPPED.



SECTION 1 M705
1/4" = 1'-0"



SECTION 2 M705
1/4" = 1'-0"



SECTION 3 M705
1/4" = 1'-0"

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RICHARD BALLARD — 21607 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING HVAC PLAN - UPPER FLOOR

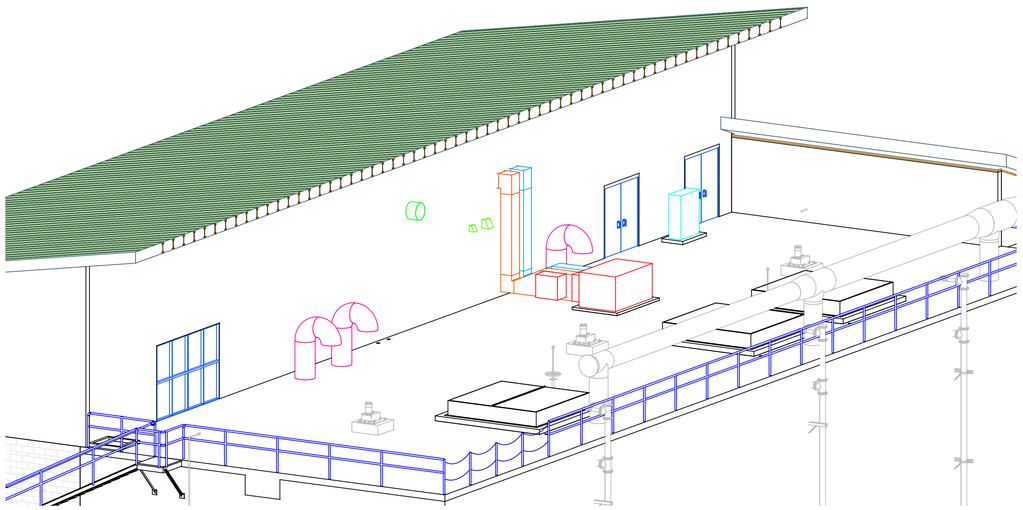
REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-P-SH_HVAC.DWG
DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

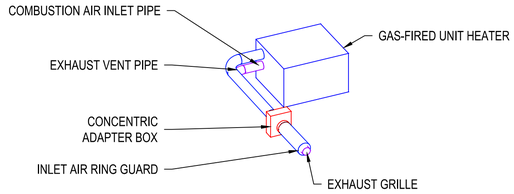
DWG NO.: M705
SHEET NO.: 78
158



UPPER FLOOR HVAC EQUIPMENT AND DIGESTER ROOF

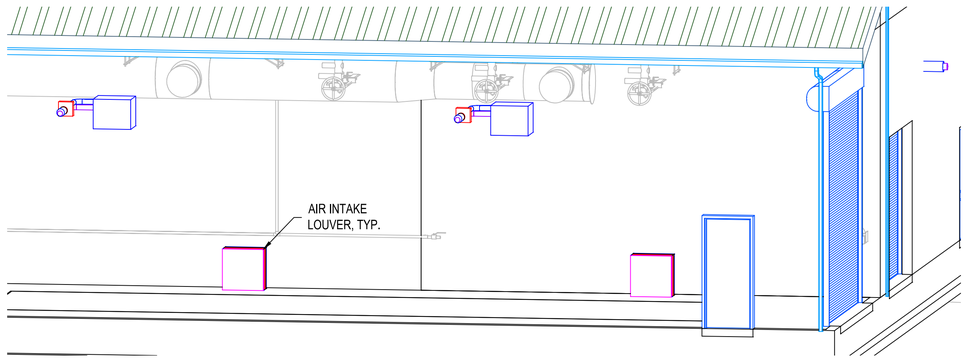
SOLIDS HANDLING EXTERIOR HVAC OBLIQUE

NOT TO SCALE



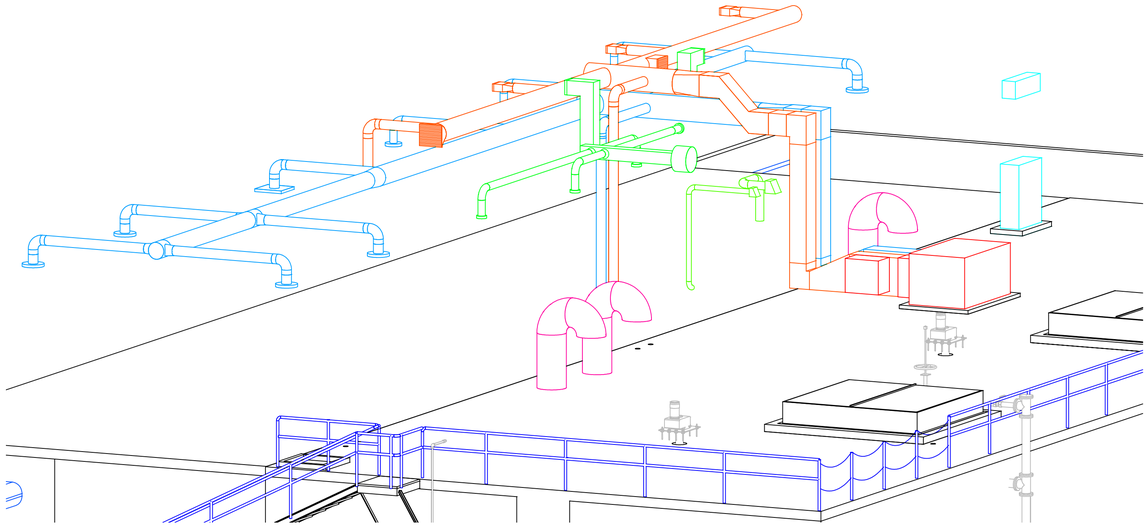
GAS HEATER - HORIZONTAL VENT OBLIQUE

NOT TO SCALE



SOLIDS HANDLING TRUCK LOAD AREA HVAC OBLIQUE

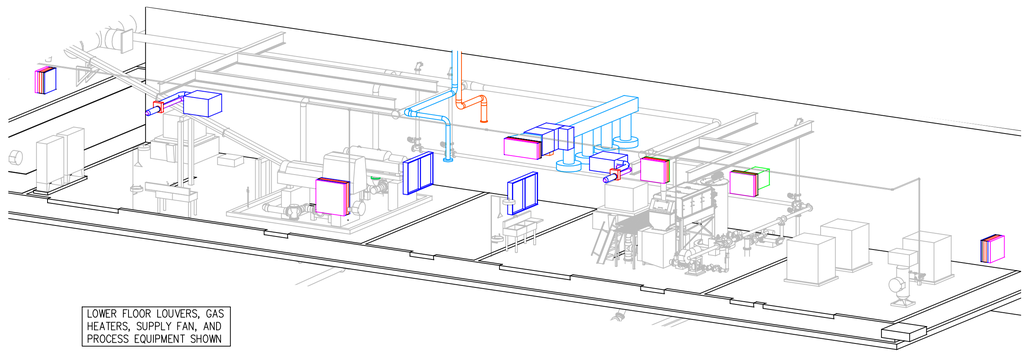
NOT TO SCALE



UPPER FLOOR HVAC EQUIPMENT AND DIGESTER ROOF WITHOUT EXTERIOR WALLS AND CEILINGS

SOLIDS HANDLING UPPER FLOOR HVAC OBLIQUE

NOT TO SCALE



LOWER FLOOR LOUVERS, GAS HEATERS, SUPPLY FAN, AND PROCESS EQUIPMENT SHOWN

SOLIDS HANDLING LOWER FLOOR HVAC OBLIQUE

NOT TO SCALE

NATHAN YOUNG — 20160 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17

RICHARD BALLARD — 20160 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING - HVAC OBLIQUES AND DETAILS

ENGINEER: PNY
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-P-SH_HVAC.DWG
JOB NO.: 116-028

REVISIONS

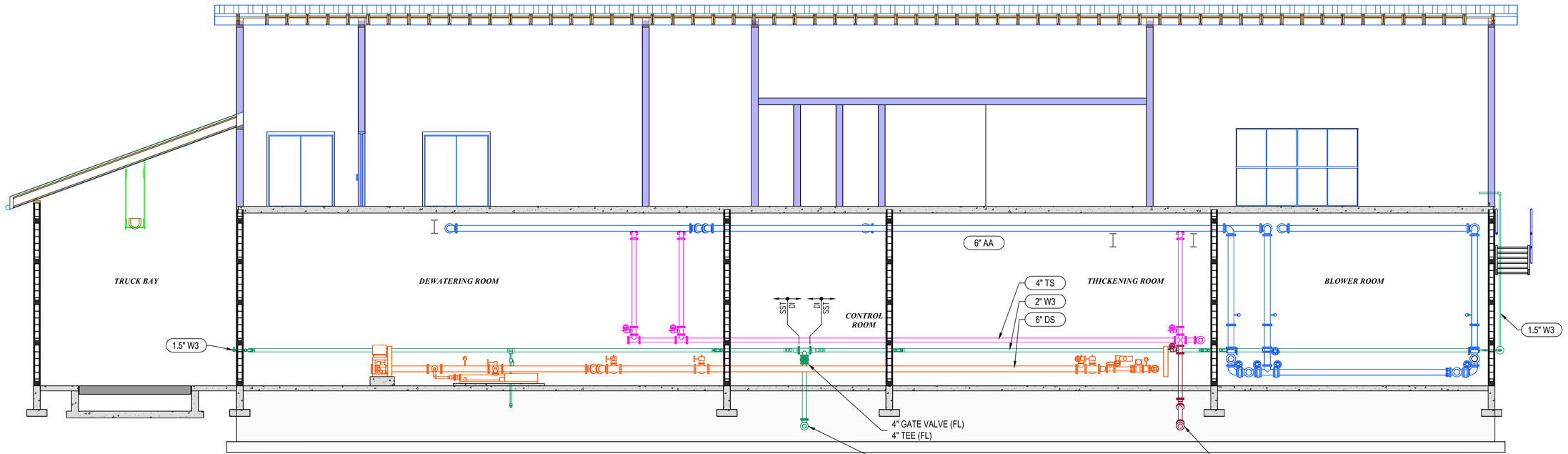
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

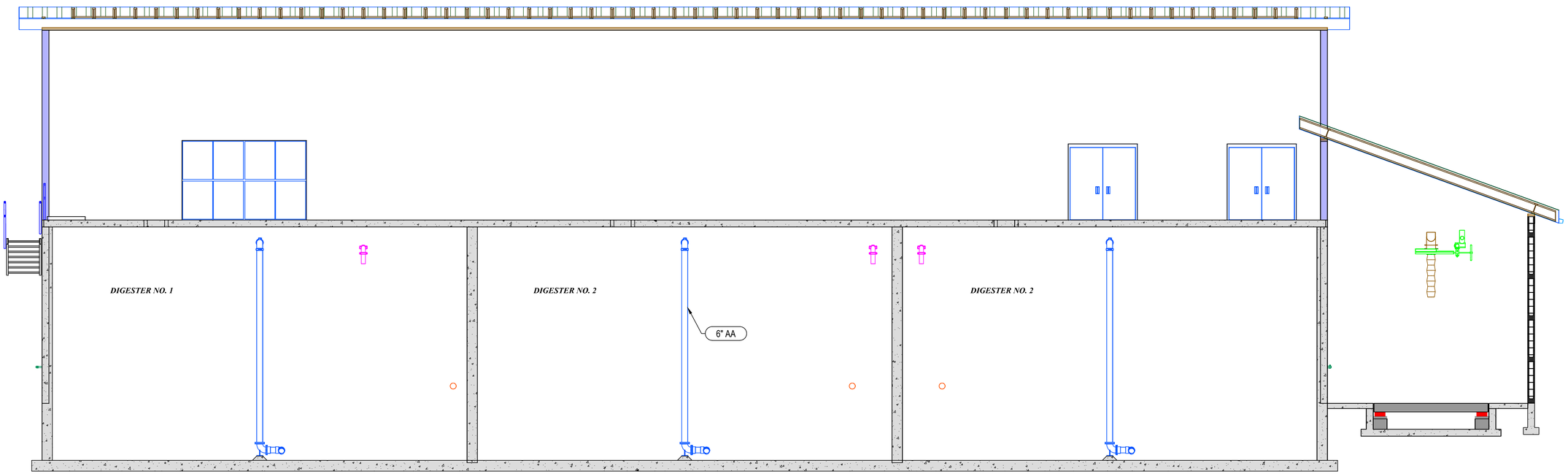
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M706
SHEET NO.: 79
158



SECTION
3/16" = 1'-0"
A / M701



SECTION
3/16" = 1'-0"
B / M701

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL SECTIONS 1

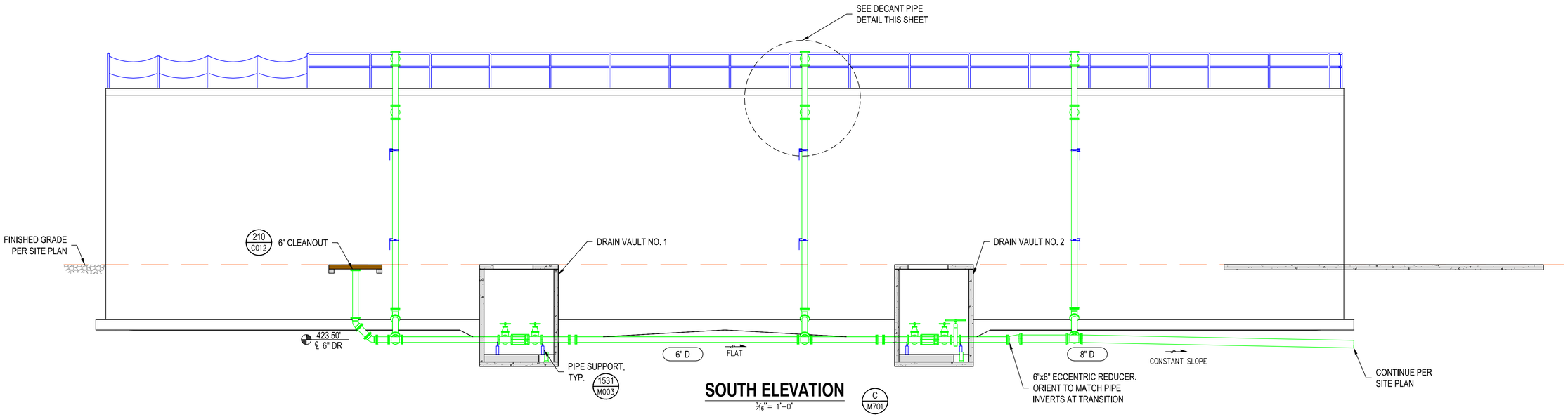
ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-b-Sht_M02.DWG
JOB NO.: 116-028

REVISIONS

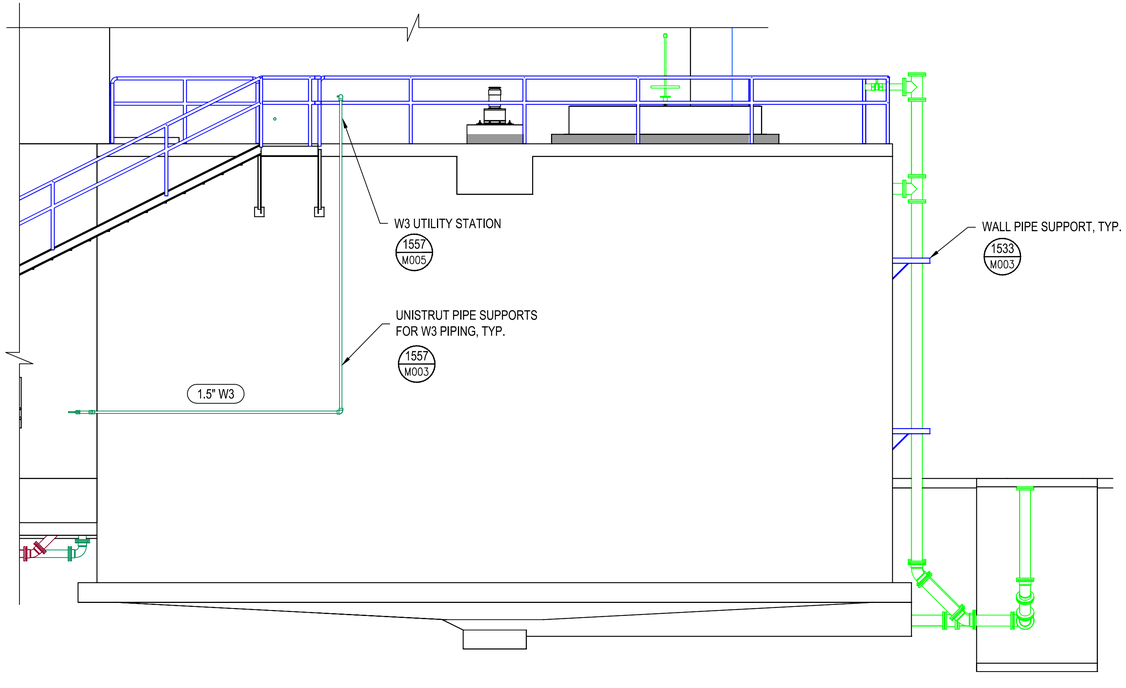
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

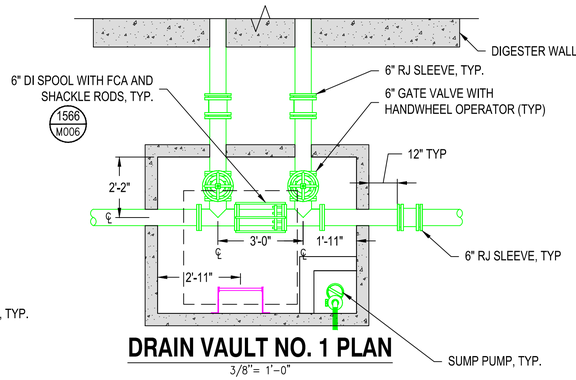
DWG NO.: M707
SHEET NO.: 80
158



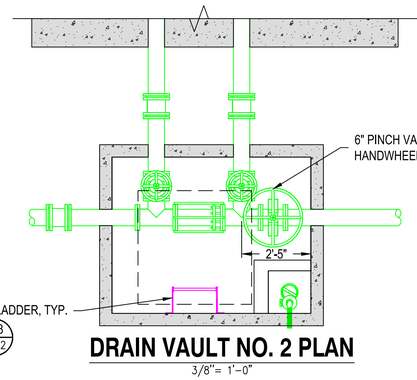
SOUTH ELEVATION
3/16" = 1'-0"
C M701



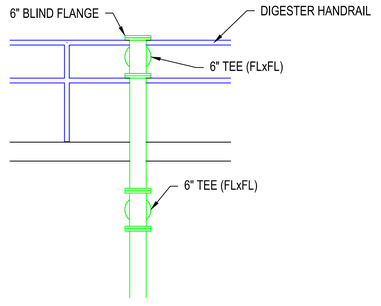
WEST ELEVATION
1/4" = 1'-0"
D M701



DRAIN VAULT NO. 1 PLAN
3/8" = 1'-0"



DRAIN VAULT NO. 2 PLAN
3/8" = 1'-0"



DECANT CONNECTION DETAIL
3/8" = 1'-0"

NOTES

1. HEAT TRACE AND INSULATE ALL OUTDOOR W3 PIPE AND FITTINGS.
2. PIPING DIMENSIONS ARE IDENTICAL IN EITHER DRAIN VAULT U.N.O.
3. RESTRAINED JOINT (RJ) DRAIN PIPE SHALL BE DUCTILE IRON MECHANICAL JOINT PIPE WITH LUGGED GLAND RESTRAINT U.N.O.
4. FITTINGS AND DIMENSIONS SHOWN FOR DECANT SYSTEM ARE IDENTICAL FOR 3 DECANT LOCATIONS.
5. PIPE SUPPORT SYSTEMS SHALL BE CONTRACTOR-DESIGNED.

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BALLARD — STATE OF WASHINGTON — RICHARD D. BALLARD — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING AND DIGESTER MEHCANICAL SECTIONS 2

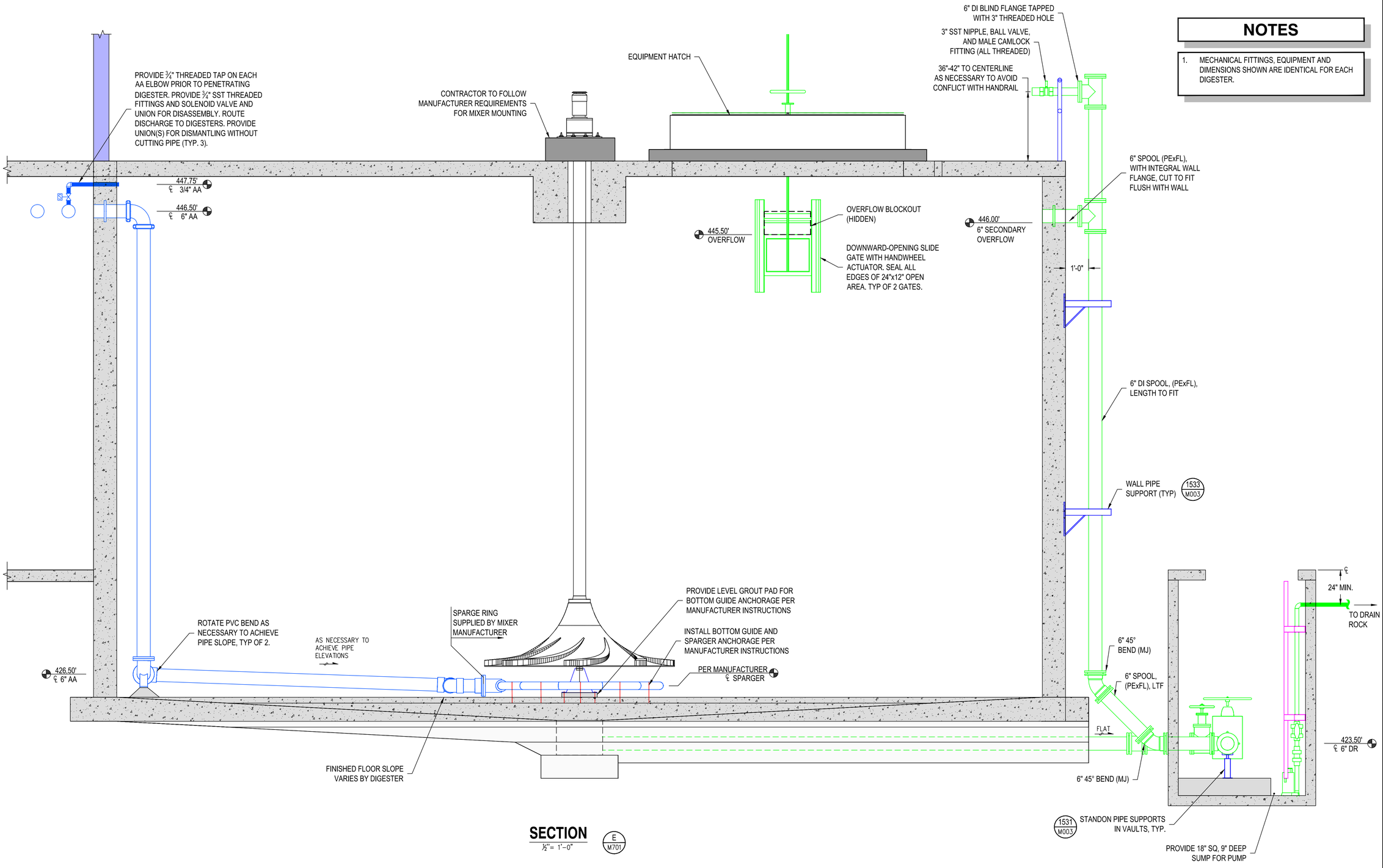
ENGINEER: MRJF	JOB NO.: 116-028
REVIEWED: ETS	CLIENT: SNO
SAVE DATE: Sep 19, 2017	FILENAME: WRF02-D-SH_M02.DWG
PLOT DATE: Sep 19, 2017	

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M708
SHEET NO.: 81
158



SECTION

½" = 1'-0"

E M701

NOTES

1. MECHANICAL FITTINGS, EQUIPMENT AND DIMENSIONS SHOWN ARE IDENTICAL FOR EACH DIGESTER.

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING AND DIGESTER MECHANICAL SECTIONS 3

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

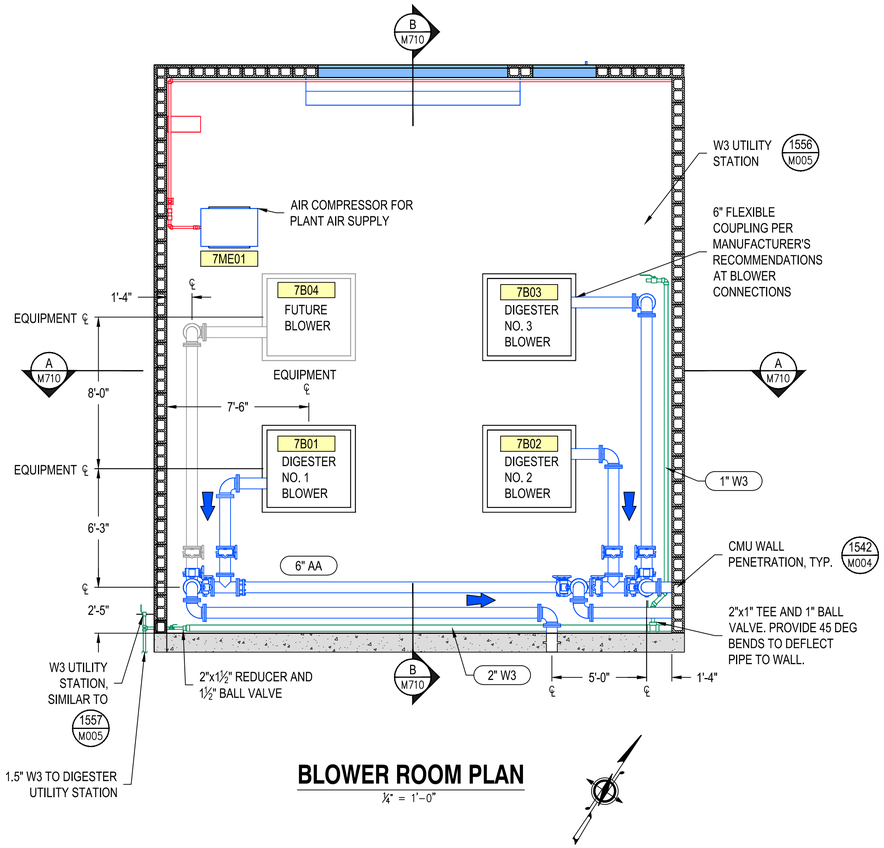
JOB NO.: 116-028
CLIENT: SNO
FILENAME: WRF02-D-SH_M02.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M709
SHEET NO.: 82
158

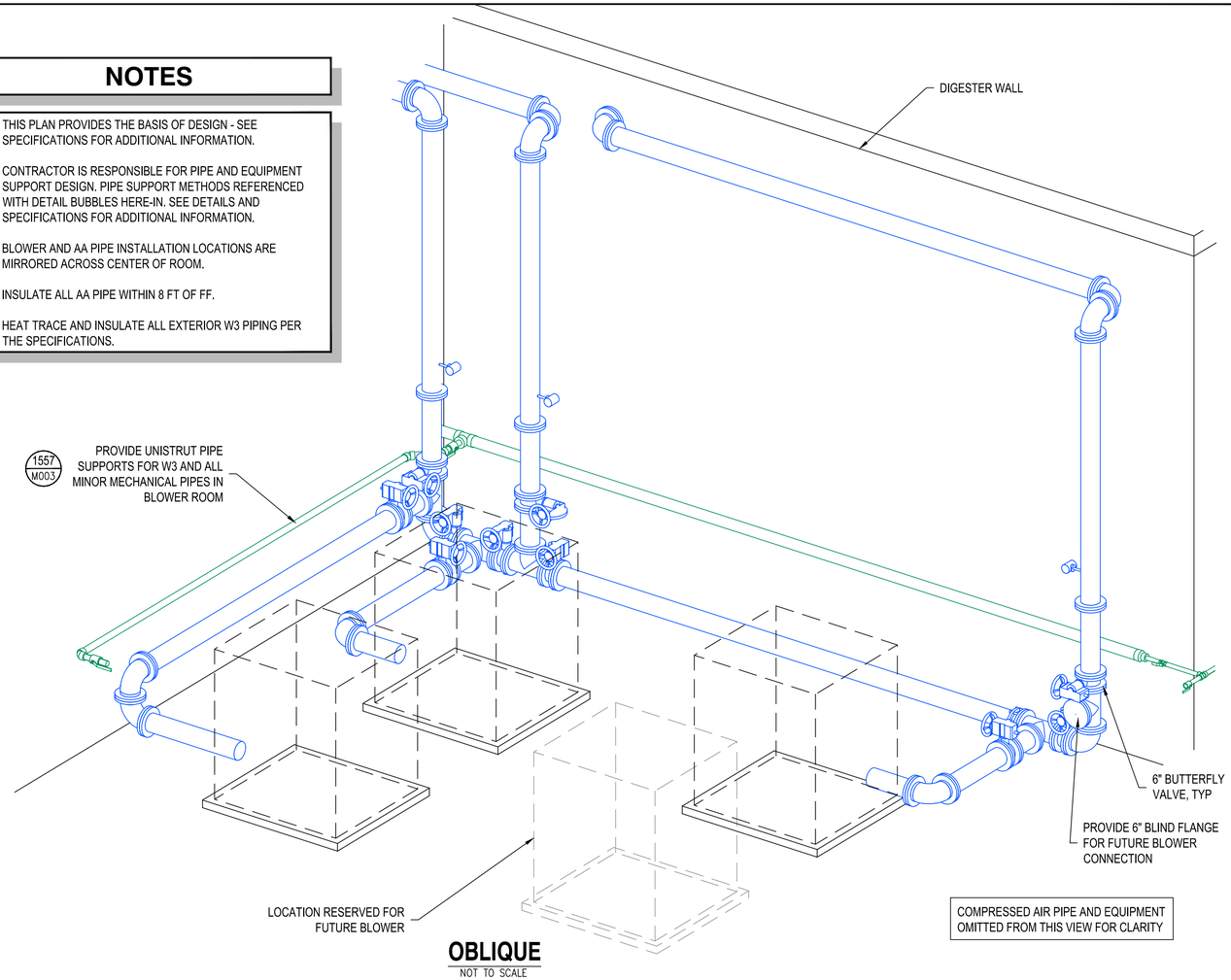


BLOWER ROOM PLAN

¼" = 1'–0"

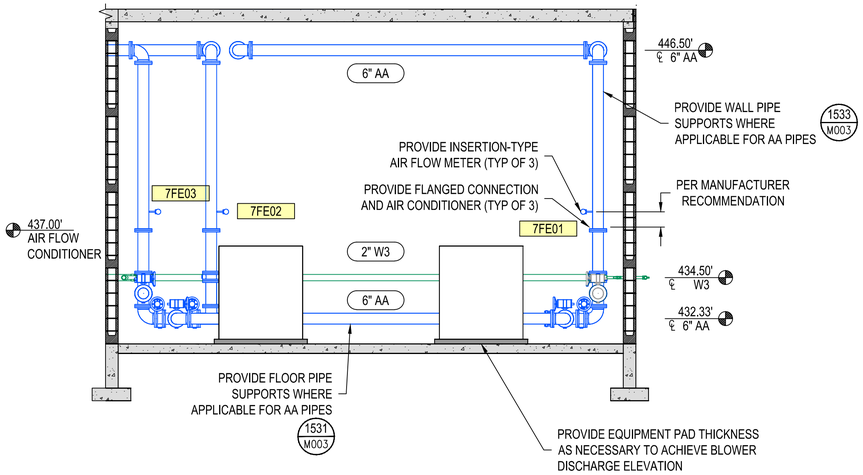
NOTES

1. THIS PLAN PROVIDES THE BASIS OF DESIGN - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. CONTRACTOR IS RESPONSIBLE FOR PIPE AND EQUIPMENT SUPPORT DESIGN. PIPE SUPPORT METHODS REFERENCED WITH DETAIL BUBBLES HERE-IN. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. BLOWER AND AA PIPE INSTALLATION LOCATIONS ARE MIRRORED ACROSS CENTER OF ROOM.
4. INSULATE ALL AA PIPE WITHIN 8 FT OF FF.
5. HEAT TRACE AND INSULATE ALL EXTERIOR W3 PIPING PER THE SPECIFICATIONS.



OBLIQUE

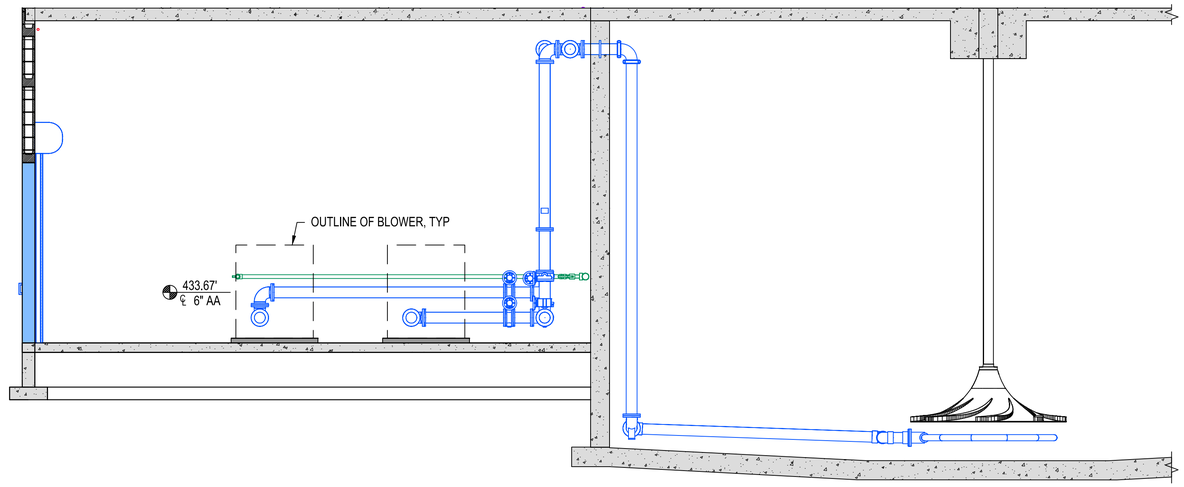
NOT TO SCALE



SECTION

A M710

¼" = 1'–0"



SECTION

B M710

¼" = 1'–0"

SMITH STATE OF WASHINGTON SECOND LIEUTENANT SECURITY ASSISTANCE PROFESSIONAL
SIGNED: 09/19/17

BALLARD STATE OF WASHINGTON SECOND LIEUTENANT SECURITY ASSISTANCE PROFESSIONAL
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

BLOWER ROOM MECHANICAL PLAN AND SECTIONS

ENGINEER: ETS
REVIEWED: DJM
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-0-SH_M03.DWG
JOB NO.: 116-028

REVISIONS

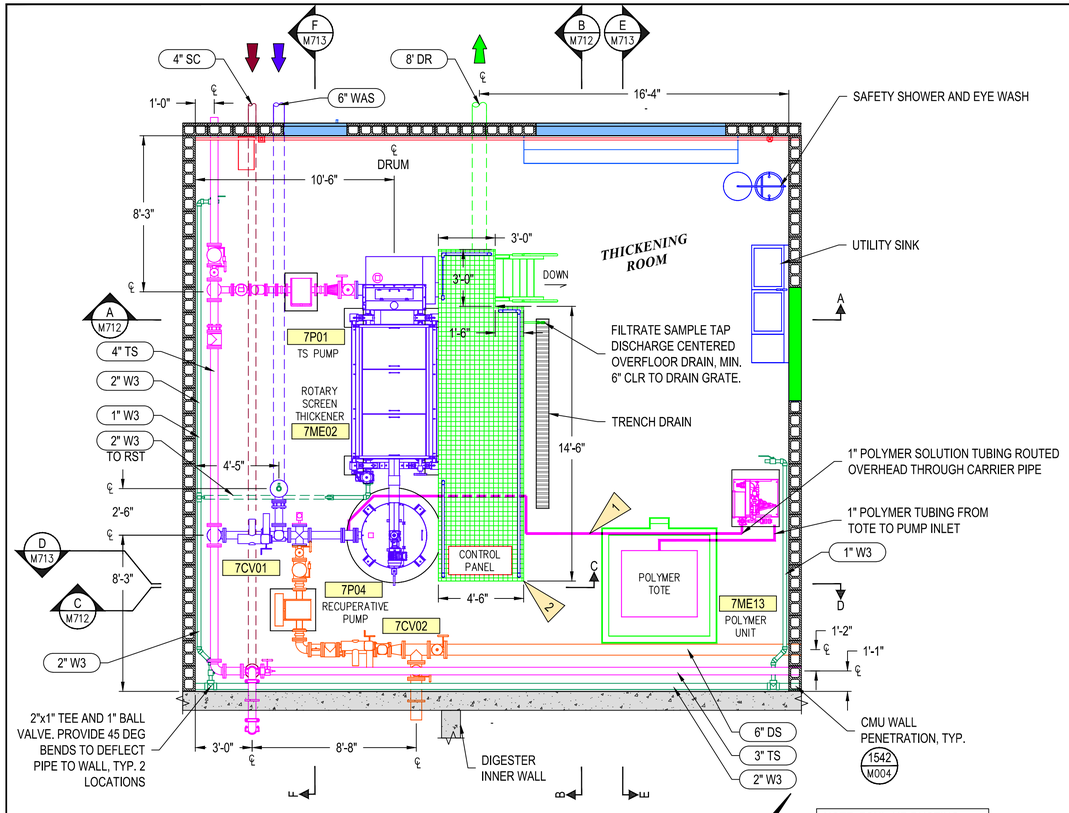
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

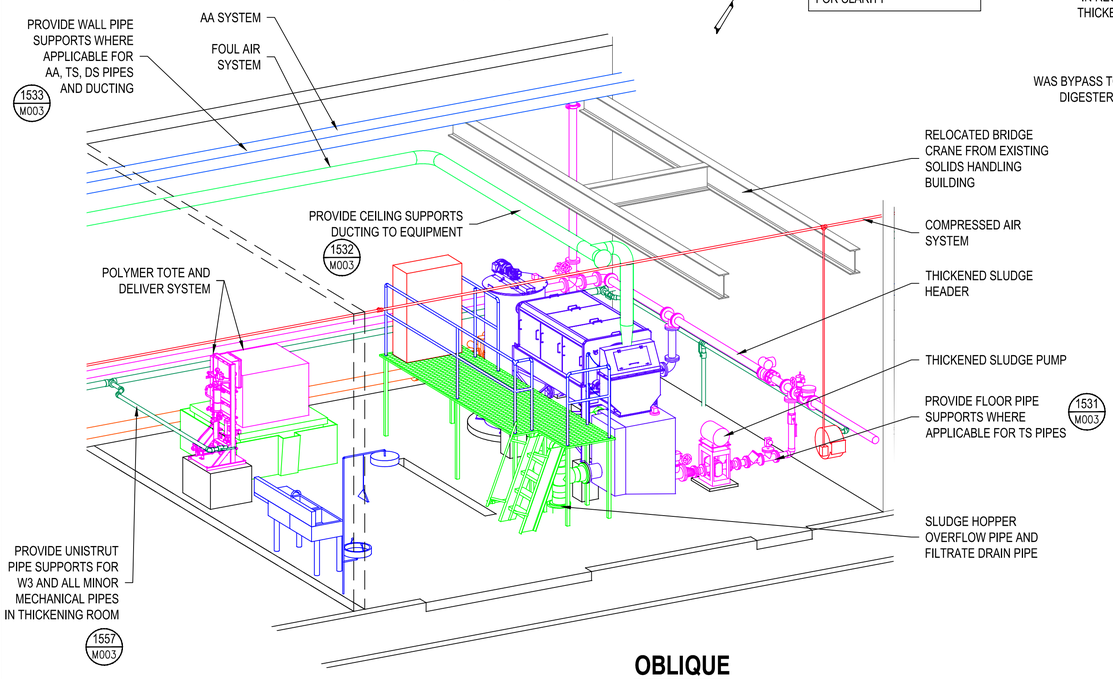
DWG NO.: M710
SHEET NO.: 83
158



THICKENING ROOM MECHANICAL PLAN

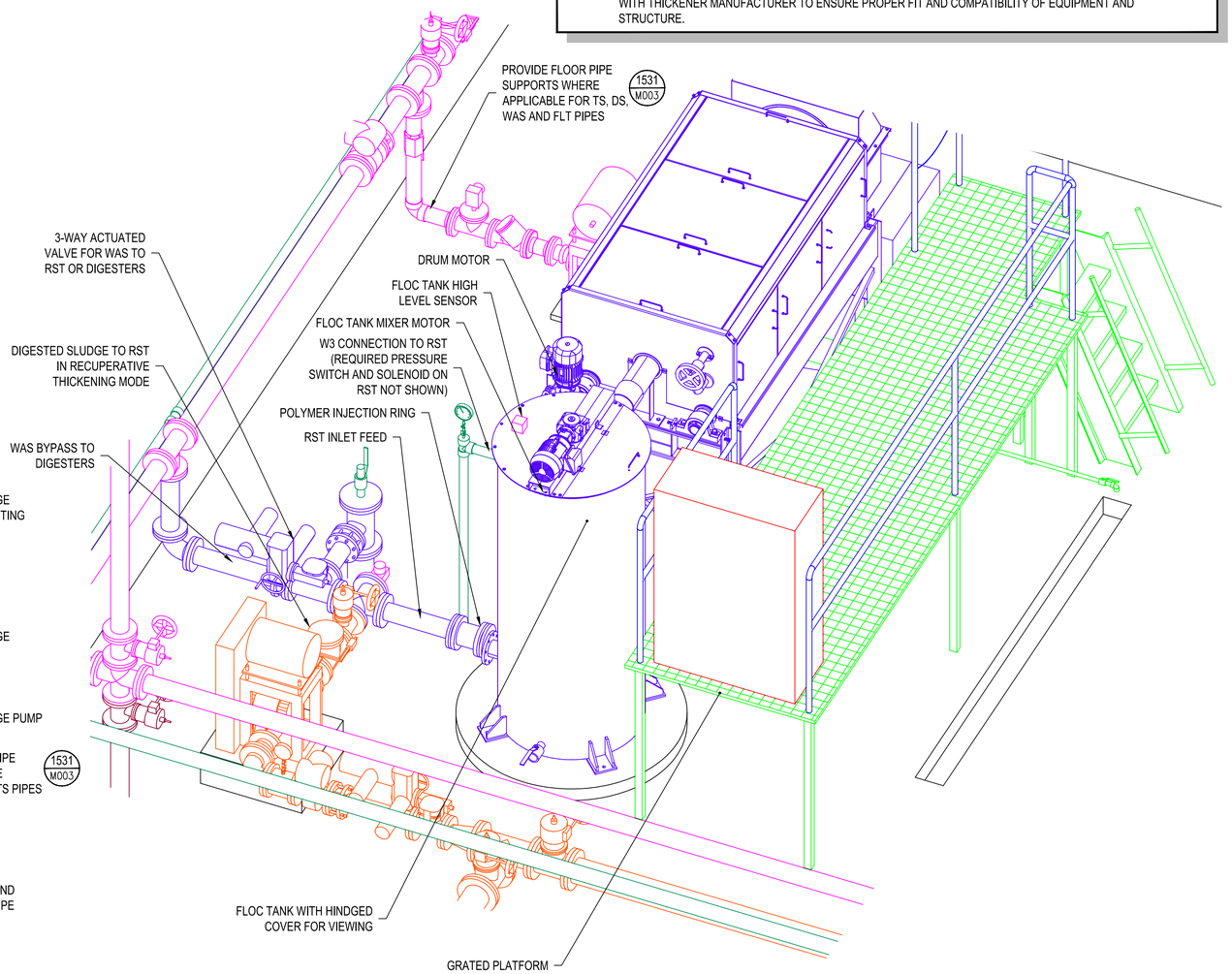
¼" = 1'-0"

NOTE: FOUL AIR DUCTING, BRIDGE CRANE AND AA PIPING HAS BEEN OMITTED THIS VIEW FOR CLARITY



OBLIQUE

NOT TO SCALE



OBLIQUE

NOT TO SCALE

NOTE: FOUL AIR DUCTING, BRIDGE CRANE AND AA PIPING HAS BEEN OMITTED THIS VIEW FOR CLARITY

NOTES

1. THIS PLAN PROVIDES THE BASIS OF DESIGN - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE THICKENER, FLOCCULATION TANK, SLUDGE HOPPER AND CONTROL PANEL SHALL BE PROVIDED BY A SINGLE MANUFACTURER. THE MANUFACTURER SHALL PROVIDE ANY ADDITIONAL DEVICES, VALVES, PIPES OR INSTRUMENTATION NOT SHOWN HERE TO ENSURE A FULLY FUNCTIONING THICKENING SYSTEM .
2. CONTRACTOR IS RESPONSIBLE FOR PIPE AND EQUIPMENT SUPPORT DESIGN. PIPE SUPPORT METHODS REFERENCED WITH DETAIL BUBBLES HERE-IN. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. SEE PARTIAL MECHANICAL PLANS AND SECTIONS (REFERENCED HERE) FOR MECHANICAL DETAILS.
4. PROVIDE TEMPORARY DISCHARGE LOCATION FOR TS AND RECUPERATIVE PUMPS DURING CLEAN WATER TESTING.
5. ALUMINUM GRATING AND SUPPORT STRUCTURE FOR THICKENER SHALL BE CONTRACTOR-DESIGNED.
6. COAT THE THICKENING ROOM FLOOR, CURBING, EQUIPMENT PADS, PEDESTALS AND 24" UP WALLS PER THE SPECIFICATIONS.

1. POLYMER TUBING TO BE ROUTED THROUGH 3" SCH. 40 PVC CARRIER PIPE WITH LONG RADIUS BENDS 10' MIN. ABOVE FINISHED FLOOR. SUSPEND CARRIER PIPE FROM WALLS AND CEILING. VERTICAL LEGS OF CARRIER PIPE TO EXTEND FROM WITHIN 2 FEET OF THE POLYMER UNIT VERTICALLY ALONG EAST WALL, OVERHEAD AND VERTICALLY DOWN TO BELOW PLATFORM GRATING. POLYMER TUBING UNDER PLATFORM TO CONNECTION POINT DOES NOT REQUIRE CARRIER. ROUTE ALL CARRIER PIPE NEATLY PARALLEL AND PERPENDICULAR TO WALLS AND FLOOR.
2. GRATING PLATFORM AND SUPPORT STRUCTURE FOR THICKENER SHALL BE CONTRACTOR-DESIGNED. STRUCTURAL MEMBERS AND GRATING SHALL BE ALUMINUM. CONTRACTOR COORDINATE STRUCTURE DESIGN WITH THICKENER MANUFACTURER TO ENSURE PROPER FIT AND COMPATIBILITY OF EQUIPMENT AND STRUCTURE.

SMITH — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17
RICHARD BALLARD — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17
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22722 29th Drive SE

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

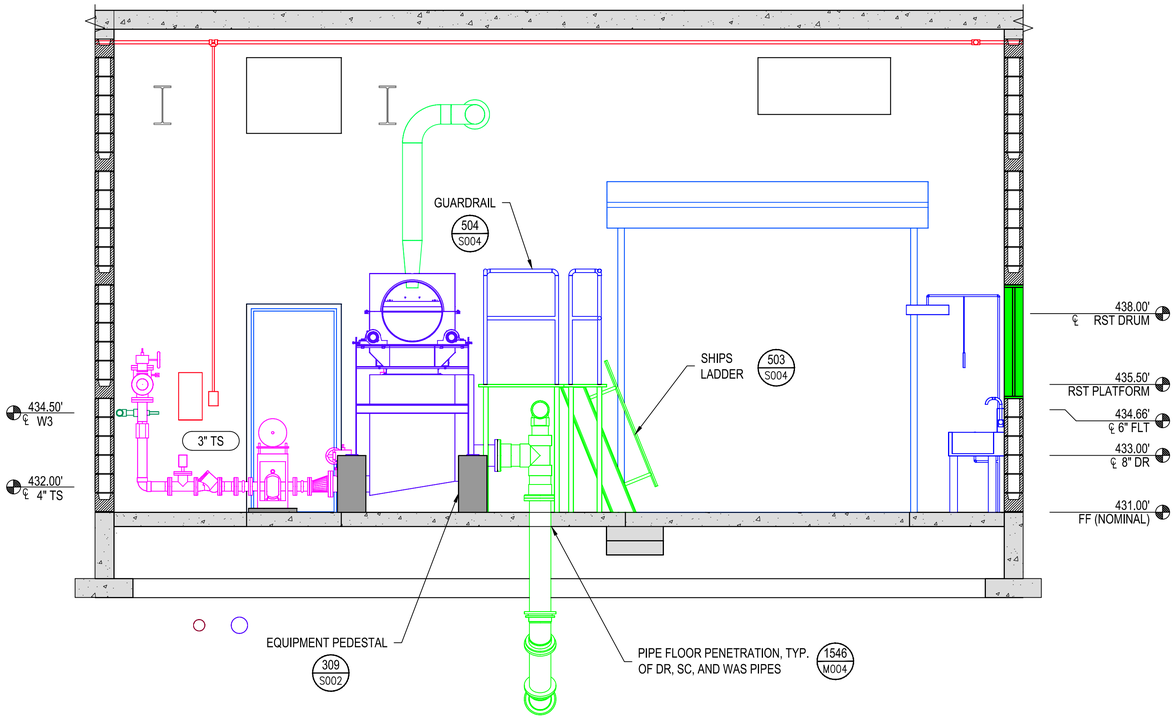
THICKENER ROOM MECHANICAL PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

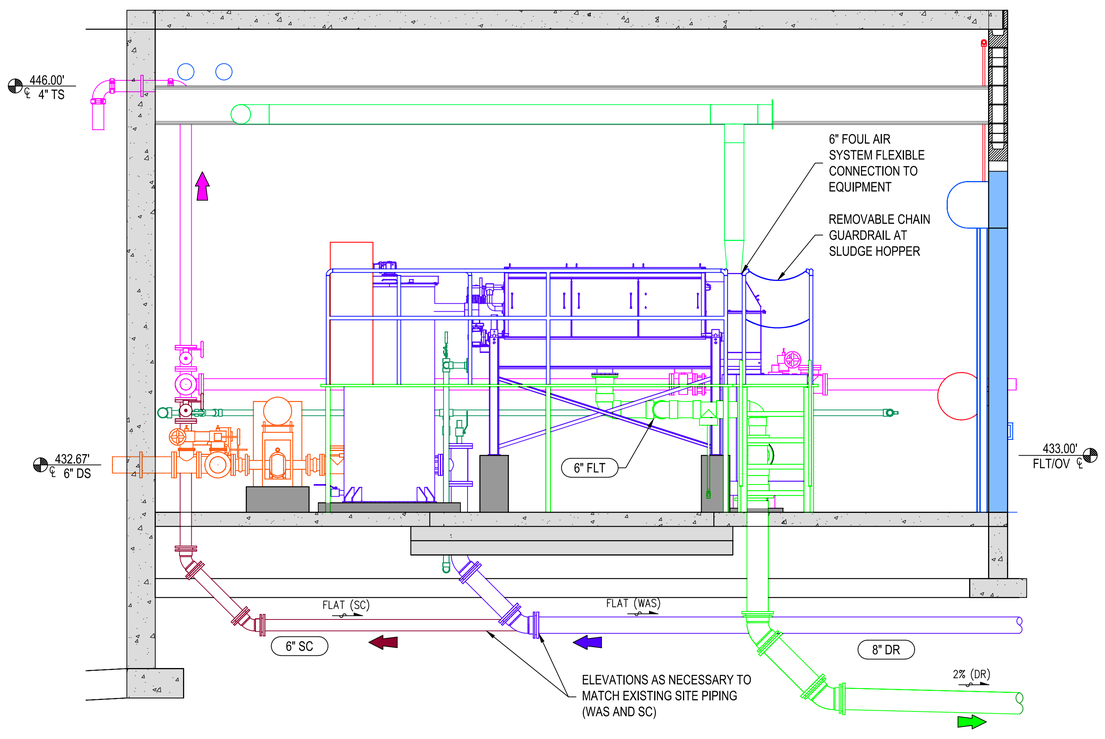
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

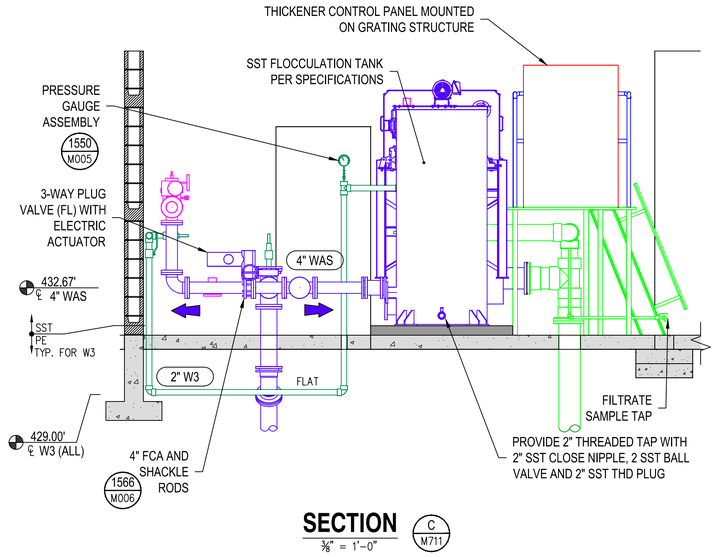
DWG NO.: M711
SHEET NO.: 84
158



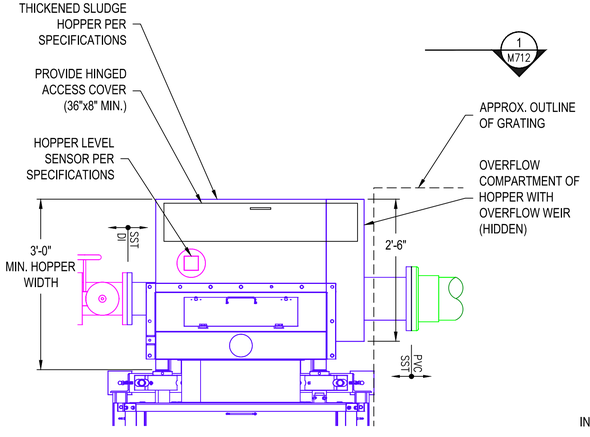
SECTION A
3/8" = 1'-0"



SECTION B
3/8" = 1'-0"

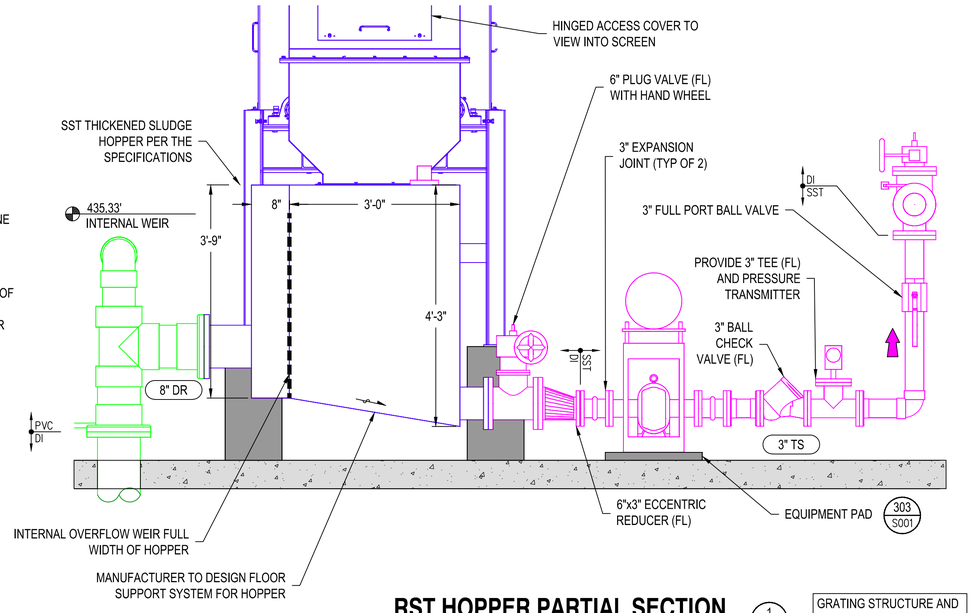


SECTION C
3/8" = 1'-0"



RST HOPPER PARTIAL PLAN
3/4" = 1'-0"

GRATING STRUCTURE AND HANDRAIL OMITTED THIS VIEW FOR CLARITY



RST HOPPER PARTIAL SECTION
3/4" = 1'-0"

1 M712

GRATING STRUCTURE AND HANDRAIL OMITTED THIS VIEW FOR CLARITY

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BALLARD ... SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

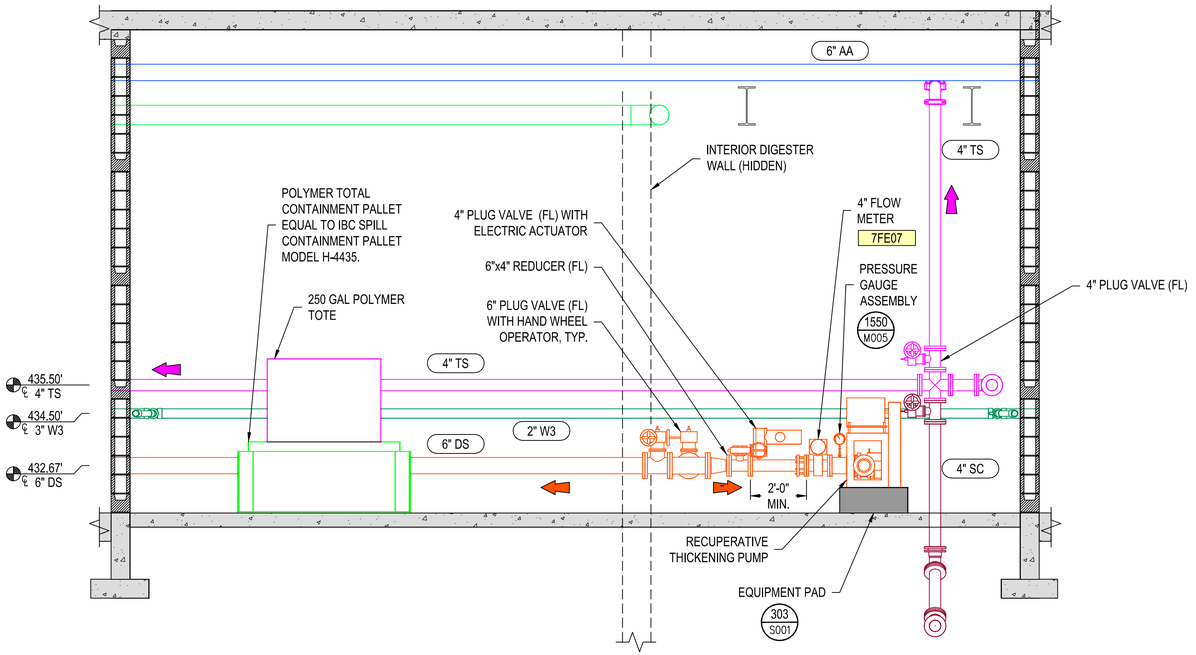
THICKENER ROOM MECHANICAL SECTIONS 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

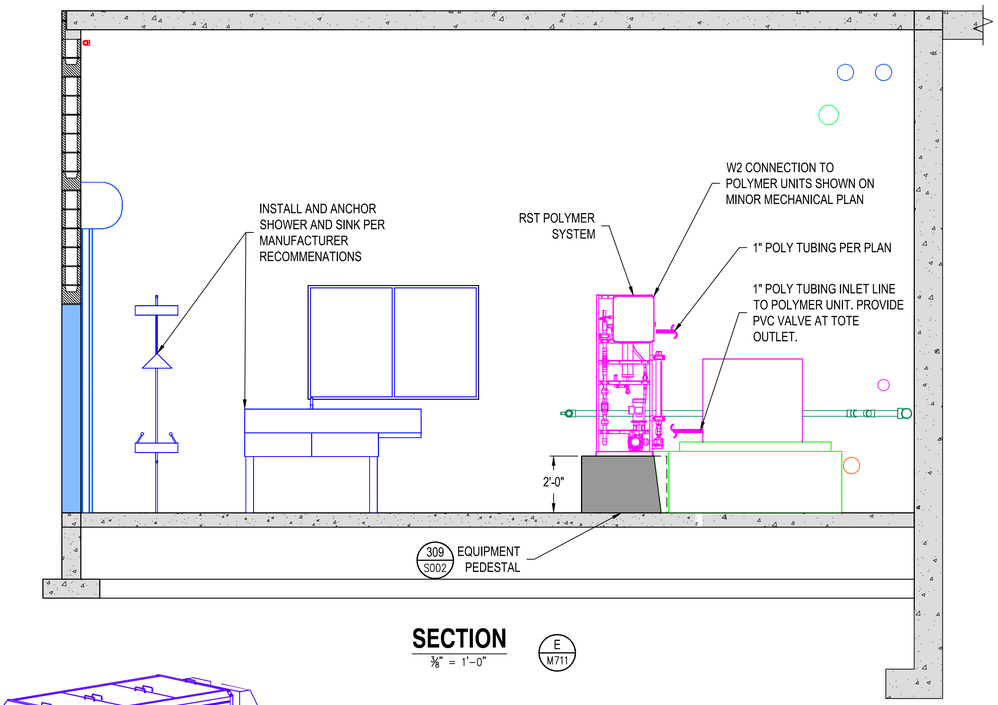
DWG NO.: M712
SHEET NO.: 85
158



SECTION

3/8" = 1'-0"

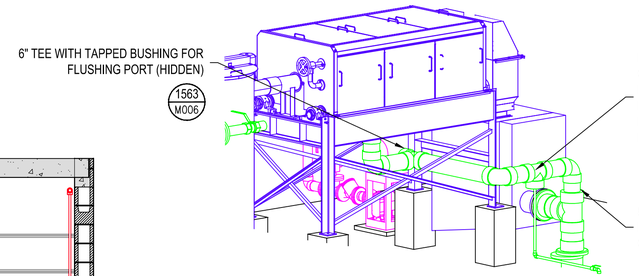
D M711



SECTION

3/8" = 1'-0"

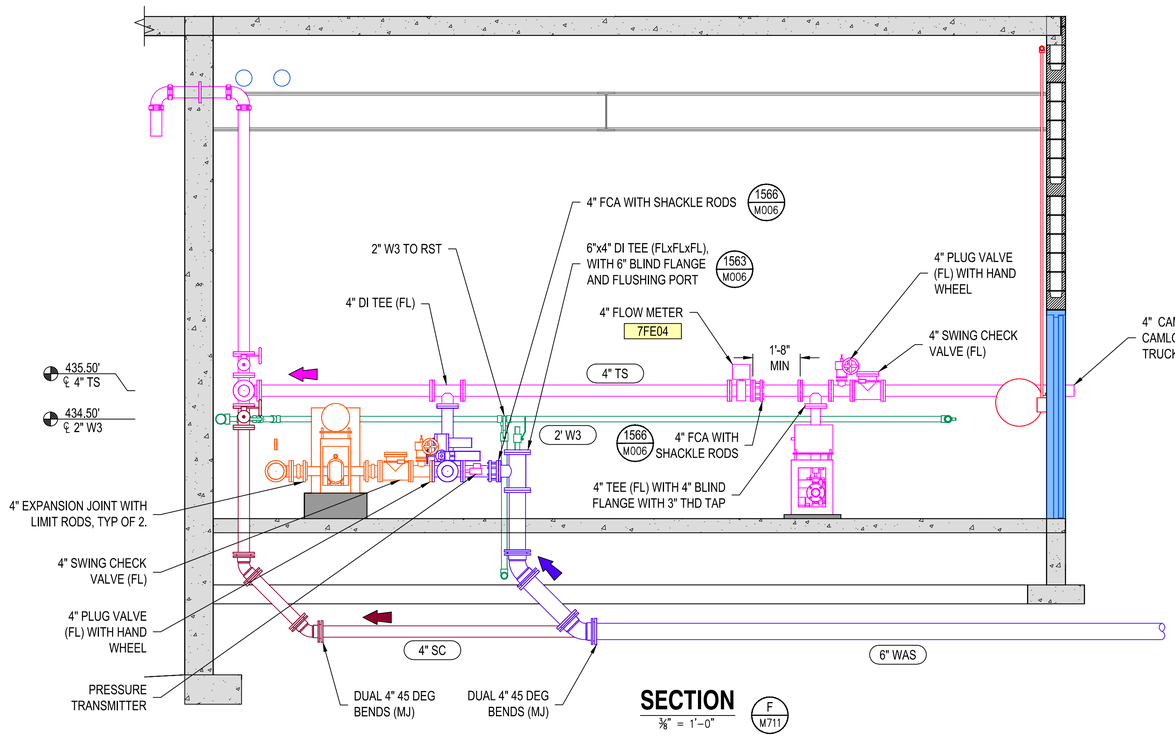
E M711



FILTRATE DRAIN OBLIQUE

NOT TO SCALE

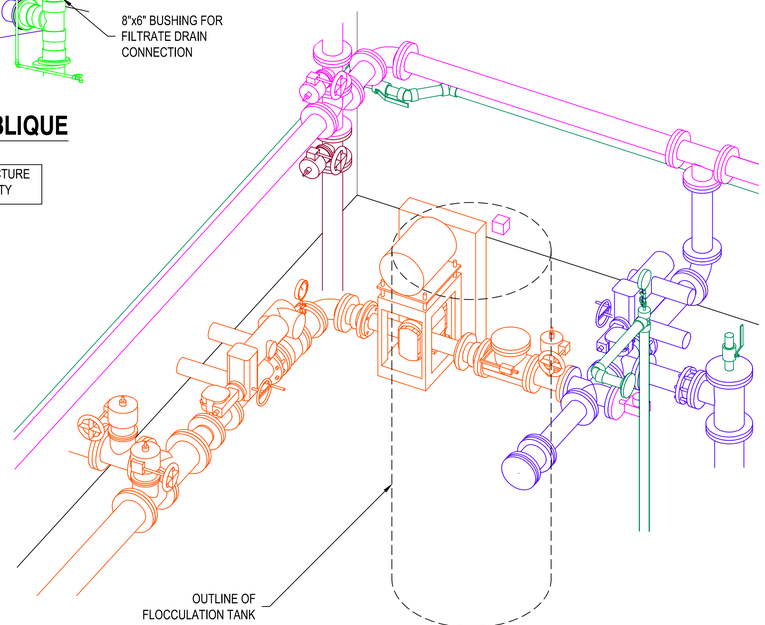
GRATING AND SUPPORT STRUCTURE OMITTED THIS VIEW FOR CLARITY



SECTION

3/8" = 1'-0"

F M711



OBLIQUE

NOT TO SCALE

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

THICKENER ROOM MECHANICAL SECTIONS 2

REVISIONS			
NO.	DATE	DESCRIPTION	BY	REVIEW

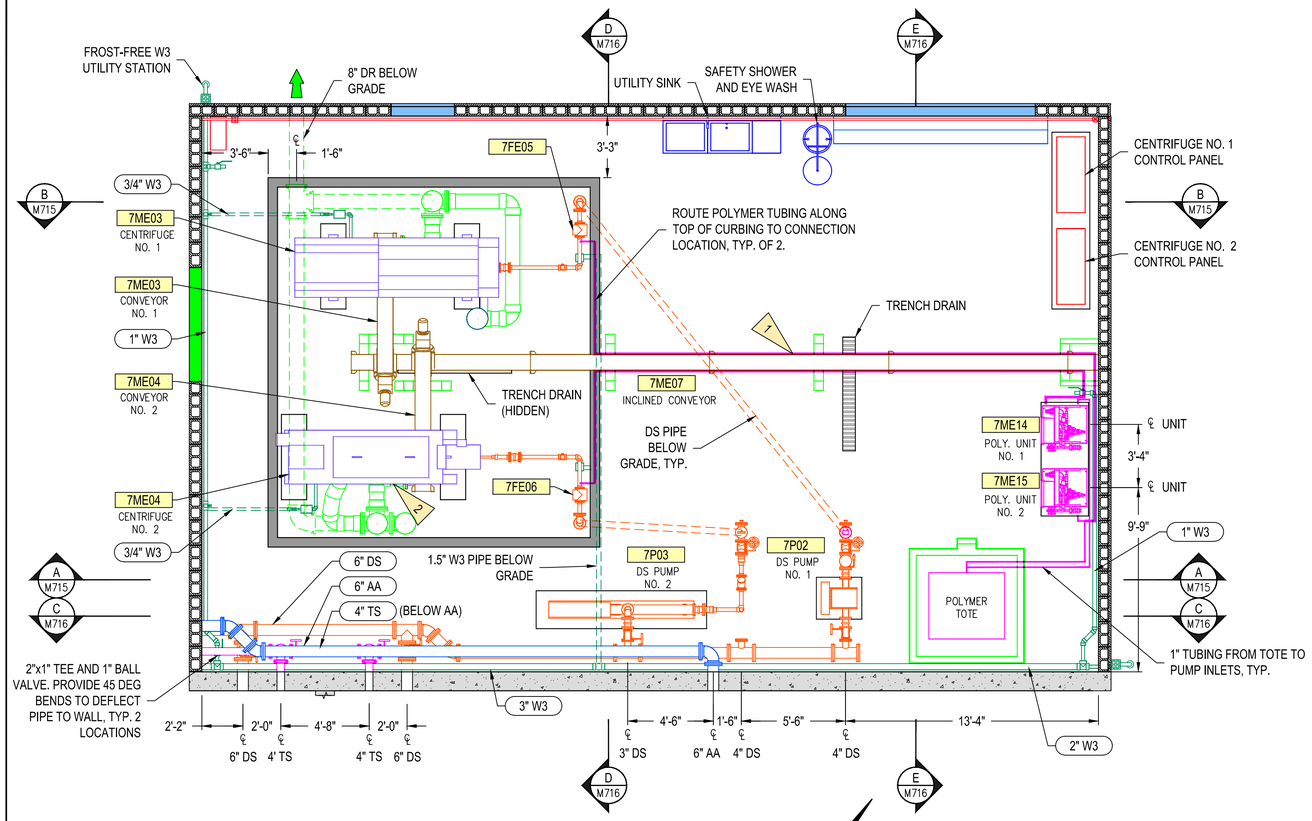
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

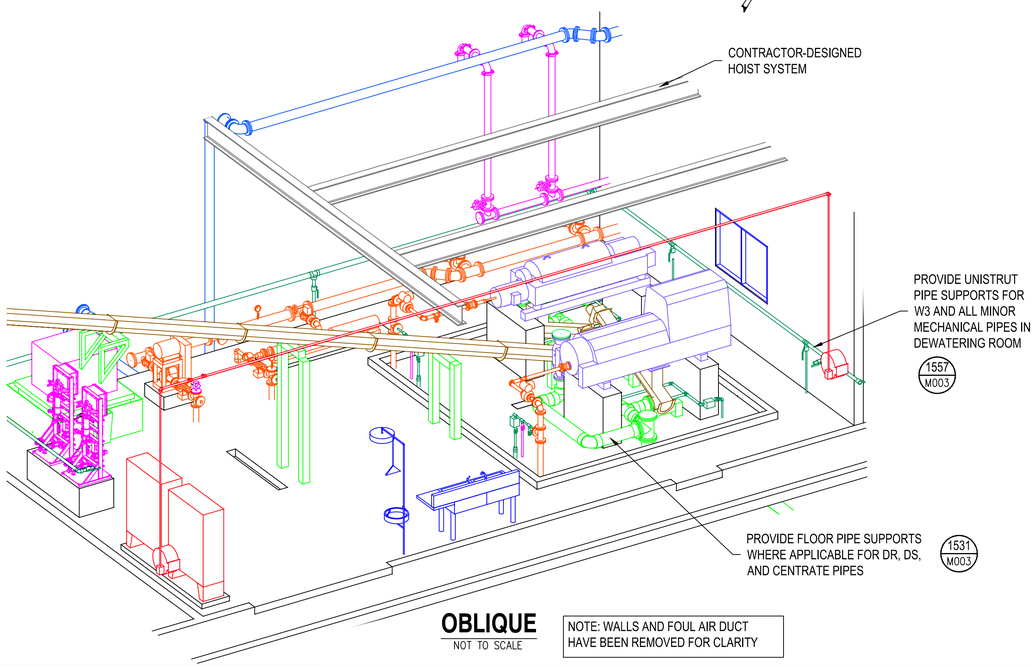
DWG NO.: M713
SHEET NO.: 86



DEWATERING ROOM MECHANICAL PLAN

¼" = 1'-0"

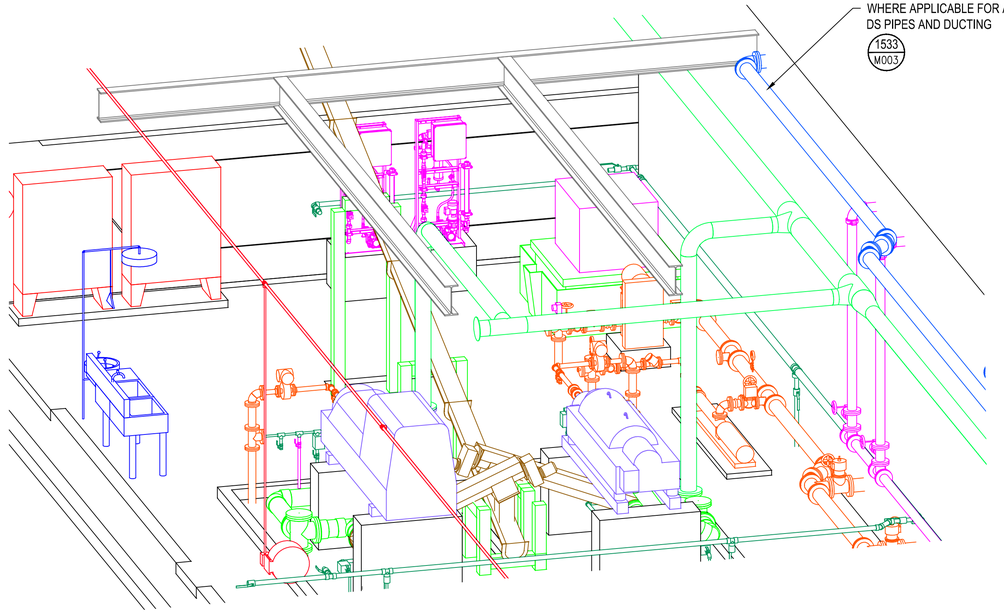
NOTE: FOUL AIR DUCTING AND HOIST SYSTEM HAS BEEN OMITTED IN THIS VIEW FOR CLARITY



OBLIQUE

NOT TO SCALE

NOTE: WALLS AND FOUL AIR DUCT HAVE BEEN REMOVED FOR CLARITY



OBLIQUE

NOT TO SCALE

NOTES

1. THIS PLAN PROVIDES THE BASIS OF DESIGN - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. THE CENTRIFUGE MANUFACTURER SHALL PROVIDE ANY ADDITIONAL DEVICES, VALVES, PIPES OR INSTRUMENTATION NOT SHOWN HERE TO ENSURE A FULLY FUNCTIONING DEWATERING SYSTEM FOR THE CENTRIFUGE NO. 1 ONLY. THE CONTRACTOR SHALL RELOCATE EQUIPMENT AND REPLACE DEVICES FOR CENTRIFUGE NO. 2 AS SHOWN HERE AND DETAILED IN THE SPECIFICATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR PIPE AND EQUIPMENT SUPPORT DESIGN. PIPE SUPPORT METHODS REFERENCED WITH DETAIL BUBBLES HERE-IN. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. SEE PARTIAL MECHANICAL PLANS AND SECTIONS (REFERENCED HERE) FOR MECHANICAL DETAILS.
4. REFER TO SPECIFICATIONS FOR SCHEDULING AND PHASING REQUIREMENTS RELATED TO RELOCATING THE EXISTING CENTRIFUGE.
5. PROVIDE TEMPORARY DISCHARGE LOCATION FOR DS PUMPS DURING CLEAN WATER TESTING.
6. COAT THE DEWATERING ROOM FLOOR, CURBING, EQUIPMENT PADS, PEDESTALS AND 24" UP WALLS PER THE SPECIFICATIONS.

1 POLYMER TUBING TO BE ROUTED THROUGH 3" SCH. 40 PVC CARRIER PIPES WITH LONG RADIUS BENDS ALONG INCLINED CONVEYOR. SUSPEND CARRIER PIPES FROM WALLS, CONVEYOR AND CONVEYOR SUPPORTS. VERTICAL LEGS OF CARRIER PIPES TO EXTEND FROM WITHIN 2 FEET OF THE POLYMER UNIT VERTICALLY ALONG EAST WALL, THEN PARALLEL TO INCLINED CONVEYOR AND VERTICALLY DOWN TO 12 INCHES ABOVE CONCRETE CURB AT CENTRIFUGES. POLYMER TUBING ALONG CURB TO CONNECTION POINT DOES NOT REQUIRE CARRIER. ROUTE ALL CARRIER PIPE NEATLY PARALLEL AND PERPENDICULAR TO WALLS, FLOOR AND CONVEYOR.

2 RELOCATION OF THE EXISTING CENTRIFUGE AND EQUIPMENT WILL, AT A MINIMUM, REQUIRE DISASSEMBLY OF EQUIPMENT FROM THE EXISTING SKID, RELOCATION AND RECONNECTION OF THE CENTRIFUGE, DIGESTED SLUDGE PUMP, NEW CONVEYOR, NEW POLYMER SYSTEM, SLUDGE FLOW METER, HYDRAULIC BACK DRIVE SYSTEM AND ALL ASSOCIATED DEVICES AND SOLENOIDS. RELOCATION AND MOUNTING OF ALL EQUIPMENT SHALL BE PER THE CENTRIFUGE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY ITEMS TO RECONNECT EXISTING EQUIPMENT PER THE MANUFACTURER'S INSTRUCTIONS TO COMPLETE THE FULLY FUNCTIONING CENTRIFUGE NO. 2 DEWATERING SYSTEM.

SMITH — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17
BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED LANDSCAPE ARCHITECT — SIGNED: 09/19/17
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DEWATERING ROOM MECHANICAL PLAN

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

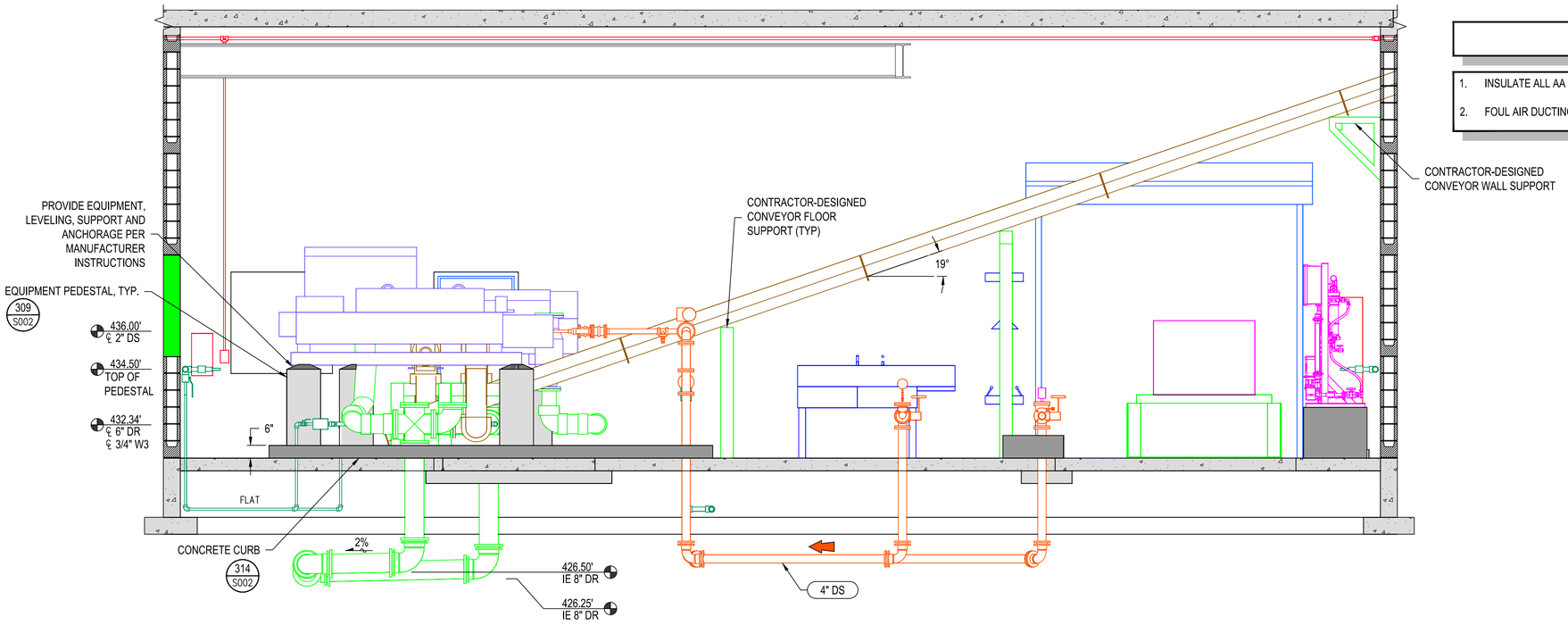
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

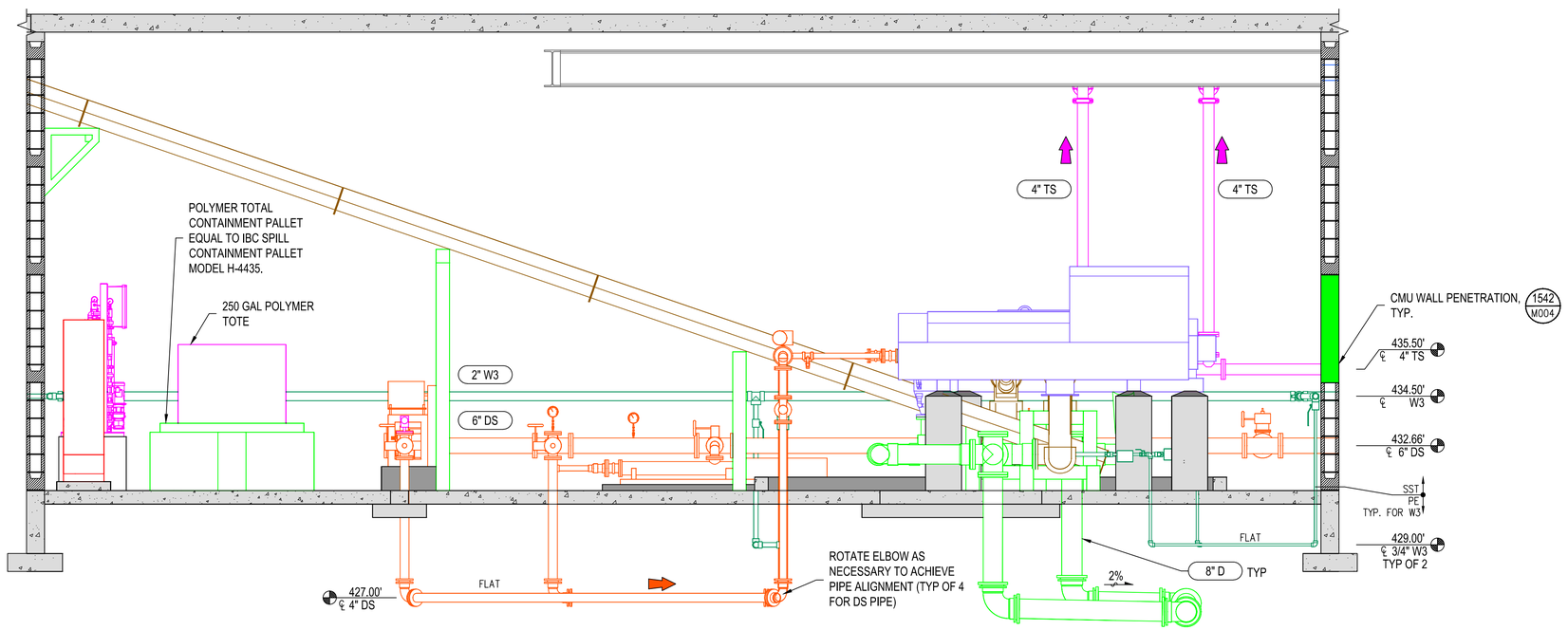
DWG NO.: M714
SHEET NO.: 87
158

NOTES

1. INSULATE ALL AA PIPE WITHIN 8 FEET OF FINISHED FLOOR.
2. FOUL AIR DUCTING HAS BEEN OMITTED FROM THIS SHEET FOR CLARITY



SECTION A M714
3/8" = 1'-0"



SECTION B M714
3/8" = 1'-0"

SMITH ... SIGNED: 09/19/17
RICHARD ... SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DEWATERING ROOM MECHANICAL SECTIONS 1

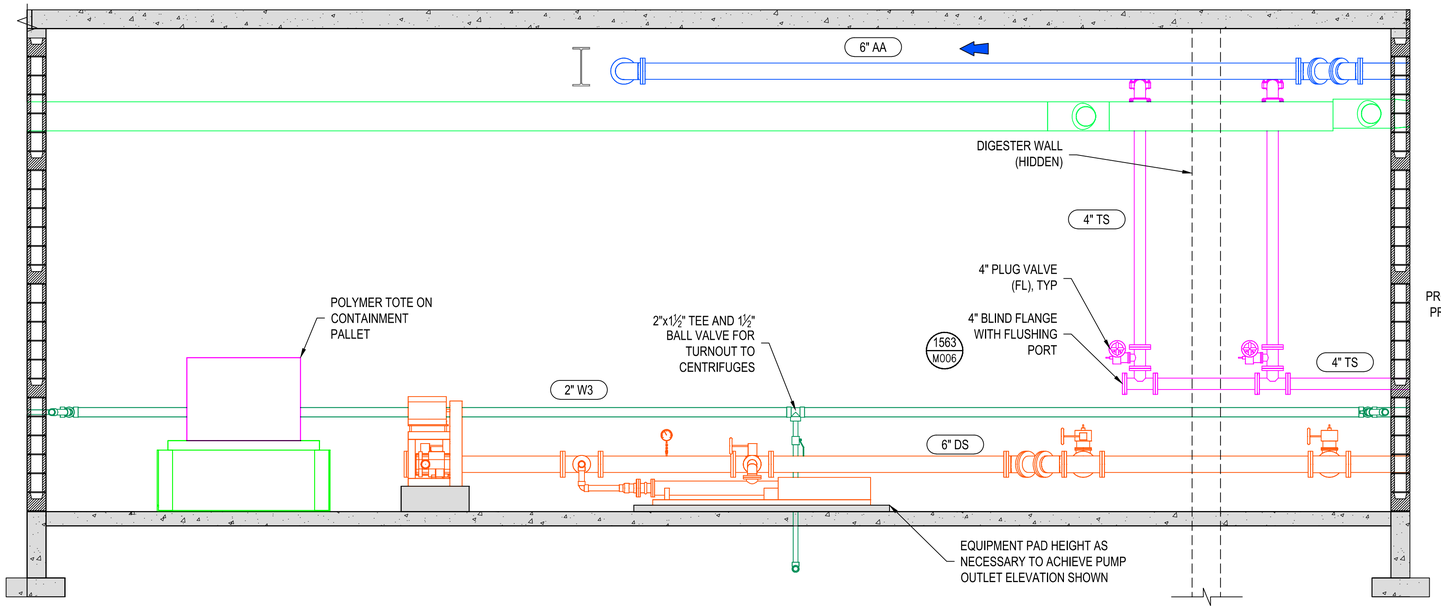
ENGINEER: ETS	
REVIEWED: DJM	
SAVE DATE: Sep 19, 2017	
PLOT DATE: Sep 19, 2017	
CLIENT: SNQ	
FILENAME: WRF02-D-SH_M03.DWG	
JOB NO.: 116-028	

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

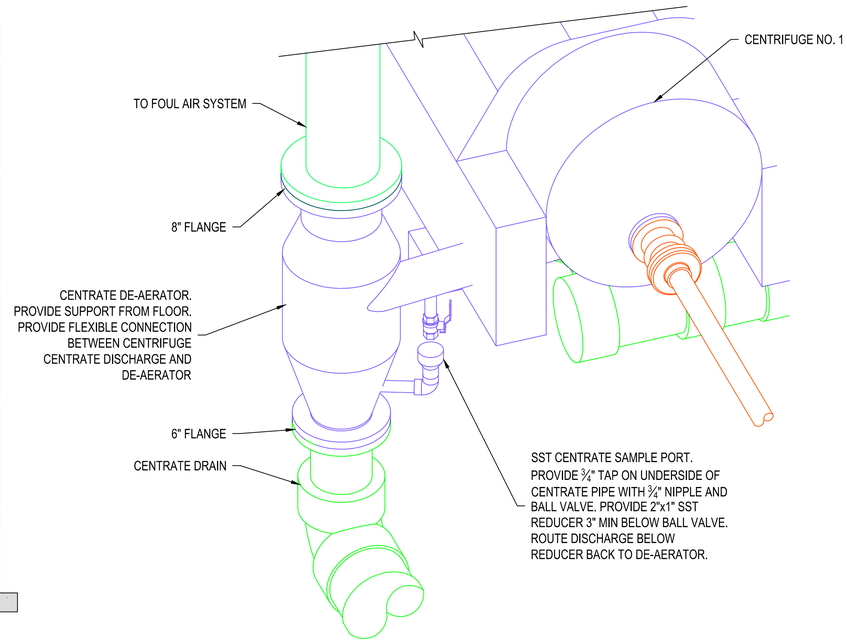
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M715
SHEET NO.: 88
158

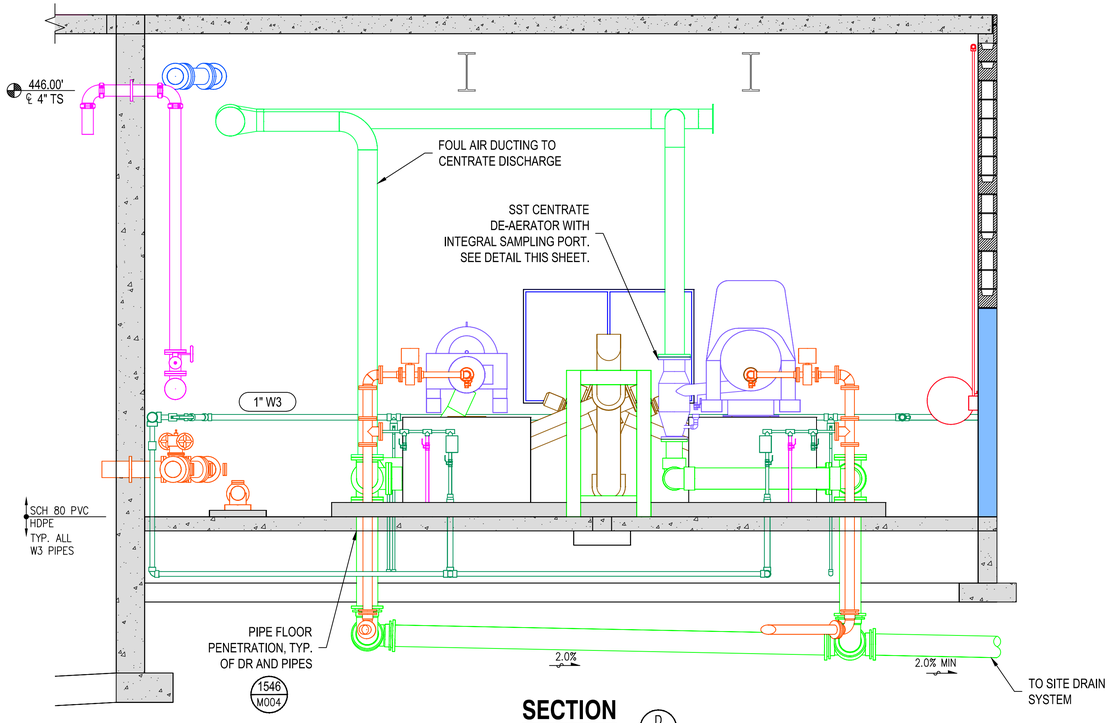


SECTION
C / M714
3/8" = 1'-0"

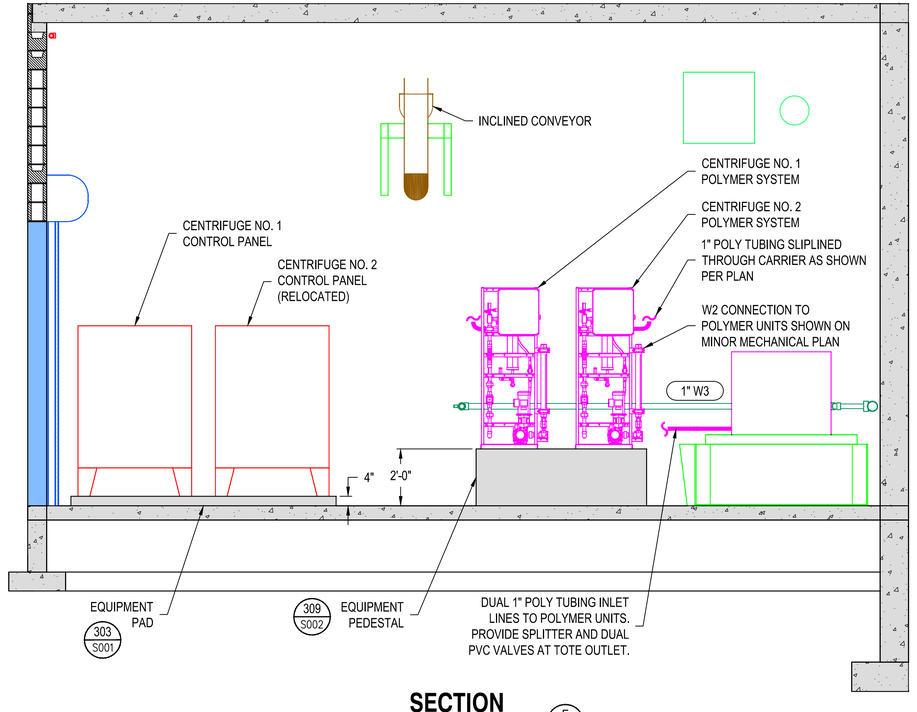
NOTE: FOUL AIR DUCTING HAS BEEN OMITTED IN THIS VIEW FOR CLARITY



CENTRATE DE-AERATOR OBLIQUE
NOT TO SCALE



SECTION
D / M714
3/8" = 1'-0"



SECTION
E / M714
3/8" = 1'-0"

SMITH / BALLARD — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SECTION/STRUCTURAL/MECHANICAL/ELECTRICAL
SIGNED: 09/19/17

RH2 ENGINEERS PLANNERS SCIENTISTS
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

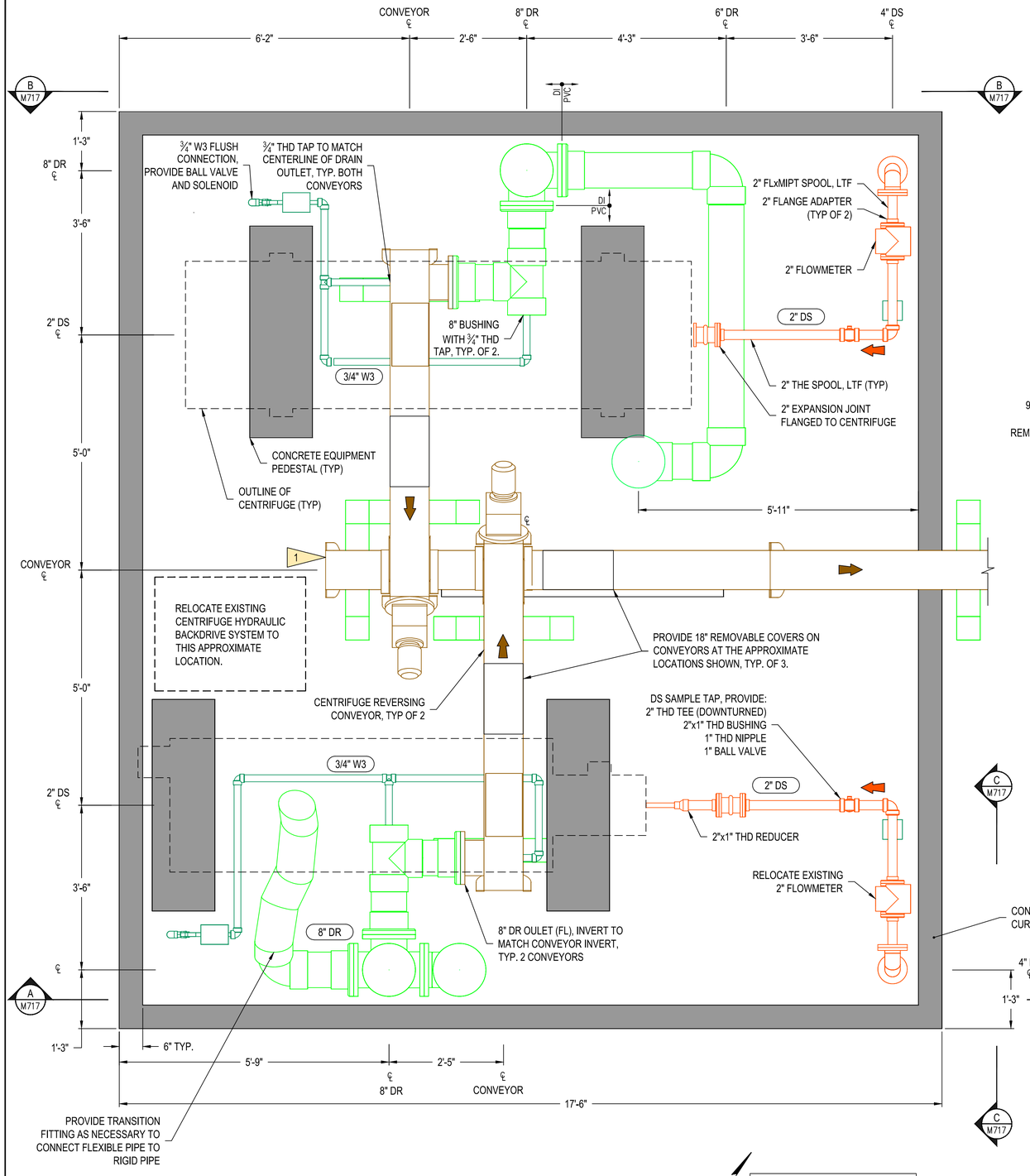
DEWATERING ROOM MECHANICAL SECTIONS 2

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNO
FILENAME: WRF02-D-SH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

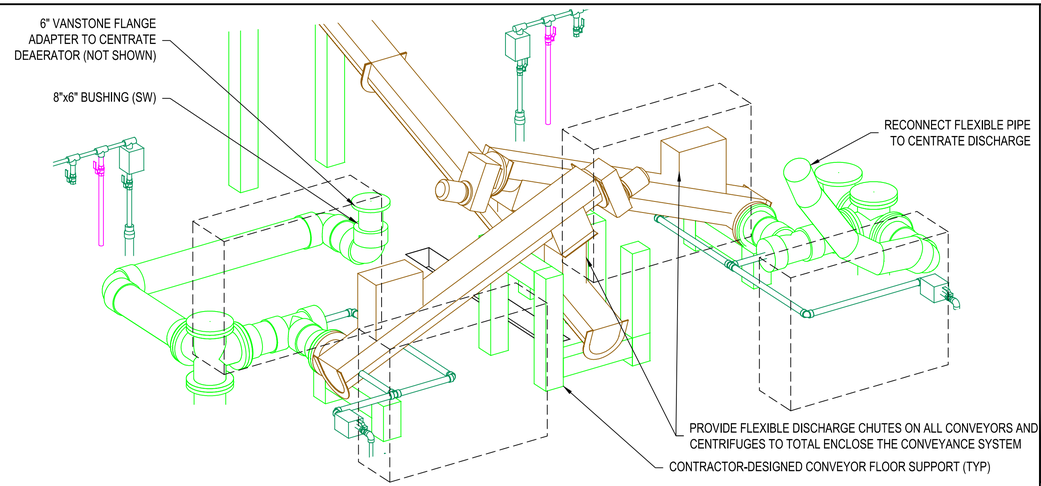
DWG NO.: M716
SHEET NO.: 89
158



DEWATERING SYSTEM PARTIAL MECHANICAL PLAN

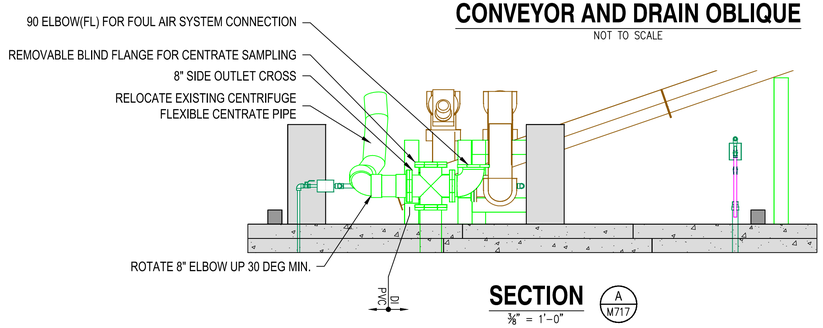
¾" = 1'–0"

NOTE: FORCED AIR DUCTING AND MONORAIL BEAMS HAVE BEEN OMITTED IN THIS VIEW FOR CLARITY



CONVEYOR AND DRAIN OBLIQUE

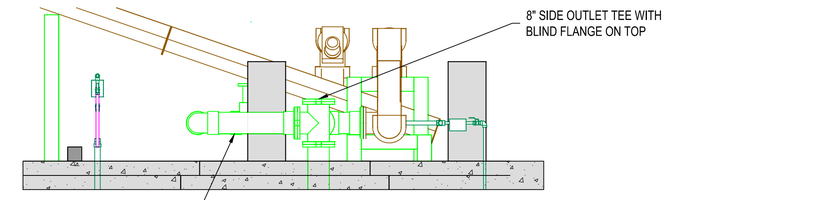
NOT TO SCALE



SECTION

⅜" = 1'–0"

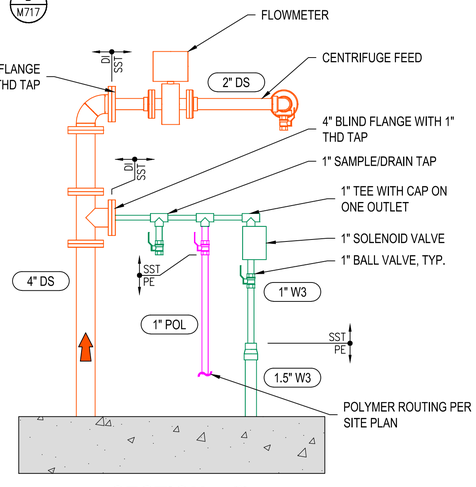
A M717



SECTION

⅜" = 1'–0"

B M717



SECTION

¾" = 1'–0"

C M717

NOTES

1. FORCED AIR DUCTING, MONORAIL BEAMS AND CENTRIFUGE EQUIPMENT HAS BEEN OMITTED IN THIS SHEET FOR CLARITY
2. ADHERE TO MANUFACTURER RECOMMENDATIONS FOR CENTRIFUGE MOUNTING AND ANCHORAGE.

1 PROVIDE A 3-INCH DRAIN OUTLET WITH SST BALL VALVE AND SST MALE-CAMLOCK FITTING AT THE CONVEYOR LOW POINT. PROVIDE A 1-INCH CHICAGO-TYPE QUICK-CONNECT HOSE CONNECTION AT THE CONVEYOR HIGH POINT TO FACILITATE CLEANING.

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DEWATERING ROOM PARTIAL MECHANICAL PLAN AND SECTIONS 1

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-DSH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

REVISIONS

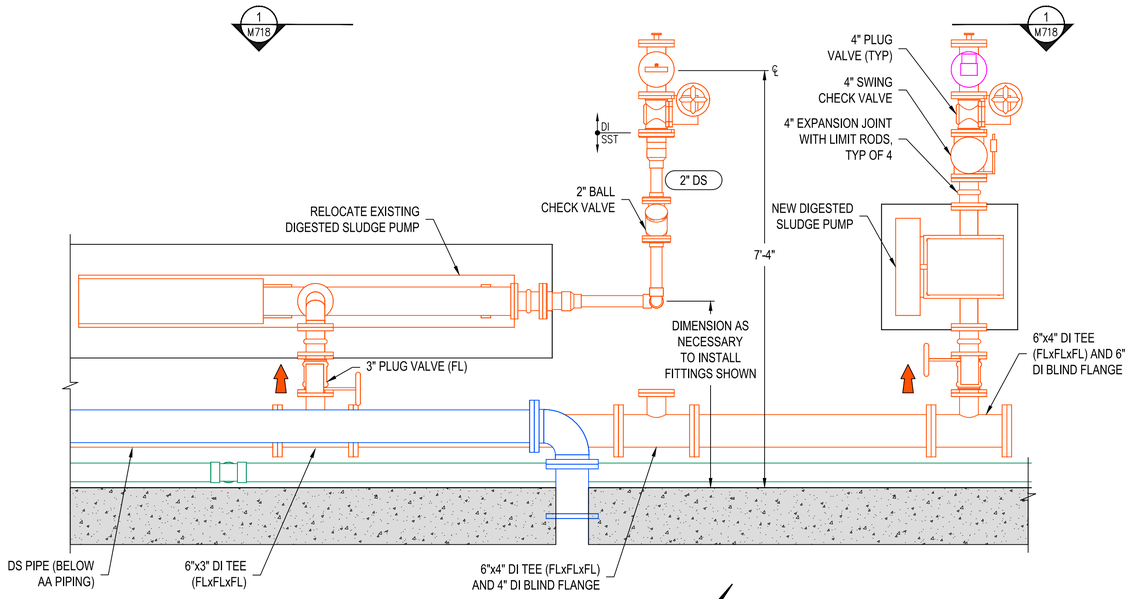
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

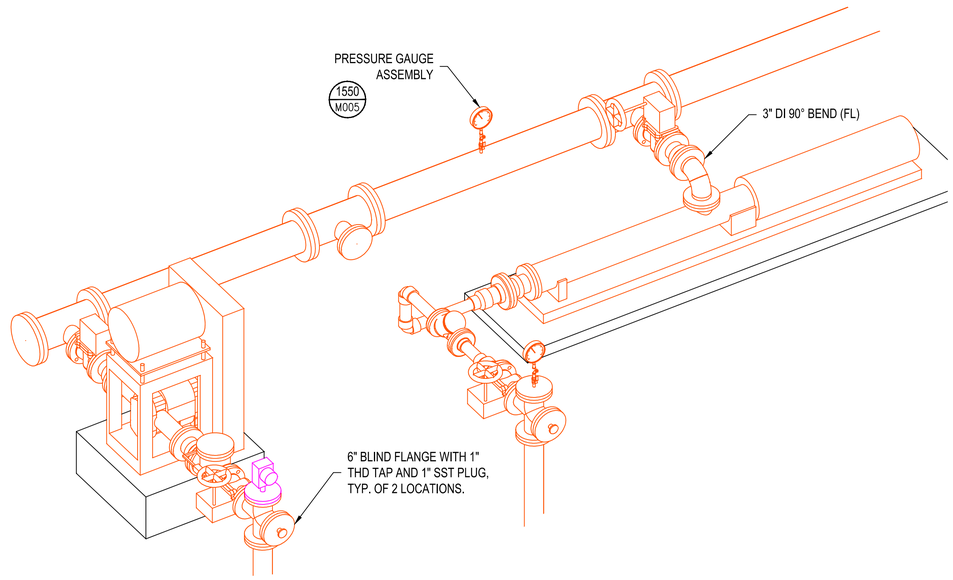
DWG NO.: M717
SHEET NO.: 90



DIGESTED SLUDGE PUMPS PARTIAL MECHANICAL PLAN

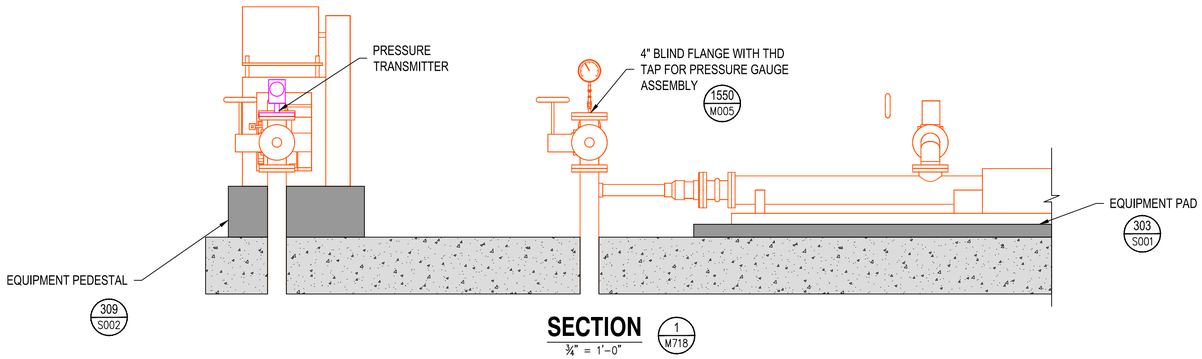
¾" = 1'–0"

NOTE: FORCED AIR DUCTING AND HOIST SYSTEM HAS BEEN OMITTED IN THIS VIEW FOR CLARITY



DIGESTED SLUDGE PUMPS OBLIQUE

NOT TO SCALE



SECTION

¾" = 1'–0"

1 M718

GENERAL NOTES

1. PROVIDE EQUIPMENT PAD AND PEDESTAL HEIGHTS AS NECESSARY FOR EQUIPMENT INSTALLATION.
2. RELOCATION OF THE EXISTING DS PUMP SHALL OCCUR PER THE PHASING REQUIREMENTS IN THE SPECIFICATIONS.
3. CONTRACTOR TO DESIGN PIPE SUPPORT SYSTEMS PER M003.

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STATE OF WASHINGTON — BALLARD — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DEWATERING ROOM PARTIAL MECHANICAL PLAN AND SECTIONS 2

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

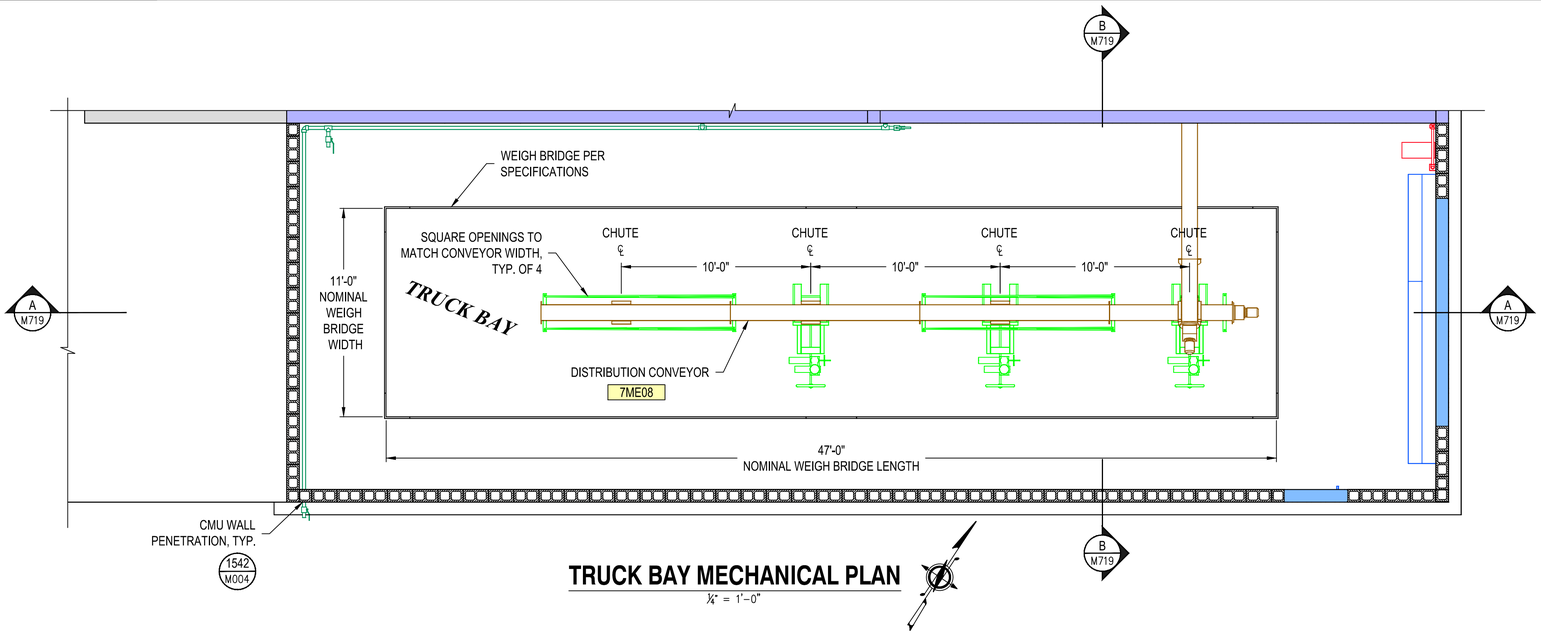
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-DI-SH_M03.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: ETS
REVIEWED: DJM

SCALE: SHOWN

0" 1" 2"

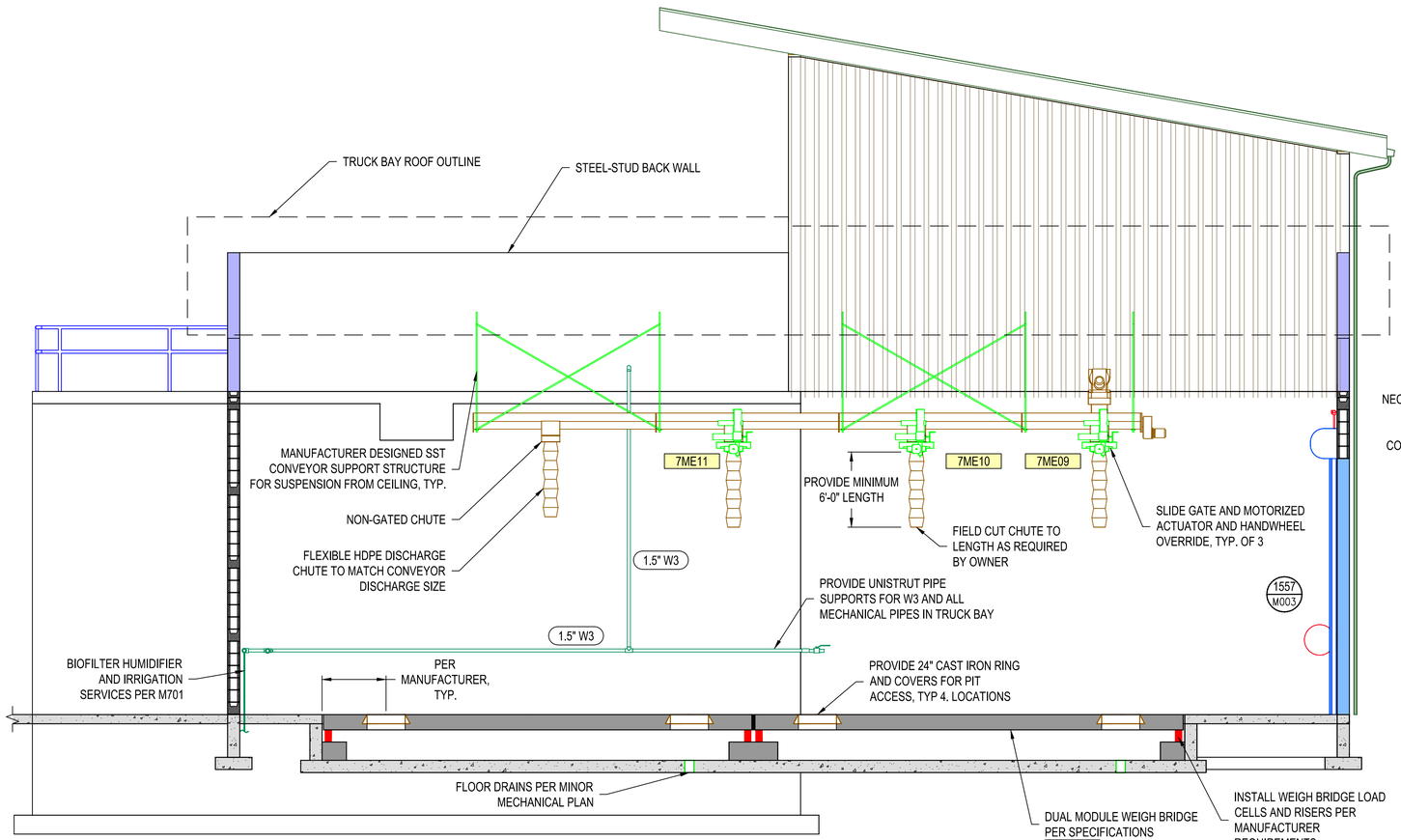
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M718
SHEET NO.: 91
158



TRUCK BAY MECHANICAL PLAN

¼" = 1'-0"



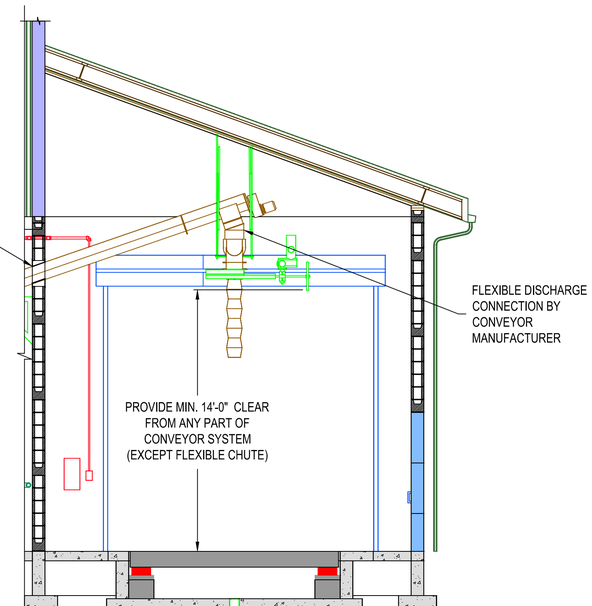
SECTION

¼" = 1'-0"

A
M719

NOTES

1. THIS PLAN PROVIDES THE BASIS OF DESIGN - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. WEIGH BRIDGE AND ASSOCIATED DEVICES TO BE PROVIDED BY SINGLE MANUFACTURER. PROVIDE ALL NECESSARY ITEMS TO COMPLETE A FULLY FUNCTIONING TRUCK WEIGHING SYSTEM AS SHOWN HERE AND DESCRIBED IN THE SPECIFICATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR PIPE AND EQUIPMENT SUPPORT DESIGN. PIPE SUPPORT METHODS REFERENCED WITH DETAIL BUBBLES HERE-IN. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. FOUL AIR DUCTWORK HAS BEEN OMITTED FROM THIS SHEET FOR CLARITY.
4. PROVIDE 20' MIN. LENGTH OF MARINE-GRADE NYLON ROPE AFFIXED TO THE END OF EACH FLEXIBLE CHUTE. COIL EXCESS ROPE WITH STAINLESS STEEL EYE BOLTS AND CARABINERS ON EAST TRUCK BAY WALL. FIELD LOCATE EACH PER OWNER'S DIRECTION.



SECTION

¼" = 1'-0"

B
M719

SMITH
STATE OF WASHINGTON
SIGNED: 09/19/17

BALLARD
STATE OF WASHINGTON
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

TRUCK BAY MECHANICAL PLAN AND SECTIONS

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

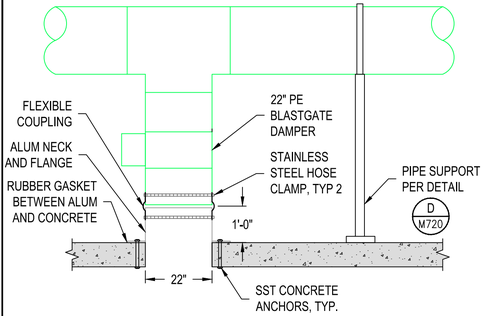
ENGINEER: MRJF
REVIEWED: ETS
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
FILENAME: WRF02-D-SH_M04.DWG
CLIENT: SNQ
JOB NO.: 116-028

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

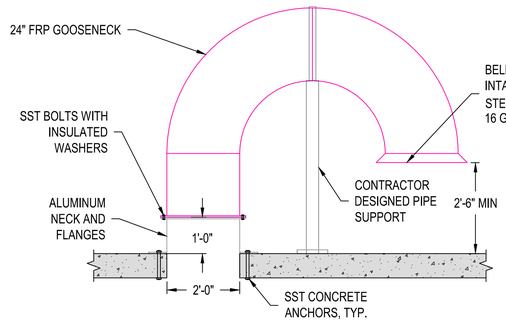
DWG NO.: M719
SHEET NO.: 92



DIGESTER FOUL AIR EXHAUST PENETRATION

1 M721

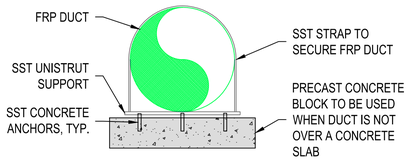
NOT TO SCALE



DIGESTER AIR INTAKE GOOSE NECK AND PENETRATION

2 M720

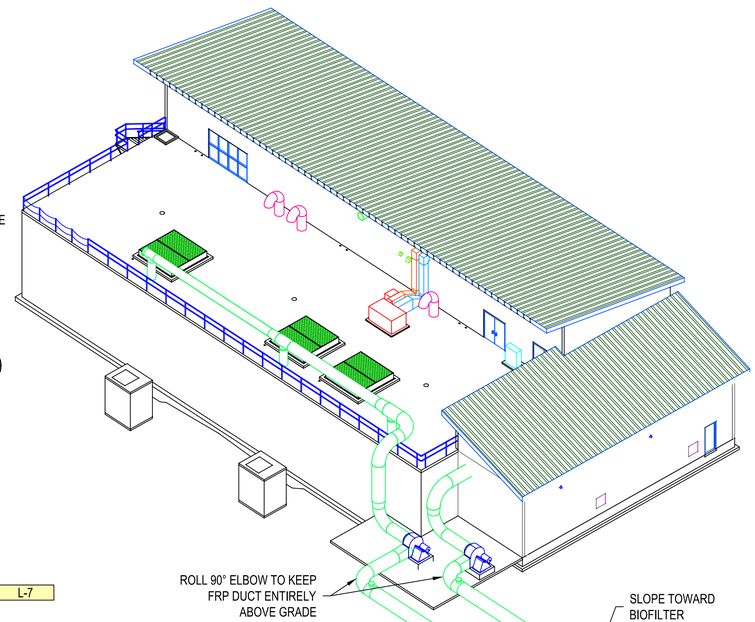
NOT TO SCALE



FRP DUCT TIE-DOWN DETAIL

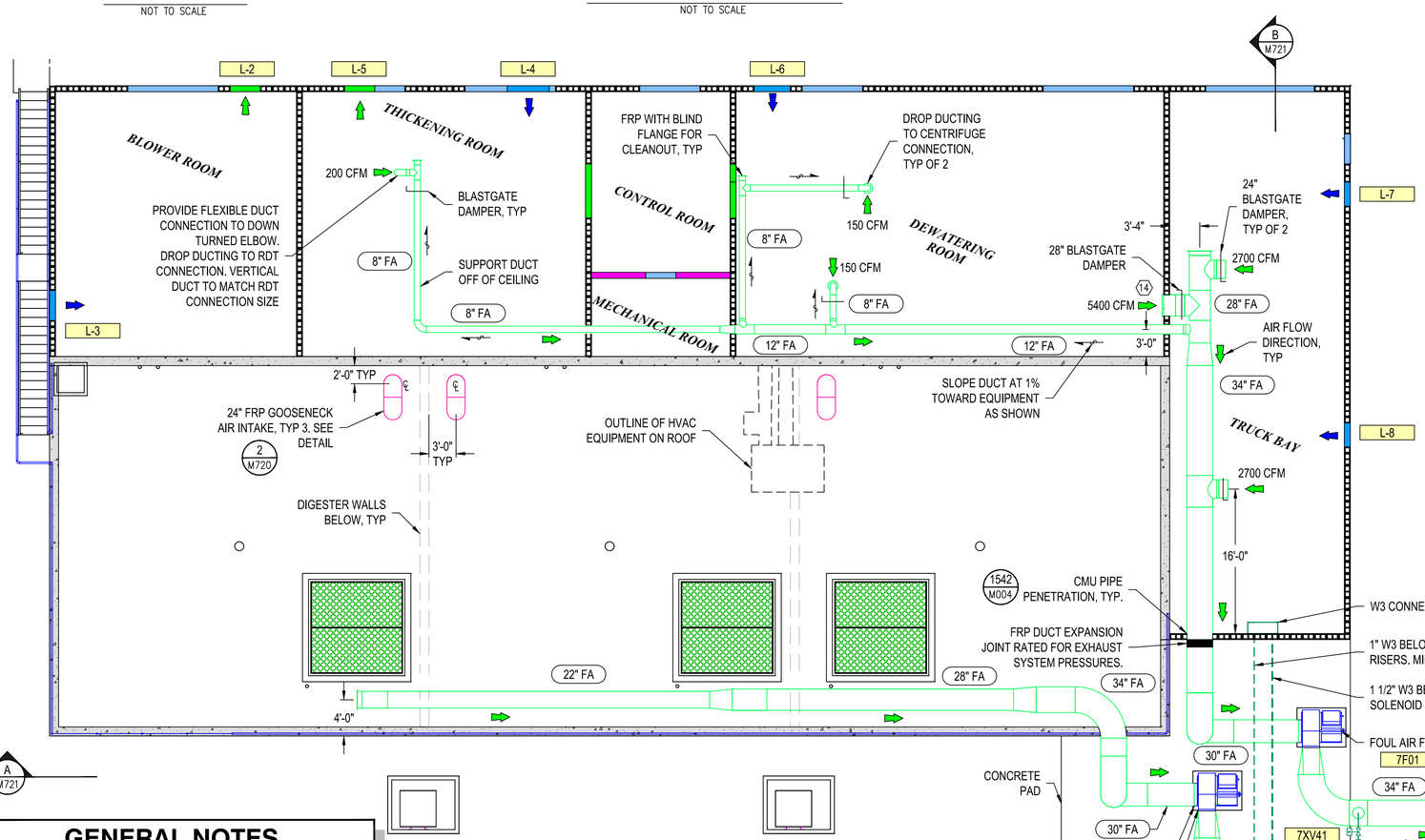
3 M721

NOT TO SCALE



OBLIQUE

NOT TO SCALE



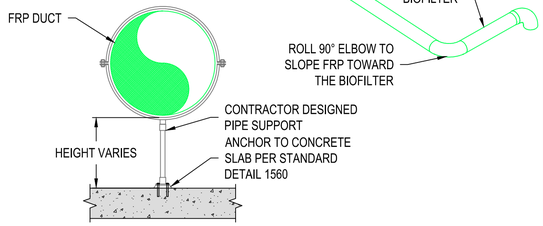
SOLIDS HANDLING FOUL AIR DUCT PLAN

⅛" = 1'-0"

GENERAL NOTES

1. SLOPE ALL FOUL AIR DUCTWORK AS SHOWN ON PLANS. REFER TO M002 FOR HVAC EQUIPMENT SCHEDULES.
2. ALL FOUL AIR FRP DUCT INSIDE THE SOLIDS HANDLING BUILDING SHALL BE FIRE RETARDANT.
3. ALL FRP TEES SHALL BE 90 DEG BOOT TEES.
4. BLASTGATE DAMPERS ARE REQUIRED AT ALL EXHAUST INLETS TO THE FRP DUCTWORK FOR BALANCING PURPOSES.
5. CONTRACTOR TO PROVIDE ALL FRP DUCT SUPPORT PER THE FRP MANUFACTURER REQUIREMENTS.
6. HEAT TRACE AND INSULATE ALL EXPOSED W3.

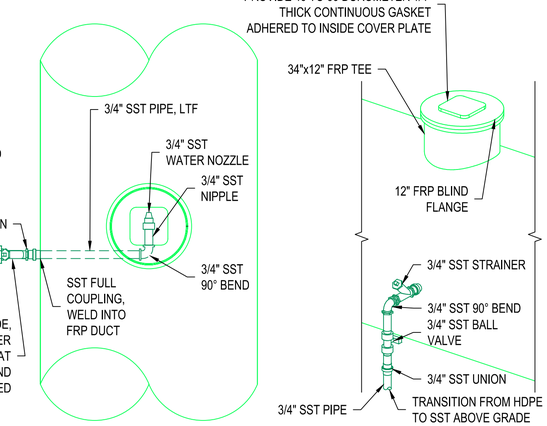
1 PROVIDE 1" W3 RISER AT EACH FAN DISCHARGE FOR HUMIDIFIER CONNECTION. TRANSITION FROM PE TO SST PIPE 6" ABOVE F.F. PROVIDE ISOLATION BALL VALVE AND SOLENOID FOR HUMIDIFICATION SYSTEM CONNECTION. COMPLETE CONNECTIONS PER MANUFACTURER REQUIREMENTS.



FRP DUCT SUPPORT DETAIL

4 M721

NOT TO SCALE



DUCT HUMIDIFIER ASSEMBLY DETAIL

5 M720

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING FOUL AIR SYSTEM PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_S03.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

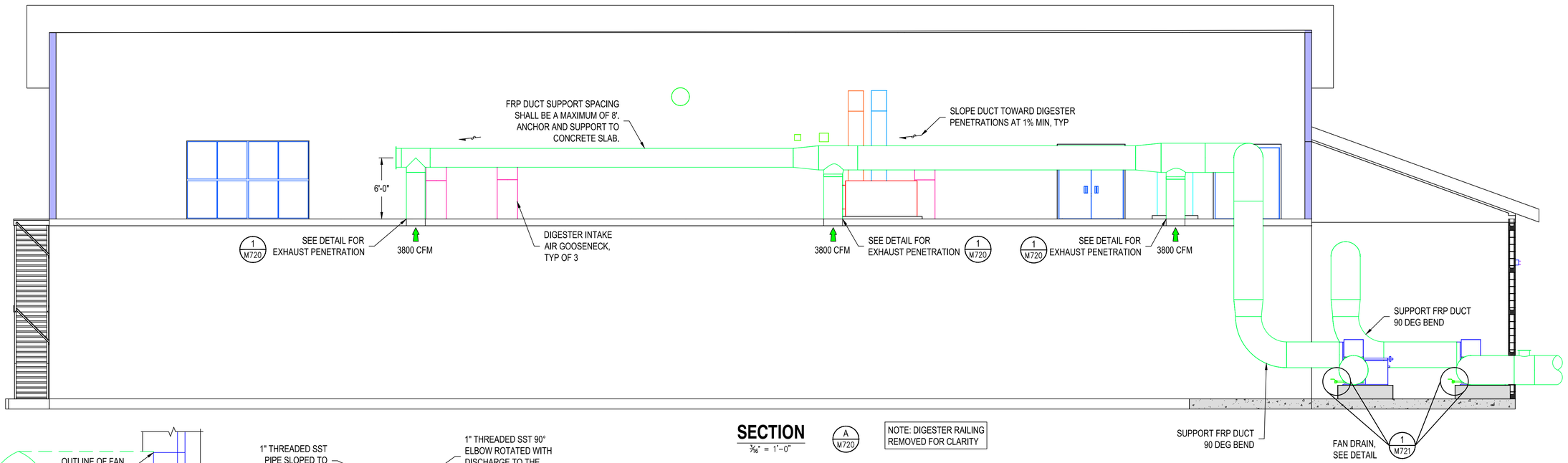
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M720

SHEET NO.: 93

158

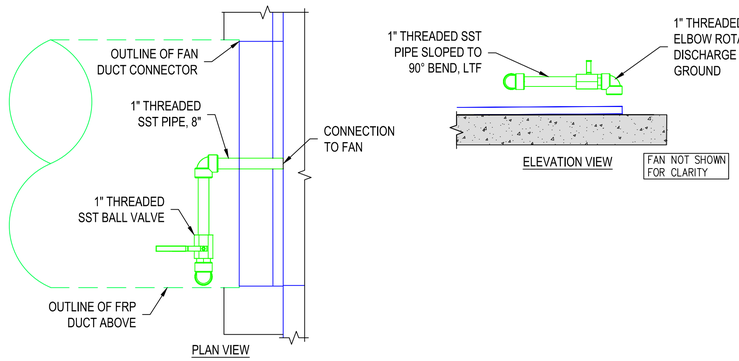


SECTION

3/16" = 1'-0"

A M720

NOTE: DIGESTER RAILING REMOVED FOR CLARITY



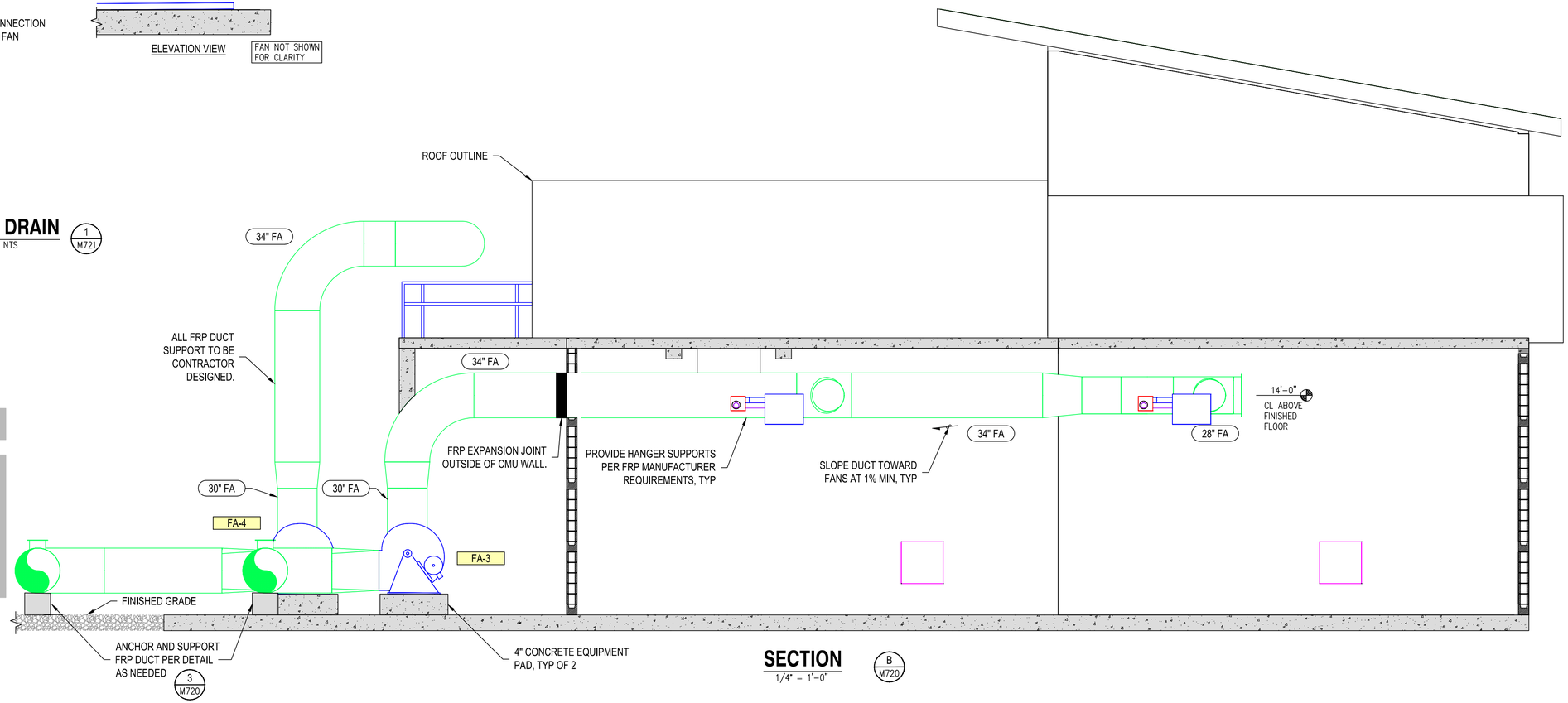
FAN DRAIN

NTS

1 M721

GENERAL NOTES

1. SLOPE ALL FOUL AIR DUCTWORK AS SHOWN ON PLANS WITH A MINIMUM OF 1% SLOPE.
2. ALL FOUL AIR FRP DUCT INSIDE THE SOLIDS HANDLING BUILDING SHALL BE FIRE RETARDANT.
3. ALL FRP TEES SHALL BE 90 DEG BOOT TEES.
4. BLASTGATE DAMPERS ARE REQUIRED AT ALL EXHAUST INLETS TO THE FRP DUCTWORK FOR BALANCING PURPOSES.
5. CONTRACTOR TO PROVIDE ALL FRP DUCT SUPPORT PER THE FRP MANUFACTURER REQUIREMENTS.



SECTION

1/4" = 1'-0"

B M720

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SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING FOUL AIR SYSTEM SECTIONS AND DETAILS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_S03.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: PNY
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

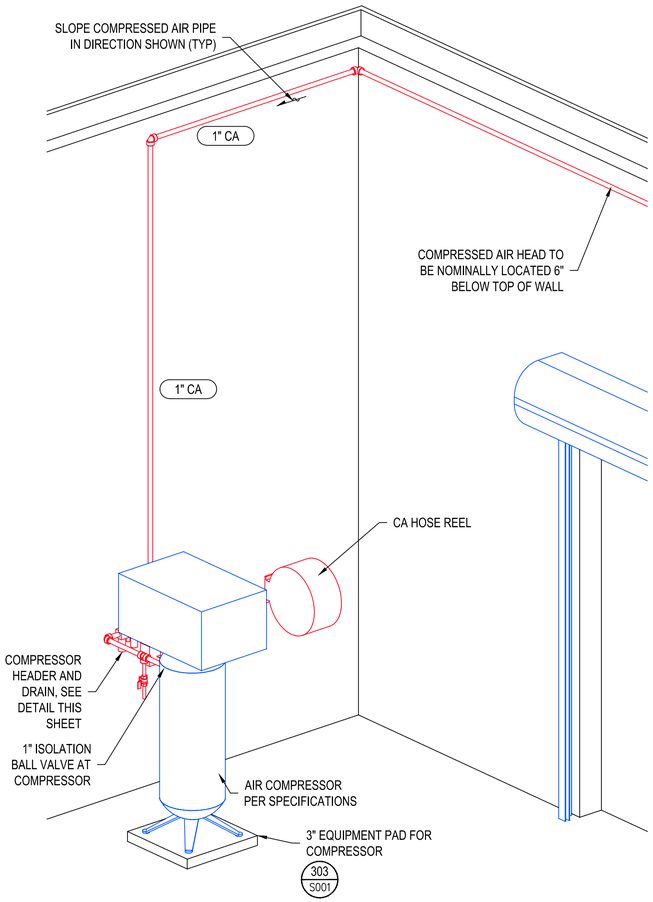
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M721

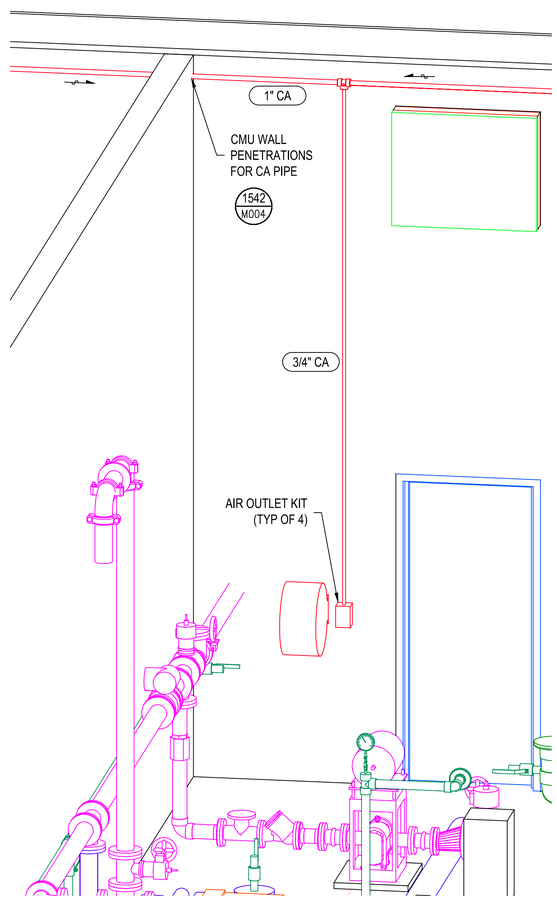
SHEET NO.: 94

158



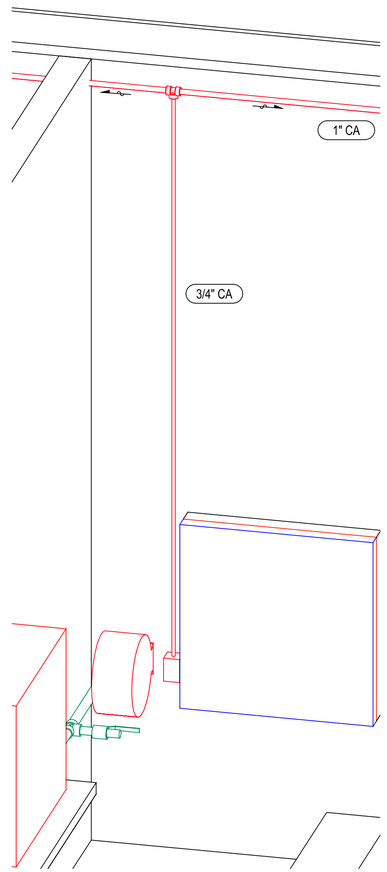
BLOWER ROOM COMPRESSED AIR OBLIQUE

NOT TO SCALE



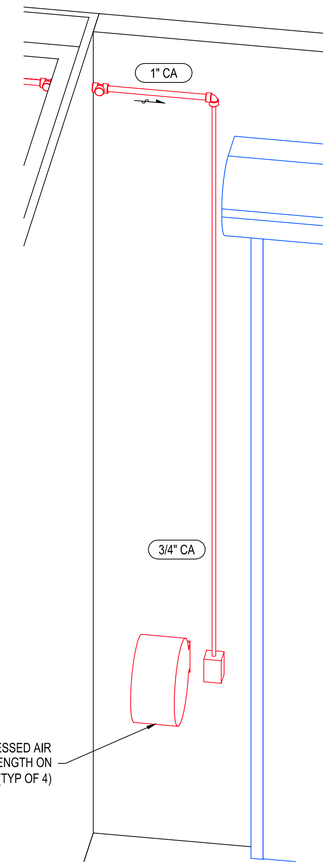
THICKENING ROOM COMPRESSED AIR OBLIQUE

NOT TO SCALE



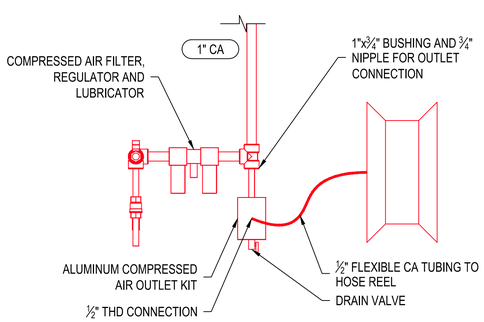
DEWATERING ROOM COMPRESSED AIR OBLIQUE

NOT TO SCALE



TRUCK BAY COMPRESSED AIR OBLIQUE

NOT TO SCALE



COMPRESSOR HEADER DETAIL

NOT TO SCALE

NOTES

1. SOME ITEMS HAVE BEEN OMITTED FOR CLARITY.
2. ALL COMPRESSED AIR PIPE SHALL BE INSTALLED AT A MINIMUM SLOPE OF ⅛" PER FOOT. SLOPE TO THE DIRECTION AS SHOWN PER PLANS.
3. AIR COMPRESSOR TO BE 175 PSI MAX., 35 CFM, 120 GALLON, 10 HP, TWO-STAGE RECIPROCATING-TYPE, 460V, 3P COMPRESSOR, QUINCY QP MODEL OR EQUAL.
4. PROVIDE UNISTRUT AND PIPE CLAMP SUPPORTS FOR ALL COMPRESS AIR PIPING PER M003.
5. COMPRESSED AIR OUTLET KIT TO BE ALUMINUM BODY WITH 1/2" QUICK CONNECT FITTING FOR AIR HOSE AND HAND VALVE AT BASE OF BODY.
6. COMPRESSED AIR FILTER, REGULATOR AND LUBRICATOR TO BE 1: NPT, 175 PSI MAX INLET PRESSURE, ADJUSTABLE OUTPUT FROM 0-150 PSI WITH GAUGE DIAL IN PSI. INCLUDE AUTOMATIC DRAIN AT BOTTOM OF REGULATOR. PROVIDE ADJUSTABLE OIL DELIVERY SYSTEM ON LUBRICATOR.
7. CONTRACTOR TO PROVIDE FITTINGS AS NECESSARY TO COMPLETE A FULLY FUNCTIONING COMPRESSED AIR SYSTEM.

RICHARD D. SMITH — STATE OF WASHINGTON — 22826 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD J. BALLARD — STATE OF WASHINGTON — 22826 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

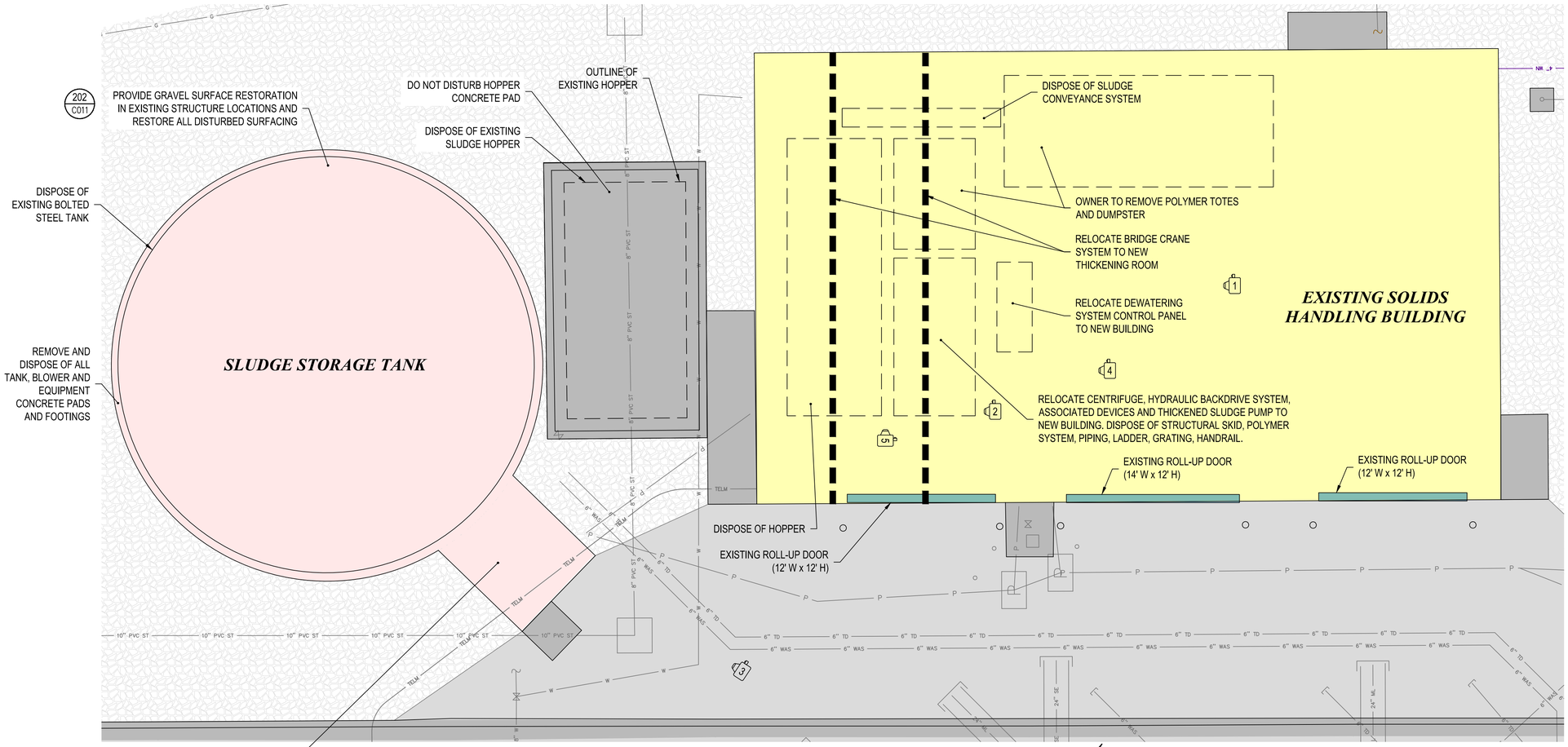
SOLIDS HANDLING FACILITY
COMPRESSED AIR DETAILS

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_M06.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: DMD
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M722
SHEET NO.: 95
158



EXISTING SOLIDS HANDLING SYSTEM DEMOLITION PLAN

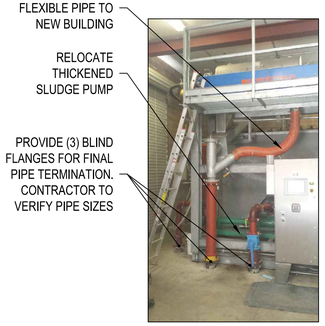
1" = 5'

GENERAL NOTES

1. BELOW GRADE PIPING AND UTILITIES RELATED TO THIS TANK HAVE BEEN APPROXIMATELY SHOWN HERE. EXACT PIPE LOCATION, SIZE, AND MATERIAL IS UNKNOWN. REMOVE ALL BELOW GRADE PIPE WITHIN THE EXTENTS OF TANK FOUNDATION EXCAVATION AND CAP PIPES AT EDGE OF EXCAVATION.
2. MAJOR EQUIPMENT REQUIRED FOR DISPOSAL OR RELOCATION HAS BEEN SHOWN HERE. THE CONTRACTOR IS REQUIRED TO DISPOSE OF MINOR ANCILLARY EQUIPMENT WHICH MAY NOT BE CALLED OUT BUT IS RELATED TO THE MAJOR EQUIPMENT SHOWN HERE. THE CONTRACTOR SHALL SATISFY HIMSELF TO THE MINOR EQUIPMENT REMOVAL REQUIREMENTS AT THE PRE-BID WALK-THROUGH.
3. DO NOT DISTURB THE EXISTING BUILDING, UTILITIES, ASPHALT OR CONCRETE SURFACING DURING EQUIPMENT REMOVAL.
4. REFER TO THE SPECIFICATIONS REGARDING THE PHASING OF THE EXISTING SOLIDS HANDLING SYSTEM REMOVAL.
5. THE EXISTING SLUDGE STORAGE TANK IS BOLTED STEEL, 34 FEET IN DIAMETER. THE CONTRACTOR SHALL TRANSFER THE CONTENTS OF THE TANK PER THE REQUIREMENTS OF DIVISION 1. THE CONTRACTOR IS RESPONSIBLE FOR ALL DRAINING AND CLEANING OF TANK AND PIPING NECESSARY FOR DEMOLITION AND REMOVAL.
6. ALL VOIDS LEFT BY CONCRETE STRUCTURE REMOVAL SHALL BE BACKFILLED WITH STRUCTURAL FILL, COMPACTED TO 90% OF THE MODIFIED PROCTOR, IN 12" MAXIMUM LIFTS TO SUBGRADE FOR GRAVEL SURFACING.
7. CONTRACTOR SHALL ADHERE TO MANUFACTURER'S RECOMMENDATIONS FOR DISASSEMBLY, TRANSPORT AND RE-ASSEMBLY OF THE EXISTING CENTRIFUGE AND ASSOCIATED EQUIPMENT. EXISTING CENTRIFUGE AND EQUIPMENT SHALL BE DISASSEMBLED FROM THE ELEVATED SKID STRUCTURE FOR THE PROPOSED INSTALLATION AS SHOWN IN THE NEW SOLIDS HANDLING FACILITY MECHANICAL PLANS.
8. GRIND OR TORCH ALL ANCHOR BOLTS MIN.¾" INTO EXISTING CONCRETE OR CMU AFTER EQUIPMENT OR STRUCTURE REMOVAL. PATCH HOLES WITH NON-SHRINK GROUT FLUSH WITH EXISTING SURFACE.

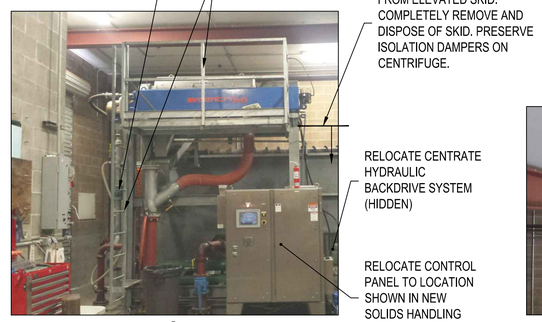
1 RELOCATE BRIDGE CRANE SYSTEM TO NEW THICKENING ROOM PER SHEET S701. SHORTEN BEAMS APPROXIMATELY 5 FT. CONTRACTOR TO CONFIRM NEW BEAM DIMENSIONS IN THE FIELD. REPLACE ALL ANCHOR BOLTS.

1



2

3



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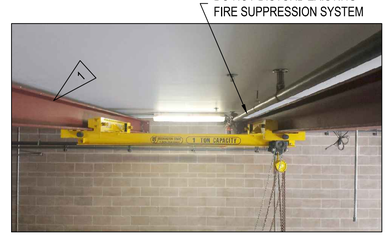

5

SMITH — STATE OF WASHINGTON — SECOND LIEUTENANT — ENGINEERING CORPS — PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — ENGINEERING CORPS — PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

EXISTING SOLIDS HANDLING FACILITY DEMOLITION PLAN

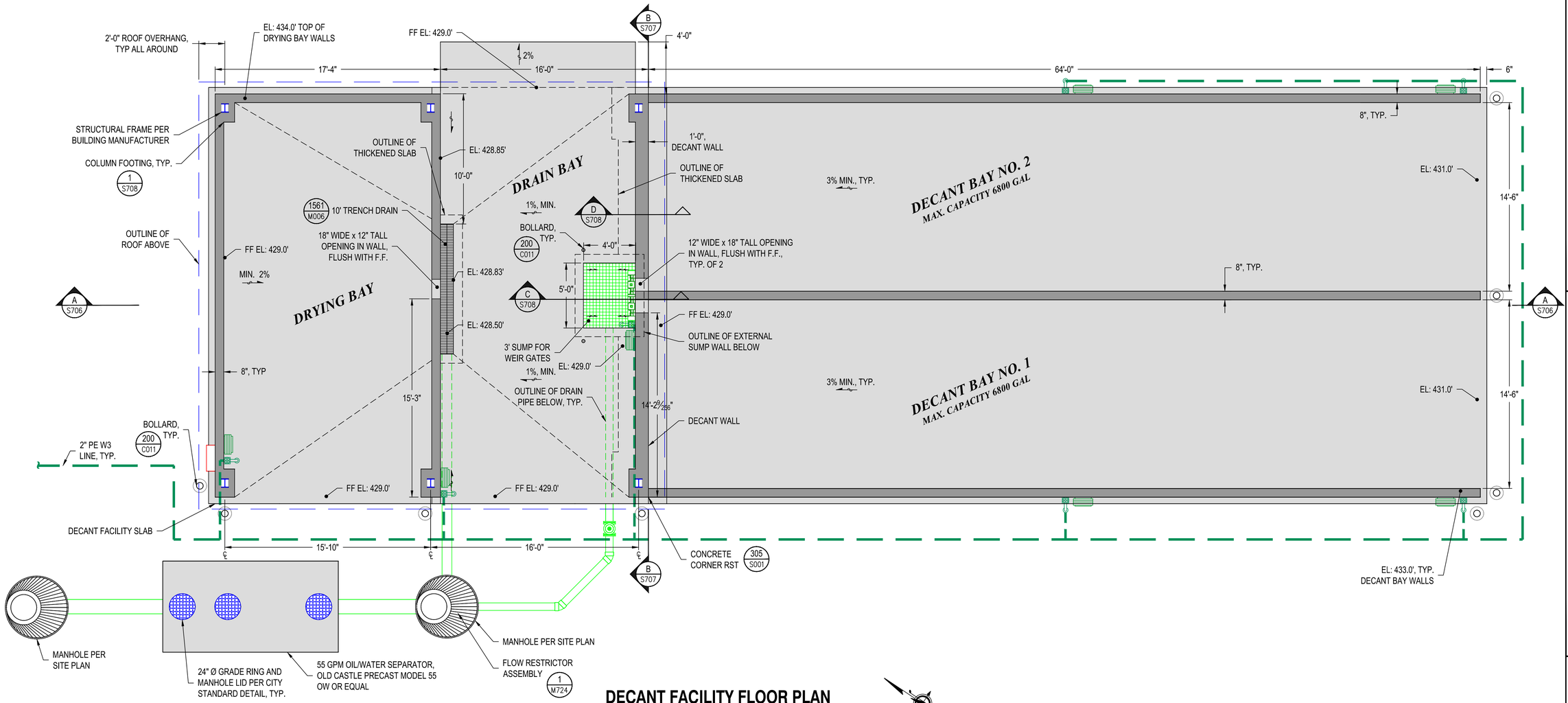
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_C01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: DND
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

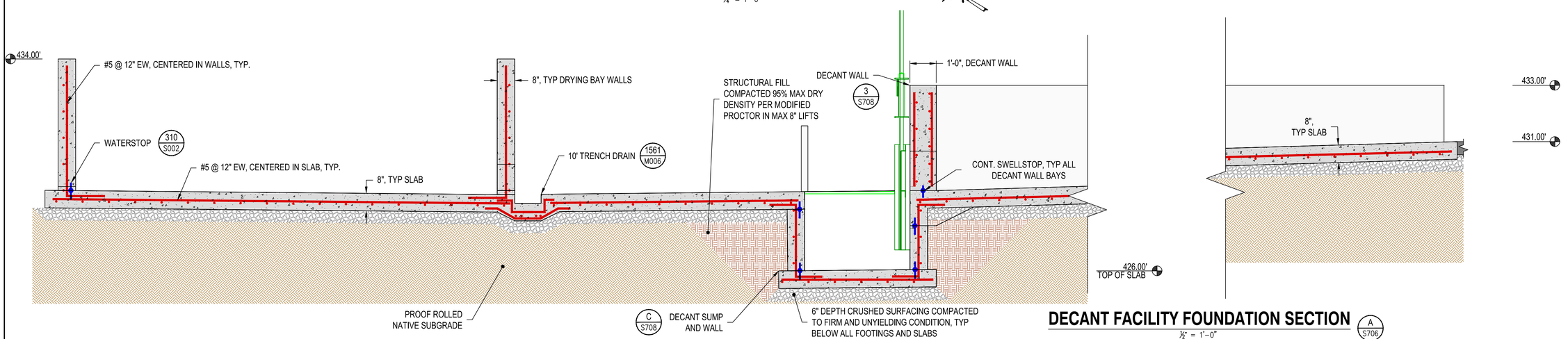
SCALE: SHOWN
0 1" 2
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M723
SHEET NO.: 96
158



DECANT FACILITY FLOOR PLAN

¼" = 1'–0"



DECANT FACILITY FOUNDATION SECTION

A S706

½" = 1'–0"

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DECANT FACILITY FLOOR PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

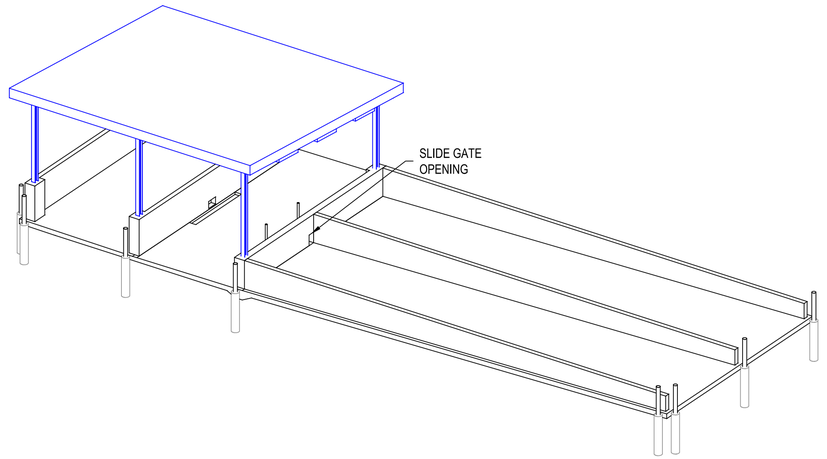
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DCT_S01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: JMC

SCALE: SHOWN

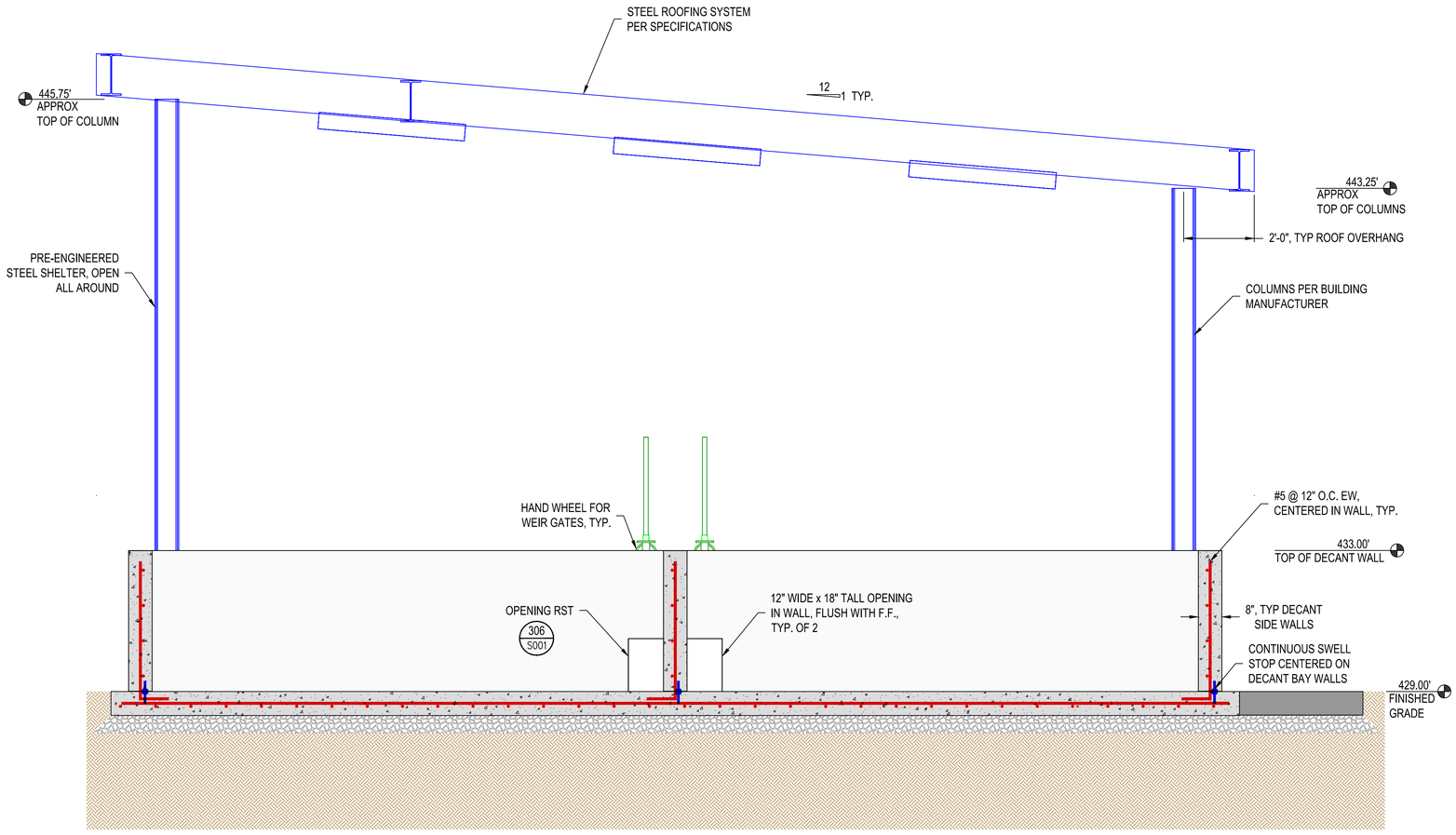
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S706
SHEET NO.: 97
158



OBLIQUE
NOT TO SCALE



DECANT FACILITY EAST SECTION
B
S706
½" = 1'-0"

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SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DECANT FACILITY ELEVATION

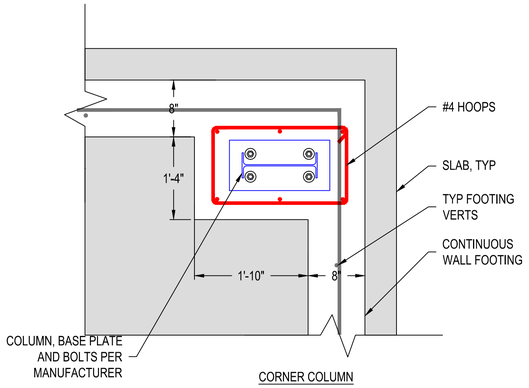
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DCT_S01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: JMC

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

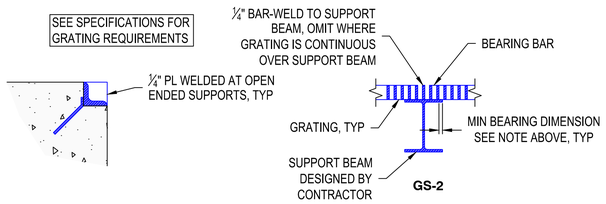
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

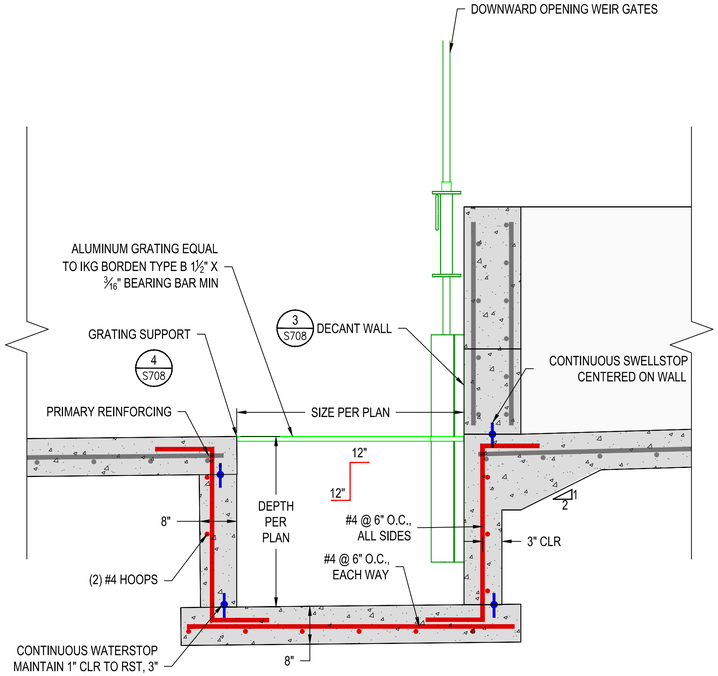
DWG NO.: S707
SHEET NO.: 98



COLUMN FOOTING PLAN (1 S708)

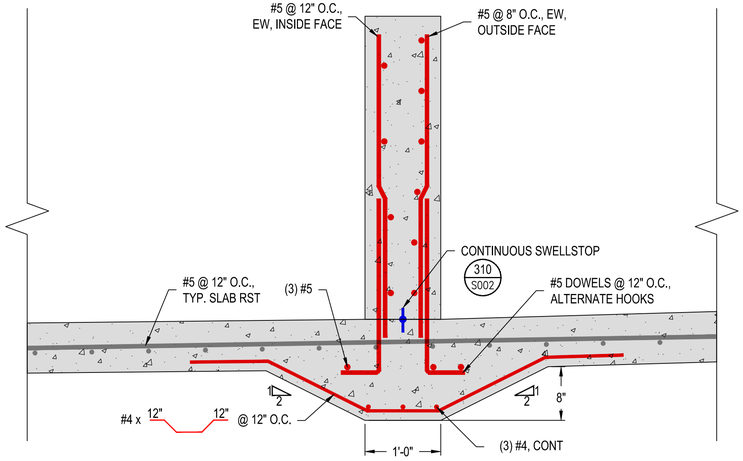
1" = 1'-0"





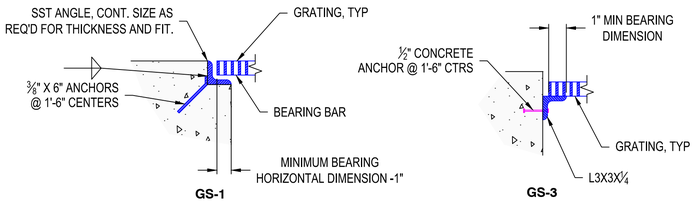
DECANT SUMP (C S706)

¾" = 1'-0"



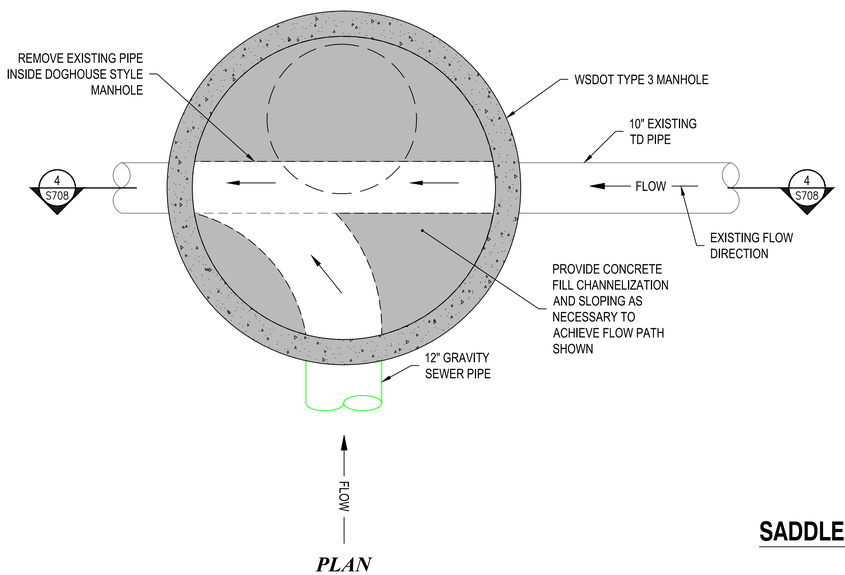
DECANT WALL AND FOUNDATION (D S706)

1" = 1'-0"



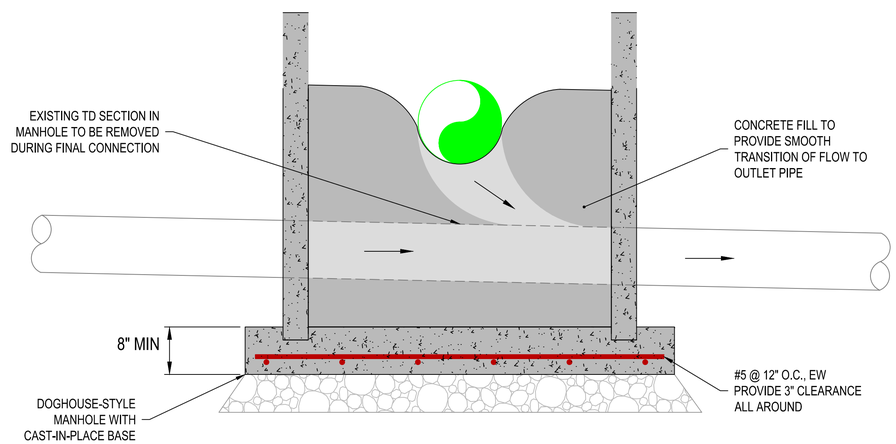
GRATING SUPPORT (2 S708)

NOT TO SCALE



SADDLE MANHOLE DETAIL (3 S708)

NOT TO SCALE



SECTION (4 S708)

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RICHARD M. BALLARD — 22826 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

DECANT FACILITY DETAILS

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

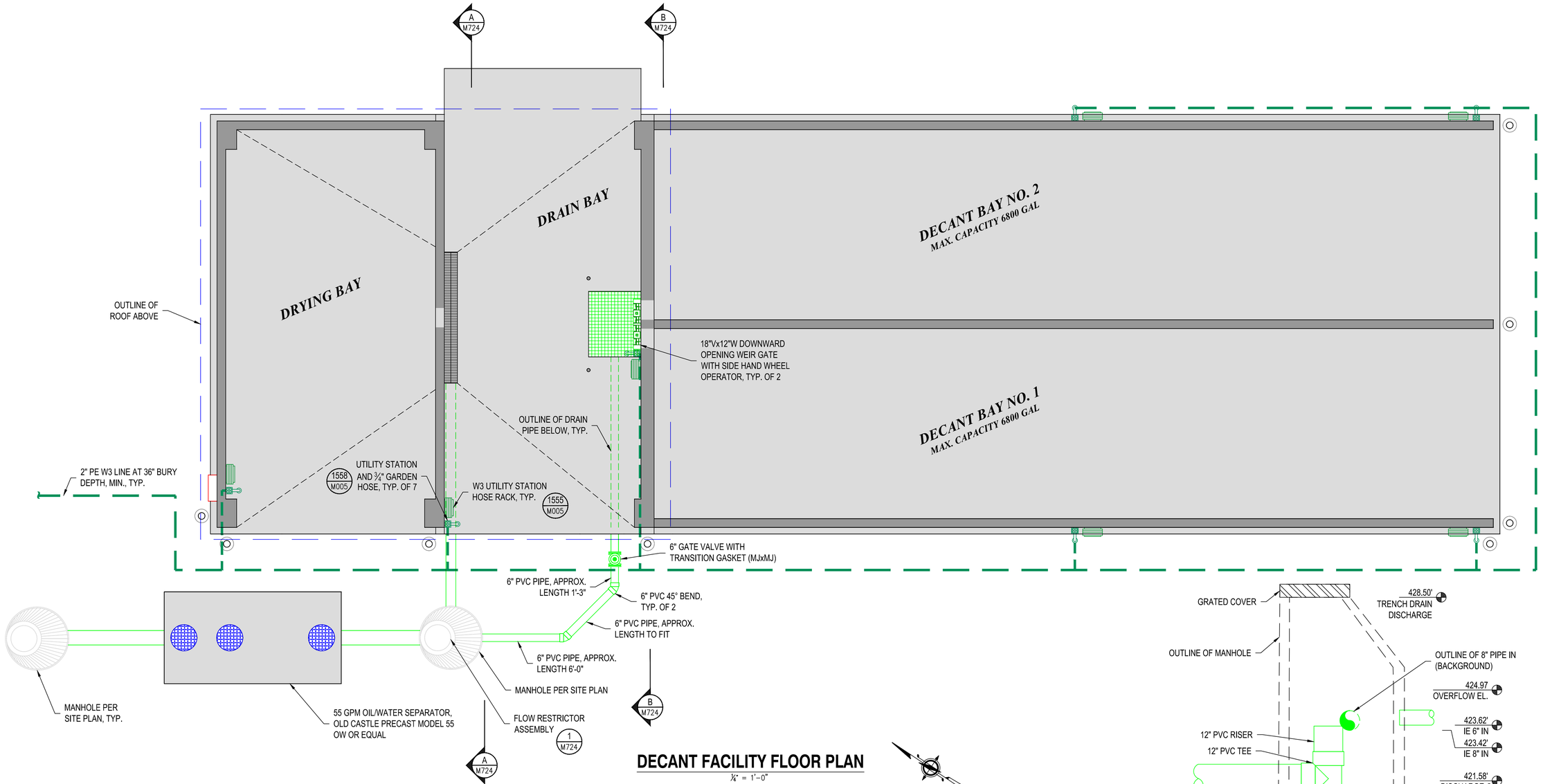
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DCT_S01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JLH
REVIEWED: JMC

SCALE: SHOWN

0" 1" 2"

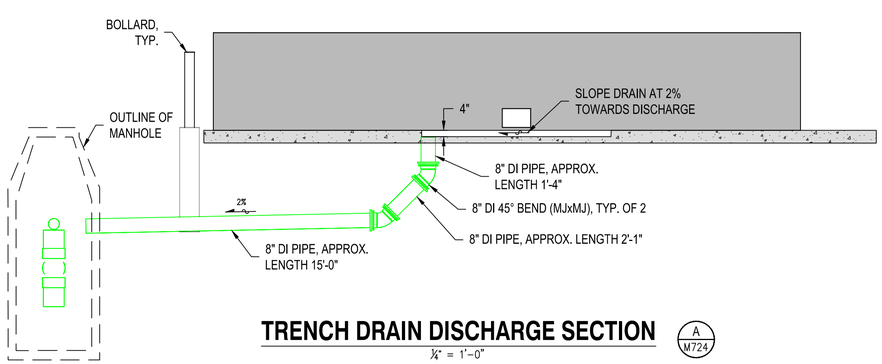
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: S708
SHEET NO.: 99



DECANT FACILITY FLOOR PLAN

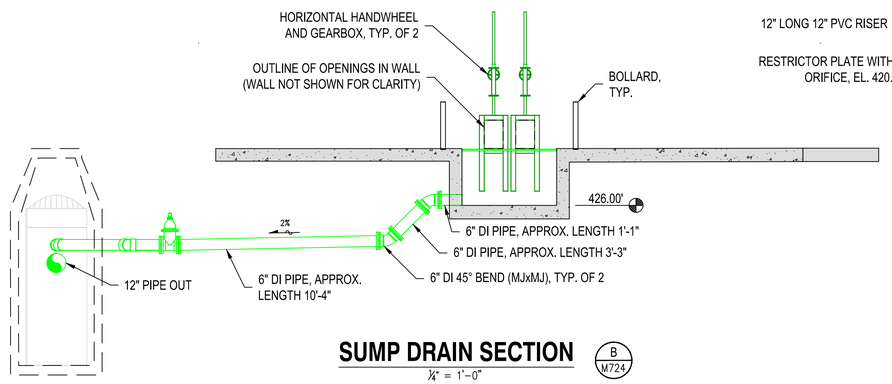
¼" = 1'–0"



TRENCH DRAIN DISCHARGE SECTION

A
M724

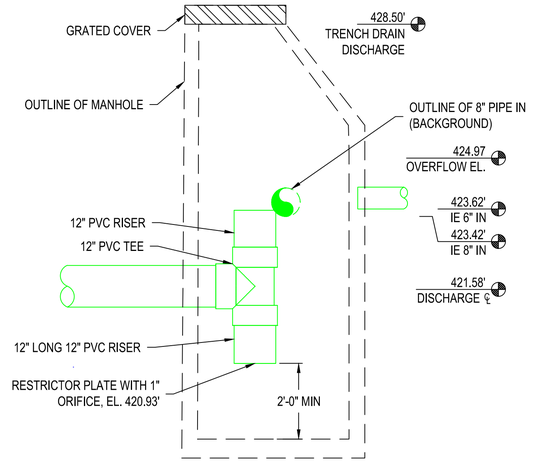
¼" = 1'–0"



SUMP DRAIN SECTION

B
M724

¼" = 1'–0"



FLOW RESTRICTOR ASSEMBLY DETAIL

1
M724

½" = 1'–0"

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SIGNED: 09/19/17

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DECANT FACILITY MECHANICAL PLAN

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

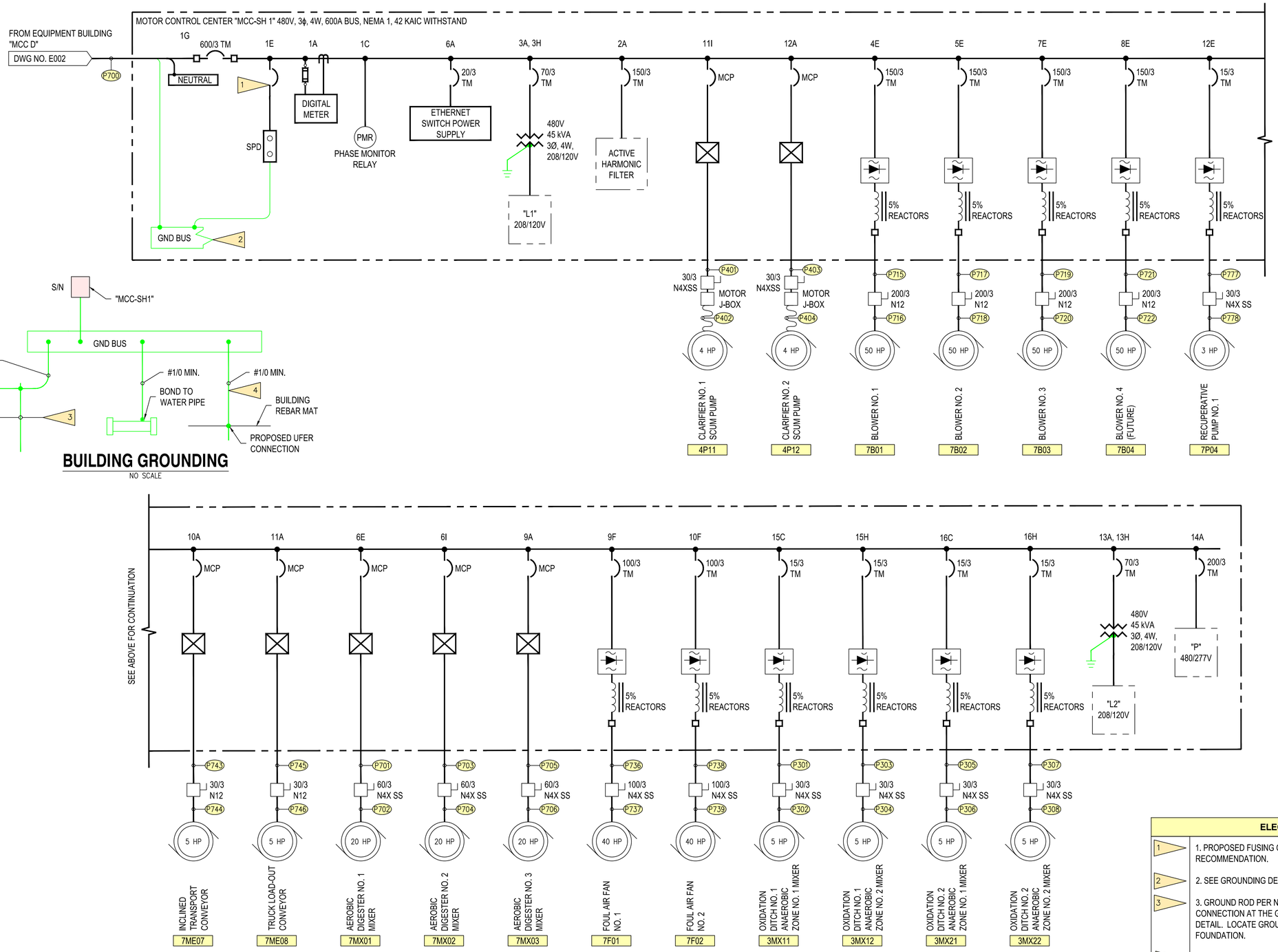
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DCT_M01.DWG
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MRJF
REVIEWED: ETS

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: M724
SHEET NO.: 100
158



BUILDING GROUNDING

NO SCALE

ONE-LINE DIAGRAM - SOLIDS HANDLING BUILDING

NOT TO SCALE

ELECTRICAL NOTES

1. PROPOSED FUSING OR CIRCUIT BREAKER PER SPD MANUFACTURER'S RECOMMENDATION.
2. SEE GROUNDING DETAIL, THIS SHEET.
3. GROUND ROD PER N.E.C. (TYPICAL). USE EXOTHERMIC WELD CONNECTION AT THE GROUND ROD. SEE DWG NO. E721 FOR ADDITIONAL DETAIL. LOCATE GROUND RODS 2' MINIMUM FROM BUILDING FOUNDATION.
4. CONNECTION TO REINFORCEMENT GRID. SEE DWG NO. E721 FOR ADDITIONAL DETAIL.
5. SEE DWG NO. E301 FOR CONDUIT AND CONDUCTOR SCHEDULE.
6. SEE DWG NO. E402 FOR CONDUIT AND CONDUCTOR SCHEDULE.
7. SEE DWG NO. E725 FOR CONDUIT AND CONDUCTOR SCHEDULE.
8. SEE DWG NO. E724 FOR ELECTRICAL EQUIPMENT SCHEDULE.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING ONE-LINE DIAGRAM

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

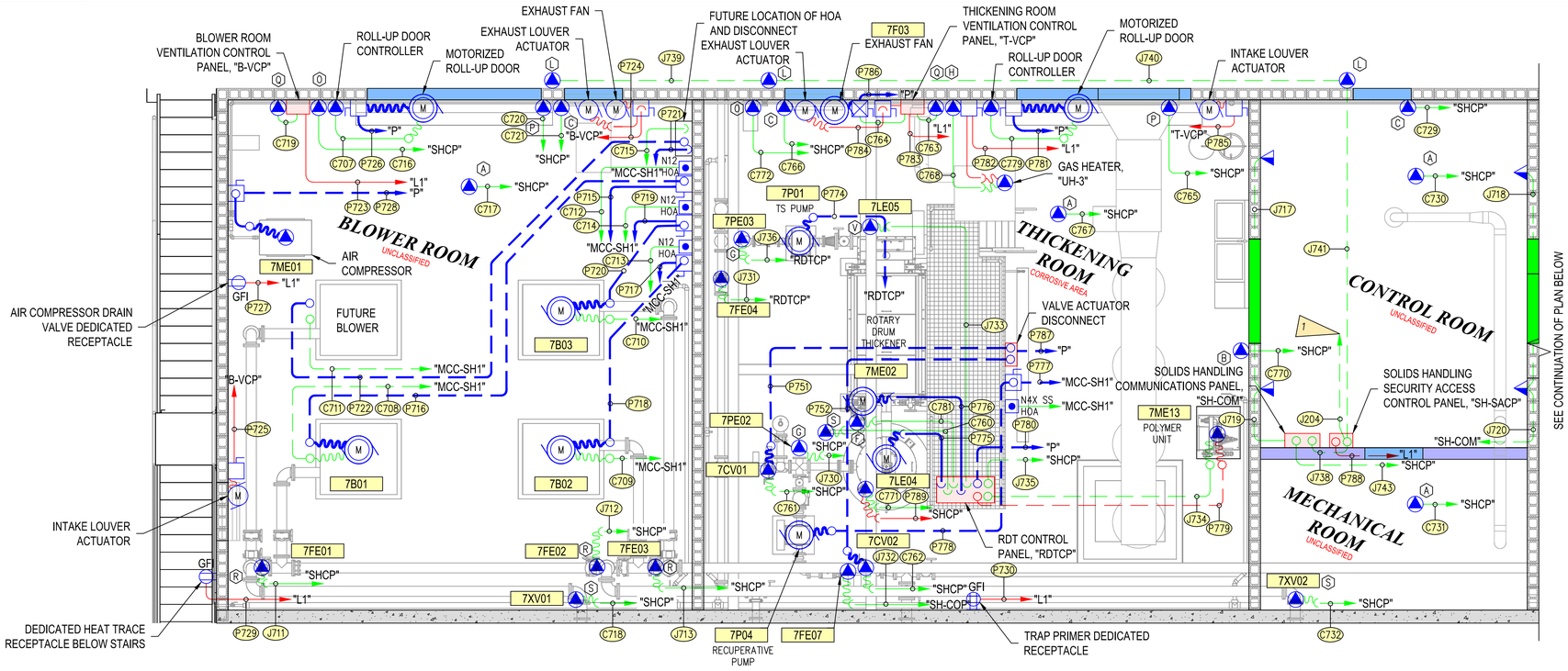
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

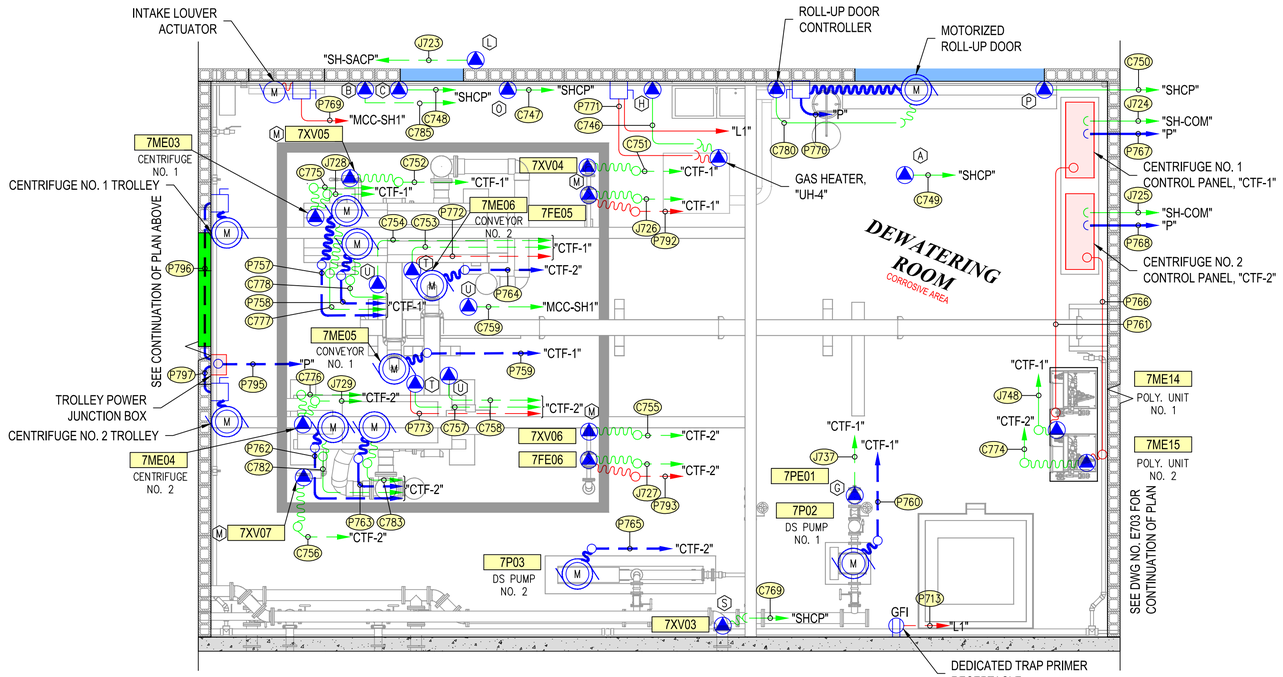
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E701
SHEET NO.: 101





ELECTRICAL NOTES	
1	1. SEE WRF ELECTRICAL SITE PLAN, DWG NO. E003, FOR CONTINUATION.
X	2. SEE DWG NO. E724 FOR EQUIPMENT SCHEDULES.
X2XX	3. SEE DWG NO. E204 FOR CONDUIT AND CONDUCTOR SCHEDULES.
X7XX	4. SEE DWG NO. E725, E726, AND E727 FOR CONDUIT AND CONDUCTOR SCHEDULES.

SOLIDS HANDLING BUILDING FIRST FLOOR POWER DISTRIBUTION & SIGNAL PLAN

1/4" = 1'-0"

CHRISTOPHER MICHAEL PERKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD ALLEN BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

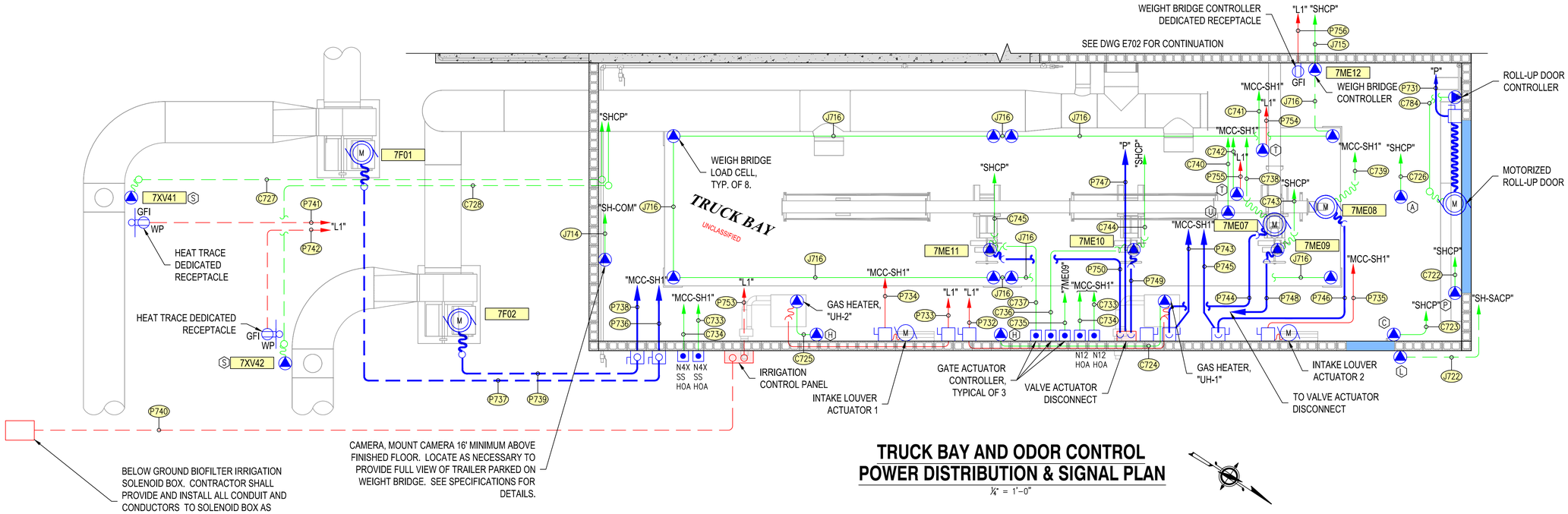
SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

ENGINEER: KMS
REVIEWED: CMR
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-SH_E02.DWG
JOB NO.: 116-028

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E702
SHEET NO.: 102
158



TRUCK BAY AND ODOR CONTROL POWER DISTRIBUTION & SIGNAL PLAN

1/4" = 1'-0"

ELECTRICAL NOTES	
(X)	1. SEE DWG NO. E724 FOR EQUIPMENT SCHEDULES.
(X7XX)	2. SEE DWG NO. E725, E726, AND E727 FOR CONDUIT AND CONDUCTOR SCHEDULES.

RICHARD MICHAEL RUMBAUGH — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 2

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E102.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

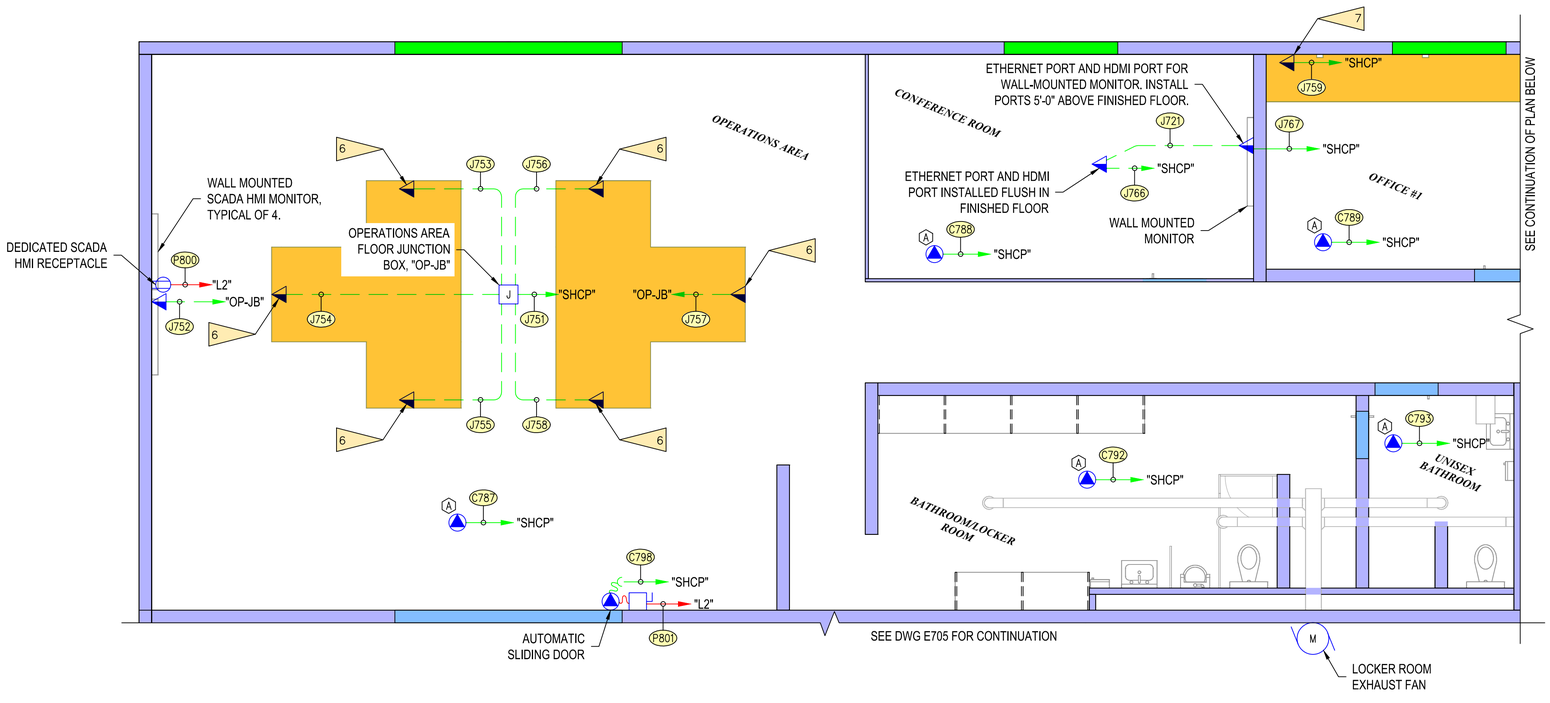
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E703
SHEET NO.: 103



ELECTRICAL NOTES

1	1. SEE WRF ELECTRICAL SITE PLAN, DWG NO. E003, FOR CONTINUATION.
X	2. SEE DWG NO. E724 FOR ELECTRICAL EQUIPMENT SCHEDULES.
X3XX	3. SEE DWG NO. E301 FOR CONDUIT AND CONDUCTOR SCHEDULES.
X4XX	4. SEE DWG NO. E402 FOR CONDUIT AND CONDUCTOR SCHEDULES.
X7XX	5. SEE DWG NO. E725, E726, AND E727 FOR CONDUIT AND CONDUCTOR SCHEDULES.
6	6. INSTALL ETHERNET PORT ON WALL UNDER TABLE.
7	7. INSTALL ETHERNET PORT ABOVE DESK.

SOLIDS HANDLING BUILDING SECOND FLOOR POWER DISTRIBUTION & SIGNAL PLAN

¼" = 1'-0"

CHRISTOPHER MICHAEL RICHARDS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD HUNTINGTON — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

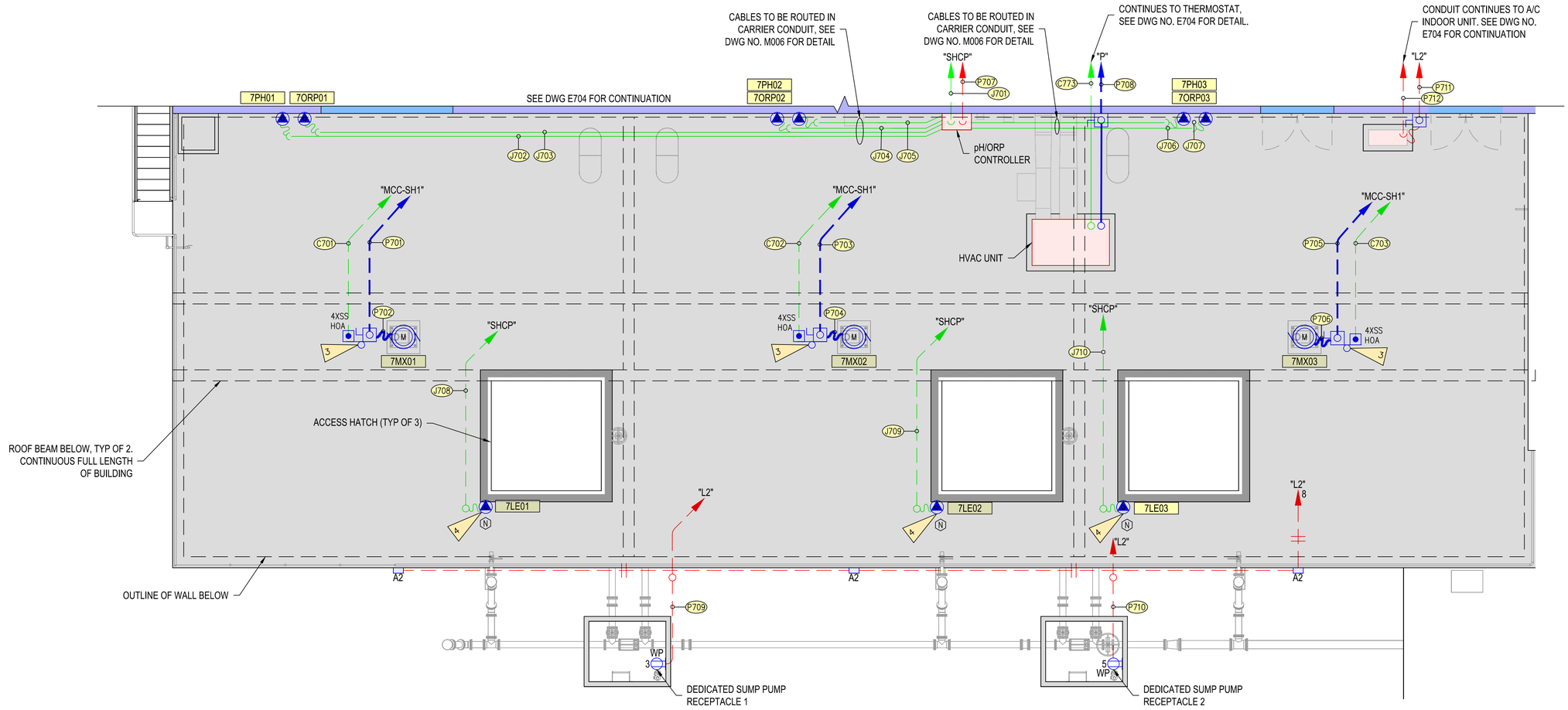
SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 3

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E02.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E704
SHEET NO.: 104
158



ELECTRICAL NOTES	
(X)	1. SEE DWG NO. E724 FOR EQUIPMENT SCHEDULES.
(X7XX)	2. SEE DWG NO. E725, E726, AND E727 FOR CONDUIT AND CONDUCTOR SCHEDULES.
3	3. MOUNT EQUIPMENT TO UNISTRUT SUPPORT, FOR DETAIL SEE DWG NO. E723.
4	4. SEE DW6 NO. E723 FOR RADAR LEVEL TRANSMITTER INSTALLATION DETAIL
A#	5. SEE DWG NO. E724 FOR LIGHTING FIXTURE SCHEDULE.

SOLIDS HANDLING BUILDING DIGESTER ROOF POWER DISTRIBUTION & SIGNAL PLAN

3/16" = 1'-0"

CHRISTOPHER MICHAEL PERKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING BUILDING POWER DISTRIBUTION & SIGNAL PLAN 4

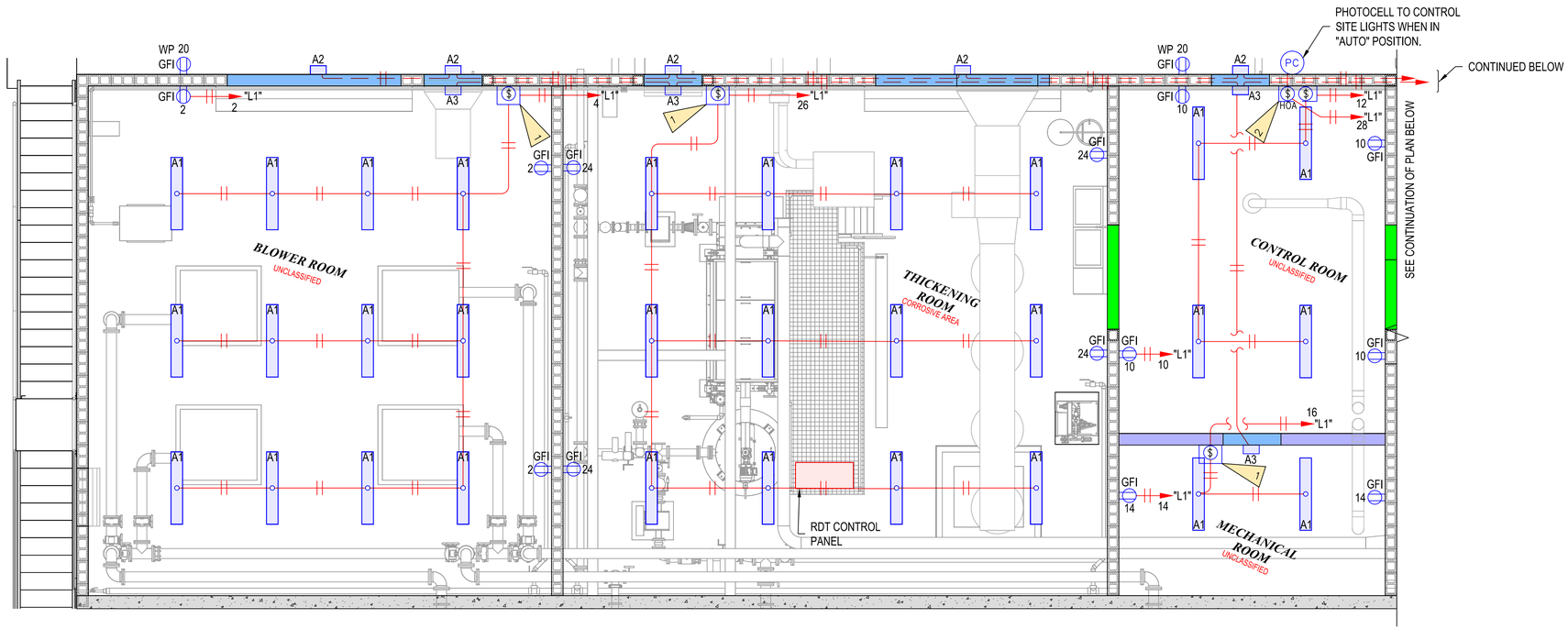
REVISIONS

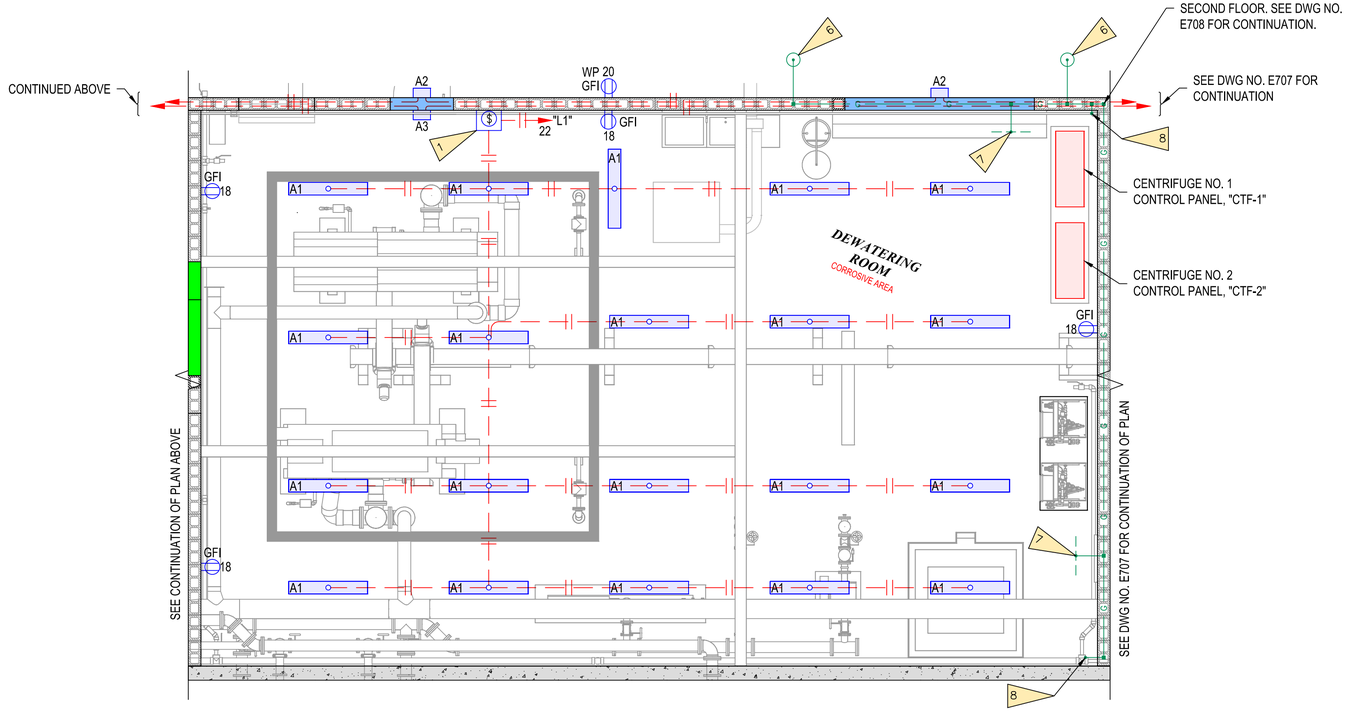
NO.	DESCRIPTION	DATE	BY	REVIEW

ENGINEER: KMS
REVIEWED: CMR
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-SH_E02.DWG
JOB NO.: 116-028

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E705
SHEET NO.: 105
158





ELECTRICAL NOTES

1	1. SINGLE GANG BOX AND SWITCH RECESSED IN WALL.
2	2. DOUBLE GANG BOX AND SWITCH RECESSED IN WALL.
	3. PROVIDE AND INSTALL LABELS FOR ALL LIGHT SWITCHES. LABELS SHALL INDICATE THE DEVICE CONTROLLED BY THE SWITCH.
	4. LOCATE ALL LIGHT FIXTURES, SWITCHES, AND DEVICES IN LOCATION SHOWN ON THE PLANS USING ENGINEERING SCALE. ADJUST LOCATION AS NECESSARY TO AVOID INTERFERENCE WITH OTHER EQUIPMENT.
A#	5. SEE DWG NO. E724 FOR LIGHTING FIXTURE SCHEDULE.
6	6. GROUND ROD PER N.E.C. (TYPICAL). USE EXOTHERMIC WELD CONNECTION AT THE GROUND ROD. SEE DWG NO. E721 FOR DETAIL. LOCATE GROUND RODS 2' MINIMUM FROM BUILDING FOUNDATION.
7	7. CONNECTION TO REINFORCEMENT GRID (TYPICAL OF 2 LOCATIONS). SEE DWG NO. E721 FOR ADDITIONAL DETAIL.
8	8. BOND GROUND SYSTEM TO WATER PIPING (TYPICAL OF 2 LOCATIONS).
	9. CHAIN MOUNT LIGHTS 14' ABOVE FINISHED FLOOR. IF DUCTING OR PIPE INTERFERES WITH THIS HEIGHT, CHAIN MOUNT FIXTURE BELOW INTERFERING EQUIPMENT TO PREVENT SHADOWS.

SOLIDS HANDLING BUILDING FIRST FLOOR LIGHTING, RECEPTACLE AND GROUNDING PLAN

1/4" = 1'-0"

RICHARD WILLIAM PERKINS — STATE OF WASHINGTON — 22855 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22855 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING LIGHTING, RECEPTACLE, AND GROUNDING PLAN 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

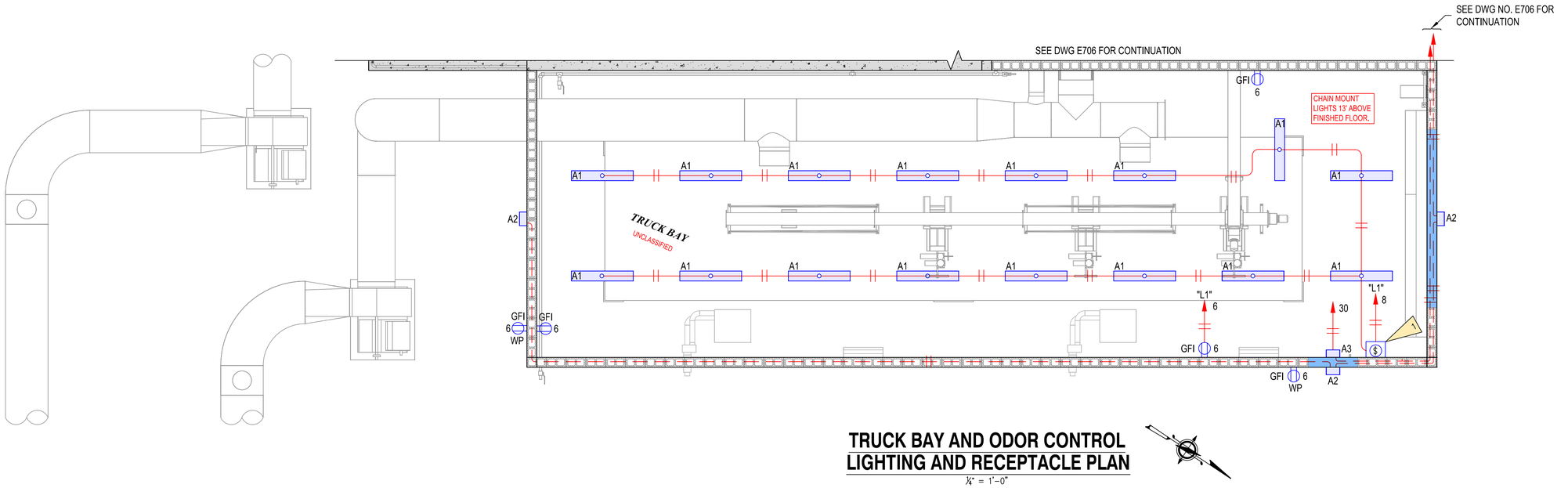
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-DI-SH_E03.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E706
SHEET NO.: 106
158



TRUCK BAY AND ODOR CONTROL LIGHTING AND RECEPTACLE PLAN

1/4" = 1'-0"

ELECTRICAL NOTES	
1	1. SINGLE GANG BOX AND SWITCH RECESSED IN WALL. 2. PROVIDE AND INSTALL LABELS FOR ALL LIGHT SWITCHES. LABELS SHALL INDICATE THE DEVICE CONTROLLED BY THE SWITCH. 3. LOCATE ALL LIGHT FIXTURES, SWITCHES, AND DEVICES IN LOCATION SHOWN ON THE PLANS USING ENGINEERING SCALE. ADJUST LOCATION AS NECESSARY TO AVOID INTERFERENCE WITH OTHER EQUIPMENT.
A#	4. SEE DWG NO. E724 FOR LIGHTING FIXTURE SCHEDULE.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING LIGHTING, RECEPTACLE, AND GROUNDING PLAN 2

JOB NO.:	116-028
CLIENT:	SNQ
FILENAME:	WRF02-D-SH_E03.DWG
SAVE DATE:	Sep 18, 2017
PLOT DATE:	Sep 19, 2017
ENGINEER:	KNS
REVIEWED:	CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

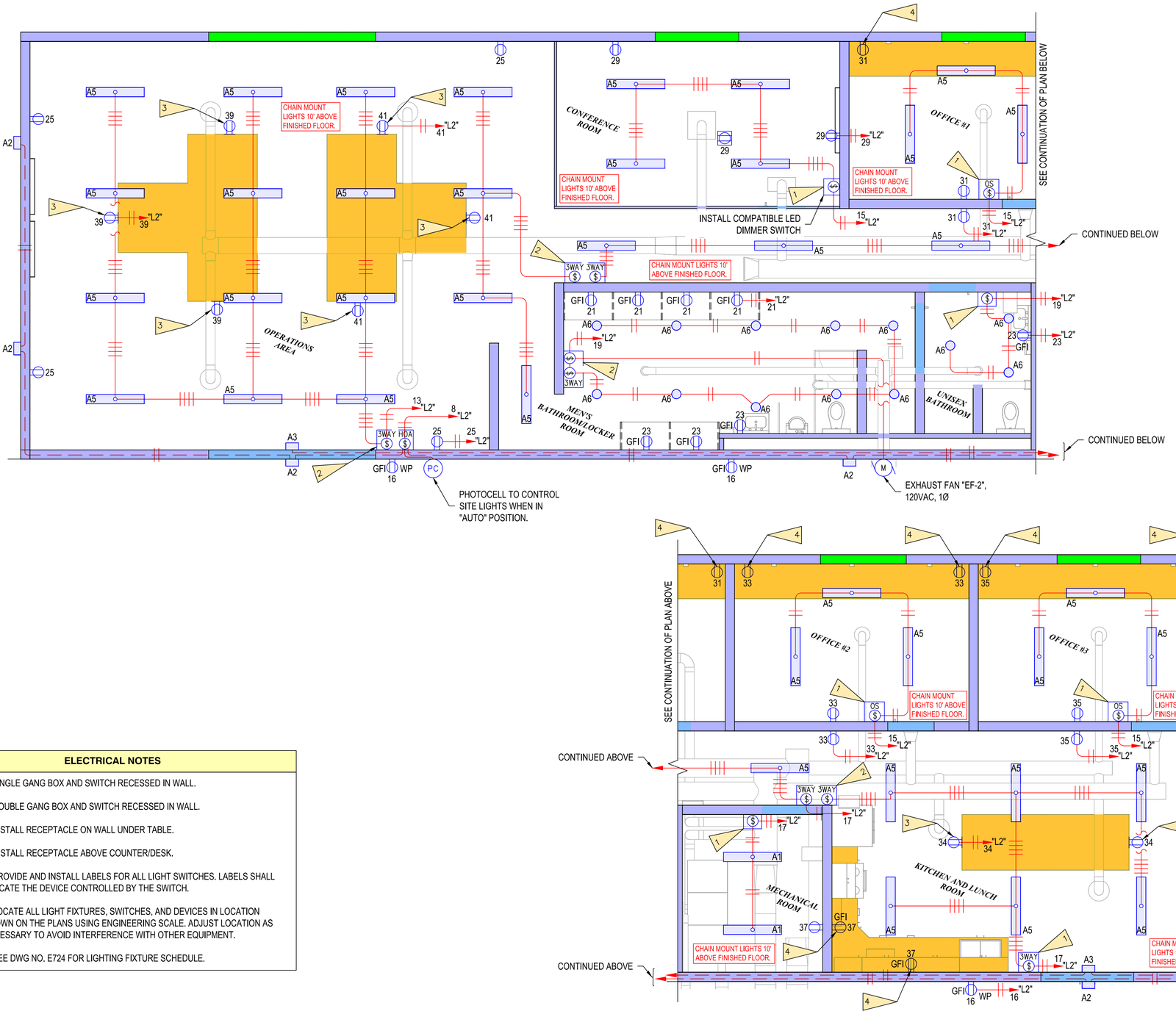
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E707

SHEET NO.: 107



SOLIDS HANDLING BUILDING SECOND FLOOR LIGHTING, RECEPTACLE AND GROUNDING PLAN

¼" = 1'-0"

ELECTRICAL NOTES

1	1. SINGLE GANG BOX AND SWITCH RECESSED IN WALL.
2	2. DOUBLE GANG BOX AND SWITCH RECESSED IN WALL.
3	3. INSTALL RECEPTACLE ON WALL UNDER TABLE.
4	4. INSTALL RECEPTACLE ABOVE COUNTER/DESK.
	5. PROVIDE AND INSTALL LABELS FOR ALL LIGHT SWITCHES. LABELS SHALL INDICATE THE DEVICE CONTROLLED BY THE SWITCH.
	6. LOCATE ALL LIGHT FIXTURES, SWITCHES, AND DEVICES IN LOCATION SHOWN ON THE PLANS USING ENGINEERING SCALE. ADJUST LOCATION AS NECESSARY TO AVOID INTERFERENCE WITH OTHER EQUIPMENT.
A#	7. SEE DWG NO. E724 FOR LIGHTING FIXTURE SCHEDULE.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING LIGHTING, RECEPTACLE, AND GROUNDING PLAN 3

ENGINEER:	KMS
REVIEWED:	CMR
SAVE DATE:	Sep 18, 2017
PLOT DATE:	Sep 19, 2017
CLIENT:	SNQ
FILENAME:	WRF02-D-SH_E03.DWG
JOB NO.:	116-028

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

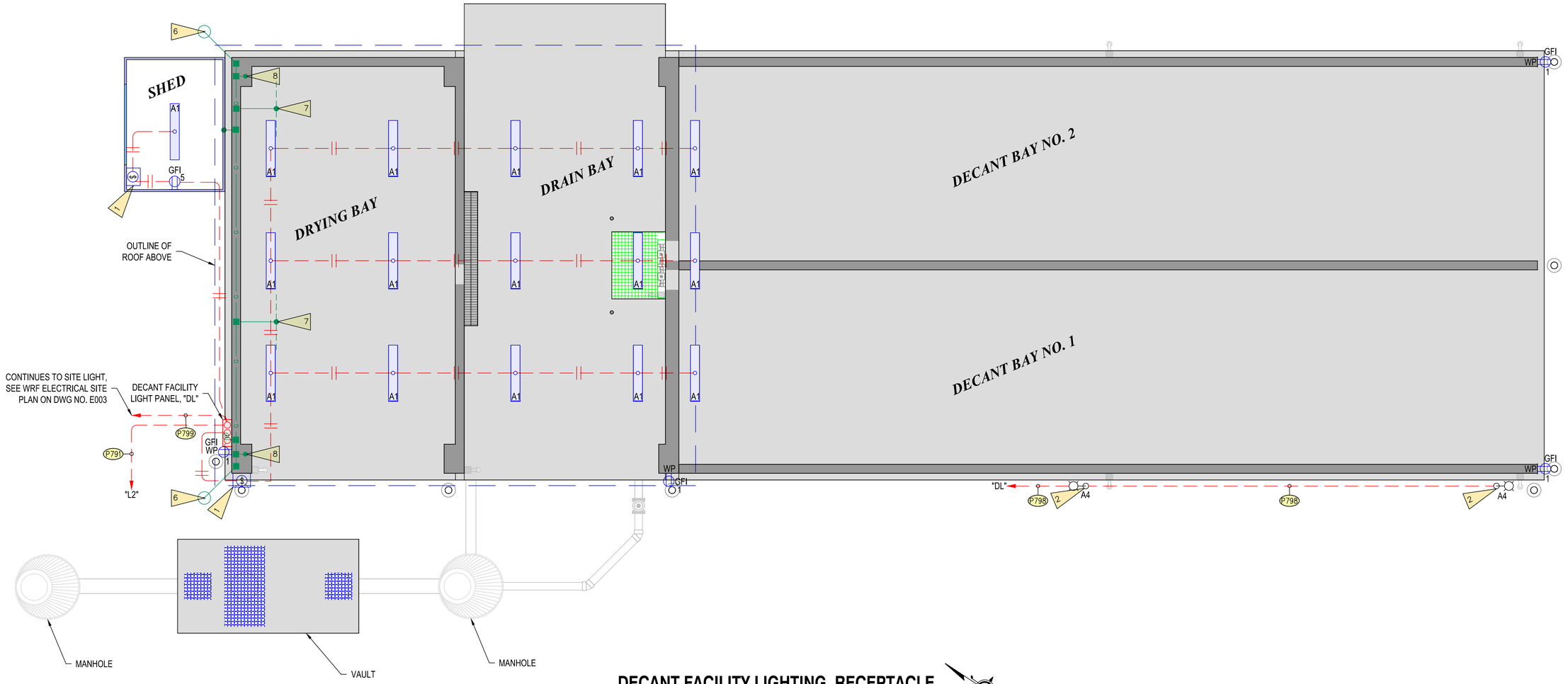
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E708

SHEET NO.: 108

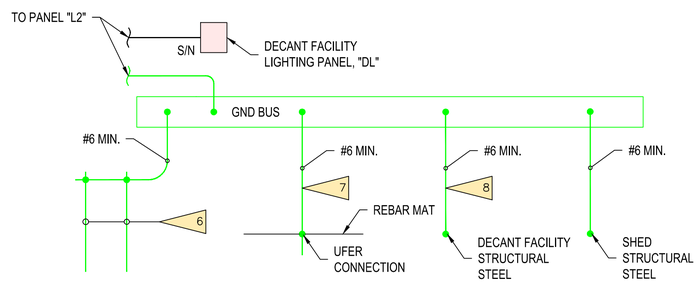


DECANT FACILITY LIGHTING, RECEPTACLE AND GROUNDING PLAN

1/4" = 1'-0"

ELECTRICAL NOTES

1	1. SINGLE GANG BOX AND SWITCH SURFACE MOUNTED TO WALL.
2	2. POLE MOUNTED SITE LIGHT, SEE DWG NO. E722 FOR DETAIL.
	3. PROVIDE AND INSTALL LABELS FOR ALL LIGHT SWITCHES. LABELS SHALL INDICATE THE DEVICE CONTROLLED BY THE SWITCH.
	4. LOCATE ALL LIGHT FIXTURES, SWITCHES, AND DEVICES IN LOCATION SHOWN ON THE PLANS USING ENGINEERING SCALE. ADJUST LOCATION AS NECESSARY TO AVOID INTERFERENCE WITH OTHER EQUIPMENT.
A#	5. SEE DWG NO E724 FOR LIGHTING FIXTURE SCHEDULE.
6	6. GROUND ROD PER N.E.C. (TYPICAL). USE EXOTHERMIC WELD CONNECTION AT THE GROUND ROD. SEE DWG NO. E721 FOR DETAIL. LOCATE GROUND RODS 2' MINIMUM FROM BUILDING FOUNDATION.
7	7. CONNECTION TO REINFORCEMENT GRID. SEE DWG NO. E721 FOR ADDITIONAL DETAIL (TYPICAL OF TWO LOCATIONS).
8	8. CONNECTION TO BUILDING STRUCTURAL STEEL (TYPICAL OF TWO LOCATIONS).
X7XX	9. SEE DWG NO. E725 FOR CONDUIT AND CONDUCTOR SCHEDULE.



GROUNDING

NO SCALE

PANEL SCHEDULE DL

NO. DL | LOCATION: DECANT FACILITY | SERVING: DECANT FACILITY LOADS

208/120 VOLTS 3φ 4 WIRE
50 AMP MAIN

CIRCUIT DESCRIPTION	KVA	AMP		AMP	KVA	CIRCUIT DESCRIPTION
RECEPTACLES	0.72	20	1 — 2	20	0.63	DECANT BAY POLE LIGHTS
SITE LIGHT	0.32	20	3 — 4	20	0.79	SHELTER LIGHTS
SHED LIGHT AND RECEPTACLE	0.24	20	5 — 6	20	–	SPARE
SPARE	–	20	7 — 8	20	–	SPARE
SPARE	–	20	9 — 10	–	–	SPACE
SPACE	–	–	11 — 12	–	–	SPACE
SPACE	–	–	13 — 14	–	–	SPACE
SPACE	–	–	15 — 16	–	–	SPACE
SPACE	–	–	17 — 18	–	–	SPACE

CONNECTION LOAD: 2.70 KVA 7.50 AMPS

DEMAND: LIGHTING & RECEPTACLE LOAD

DEMAND LOAD: 2.70 KVA 7.50 AMPS

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WRF PHASE 2 IMPROVEMENTS

DECANT FACILITY LIGHTING, RECEPTACLE, AND GROUNDING PLAN

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02A-DCT_E01.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

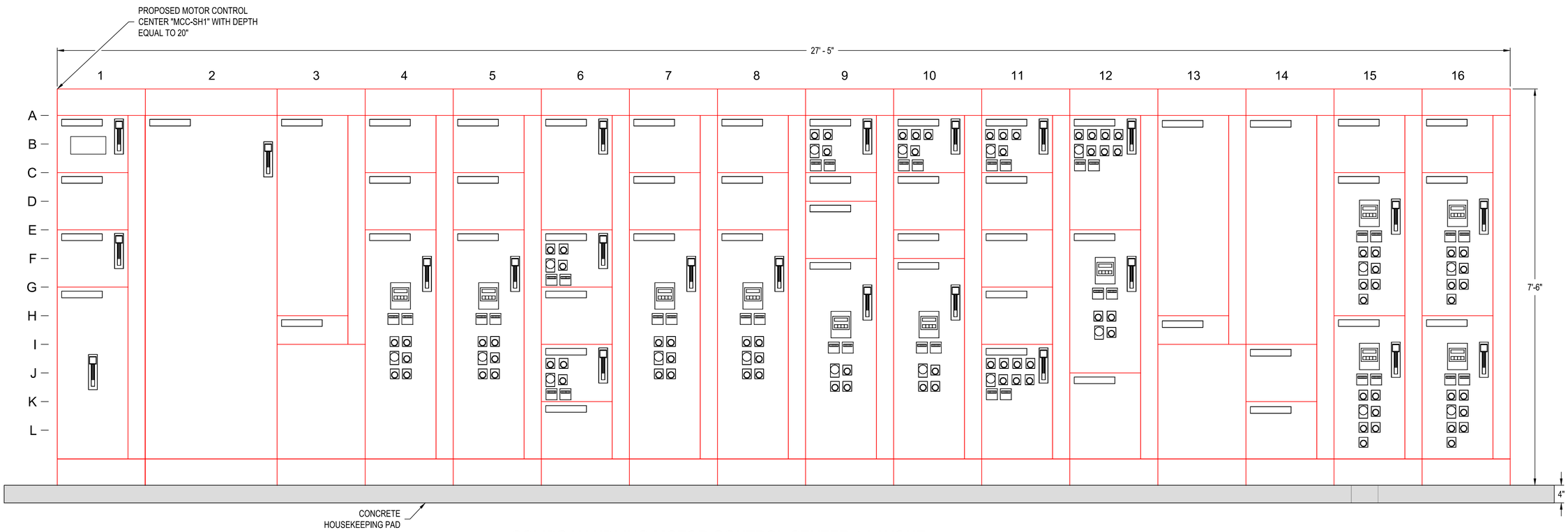
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E709
SHEET NO.: 109



SOLIDS HANDLING MOTOR CONTROL CENTER 1 LAYOUT

1"=1'-0"

A / E704

MCC-SH1 CONTROL DEVICES		
MCC SECTION	NAMEPLATE SCHEDULE	CONTROL LOGIC DIAGRAM
1A	POWER MONITOR	
1C	PHASE MONITOR RELAY	
1E	SURGE PROTECTION DEVICE	
1G	MCC-SH1 MAIN DISCONNECT	
2A	ACTIVE HARMONIC FILTER	
3A	PANEL "L1"	
3H	LIGHTING TRANSFORMER AND DISCONNECT, "T1"	
4E	BLOWER NO. 1, "7B01"	E716
5E	BLOWER NO. 2, "7B01"	E716
6A	ETHERNET SWITCH POWER SUPPLY AND SWITCH	
6E	AEROBIC DIGESTER NO. 1 MIXER, "7MX01"	E714
6I	AEROBIC DIGESTER NO. 2 MIXER, "7MX02"	E714
7E	BLOWER NO. 3, "7B03"	E716
8E	BLOWER NO. 4 (FUTURE), "7B04"	E716
9A	AEROBIC DIGESTER NO. 3 MIXER, "7MX03"	E714
9F	FOUL AIR FAN NO. 1, "7F01"	E717
10A	INCLINED TRANSPORT CONVEYOR, "7ME07"	E711
10F	FOUL AIR FAN NO. 2, "7F02"	E717
11A	TRUCK LOAD-OUT CONVEYER, "7ME08"	E712
11I	CLARIFIER NO. 1 SCUM PUMP, "4P11"	E718
12A	CLARIFIER NO. 2 SCUM PUMP, "4P12"	E718
12E	RECUPERATIVE PUMP NO. 1, "7P04"	E715

MCC-SH1 CONTROL DEVICES CONT.		
MCC SECTION	NAMEPLATE SCHEDULE	CONTROL LOGIC DIAGRAM
13A	PANEL "L2"	
13H	LIGHTING TRANSFORMER AND DISCONNECT, "T2"	
14A	PANEL "P"	
15C	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 1 MIXER, "3MX11"	E713
15H	OXIDATION DITCH NO. 1 ANAEROBIC ZONE NO. 2 MIXER, "3MX12"	E713
16C	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 1 MIXER, "3MX21"	E713
16H	OXIDATION DITCH NO. 2 ANAEROBIC ZONE NO. 2 MIXER, "3MX22"	E713

ELECTRICAL NOTES	
	1. SEE CONTROL LOGIC DIAGRAM FOR OPERATOR DEVICE INFORMATION AND OPERATOR DEVICE NAMEPLATES.

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WRF PHASE 2 IMPROVEMENTS

MOTOR CONTROL CENTER DETAILS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E04.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E710
SHEET NO.: 110
158

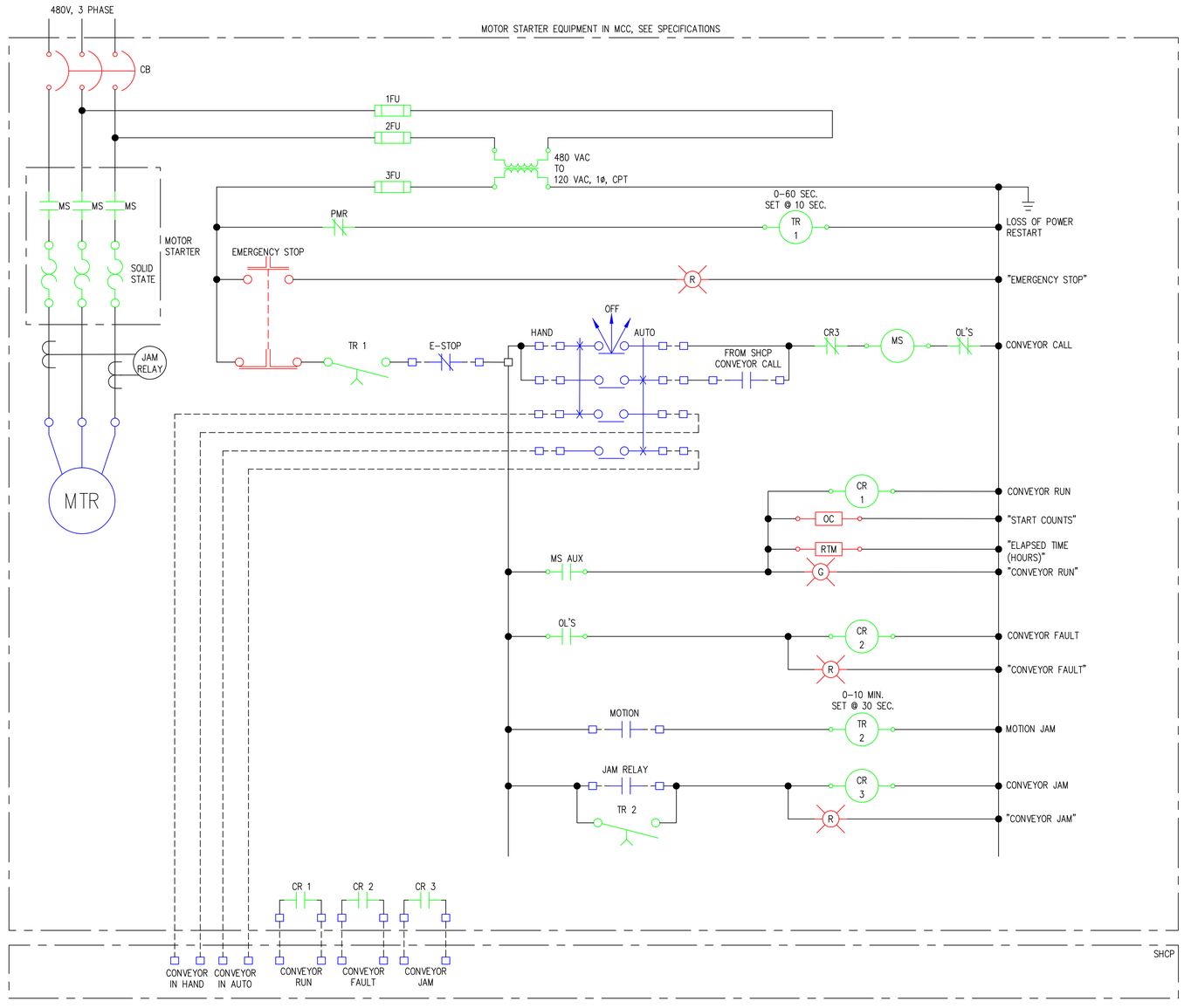

DIAGRAM 1: 7ME07

NO SCALE

ELECTRICAL NOTES	
	1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 1

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-DI-SH_E05.DWG
DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E711
SHEET NO.: 111

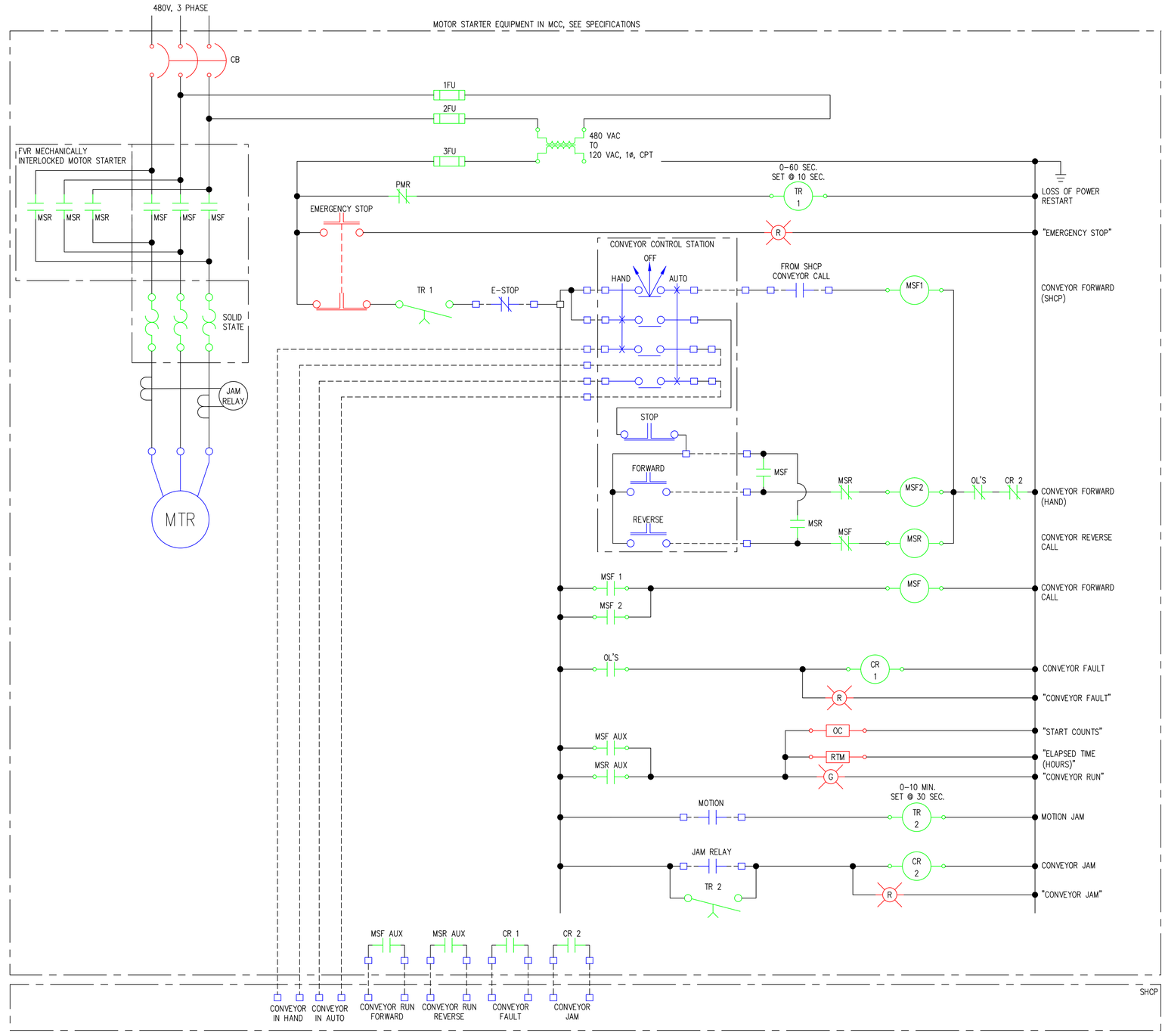

DIAGRAM 2: 7ME08

NO SCALE

ELECTRICAL NOTES	
	1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 2

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-0-SH_E05.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E712

SHEET NO.: 112

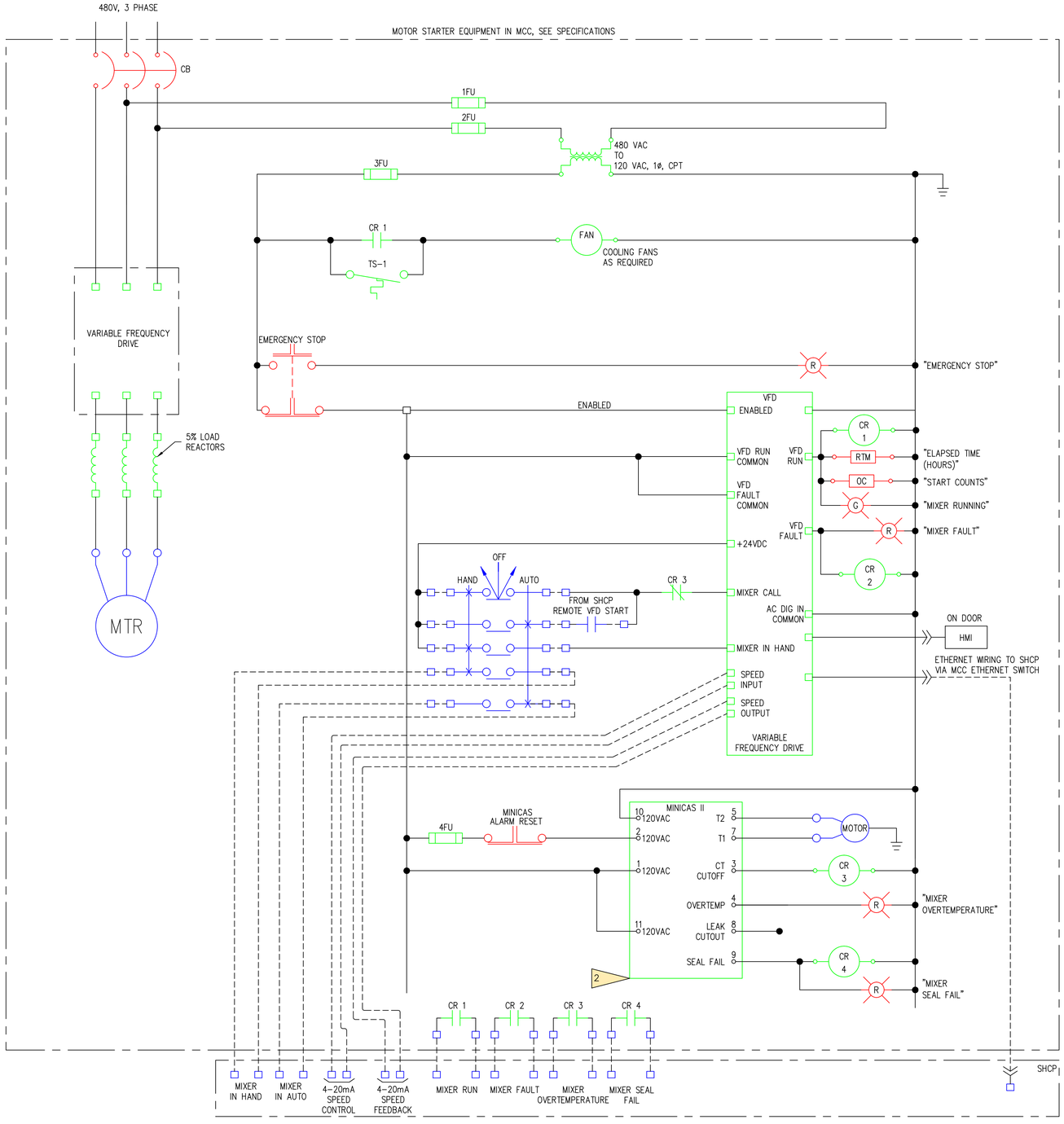

DIAGRAM 3: OXIDATION DITCH MIXERS 3MX11, 3MX12, 3MX21, 3M22

NO SCALE

ELECTRICAL NOTES

1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

2. 2. THE TYPE OF MIXER PROTECTION RELAY MAY VARY DEPENDING ON THE SELECTED MIXER MANUFACTURER. CONTRACTOR SHALL PROVIDE AND INSTALL THE APPROPRIATE MIXER PROTECTION RELAY EQUIPMENT AS RECOMMENDED BY THE MIXER MANUFACTURER. CONTROL WIRING IN THE MCC SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE PROVIDED MIXER PROTECTION RELAY AT NO COST TO THE OWNER.

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CONTROL LOGIC DIAGRAMS 3

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E713
SHEET NO.: 113
158

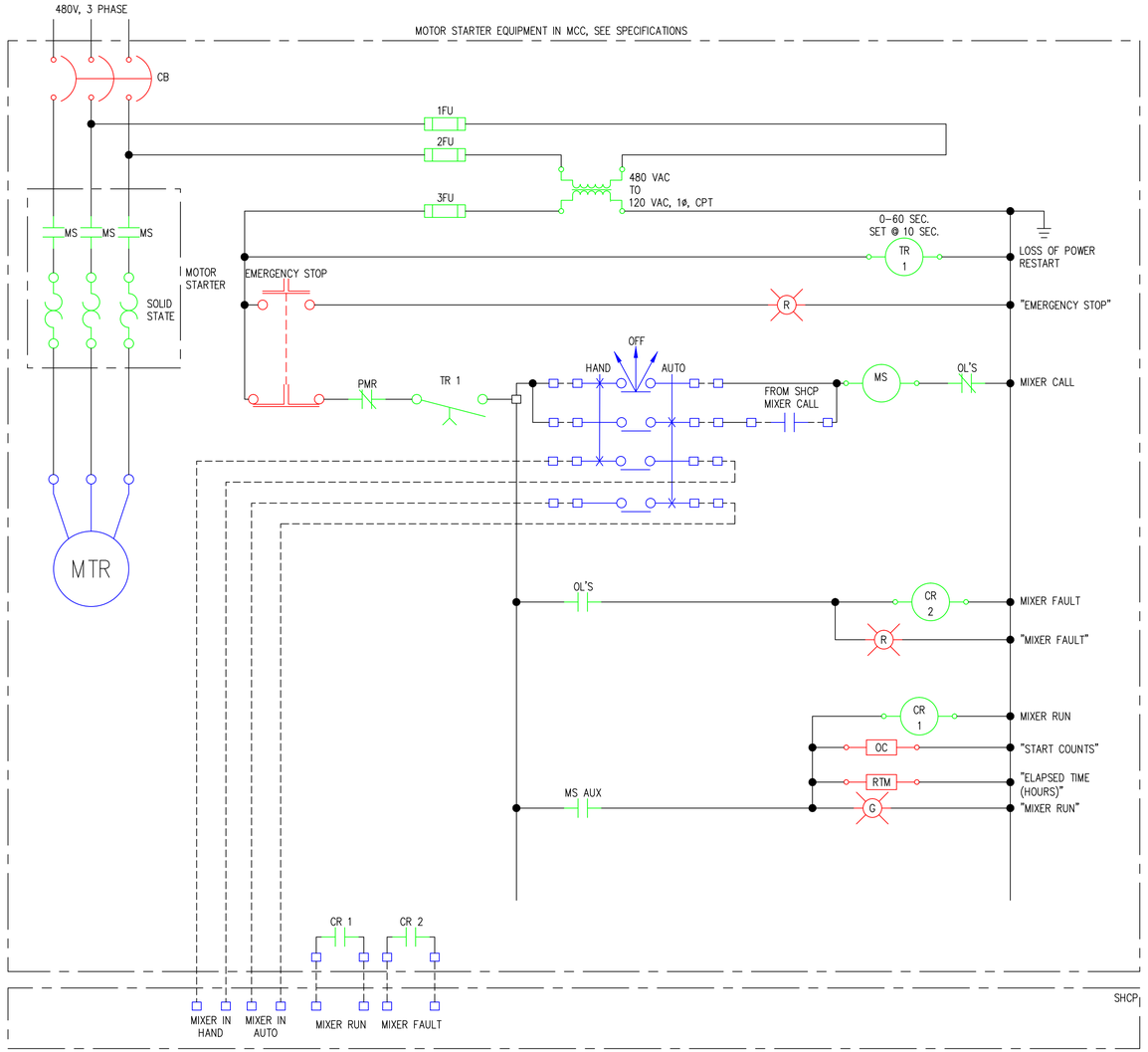

DIAGRAM 4: DIGESTER MIXERS 7MX01, 7MX02, 7MX03

NO SCALE

ELECTRICAL NOTES	
	1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 4

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E06.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E714
SHEET NO.: 114
158

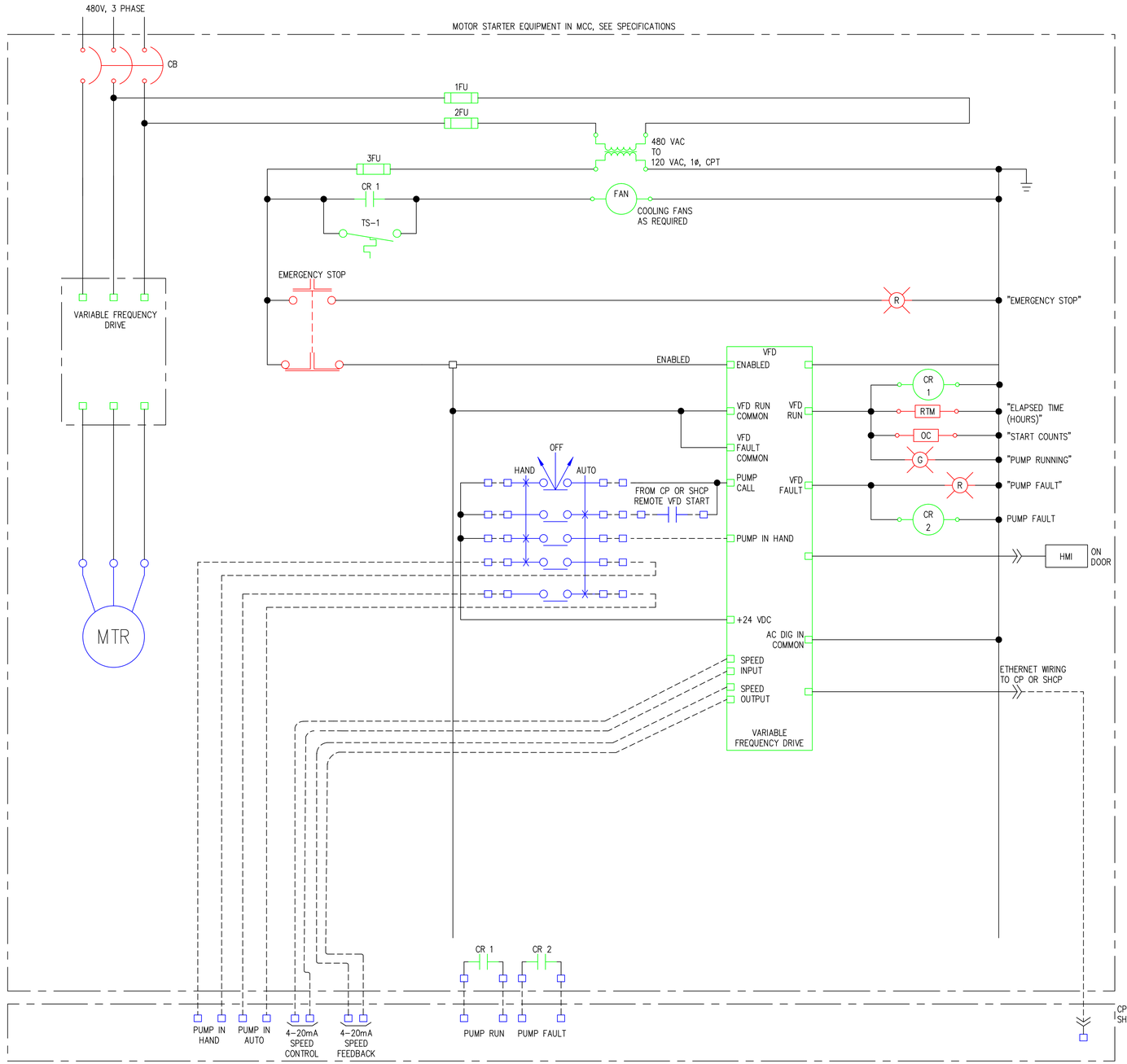

DIAGRAM 5: PUMPS 5P11, 5P12, 5P13, 7P04

NO SCALE

ELECTRICAL NOTES	
	1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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RICHARD ALLEN BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 5

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E715
SHEET NO.: 115
158

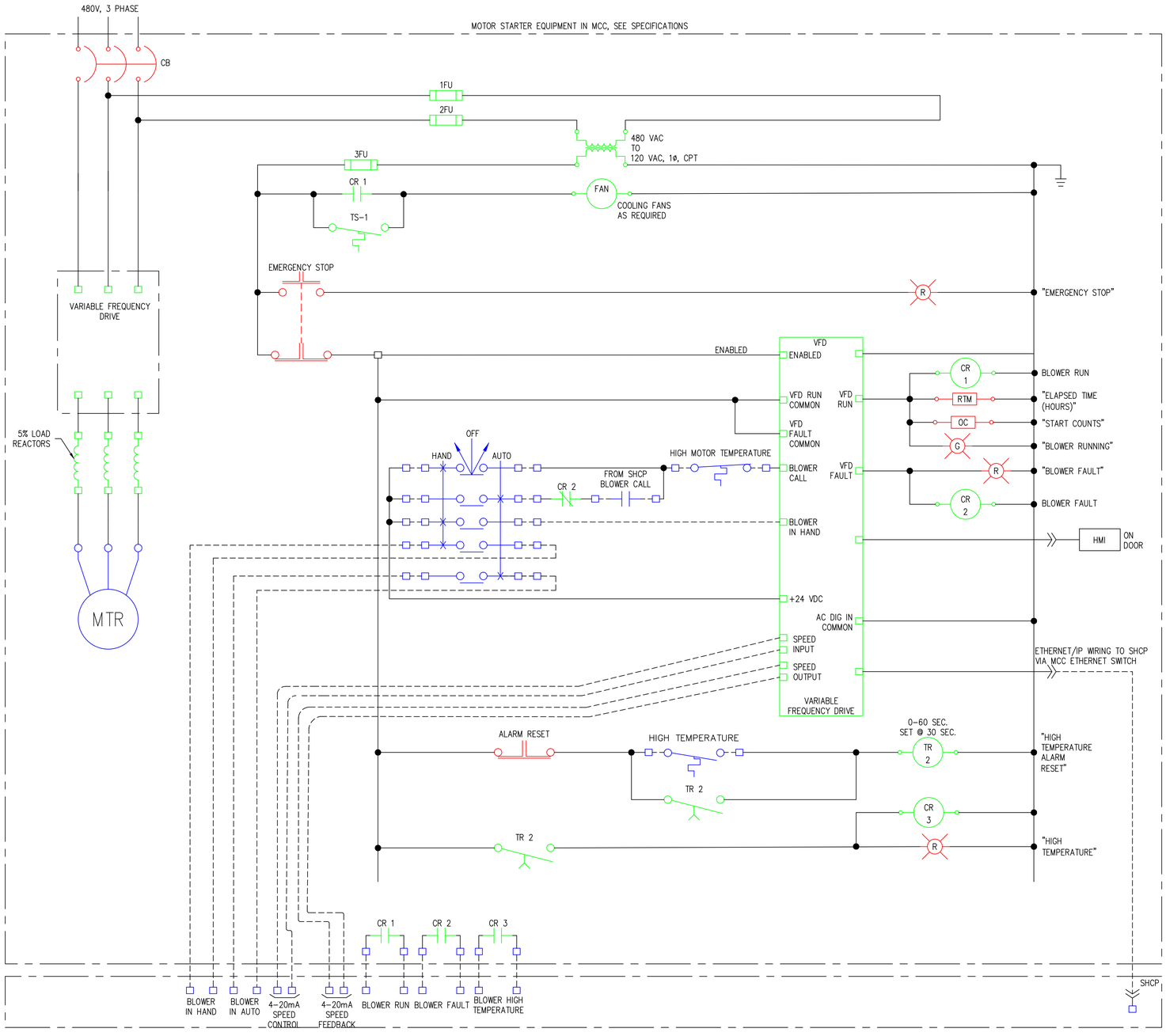

DIAGRAM 6: BLOWERS 7B01, 7B02, 7B03, 7B04

NO SCALE

ELECTRICAL NOTES	
	1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 6

ENGINEER: KMS
REVIEWED: CMR
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
JOB NO.: 116-028

REVISIONS

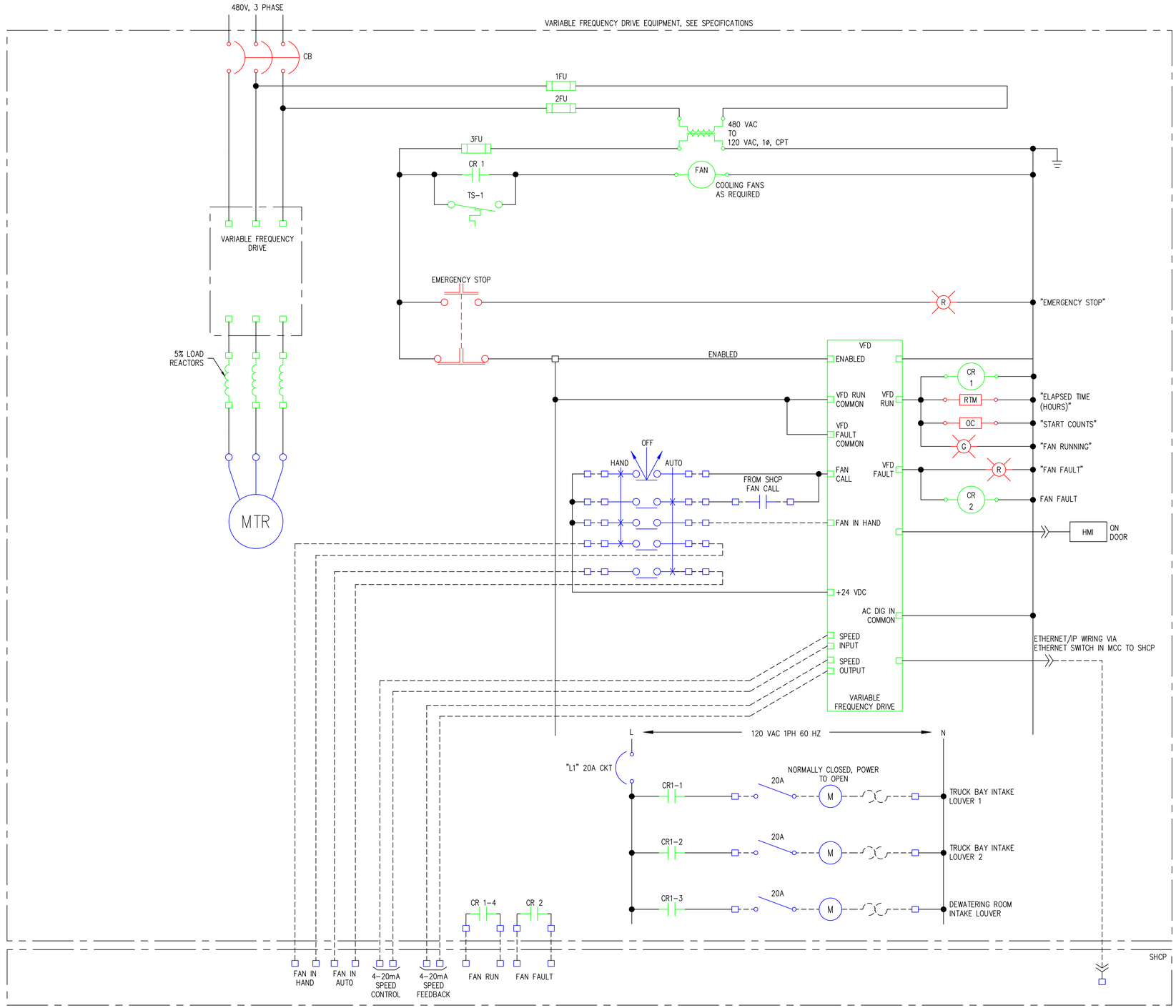
NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E716
SHEET NO.: 116
158



ELECTRICAL NOTES	
	1. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

DIAGRAM 7: FOUL AIR FANS 7F01, 7F02

NO SCALE

RICHARD WILLIAM BALLARD, REGISTERED PROFESSIONAL ENGINEER, STATE OF WASHINGTON, CHRISTOPHER JOSEPH RIMERMAN, REGISTERED PROFESSIONAL ENGINEER, STATE OF WASHINGTON

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 7

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E717
SHEET NO.: 117
158

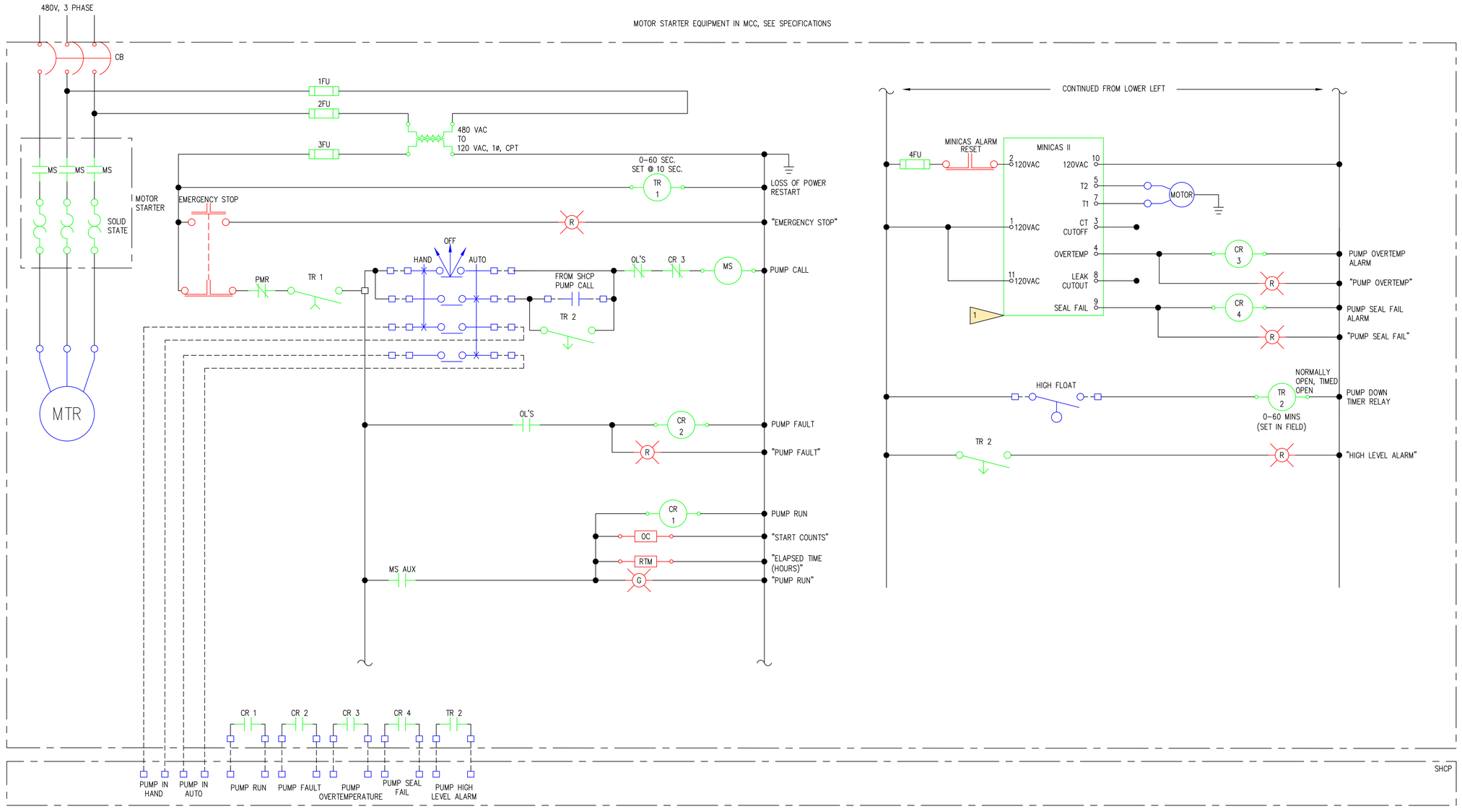

DIAGRAM 8: SCUM PUMPS 4P11, 4P12

NO SCALE

ELECTRICAL NOTES

1. 1. THE TYPE OF PUMP PROTECTION RELAY MAY VARY DEPENDING ON THE SELECTED PUMP MANUFACTURER. CONTRACTOR SHALL PROVIDE AND INSTALL THE APPROPRIATE PUMP PROTECTION RELAY EQUIPMENT AS RECOMMENDED BY THE PUMP MANUFACTURER. CONTROL WIRING SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE PROVIDED PUMP PROTECTION RELAY AT NO COST TO THE OWNER.

   2. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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CONTROL LOGIC DIAGRAMS 8

NO.	DESCRIPTION	DATE	BY	REVIEW

REVISIONS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E718
SHEET NO.: 118
158

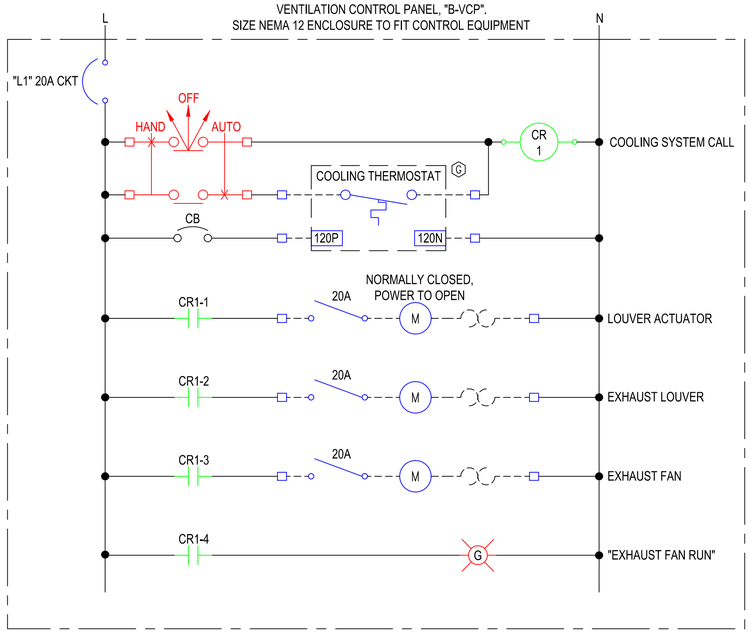

DIAGRAM 9: BLOWER ROOM VENTILATION CONTROL PANEL, "B-VCP"

NO SCALE

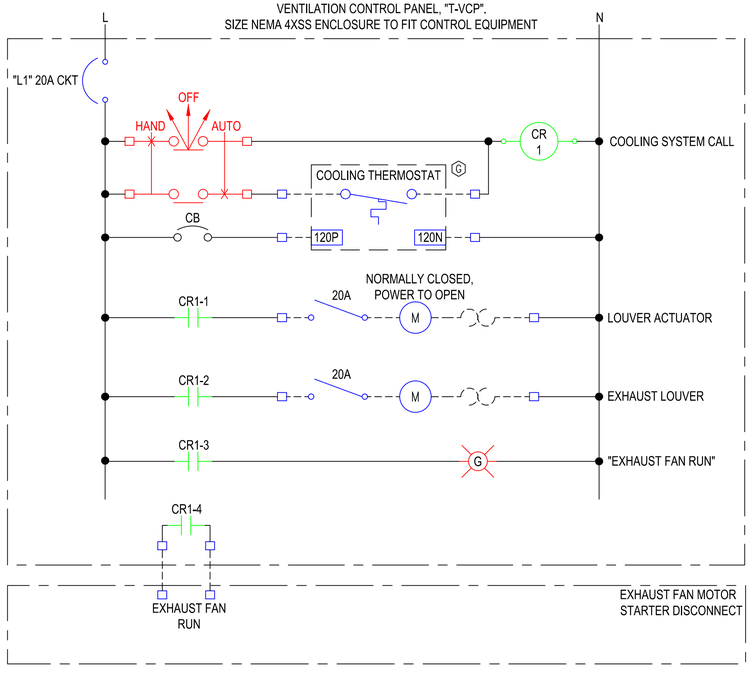

DIAGRAM 10: THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"

NO SCALE

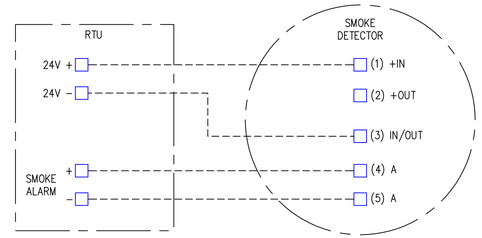

DIAGRAM 11: BUILDING SMOKE DETECTOR CIRCUIT

NO SCALE

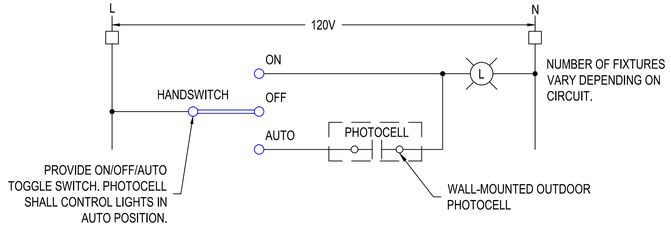

DIAGRAM 12: OUTDOOR BUILDING LIGHTING CIRCUIT

NO SCALE

RICHARD MICHAEL PERKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL LOGIC DIAGRAMS 9

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E719
SHEET NO.: 119
158

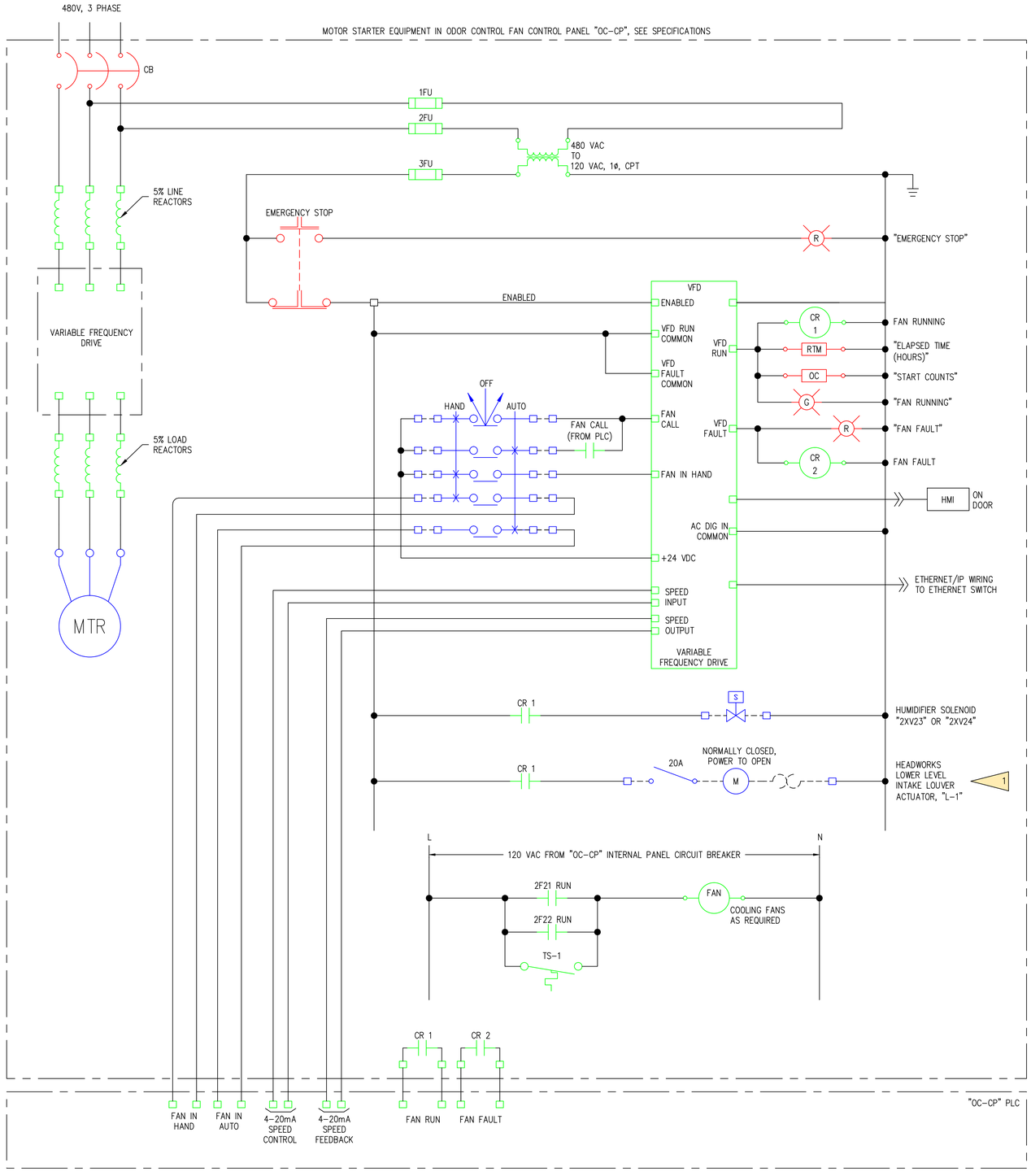

DIAGRAM 13: FOUL AIR FANS 2F21, 2F22

NO SCALE

ELECTRICAL NOTES	
1	1. INTAKE LOUVER ACTUATOR ONLY FOR FOUL AIR FAN NO. 2, "2F22" 2. SEE ONE-LINE DIAGRAMS FOR SERVICE DISCONNECT REQUIREMENTS FOR EACH PIECE OF EQUIPMENT. DISCONNECT SWITCHES NOT SHOWN ON CONTROL LOGIC DIAGRAMS.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

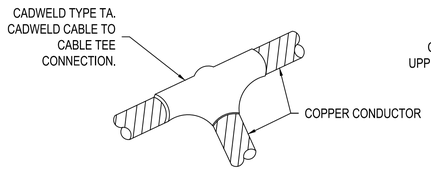
CONTROL LOGIC DIAGRAMS 10

REVISIONS			
NO.	DESCRIPTION	DATE	BY
			REVIEW

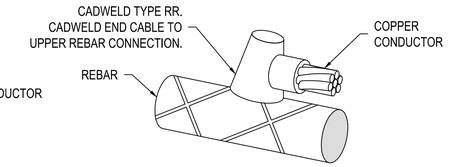
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E05.DWG
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KNS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

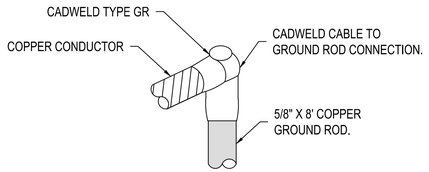
DWG NO.: E720
SHEET NO.: 120
158



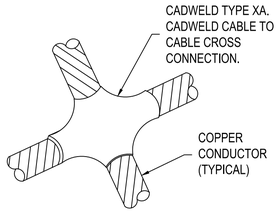
GROUND TEE DETAIL
NOT TO SCALE



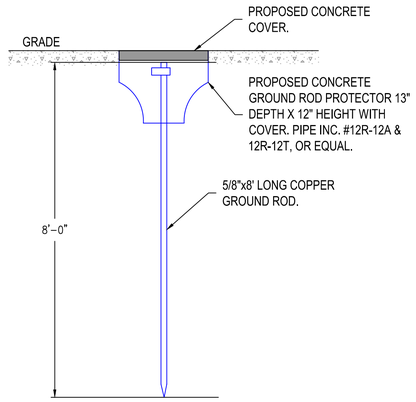
GROUND REBAR DETAIL
NOT TO SCALE



GROUND TEE DETAIL
NOT TO SCALE

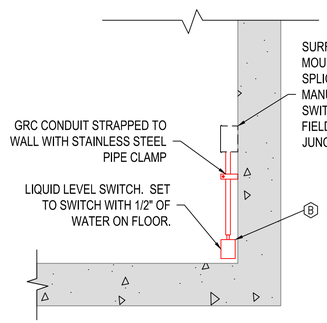


GROUND CROSS DETAIL
NOT TO SCALE

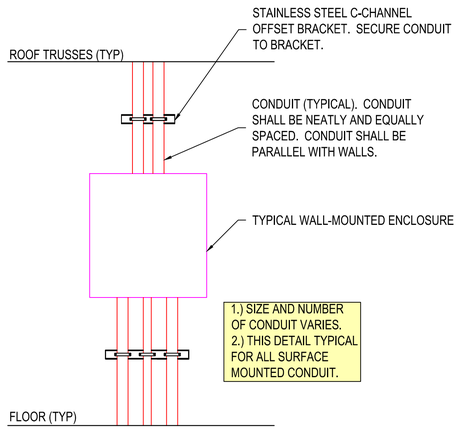


GROUND ROD DETAIL
NOT TO SCALE

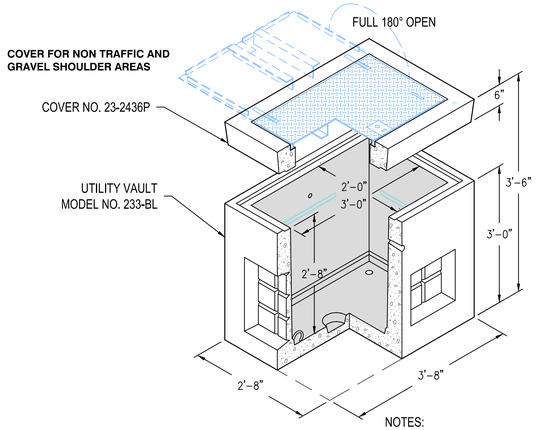
ENTRANCE DOOR INTRUSION SWITCH DETAIL
NOT TO SCALE

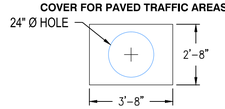


FLOOD SWITCH DETAIL
NOT TO SCALE



SURFACE MOUNTED CONDUIT DETAIL
NOT TO SCALE





UTILITY VAULT MODEL NO. 23-24C WITH 4220 DUCTILE IRON COVER AND FRAME

NOTES:
1. UTILITY VAULT BASE NO. 233-LA OR APPROVED EQUAL. DIMENSIONS SHOWN ARE MINIMUM.

2. COVERS SHALL BE RATED FOR H-20 TRAFFIC LOADS. IN NON-TRAFFIC AND GRAVEL SHOULDER AREAS INSTALL HATCH COVER NO. 23-2436P. IN PAVED TRAFFIC AREAS INSTALL 4220 DUCTILE IRON COVER AND FRAME.

3. PROVIDE SUMP KNOCKOUT IN FLOOR.

ELECTRICAL HANDHOLE DETAIL
NOT TO SCALE

CHRISTOPHER MICHAEL RAWLINS — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SNOQUALMIE

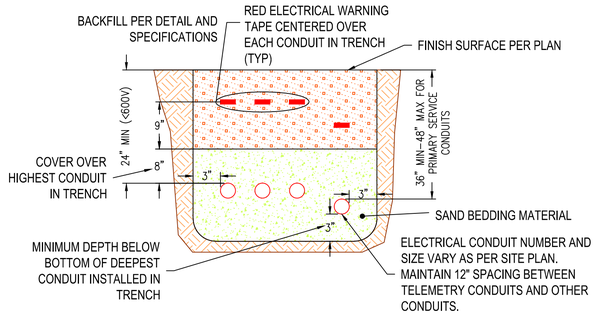
ELECTRICAL DETAILS 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-SH_E06.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

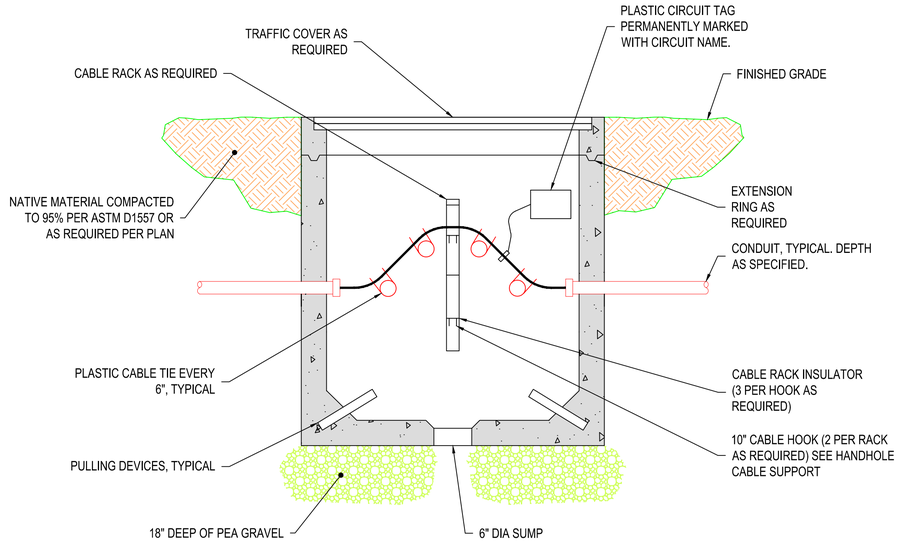
DWG NO.: E721
SHEET NO.: 121
158



TYPICAL ELECTRICAL TRENCH DETAIL

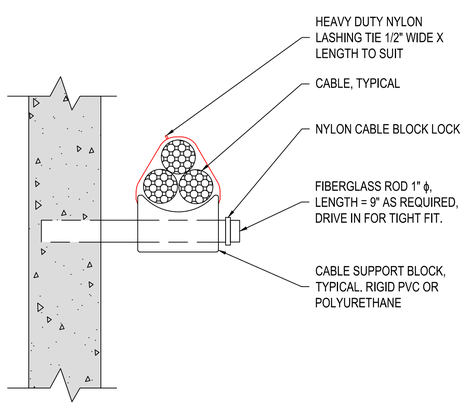
NOT TO SCALE

NOTE: BURY DEPTH OF CONDUIT AND HORIZONTAL SPACING SHALL BE CONFIRMED WITH SERVING UTILITY BEFORE CONSTRUCTION.



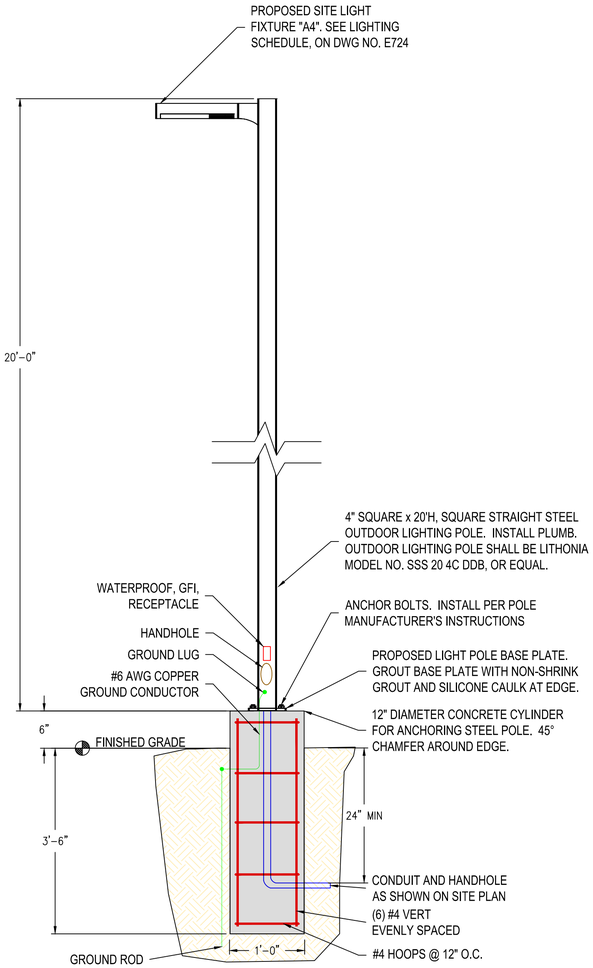
PRECAST CONCRETE HANDHOLE INSTALLATION

NOT TO SCALE



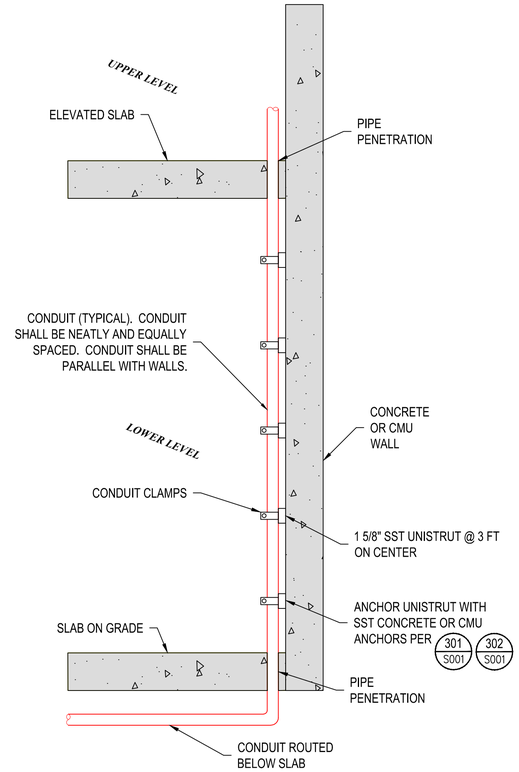
HANDHOLE CABLE SUPPORT

NOT TO SCALE



OUTDOOR SITE LIGHT FOOTING AND MOUNTING DETAIL

NOT TO SCALE



SOLIDS HANDLING TYPICAL UPPER LEVEL TO LOWER LEVEL CONDUIT INSTALLATION DETAIL

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ELECTRICAL DETAILS 2

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E06.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

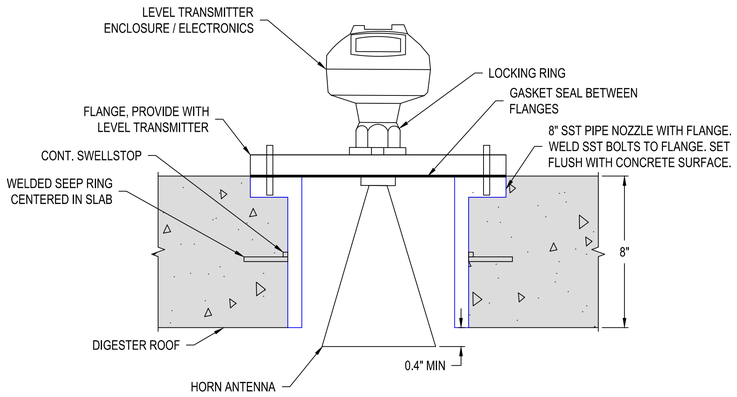
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

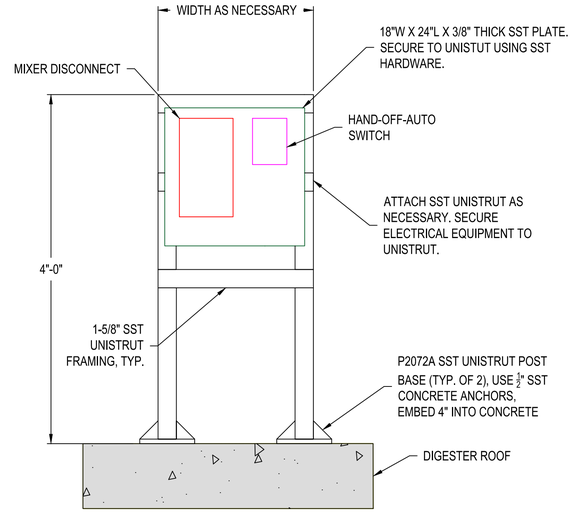
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E722
SHEET NO.: 122
158



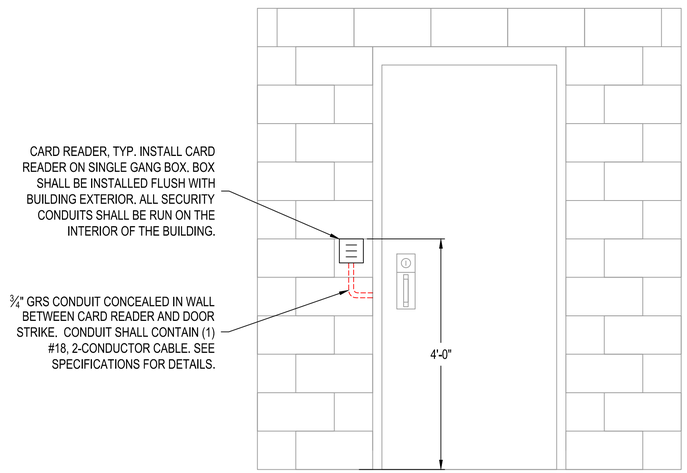
RADAR LEVEL TRANSMITTER DETAIL

NOT TO SCALE



AEROBIC DIGESTER MIXER DISCONNECT AND HOA SWITCH PEDESTAL DETAIL, TYPICAL

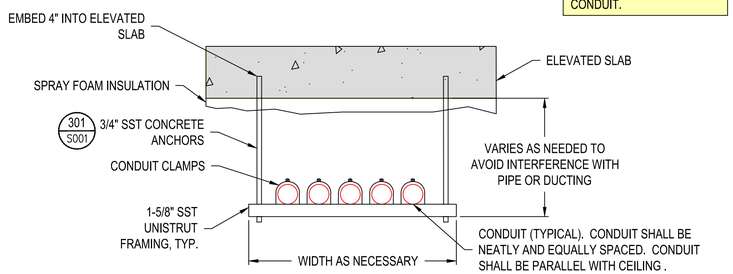
NOT TO SCALE



CARD READER INSTALLATION DETAIL

NOT TO SCALE

1.) SIZE AND NUMBER OF CONDUIT VARIES.
2.) THIS DETAIL TYPICAL FOR ALL CEILING MOUNTED CONDUIT.



SOLIDS HANDLING LOWER LEVEL CEILING CONDUIT SUPPORT

NOT TO SCALE

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SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ELECTRICAL DETAILS 3

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E06.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E723
SHEET NO.: 123

PANEL SCHEDULE L1

NO. L1 | LOCATION: ELECTRICAL ROOM | SERVING: SOLIDS HANDLING BUILDING, FIRST FLOOR LOADS

208/120 VOLTS 3ϕ 4 WIRE
200 AMP MAIN

CIRCUIT DESCRIPTION	KVA	AMP		AMP	KVA	CIRCUIT DESCRIPTION
DEDICATED RECEPTACLE (SCUM PIT 1 HEAT TRACE)	0.50	* 20	1 — 2	20	0.72	BLOWER ROOM RECEPTACLES
DEDICATED RECEPTACLE (SCUM PIT 2 HEAT TRACE)	0.50	* 20	3 — 4	20	0.64	BLOWER ROOM LIGHTS
DEDICATED RECEPTACLE (AIR COMPRESSOR DRAIN VALVE)	0.05	20	5 — 6	20	0.90	TRUCK BAY RECEPTACLES
DEDICATED RECEPTACLE (BLOWER PIPING HEAT TRACE)	0.50	* 20	7 — 8	20	0.85	TRUCK BAY LIGHTS
DEDICATED RECEPTACLE (THICKENING ROOM TRAP PRIMER)	0.03	20	9 — 10	20	0.90	CONTROL ROOM RECEPTACLES
TRUCK BAY GAS HEATER "UH-1"	0.41	20	11 — 12	20	0.21	CONTROL ROOM LIGHTS
TRUCK BAY GAS HEATER "UH-2"	0.41	20	13 — 14	20	0.36	MECHANICAL ROOM RECEPTACLES
DEDICATED RECEPTACLE ("7XV41" HEAT TRACE)	0.50	* 20	15 — 16	20	0.11	MECHANICAL ROOM LIGHTS
DEDICATED RECEPTACLE ("7XV42" HEAT TRACE)	0.50	* 20	17 — 18	20	0.72	DEWATERING ROOM RECEPTACLES
DEDICATED RECEPTACLE (WEIGHT BRIDGE CONTROLLER)	0.07	20	19 — 20	20	0.54	OUTDOOR RECEPTACLES
THICKENING ROOM GAS HEATER "UH-3"	0.41	20	21 — 22	20	1.06	DEWATERING ROOM LIGHTS
DEWATERING ROOM GAS HEATER "UH-4"	0.41	20	23 — 24	20	0.72	THICKENING ROOM RECEPTACLES
THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"	0.75	20	25 — 26	20	0.64	THICKENING ROOM LIGHTS
BLOWER ROOM VENTILATION CONTROL PANEL, "B-VCP"	0.75	20	27 — 28	20	0.31	BUILDING FIRST FLOOR EXTERIOR LIGHTS
IRRIGATION CONTROL PANEL	0.50	20	29 — 30	20	0.05	EMERGENCY LIGHTING
TRUCK BAY MOTION DETECTORS	0.03	20	31 — 32	20	0.25	TRUCK BAY AND THICKENING ROOM LOUVER ACTUATORS
DEWATERING ROOM MOTION DETECTORS	0.03	20	33 — 34	20	–	SPARE
SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL	0.20	20	35 — 36	20	–	SPARE
DEDICATED RECEPTACLE (DEWATERING ROOM TRAP PRIMER)	0.03	20	37 — 38	20	–	SPARE
SPARE	–	20	39 — 40	20	–	SPARE
SPARE	–	20	41 — 42	20	–	SPARE

CONNECTION LOAD: 15.6 KVA 43.2 AMPS
DEMAND: LIGHTING & RECEPTACLE LOAD
DEMAND LOAD: 15.6 KVA 43.2 AMPS

* – DENOTES GFI RATED CIRCUIT BREAKER WITH 30mA TRIP RATING. PROVIDE INTEGRATED POWER SUPPLY FOR GFI TRIP UNIT INTERNAL TO PANEL.

PANEL SCHEDULE L2

NO. L2 | LOCATION: ELECTRICAL ROOM | SERVING: SOLIDS HANDLING BUILDING, SECOND FLOOR LOADS

208/120 VOLTS 3ϕ 4 WIRE
200 AMP MAIN

CIRCUIT DESCRIPTION	KVA	AMP		AMP	KVA	CIRCUIT DESCRIPTION
SOLIDS HANDLING CONTROL PANEL, "SHCP"	1.00	20	1 — 2	20	0.36	ELECTRICAL ROOM RECEPTACLES
DEDICATED SUMP PUMP RECEPTACLE 1	0.50	20	3 — 4	20	0.23	ELECTRICAL ROOM LIGHTS
DEDICATED SUMP PUMP RECEPTACLE 2	0.50	20	5 — 6	20	0.03	EMERGENCY LIGHTS
ELECTRICAL ROOM A/C UNIT	3.50	30	7 — 8	20	0.28	BUILDING SECOND FLOOR EXTERIOR LIGHTS
		2P	9 — 10	20	0.68	SITE LIGHTS
AUTOMATIC SLIDING DOOR	0.60	20	11 — 12	50	XXX	DECANT FACILITY LIGHT PANEL, "DL"
OPERATIONS AREA LIGHTS	0.69	20	13 — 14	2P		
OFFICES AND CONFERENCE ROOM LIGHTS	0.56	20	15 — 16	20	0.54	BUILDING SECOND FLOOR EXTERIOR RECEPTACLES
KITCHEN, HALLWAY, AND MECHANICAL ROOM LIGHTS	0.52	20	17 — 18	30	4.79	DRYER DEDICATED RECEPTACLE
UNISEX BATHROOM/MENS BATHROOM LIGHTS AND FAN	0.43	20	19 — 20	2P		
BATHROOM RECEPTACLES 1	0.72	20	21 — 22	20	1.20	WASHER DEDICATED RECEPTACLE
BATHROOM RECEPTACLES 2	0.72	20	23 — 24	20	0.90	GAS RANGE AND FUME HOOD DEDICATED RECEPTACLES
OPERATIONS AREA RECEPTACLES	0.72	20	25 — 26	20	1.20	REFRIGERATOR DEDICATED RECEPTACLE
OPERATIONS AREA SCADA HMI DEDICATED RECEPTACLE	1.20	20	27 — 28	20	0.85	DISHWASHER DEDICATED RECEPTACLE
CONFERENCE ROOM RECEPTACLES	0.54	20	29 — 30	20	1.10	MICROWAVE DEDICATED RECEPTACLE
OFFICE #1 RECEPTACLES	0.72	20	31 — 32	20	0.46	DRINKING FOUNTAIN DEDICATED RECEPTACLE
OFFICE #2 RECEPTACLES	0.72	20	33 — 34	20	0.36	KITCHEN TABLE RECEPTACLES
OFFICE #3 RECEPTACLES	0.72	20	35 — 36	20	–	SPARE
KITCHEN AND MECHANICAL ROOM RECEPTACLES	0.72	20	37 — 38	20	–	SPARE
OPERATIONS AREA TABLE 1 RECEPTACLES	0.54	20	39 — 40	20	–	SPARE
OPERATIONS AREA TABLE 2 RECEPTACLES	0.54	20	41 — 42	20	–	SPARE

CONNECTION LOAD: 31.6 KVA 87.8 AMPS
DEMAND: LIGHTING & RECEPTACLE LOAD
DEMAND LOAD: 31.6 KVA 87.8 AMPS

ELECTRICAL EQUIPMENT AND INSTRUMENTATION SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	MODEL NO.
(A)	SMOKE DETECTOR – PHOTOELECTRIC, 24 VDC POWERED WITH LOCAL AND AUDIBLE ALARM SIGNAL AND CONTACTS FOR REMOTE ANNUNCIATION THROUGH FOUR WIRE CONNECTION TO RTU.	SYSTEMS SENSOR	4WTAR-B OR EQUAL
(B)	FLOOD SWITCH – N.O. REED TYPE FLOAT SWITCH, 20 VA. SEE DWG NO. E721 FOR DETAILS.	OMEGA	LVN-20 OR EQUAL
(C)	INTRUSION ALARM SWITCH – CONTRACTOR SHALL SELECT ACTUATOR LEVER ARM BEST SUITED FOR MOUNTING CONFIGURATION	SQUARE D	HEAVY DUTY TYPE C, CLASS 9007 OR EQUAL
(D)	INTRUSION ALARM SWITCH – CONTRACTOR SHALL SELECT ACTUATOR LEVER ARM BEST SUITED FOR MOUNTING CONFIGURATION. SWITCH SHALL BE A HAZARDOUS LOCATION SEALED SWITCH RATED FOR CLASS 1 DIVISION 1 LOCATIONS.	ALLEN-BRADLEY	HAZARDOUS LOCATION 802XR SERIES
(E)	FLOW METER	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(F)	PRESSURE SWITCH	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(G)	PRESSURE TRANSMITTER	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(H)	WALL MOUNTED HEATING THERMOSTAT – 24V, SPST, 2 HEATING STAGES, 2 COOLING STAGES, RANGE: 40° – 90°F, SET AT 60°F, MOUNT 4 FEET ABOVE FINISHED FLOOR.	HONEYWELL	TH6220D1002 OR EQUAL
(J)	SUBMERSIBLE LEVEL TRANSMITTER	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(K)	FLOAT SWITCH	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(L)	CARD READER. SEE DWG NO. E723 FOR DETAIL.	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(M)	CENTRIFUGE SYSTEM SOLENOID	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(N)	RADAR LEVEL TRANSMITTER	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(O)	OPERATOR IN TROUBLE PUSHBUTTON	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(P)	OVERHEAD DOOR INTRUSION ALARM SWITCH – INDUSTRIAL OVERHEAD DOOR SWITCH WITH MAGNETIC CONTACTS AND STAINLESS STEEL ARMORED CABLE.	SENTROL	2202AU OR EQUAL
(Q)	WALL MOUNTED COOLING THERMOSTAT – SNAP ACTION, SPDT LINE VOLTAGE AIR SWITCH CONTROLLER. RANGE: –30° – 100°F, SET AT 75°F. MOUNT 4 FEET ABOVE FINISHED FLOOR.	HONEYWELL	T775A2009/U OR EQUAL
(R)	AIR FLOW METER	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(S)	SOLENOID VALVE	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(T)	MOTION SENSOR	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(U)	CABLE E-STOP	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(V)	ULTRASONIC LEVEL TRANSMITTER	SEE SPECIFICATIONS	SEE SPECIFICATIONS
(W)	CARBON MONOXIDE DETECTOR	SEE SPECIFICATIONS	SEE SPECIFICATIONS

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER NAME	MANUFACTURER CATALOG NO.	LAMP QTY. *	LAMP CATALOG NO.	REMARKS
A1	LED LIGHT FIXTURE, 120 VAC, 4'-4" LONG, 45 WATT, 60,000 HOUR LED, HIGH EFFICIENCY DRIVER, HIGH-IMPACT ACRYLIC LENS, MOLDED FIBERGLASS HOUSING, U.L. LISTED FOR WET LOCATIONS.	LITHONIA	FEM L48 6000LM IMAFL	1	INTEGRATED LED	
A2	LED OUTDOOR AREA LIGHT – (1)-27W 10C LED. 700mA, 5000K COLOR TEMPERATURE, 120VAC, MOUNT BOTTOM OF FIXTURE 1'-0" ABOVE DOOR, U.L. LISTED FOR WET LOCATIONS.	LITHONIA	DSXW1 LED 10C 700 50K T3M 120 DDBXD	1	INTEGRATED LED	
A3	DUAL HEAD EMERGENCY LIGHT – (2)-1.8W LED LAMPS, DUAL-VOLTAGE INPUT 120VAC/270VAC, 3 3/4" H, 14 5/8" W, THERMOPLASTIC HOUSING, INTEGRATED RECHARGEABLE BATTERY, MOUNT BOTTOM OF FIXTURE 1'-0" ABOVE DOOR, U.L. LISTED FOR DAMP LOCATIONS.	LITHONIA	EU2 LED M12	2	1.5 WATT DC	
A4	LED POLE MOUNTED LIGHT – (1)-137W 80C LED. 530mA, 5000K COLOR TEMPERATURE 120VAC, WITH FUSE PROTECTION, PROVIDE FIXTURE WITH BRACKETRY TO MOUNT TO LIGHT POLE. PROVIDE FIXTURE WITH INTEGRATED PHOTOCELL CONTROL. U.L. LISTED FOR WET LOCATIONS., 20FT HOT-ROLLED CARBON STEEL POLE.	LITHONIA	LIGHT – DSX2 LED 80C 530 50K TFTM 120 SPA SF DDBXD POLE – SSS 20 4C DDB OR EQUAL	N/A	137 WATT	PROVIDE WITH PHOTOCELL CONTROLLER
A5	LED LIGHT FIXTURE, 120VAC, 4'-1" LONG, 43W, 4800lm, 3500K COLOR TEMPERATURE, 50,000 HOUR LED, HIGH EFFICIENCY DRIVER, 0-10V DIMMING, 30% UPLIGHT/70% DOWNLIGHT DISTRIBUTION.	GENERAL ELECTRIC	LOP I4 A 0 48 T 35 VQ D7 CS WHITE	1	INTEGRATED LED	
A6	RECESSED LED DOWNLIGHT, 120VAC, 6" DIAMETER, 25W, 2000lm, 3500K COLOR TEMPERATURE, 50,000 HOUR LED, WIDE SPREAD CLEAR REFLECTOR WITH WHITE FLANGE.	GENERAL ELECTRIC	HOUSING: DI 6R 20 935 1V 10 REFLECTOR: R DI6R W SD WT	1	INTEGRATED LED	

* NUMBER OF LAMPS PER FIXTURE

PANEL SCHEDULE P

NO. P | LOCATION: ELECTRICAL ROOM | SERVING: SOLIDS HANDLING BUILDING LOADS

480/277 VOLTS 3ϕ 4 WIRE
200 AMP MAIN

CIRCUIT DESCRIPTION	KVA	AMP		AMP	KVA	CIRCUIT DESCRIPTION
HVAC UNIT	30.35	30	1 — 2	20	1.67	BLOWER ROOM ROLL-UP DOOR
		3P	3 — 4	3P		
		3P	5 — 6	3P		
AIR COMPRESSOR, 7ME01	11.62	30	7 — 8	20	1.67	TRUCK BAY ROLL-UP DOOR
		3P	9 — 10	3P		
		3P	11 — 12	3P		
DEWATERING ROOM ROLL-UP DOOR	1.67	20	13 — 14	20	1.67	THICKENING ROOM ROLL-UP DOOR
		3P	15 — 16	3P		
		3P	17 — 18	3P		
TRUCK BAY VALVE ACTUATOR DISCONNECT	3.24	20	19 — 20	20	2.16	THICKENING ROOM VALVE ACTUATOR DISCONNECT
		3P	21 — 22	3P		
		3P	23 — 24	3P		
CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	51.65	100	25 — 26	35	20.51	RDT CONTROL PANEL, "RDTCP"
		3P	27 — 28	3P		
		3P	29 — 30	3P		
CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	51.65	100	31 — 32	20	1.00	THICKENING ROOM EXHAUST FAN
		3P	33 — 34	3P		
		3P	35 — 36	3P		
TROLLEY POWER JUNCTION BOX	5.81	20	37 — 38	20	–	SPARE
		3P	39 — 40	3P		
		3P	41 — 42	3P		

CONNECTION LOAD: 184.7 KVA 222.4 AMPS
DEMAND: LIGHTING & RECEPTACLE LOAD
DEMAND LOAD: 133.0 KVA 160.2 AMPS

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ELECTRICAL SCHEDULES 1

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF024D-SH_E07.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KNS
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E724
SHEET NO.: 124
158

POWER CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
P700	EQUIPMENT BUILDING MOTOR CONTROL CENTER	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	(2) 3"	(3) - #350 MCM, (1) - #350 MCM N, (1) - #1 GRD	PARALLEL CONDUCTORS
P701	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	AEROBIC DIGESTER NO. 1 MIXER, "7MX01" DISCONNECT	3/4"	(3) - #10, (1) - #10 GRD	
P702	AEROBIC DIGESTER NO.1 MIXER, "7MX01" DISCONNECT	AEROBIC DIGESTER NO. 1 MIXER, "7MX01"	3/4"	(3) - #10, (1) - #10 GRD	
P703	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	AEROBIC DIGESTER NO. 2 MIXER, "7MX02" DISCONNECT	3/4"	(3) - #10, (1) - #10 GRD	
P704	AEROBIC DIGESTER NO. 2 MIXER, "7MX02" DISCONNECT	AEROBIC DIGESTER NO. 2 MIXER, "7MX02"	3/4"	(3) - #10, (1) - #10 GRD	
P705	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	AEROBIC DIGESTER NO. 3 MIXER, "7MX03" DISCONNECT	3/4"	(3) - #10, (1) - #10 GRD	
P706	AEROBIC DIGESTER NO. 3 MIXER, "7MX03" DISCONNECT	AEROBIC DIGESTER NO. 3 MIXER, "7MX03"	3/4"	(3) - #10, (1) - #10 GRD	
P707	SOLIDS HANDLING CONTROL PANEL, "SHCP"	pH/ORP CONTROLLER	3/4"	(2) - #12, (1) - #12 GRD	
P708	DISTRIBUTION PANEL, ""P"	HVAC UNIT	3/4"	(3) - #10, (1) - #10 GRD	
P709	LIGHTING PANEL, "L2"	DEDICATED SUMP PUMP RECEPTACLE 1	3/4"	(2) - #12, (1) - #12 GRD	
P710	LIGHTING PANEL, "L2"	DEDICATED SUMP PUMP RECEPTACLE 2	3/4"	(2) - #12, (1) - #12 GRD	
P711	LIGHTING PANEL, "L2"	A/C OUTDOOR UNIT	3/4"	(2) - #10, (1) - #10 GRD	
P712	A/C OUTDOOR UNIT	A/C INDOOR UNIT	3/4"	(3) - #12, (1) - #12 GRD	
P713	LIGHTING PANEL, "L1"	DEWATERING ROOM DEDICATED TRAP PRIMER RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P714	LIGHTING PANEL, "L2"	SOLIDS HANDLING CONTROL PANEL, "SHCP"	3/4"	(2) - #12, (1) - #12 GRD	
P715	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 1,"7B01", DISCONNECT	1 1/2"	(3) - #4, (1) - #6 GRD	
P716	BLOWER NO. 1,"7B01", DISCONNECT	BLOWER NO. 1, "7B01"	1 1/2"	(3) - #4, (1) - #6 GRD	
P717	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 2, "7B02", DISCONNECT	1 1/2"	(3) - #4, (1) - #6 GRD	
P718	BLOWER NO. 2, "7B02", DISCONNECT	BLOWER NO. 2, "7B02"	1 1/2"	(3) - #4, (1) - #6 GRD	
P719	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 3, "7B03", DISCONNECT	1 1/2"	(3) - #4, (1) - #6 GRD	
P720	BLOWER NO. 3, "7B03", DISCONNECT	BLOWER NO. 3, "7B03"	1 1/2"	(3) - #4, (1) - #6 GRD	
P721	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 4 DISCONNECT STUB UP	1 1/2"	(1) NYLON PULL CORD	
P722	BLOWER NO. 4 DISCONNECT STUB UP	BLOWER NO. 4 STUB UP	1 1/2"	(1) NYLON PULL CORD	
P723	LIGHTING PANEL, "L1"	BLOWER ROOM VENTILATION CONTROL PANEL, "B-VCP"	3/4"	(2) - #12, (1) - #12 GRD	
P724	BLOWER ROOM VENTILATION CONTROL PANEL, "B-VCP"	BLOWER ROOM EXHAUST FAN	3/4"	(2) - #12, (1) - #12 GRD	
P725	BLOWER ROOM VENTILATION CONTROL PANEL, "B-VCP"	BLOWER ROOM INTAKE LOUVER ACTUATOR	3/4"	(2) - #12, (1) - #12 GRD	
P726	DISTRIBUTION PANEL, "P"	BLOWER ROOM ROLL-UP DOOR MOTOR	3/4"	(3) - #12, (1) - #12 GRD	
P727	LIGHTING PANEL, "L1"	AIR COMPRESSOR DRAIN VALVE DEDICATED RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P728	DISTRIBUTION PANEL, "P"	AIR COMPRESSOR, "7ME01"	3/4"	(3) - #10, (1) - #10 GRD	
P729	LIGHTING PANEL, "L1"	BLOWER PIPING HEAT TRACE DEDICATED RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P730	LIGHTING PANEL, "L1"	THICKENING ROOM TRAP PRIMER DEDICATED RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P731	DISTRIBUTION PANEL, "P"	TRUCK BAY ROLL-UP DOOR MOTOR	3/4"	(3) - #12, (1) - #12 GRD	
P732	LIGHTING PANEL, "L1"	TRUCK BAY GAS HEATER, "UH-1"	3/4"	(2) - #12, (1) - #12 GRD	
P733	LIGHTING PANEL, "L1"	TRUCK BAY GAS HEATER, "UH-2"	3/4"	(2) - #12, (1) - #12 GRD	
P734	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	TRUCK BAY INTAKE LOUVER ACTUATOR 1	3/4"	(2) - #12, (1) - #12 GRD	
P735	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	TRUCK BAY INTAKE LOUVER ACTUATOR 2	3/4"	(2) - #12, (1) - #12 GRD	
P736	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	FOUL AIR FAN NO. 1, "7F01", DISCONNECT	1"	(3) - #6, (1) - #8 GRD	
P737	FOUL AIR FAN NO. 1, "7F01", DISCONNECT	FOUL AIR FAN NO. 1, "7F01"	1"	(3) - #6, (1) - #8 GRD	
P738	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	FOUL AIR FAN NO. 2, "7F02", DISCONNECT	1"	(3) - #6, (1) - #8 GRD	
P739	FOUL AIR FAN NO. 2, "7F02", DISCONNECT	FOUL AIR FAN NO. 2, "7F02"	1"	(3) - #6, (1) - #8 GRD	
P740	IRRIGATION CONTROL PANEL	BIOFILTER IRRIGATION SOLENOID			CONDUIT AND CONDUCTORS PER MANUFACTURE'S REQUIREMENTS
P741	LIGHTING PANEL, "L1"	DEDICATED HEAT TRACE RECEPTACLE FOR "7XV41"	3/4"	(2) - #12, (1) - #12 GRD	
P742	LIGHTING PANEL, "L1"	DEDICATED HEAT TRACE RECEPTACLE FOR "7XV42"	3/4"	(2) - #12, (1) - #12 GRD	
P743	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	INCLINED TRANSPORT CONVEYOR, "7ME07" DISCONNECT	3/4"	(3) - #12, (1) - #12 GRD	
P744	INCLINED TRANSPORT CONVEYOR, "7ME07" DISCONNECT	INCLINED TRANSPORT CONVEYOR, "7ME07"	3/4"	(3) - #12, (1) - #12 GRD	
P745	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	TRUCK LOAD-OUT CONVEYOR, "7ME08" DISCONNECT	3/4"	(3) - #12, (1) - #12 GRD	
P746	TRUCK LOAD-OUT CONVEYOR, "7ME08" DISCONNECT	TRUCK LOAD-OUT CONVEYOR, "7ME08"	3/4"	(3) - #12, (1) - #12 GRD	
P747	DISTRIBUTION PANEL, "P"	TRUCK BAY VALVE ACTUATOR DISCONNECT	3/4"	(3) - #12, (1) - #12 GRD	
P748	TRUCK BAY VALVE ACTUATOR DISCONNECT	GATE ACTUATOR NO. 1 "7ME09"	3/4"	(3) - #12, (1) - #12 GRD	
P749	TRUCK BAY VALVE ACTUATOR DISCONNECT	GATE ACTUATOR NO. 2 "7ME10"	3/4"	(3) - #12, (1) - #12 GRD	
P750	TRUCK BAY VALVE ACTUATOR DISCONNECT	GATE ACTUATOR NO. 3 "7ME11"	3/4"	(3) - #12, (1) - #12 GRD	
P751	THICKENING ROOM VALVE ACTUATOR DISCONNECT	VALVE ACTUATOR, "7CV01"	3/4"	(3) - #12, (1) - #12 GRD	
P752	THICKENING ROOM VALVE ACTUATOR DISCONNECT	VALVE ACTUATOR, "7CV02"	3/4"	(3) - #12, (1) - #12 GRD	
P753	LIGHTING PANEL, "L1"	IRRIGATION CONTROL PANEL	3/4"	(2) - #12, (1) - #12 GRD	
P754	LIGHTING PANEL, "L1"	INCLINED TRANSPORT CONVEYOR MOTION DETECTOR	3/4"	(2) - #12, (1) - #12 GRD	
P755	LIGHTING PANEL, "L1"	TRUCK LOAD-OUT CONVEYOR MOTION DETECTOR	3/4"	(2) - #12, (1) - #12 GRD	
P756	LIGHTING PANEL, "L1"	DEDICATED RECEPTACLE WEIGHT BRIDGE CONTROLLER	3/4"	(2) - #12, (1) - #12 GRD	
P757	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1, "7ME03", MAIN DRIVE MOTOR	1"	(3) - #6, (1) - #8 GRD	
P758	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1, "7ME03" BACK DRIVE MOTOR	3/4"	(3) - #12, (1) - #12 GRD	
P759	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1 CONVEYOR, "7ME05"	3/4"	(3) - #12, (1) - #12 GRD	
P760	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	DS PUMP NO. 1, "7P02"	3/4"	(3) - #12, (1) - #12 GRD	
P761	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	POLY. UNIT NO. 1, "7ME14"	3/4"	(2) - #12, (1) - #12 GRD	
P762	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2, "7ME04", MAIN DRIVE MOTOR	1"	(3) - #6, (1) - #8 GRD	
P763	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2, "7ME04", BACK DRIVE MOTOR	3/4"	(3) - #12, (1) - #12 GRD	
P764	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2 CONVEYOR, "7ME06"	3/4"	(3) - #12, (1) - #12 GRD	
P765	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	DS PUMP NO. 2, "7P03"	3/4"	(3) - #12, (1) - #12 GRD	
P766	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	POLY. UNIT NO. 2, "7ME15"	3/4"	(2) - #12, (1) - #12 GRD	
P767	DISTRIBUTION PANEL, "P"	CENTRIFUGE NO. 1 CONTR0OL PANEL, "CTF-1"	1 1/4"	(3) - #3, (1) - #8 GRD	
P768	DISTRIBUTION PANEL, "P"	CENTRIFUGE NO. 2 CONTR0OL PANEL, "CTF-2"	1 1/4"	(3) - #3, (1) - #8 GRD	
P769	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	DEWATERING ROOM INTAKE LOUVER ACTUATOR	3/4"	(2) - #12, (1) - #12 GRD	

POWER CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
P770	DISTRIBUTION PANEL, "P"	DEWATERING ROOM ROLL-UP DOOR MOTOR	3/4"	(3) - #12, (1) - #12 GRD	
P771	LIGHTING PANEL, "L1"	DEWATERING ROOM GAS HEATER, "UH-4"	3/4"	(2) - #12, (1) - #12 GRD	
P772	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CONVEYOR NO. 1 MOTION DETECTOR	3/4"	(2) - #12, (1) - #12 GRD	
P773	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CONVEYOR NO. 2 MOTION DETECTOR	3/4"	(2) - #12, (1) - #12 GRD	
P774	RDT CONTROL PANEL, "RDTCP"	TS PUMP, "7P01"	3/4"	(3) - #12, (1) - #12 GRD	
P775	RDT CONTROL PANEL, "RDTCP"	FLOC TANK MIXER, "7ME02"	3/4"	(3) - #12, (1) - #12 GRD	
P776	RDT CONTROL PANEL, "RDTCP"	DRUM MOTOR, "7ME02"	3/4"	(3) - #12, (1) - #12 GRD	
P777	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	RECUPERATIVE PUMP, "7P04" DISCONNECT	3/4"	(3) - #12, (1) - #12 GRD	
P778	RECUPERATIVE PUMP, "7P04" DISCONNECT	RECUPERATIVE PUMP, "7P04"	3/4"	(3) - #12, (1) - #12 GRD	
P779	RDT CONTROL PANEL, "RDTCP"	POLYMER UNIT, "7ME13"	3/4"	(2) - #12, (1) - #12 GRD	
P780	DISTRIBUTION PANEL, "P"	RDT CONTROL PANEL, "RDTCP"	3/4"	(3) - #10, (1) - #10 GRD	
P781	DISTRIBUTION PANEL, "P"	THICKENING ROOM ROLL-UP DOOR MOTOR	3/4"	(3) - #12, (1) - #12 GRD	
P782	LIGHTING PANEL, "L1"	THICKENING ROOM GAS HEATER, "UH-3"	3/4"	(2) - #12, (1) - #12 GRD	
P783	LIGHTING PANEL, "L1"	THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"	3/4"	(2) - #12, (1) - #12 GRD	
P784	THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"	THICKENING ROOM EXHAUST LOUVER ACTUATOR	3/4"	(2) - #12, (1) - #12 GRD	
P785	THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"	THICKENING ROOM INTAKE LOUVER ACTUATOR	3/4"	(2) - #12, (1) - #12 GRD	
P786	DISTRIBUTION PANEL, "P"	THICKENING ROOM EXHAUST FAN STARTER DISCONNECT	3/4"	(3) - #12, (1) - #12 GRD	
P787	DISTRIBUTION PANEL, "P"	THICKENING ROOM VALVE ACTUATOR DISCONNECT	3/4"	(3) - #12, (1) - #12 GRD	
P788	LIGHTING PANEL, "L1"	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL, "SH-SACP"	3/4"	(2) - #12, (1) - #12 GRD	
P789	SOLIDS HANDLING CONTROL PANEL, "SHCP"	FLOC TANK LEVEL SWITCH	3/4"	(2) - #12, (1) - #12 GRD	
P790	LIGHTING PANEL, "L2"	SITE LIGHTS	3/4"	(2) - #12, (1) - #12 GRD	
P791	LIGHTING PANEL, "L2"	DECANT FACILITY LIGHTING PANEL, "DF"	1 1/2"	(3) - #6, (1) - #10 GRD	
P792	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	DS PUMP NO. 1 FLOW METER, "7FE05"	3/4"	(2) - #12, (1) - #12 GRD	
P793	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	DS PUMP NO. 2 FLOW METER, "7FE06"	3/4"	(2) - #12, (1) - #12 GRD	
P794	LIGHTING PANEL, "L2"	DEDICATED DISHWASHER RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P795	DISTRIBUTION PANEL, "P"	TROLLEY POWER JUNCTION BOX	3/4"	(3) - #12, (1) - #12 GRD	
P796	TROLLEY POWER JUNCTION BOX	CENTRIFUGE NO. 1 TROLLEY	3/4"	(3) - #12, (1) - #12 GRD	
P797	TROLLEY POWER JUNCTION BOX	CENTRIFUGE NO. 2 TROLLEY	3/4"	(3) - #12, (1) - #12 GRD	
P798	DECANT FACILITY LIGHTING PANEL, "DF"	SITE LIGHTS	3/4"	(2) - #12, (1) - #12 GRD	
P799	DECANT FACILITY LIGHTING PANEL, "DF"	SITE LIGHT	3/4"	(2) - #12, (1) - #12 GRD	
P800	LIGHTING PANEL, "L2"	DEDICATED SCADA HMI RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P801	LIGHTING PANEL, "L2"	AUTOMATIC SLIDING DOOR	3/4"	(2) - #12, (1) - #12 GRD	
P802	LIGHTING PANEL, "L2"	DEDICATED DRINKING FOUNTAIN RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P803	LIGHTING PANEL, "L2"	DEDICATED WASHER RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P804	LIGHTING PANEL, "L2"	DEDICATED DRYER RECEPTACLE	3/4"	(3) - #10, (1) - #10 GRD	
P805	LIGHTING PANEL, "L2"	DEDICATED REFRIGERATOR RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P806	LIGHTING PANEL, "L2"	DEDICATED GAS RANGE RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P807	LIGHTING PANEL, "L2"	DEDICATED FUME HOOD RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	
P808	LIGHTING PANEL, "L2"	DEDICATED MICROWAVE RECEPTACLE	3/4"	(2) - #12, (1) - #12 GRD	

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SIGNED: 09/19/17

RH2 ENGINEERING, INC.
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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ELECTRICAL SCHEDULES 2

JOB NO.:	116-028
CLIENT:	SNQ
FILENAME:	WRF02-D-SH_E07.DWG
SAVE DATE:	Sep 18, 2017
PLOT DATE:	Sep 19, 2017
ENGINEER:	KMS
REVIEWED:	CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E725

SHEET NO.: 125

CONTROL CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C701	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	AEROBIC DIGESTER NO. 1 MIXER, "7MX01" HOA SWITCH	3/4"	(8) - #14, (1) - #14 GRD	
C702	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	AEROBIC DIGESTER NO. 2 MIXER, "7MX02" HOA SWITCH	3/4"	(8) - #14, (1) - #14 GRD	
C703	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	AEROBIC DIGESTER NO. 3 MIXER, "7MX03" HOA SWITCH	3/4"	(8) - #14, (1) - #14 GRD	
C704	SOLIDS HANDLING CONTROL PANEL, "SHCP"	ELECTRICAL ROOM INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C705	SOLIDS HANDLING CONTROL PANEL, "SHCP"	ELECTRICAL ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C706	A/C INDOOR UNIT	A/C THERMOSTAT	3/4"	MANUFACTURER'S CABLE	
C707	BLOWER ROOM ROLL-UP DOOR CONTROLLER	BLOWER ROOM ROLL UP DOOR MOTOR	3/4"	(4) - #14, (1) - #14 GRD	
C708	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 1, "7B01"	3/4"	(4) - #14, (1) - #14 GRD	
C709	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 2, "7B02"	3/4"	(4) - #14, (1) - #14 GRD	
C710	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 3, "7B03"	3/4"	(4) - #14, (1) - #14 GRD	
C711	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 4 STUB UP	3/4"	(1) NYLON PULL CORD	
C712	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 1,"7B01", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C713	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 2,"7B02", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C714	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 3,"7B03", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C715	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	BLOWER NO. 4 HOA SWITCH STUB UP	3/4"	(1) NYLON PULL CORD	
C716	SOLIDS HANDLING CONTROL PANEL, "SHCP"	BLOWER ROOM OPERATOR IN TROUBLE PUSH BUTTON	3/4"	(2) - #14, (1) - #14 GRD	
C717	SOLIDS HANDLING CONTROL PANEL, "SHCP"	BLOWER ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C718	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SOLENOID, "7XV01"	3/4"	(2) - #14, (1) - #14 GRD	
C719	BLOWER ROOM VENTILATION CONTROL PANEL, "B-VCP"	BLOWER ROOM COOLING THERMOSTAT	3/4"	(4) - #14, (1) - #14 GRD	
C720	SOLIDS HANDLING CONTROL PANEL, "SHCP"	BLOWER ROOM ROLL-UP DOOR INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C721	SOLIDS HANDLING CONTROL PANEL, "SHCP"	BLOWER ROOM INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C722	SOLIDS HANDLING CONTROL PANEL, "SHCP"	TRUCK BAY ROLL-UP DOOR INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C723	SOLIDS HANDLING CONTROL PANEL, "SHCP"	TRUCK BAY INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C724	TRUCK BAY GAS HEATER, "UH-1"	TRUCK BAY HEATING THERMOSTAT FOR "UH-1"	3/4"	(4) - #14, (1) - #14 GRD	
C725	TRUCK BAY GAS HEATER, "UH-2"	TRUCK BAY HEATING THERMOSTAT FOR "UH-2"	3/4"	(4) - #14, (1) - #14 GRD	
C726	SOLIDS HANDLING CONTROL PANEL, "SHCP"	TRUCK BAY SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C727	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SOLENOID, "7XV41"	3/4"	(2) - #14, (1) - #14 GRD	
C728	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SOLENOID, "7XV42"	3/4"	(2) - #14, (1) - #14 GRD	
C729	SOLIDS HANDLING CONTROL PANEL, "SHCP"	CONTROL ROOM INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C730	SOLIDS HANDLING CONTROL PANEL, "SHCP"	CONTROL ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C731	SOLIDS HANDLING CONTROL PANEL, "SHCP"	MECHANICAL ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C732	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SOLENOID, "7XV02"	3/4"	(2) - #14, (1) - #14 GRD	
C733	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	FOUL AIR FAN NO. 1, "7F01", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C734	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	FOUL AIR FAN NO. 2, "7F02", HOA SWITCH	3/4"	(10) - #14, (1) - #14 GRD	
C735	GATE ACTUATOR NO. 1 "7ME09"	GATE ACTUATOR NO. 1 "7ME09" CONTROLLER	3/4"	(7) - #14, (1) - #14 GRD	
C736	GATE ACTUATOR NO. 2 "7ME10"	GATE ACTUATOR NO. 2 "7ME10" CONTROLLER	3/4"	(7) - #14, (1) - #14 GRD	
C737	GATE ACTUATOR NO. 3 "7ME11"	GATE ACTUATOR NO. 3 "7ME11" CONTROLLER	3/4"	(7) - #14, (1) - #14 GRD	
C738	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	INCLINED TRANSPORT CONVEYOR, "7ME07"	3/4"	(2) - #14, (1) - #14 GRD	
C739	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	TRUCK LOAD-OUT CONVEYOR, "7ME08"	3/4"	(2) - #14, (1) - #14 GRD	
C740	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	TRUCK LOAD-OUT CONVEYER E-STOP CABLE	3/4"	(2) - #14, (1) - #14 GRD	
C741	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	INCLINED TRANSPORT CONVEYOR MOTION DETECTOR	3/4"	(2) - #14, (1) - #14 GRD	
C742	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	TRUCK LOAD-OUT CONVEYOR MOTION DETECTOR	3/4"	(2) - #14, (1) - #14 GRD	
C743	SOLIDS HANDLING CONTROL PANEL, "SHCP"	GATE ACTUATOR NO. 1 "7ME09"	3/4"	(10) - #14, (1) - #14 GRD	
C744	SOLIDS HANDLING CONTROL PANEL, "SHCP"	GATE ACTUATOR NO. 2 "7ME10"	3/4"	(10) - #14, (1) - #14 GRD	
C745	SOLIDS HANDLING CONTROL PANEL, "SHCP"	GATE ACTUATOR NO. 3 "7ME11"	3/4"	(10) - #14, (1) - #14 GRD	
C746	DEWATERING ROOM GAS HEATER, "UH-4"	DEWATERING ROOM HEATING THERMOSTAT FOR "UH-4"	3/4"	(4) - #14, (1) - #14 GRD	
C747	SOLIDS HANDLING CONTROL PANEL, "SHCP"	DEWATERING ROOM OPERATOR IN TROUBLE PUSH BUTTON	3/4"	(2) - #14, (1) - #14 GRD	
C748	SOLIDS HANDLING CONTROL PANEL, "SHCP"	DEWATERING ROOM INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C749	SOLIDS HANDLING CONTROL PANEL, "SHCP"	DEWATERING ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C750	SOLIDS HANDLING CONTROL PANEL, "SHCP"	DEWATERING ROOM ROLL-UP DOOR INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C751	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1 WASH WATER SOLENOID, "7XV04"	3/4"	(2) - #14, (1) - #14 GRD	
C752	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CONVEYOR NO. 1 WASH WATER SOLENOID , "7XV05"	3/4"	(2) - #14, (1) - #14 GRD	
C753	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CONVEYOR NO. 1 MOTION DETECTOR	3/4"	(2) - #14, (1) - #14 GRD	
C754	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CONVEYER NO. 1 CABLE E-STOP	3/4"	(2) - #14, (1) - #14 GRD	
C755	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2 WASH WATER SOLENOID, "7XV06"	3/4"	(2) - #14, (1) - #14 GRD	
C756	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CONVEYOR NO. 2 WASH WATER SOLENOID , "7XV07"	3/4"	(2) - #14, (1) - #14 GRD	
C757	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CONVEYOR NO. 2 MOTION DETECTOR	3/4"	(2) - #14, (1) - #14 GRD	
C758	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CONVEYER NO. 2 CABLE E-STOP	3/4"	(2) - #14, (1) - #14 GRD	
C759	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	INCLINED CONVEYER CABLE E-STOP	3/4"	(2) - #14, (1) - #14 GRD	
C760	RDT CONTROL PANEL, "RDTCP"	ROTARY DRUM WASH WATER SOLENOID	3/4"	(2) - #14, (1) - #14 GRD	
C761	SOLIDS HANDLING CONTROL PANEL, "SHCP"	PLUG VALVE, "7CV01"	3/4"	(8) - #14, (1) - #14 GRD	
C762	SOLIDS HANDLING CONTROL PANEL, "SHCP"	PLUG VALVE, "7CV02"	3/4"	(8) - #14, (1) - #14 GRD	
C763	THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"	THICKENING ROOM COOLING THERMOSTAT	3/4"	(4) - #14, (1) - #14 GRD	
C764	THICKENING ROOM VENTILATION CONTROL PANEL, "T-VCP"	THICKENING ROOM EXHAUST FAN STARTER DISCONNECT	3/4"	(2) - #14, (1) - #14 GRD	
C765	SOLIDS HANDLING CONTROL PANEL, "SHCP"	THICKENING ROOM ROLL-UP DOOR INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C766	SOLIDS HANDLING CONTROL PANEL, "SHCP"	THICKENING ROOM INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C767	SOLIDS HANDLING CONTROL PANEL, "SHCP"	THICKENING ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C768	THICKENING ROOM GAS HEATER, "UH-3"	THICKENING ROOM HEATING THERMOSTAT	3/4"	(4) - #14, (1) - #14 GRD	
C769	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SOLENOID, "7XV03"	3/4"	(2) - #14, (1) - #14 GRD	
C770	SOLIDS HANDLING CONTROL PANEL, "SHCP"	THICKENING ROOM FLOOD SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C771	SOLIDS HANDLING CONTROL PANEL, "SHCP"	FLOC TANK LEVEL SWITCH, "7LE04"	3/4"	(2) - #14, (1) - #14 GRD	
C772	SOLIDS HANDLING CONTROL PANEL, "SHCP"	THICKENING ROOM OPERATOR IN TROUBLE PUSHBUTTON	3/4"	(2) - #14, (1) - #14 GRD	

CONTROL CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
C773	HVAC THERMOSTAT	HVAC UNIT	3/4"	(10) - #14, (1) - #14 GRD	
C774	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	POLY. UNIT NO. 2, "7ME15"	3/4"	(4) - #14, (1) - #14 GRD	
C775	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1, "7ME03" (HYDRAULIC AND CENTRIFUGE J-BOX)	3/4"	(8) - #14, (1) - #14 GRD	
C776	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2, "7ME04" (HYDRAULIC AND CENTRIFUGE J-BOX)	3/4"	(8) - #14, (1) - #14 GRD	
C777	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1, "7ME03", MAIN DRIVE MOTOR	3/4"	(2) - #14, (1) - #14 GRD	
C778	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1, "7ME03" BACK DRIVE MOTOR	3/4"	(2) - #14, (1) - #14 GRD	
C779	THICKENING ROOM ROLL-UP DOOR CONTROLLER	THICKENING ROOM ROLL UP DOOR MOTOR	3/4"	(4) - #14, (1) - #14 GRD	
C780	DEWATERING ROOM ROLL-UP DOOR CONTROLLER	DEWATERING ROOM ROLL UP DOOR MOTOR	3/4"	(4) - #14, (1) - #14 GRD	
C781	RDT CONTROL PANEL, "RDTCP"	WASH WATER PRESSURE SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C782	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2, "7ME04", MAIN DRIVE MOTOR	3/4"	(2) - #14, (1) - #14 GRD	
C783	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2, "7ME04" BACK DRIVE MOTOR	3/4"	(2) - #14, (1) - #14 GRD	
C784	TRUCK BAY ROLL-UP DOOR CONTROLLER	TRUCK BAY ROLL UP DOOR MOTOR	3/4"	(4) - #14, (1) - #14 GRD	
C785	SOLIDS HANDLING CONTROL PANEL, "SHCP"	DEWATERING ROOM FLOOD SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C786	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	SOLIDS HANDLING CONTROL PANEL, "SHCP"	3"	(230) - #14, (1) - #14 GRD	
C787	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OPERATIONS AREA SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C788	SOLIDS HANDLING CONTROL PANEL, "SHCP"	CONFERENCE ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C789	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #1 SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C790	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #2 SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C791	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #3 SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C792	SOLIDS HANDLING CONTROL PANEL, "SHCP"	MEN'S BATHROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C793	SOLIDS HANDLING CONTROL PANEL, "SHCP"	UNISEX BATHROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C794	SOLIDS HANDLING CONTROL PANEL, "SHCP"	MECHANICAL ROOM SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C795	SOLIDS HANDLING CONTROL PANEL, "SHCP"	MECHANICAL ROOM CARBON MONOXIDE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C796	SOLIDS HANDLING CONTROL PANEL, "SHCP"	KITCHEN SMOKE DETECTOR	3/4"	(4) - #14, (1) - #14 GRD	
C797	SOLIDS HANDLING CONTROL PANEL, "SHCP"	KITCHEN DOOR INTRUSION SWITCH	3/4"	(2) - #14, (1) - #14 GRD	
C798	SOLIDS HANDLING CONTROL PANEL, "SHCP"	AUTOMATIC SLIDING DOOR	3/4"	(2) - #14, (1) - #14 GRD	

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

ELECTRICAL SCHEDULES 3

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-SH_E07.DWG
SAVE DATE: Sep 18, 2017
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REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E726

SHEET NO.: 126

INSTRUMENTATION CONDUIT AND CONDUCTOR SCHEDULE

CIRCUIT	SOURCE	DESTINATION	TRADE SIZE	(QUANTITY) CONDUCTORS	NOTES
J701	SOLIDS HANDLING CONTROL PANEL, "SHCP"	pH/ORP CONTROLLER	1"	(1) CAT 5E ETHERNET CABLE	
J702	pH/ORP CONTROLLER	pH SENSOR, "7PH01"	N/A	MANUFACTURER'S CABLE	CABLE TO BE ROUTED IN CARRIER CONDUIT
J703	pH/ORP CONTROLLER	ORP SENSOR, "7ORP01"	N/A	MANUFACTURER'S CABLE	CABLE TO BE ROUTED IN CARRIER CONDUIT
J704	pH/ORP CONTROLLER	pH SENSOR, "7PH02"	N/A	MANUFACTURER'S CABLE	CABLE TO BE ROUTED IN CARRIER CONDUIT
J705	pH/ORP CONTROLLER	ORP SENSOR, "7ORP02"	N/A	MANUFACTURER'S CABLE	CABLE TO BE ROUTED IN CARRIER CONDUIT
J706	pH/ORP CONTROLLER	pH SENSOR, "7PH03"	N/A	MANUFACTURER'S CABLE	CABLE TO BE ROUTED IN CARRIER CONDUIT
J707	pH/ORP CONTROLLER	ORP SENSOR, "7ORP03"	N/A	MANUFACTURER'S CABLE	CABLE TO BE ROUTED IN CARRIER CONDUIT
J708	SOLIDS HANDLING CONTROL PANEL, "SHCP"	LEVEL TRANSMITTER, "7LE01"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J709	SOLIDS HANDLING CONTROL PANEL, "SHCP"	LEVEL TRANSMITTER, "7LE02"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J710	SOLIDS HANDLING CONTROL PANEL, "SHCP"	LEVEL TRANSMITTER, "7LE03"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J711	SOLIDS HANDLING CONTROL PANEL, "SHCP"	FLOW METER, "7FE01"	1"	(1) 2-CONDUCTOR SHIELDED CABLE , (2) - #14, (1) - #14 GRD	
J712	SOLIDS HANDLING CONTROL PANEL, "SHCP"	FLOW METER, "7FE02"	1"	(1) 2-CONDUCTOR SHIELDED CABLE , (2) - #14, (1) - #14 GRD	
J713	SOLIDS HANDLING CONTROL PANEL, "SHCP"	FLOW METER, "7FE03"	1"	(1) 2-CONDUCTOR SHIELDED CABLE , (2) - #14, (1) - #14 GRD	
J714	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	TRUCK BAY CAMERA	1"	(1) CAT 5E ETHERNET CABLE	
J715	SOLIDS HANDLING CONTROL PANEL, "SHCP"	WEIGHT BRIDGE CONTROLLER	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J716	WEIGHT BRIDGE CONTROLLER	WEIGHT BRIDGE LOAD CELLS	1"	MANUFACTURER'S CABLE	
J717	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	CONTROL ROOM ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	
J718	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	CONTROL ROOM ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	
J719	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	CONTROL ROOM ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	
J720	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	CONTROL ROOM ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	
J721	CONFERENCE ROOM FLOOR HDMI RECEPTACLE	CONFERENCE ROOM WALL-MOUNTED TV HDMI RECEPTACLE	1"	(1) HDMI CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J722	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL, "SH-SACP"	TRUCK BAY CARD READER	1"	(1) - 6-CONDUCTOR CABLE, (1) - 2-CONDUCTOR CABLE	
J723	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL, "SH-SACP"	DEWATERING ROOM CARD READER	1"	(1) - 6-CONDUCTOR CABLE, (1) - 2-CONDUCTOR CABLE	
J724	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	CENTRIFUGE NO. 1 CONTR0OL PANEL, "CTF-1"	1"	(1) CAT 5E ETHERNET CABLE	
J725	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	CENTRIFUGE NO. 2 CONTR0OL PANEL, "CTF-2"	1"	(1) CAT 5E ETHERNET CABLE	
J726	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	DS PUMP NO. 1 FLOW METER, "7FE05"	3/4"	(1) CAT 5E ETHERNET CABLE	
J727	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	DS PUMP NO. 2 FLOW METER, "7FE06"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J728	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	CENTRIFUGE NO. 1, "7ME03" (HYDRAULIC AND CENTRIFUGE J-BOX)	1 1/2"	(2) 2-CONDUCTOR SHIELDED CABLES, (2) 3-CONDUCTOR SHIELDED CABLES	
J729	CENTRIFUGE NO. 2 CONTROL PANEL, "CTF-2"	CENTRIFUGE NO. 2, "7ME04" (HYDRAULIC AND CENTRIFUGE J-BOX)	1 1/2"	(4) 2-CONDUCTOR SHIELDED CABLES, (6) - #14, (1) - #14 GRD	
J730	SOLIDS HANDLING CONTROL PANEL, "SHCP"	PRESSURE TRANSMITTER, "7PE02"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J731	RDT CONTROL PANEL, "RDTCP"	FLOW METER, "7FE04"	1"	(1) CAT 5E ETHERNET CABLE , (2) - #14, (1) - #14 GRD	
J732	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	FLOW METER, "7FE07"	1"	(1) CAT 5E ETHERNET CABLE , (2) - #14, (1) - #14 GRD	
J733	RDT CONTROL PANEL, "RDTCP"	SLUDGE HOPPER LEVEL TRANSMITTER	1"	(1) 2-CONDUCTOR SHIELDED CABLE, (2) - #14, (1) - #14 GRD	
J734	RDT CONTROL PANEL, "RDTCP"	POLYMER UNIT, "7ME13"	1 1/2"	(2) 2-CONDUCTOR SHIELDED CABLES, (8) - #14, (1) - #14 GRD	
J735	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	RDT CONTROL PANEL, "RDTCP"	1"	(1) CAT 5E ETHERNET CABLE	
J736	RDT CONTROL PANEL, "RDTCP"	TS DISCHARGE PRESSURE, "7PE03"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J737	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	DS PUMP NO. 1 PRESSURE TRANSMITTER, "7PE01"	3/4"	(1) 2-CONDUCTOR SHIELDED CABLE	
J738	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL, "SH-SACP"	1"	(1) CAT 5E ETHERNET CABLE	
J739	THICKENING ROOM CARD READER	BLOWER ROOM CARD READER	1"	(1) - 6-CONDUCTOR CABLE, (1) - 2-CONDUCTOR CABLE	
J740	CONTROL ROOM CARD READER	THICKENING ROOM CARD READER	1"	(2) - 6-CONDUCTOR CABLE, (2) - 2-CONDUCTOR CABLE	
J741	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL, "SH-SACP"	CONTROL ROOM CARD READER	1"	(3) - 6-CONDUCTOR CABLE, (3) - 2-CONDUCTOR CABLE	
J742	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	SOLIDS HANDLING CONTROL PANEL, "SHCP"	1"	(1) CAT 5E ETHERNET CABLE	
J743	SOLIDS HANDLING CONTROL PANEL, "SHCP"	SOLIDS HANDLING COMMUNICATIONS PANEL, "SH-COM"	1"	(1) CAT 5E ETHERNET CABLE , (2) - #14, (1) - #14 GRD	
J744	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OXIDATION DITCH FIBER PATCH PANEL	2"	(1) FIBER OPTIC CABLE	
J745	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OPERATIONS BUILDING FIBER PATCH PANEL	2"	(1) FIBER OPTIC CABLE	
J746	KITCHEN AND LUNCH ROOM CARD READER	ELECTRICAL ROOM CARD READER	1"	(1) - 6-CONDUCTOR CABLE, (1) - 2-CONDUCTOR CABLE	
J747	SOLIDS HANDLING SECURITY ACCESS CONTROL PANEL, "SH-SACP"	KITCHEN AND LUNCH ROOM CARD READER	1"	(2) - 6-CONDUCTOR CABLE, (2) - 2-CONDUCTOR CABLE	
J748	CENTRIFUGE NO. 1 CONTROL PANEL, "CTF-1"	POLY. UNIT NO. 1, "7ME14"	1 1/2"	(2) 2-CONDUCTOR SHIELDED CABLES, (8) - #14, (1) - #14 GRD	
J749	SOLIDS HANDLING CONTROL PANEL, "SHCP"	FIBER OPTIC PATCH PANEL	1"	(2) FIBER OPTIC PATCH CABLES	
J750	SOLIDS HANDLING MOTOR CONTROL CENTER 1, "MCC-SH1"	SOLIDS HANDLING CONTROL PANEL, "SHCP"	4"	(24) 2-CONDUCTOR SHIELDED CABLES,	
J751	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	2 1/2"	(7) CAT 5E ETHERNET CABLES	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J752	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	SCADA HMI ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J753	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	OPERATIONS AREA TABLE #1 ETHERNET RECEPTACLE #1	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J754	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	OPERATIONS AREA TABLE #1 ETHERNET RECEPTACLE #2	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J755	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	OPERATIONS AREA TABLE #1 ETHERNET RECEPTACLE #3	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J756	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	OPERATIONS AREA TABLE #2 ETHERNET RECEPTACLE #1	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J757	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	OPERATIONS AREA TABLE #2 ETHERNET RECEPTACLE #2	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J758	OPERATIONS AREA FLOOR JUNCTION BOX, "OP-JB"	OPERATIONS AREA TABLE #2 ETHERNET RECEPTACLE #3	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J759	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #1 ETHERNET RECEPTACLE #1	1"	(1) CAT 5E ETHERNET CABLE	
J760	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #1 ETHERNET RECEPTACLE #2	1"	(1) CAT 5E ETHERNET CABLE	
J761	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #2 ETHERNET RECEPTACLE #1	1"	(1) CAT 5E ETHERNET CABLE	
J762	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #2 ETHERNET RECEPTACLE #2	1"	(1) CAT 5E ETHERNET CABLE	
J763	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #3 ETHERNET RECEPTACLE #1	1"	(1) CAT 5E ETHERNET CABLE	
J764	SOLIDS HANDLING CONTROL PANEL, "SHCP"	OFFICE #3 ETHERNET RECEPTACLE #2	1"	(1) CAT 5E ETHERNET CABLE	
J765	SOLIDS HANDLING CONTROL PANEL, "SHCP"	KITCHEN ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	
J766	SOLIDS HANDLING CONTROL PANEL, "SHCP"	CONFERENCE ROOM FLOOR ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	INSTALL CONDUIT ON CEILING OF LOWER LEVEL
J767	SOLIDS HANDLING CONTROL PANEL, "SHCP"	CONFERENCE ROOM WALL-MOUNTED TV ETHERNET RECEPTACLE	1"	(1) CAT 5E ETHERNET CABLE	

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WRF PHASE 2 IMPROVEMENTS

ELECTRICAL SCHEDULES 4

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-0-SH_E07.DWG
DATE: Sep 10, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: E727

SHEET NO.: 127 158

VALVE & GATE SYMBOLS

- VALVE : THREE WAY
- VALVE: FOUR WAY
- VALVE: ANGLE (LEFT/RIGHT)
- VALVE: BACKFLOW PREVENTER
- VALVE: BALL
- VALVE: BUTTERFLY
- VALVE: SWING CHECK
- VALVE: BALL CHECK
- VALVE: FLAPPER CHECK
- VALVE: DUCKBILL CHECK
- VALVE: DIAPHRAGM
- VALVE: FLOAT
- VALVE: GATE
- VALVE: GLOBE
- VALVE: KNIFE
- VALVE: NEEDLE
- VALVE: PINCH
- VALVE: PLUG (CONCENTRIC)
- VALVE: PLUG (ECCENTRIC)
- PRESSURE-REDUCING REGULATOR SELF CONTAINED
- PRESSURE-REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP
- BACKPRESSURE REGULATOR WITH EXTERNAL PRESSURE TAP
- BACKPRESSURE REGULATOR SELF CONTAINED
- VALVE: PRESSURE RELIEF
- VALVE: PRESSURE VACUUM
- VALVE: COMBINATION PRESSURE RELIEF AND VACUUM
- GATE: WEIR
- GATE: SLIDE
- GATE: SLUICE
- VALVE: MUD

VALVE & GATE ACTUATOR SYMBOLS

- CYLINDER
- DIAPHRAGM
- M — ELECTRIC MOTOR
- E/H — ELECTROHYDRAULIC
- MANUAL ACTUATOR
- RELIEF
- S — SOLENOID

THE FOLLOWING ADDITIONAL DESIGNATIONS MAY BE UTILIZED ADJACENT TO SOME VALVE OR GATE SYMBOLS:

FC	FAILS CLOSED
FIP	FAILS IN LAST POSITION
FO	FAILS OPEN
LC	LOCKS CLOSED
LO	LOCKS OPEN
NC	NORMALLY CLOSED
NO	NORMALLY OPENED

PRIMARY ELEMENT SYMBOLS

- FLUME
- VENTURI TUBE
- SITE FLOW INDICATOR
- M — METER: MAGNETIC FLOW
- METER: TURBINE
- METER: VORTEX
- METER: SONIC
- METER: ROTAMETER
- HEAT ELEMENT
- ORIFICE PLATE
- LEVEL: ULTRASONIC
- FLOAT SWITCH
- LEVEL: PROBE

P&ID BUBBLE IDENTIFICATION CHART

GENERAL INSTRUMENT OR FUNCTION SYMBOLS	FIELD MOUNTED	PRIMARY LOCATION, ACCESSIBLE TO OPERATOR	AUXILIARY LOCATION, ACCESSIBLE TO OPERATOR	NORMALLY INACCESSIBLE OR BEHIND THE PANEL
DISCRETE INSTRUMENTS	○	⊖	⊖	⊖
DISCRETE INSTRUMENTS SHARED DISPLAY	□	⊟	⊟	⊟
COMPUTER FUNCTION	⬡	⬡	⬡	⬡
PROGRAMMABLE LOGIC CONTROL	◇	◇	◇	◇

INSTRUMENT BUBBLE — XYZ / ABC — SUPERSCRIPT

X=MEASURED OR INITIATING VARIABLE
Y=READOUT OR FUNCTION
Z=MODIFIER
ABC=LOOP NUMBER

MECHANICAL EQUIPMENT SYMBOLS

- PUMP: CENTRIFUGAL
- PUMP: PROGRESSIVE CAVITY
- PUMP: SCREW
- PUMP: SUBMERSIBLE
- PUMP: METERING
- PUMP: DIAPHRAGM
- PUMP: ROTARY
- SHAFTLESS SCREW CONVEYOR
- VACUUM PUMP
- PUMP: VERTICAL TURBINE (SUBMERSIBLE / LINE-SHAFT DRIVEN)
- BLOWER: CENTRIFUGAL
- BLOWER: ROTARY
- MIXER
- AIR DIFFUSER
- INJECTOR
- IN-LINE MIXER
- M — MOTOR

ISA STANDARDS FOR P&ID

	1st LETTER (MEASURED OR INITIATING VARIABLE)	2nd LETTER (READOUT OR FUNCTION)	3rd LETTER (MODIFIER)
A	ANALYSIS (ANALOG)	ALARM	
B	BURNER, COMBUSTION	BUTTON	USER'S CHOICE
C	CONDUCTIVITY	CONTROLLER	CLOSED
D	DENSITY (DISCRETE)		
E	VOLTAGE	ELEMENT	EXCESSIVE
F	FLOW RATE	RATIO	FAIL
G	DIMENSION (GAS)		
H	HAND		HIGH
I	CURRENT (ELECTRICAL)	INDICATOR (INPUT)	
J	NETWORK	USER'S CHOICE	USER'S CHOICE
K	TIME		CONTROL STATION
L	LEVEL	LIGHT	LOW
M	HUMIDITY		MIDDLE
N	POWER	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE	OUTPUT	OPEN
P	PRESSURE	POINT (TEST) CONNECTION	
Q	QUANTITY	TOTALIZER	
R	RADIOACTIVITY	RECORDER	
S	SPEED, FREQUENCY	SWITCH (SENSOR)	
T	TEMPERATURE	TRANSMITTER	
U	MULTIVARIABLE	MULTIFUNCTION	
V	VIBRATION (VISCOSITY)	VALVE	
W	WEIGHT, FORCE		
X	UNCLASSIFIED	SOLENOID	
Y	EVENT, STATE, PRESENCE	CALCULATION	
Z	POSITION		

LOOP NUMBER

2 = HEADWORKS
3 = OXIDATION DITCHES
4 = CLARIFIERS AND SCUM PUMP STATIONS
5 = WAS PUMPING
7 = SOLIDS HANDLING

MISCELLANEOUS SYMBOLS

- DIAPHRAGM CHEMICAL SEAL
- REDUCER: CONCENTRIC/ECCENTRIC
- COUPLING
- EXPANSION JOINT
- FLANGE
- INSULATION
- UNION
- QUICK DISCONNECT
- TRUCK SCALE
- RUPTURE DISC
- AIR VENT
- AIR VENT
- HOSE CONNECTION
- FLEXIBLE HOSE
- DRAIN TO — DRAIN
- FILTER
- STRAINER: BASKET
- STRAINER: Y-STYLE

ABBREVIATIONS

EQUIPMENT

A	MOTORIZED ACTUATOR
B	BLOWER
BFP	BELT FILTER PRESS
C	COMPRESSOR
CL2	CHLORINE RESIDUAL METER
Cp	CONTROL PANEL
DAF	DISSOLVED AIR FLOTATION UNIT
DOX	DISSOLVED OXYGEN SENSOR
E	ENGINE GENERATOR
F	FAN
FLC	FLOCCULATOR
FE	FLOW ELEMENT
Fs	FLOW SWITCH
Ft	FLOW TRANSMITTER
G	GATE
GCL	GRIT CLASSIFIER
Gd	COMBUSTIBLE GAS DETECTOR
GR	GRIT REMOVAL BASIN
Gt	GAS TRANSMITTER
Ht	THERMOSTAT
It	INTENSITY TRANSMITTER
LE	LEVEL ELEMENT
Lp	LEVEL PROBE
Ls	LEVEL SWITCH
Lt	LEVEL TRANSMITTER
ME	MISCELLANEOUS EQUIPMENT
MX	MIXER
MCC	MOTOR CONTROL CENTER
MS	MOTOR STARTER
NTU	TURBIDIMETER
ORP	OXIDATION REDUCTION POTENTIAL SENSOR
P	PUMP
pH	pH METER
Ps	PRESSURE SWITCH
Pt	PRESSURE TRANSMITTER
S	SCREEN
Sd	SMOKE DETECTOR
SL	STOP LOG
SMP	SAMPLER
Ts	TEMPERATURE SWITCH
TSS	TOTAL SUSPENDED SOLIDS SENSOR
Tt	TEMPERATURE TRANSMITTER
Us	TORQUE SWITCH
UVT	ULTRAVIOLET (UV) TRANSMITTANCE
VFD	VARIABLE FREQUENCY DRIVE
ZS	POSITION SWITCH

VALVES

AFV	ANTI-FLOTATION VALVE
BPSV	BACK PRESSURE SELF-CONTAINED VALVE
FCV	FLOW CONTROL VALVE
FSV	FAIL SAFE VALVE
ZV	AIR ACTUATED VALVE
PCV	PUMP CONTROL VALVE
PRV	PRESSURE RELIEF VALVE
V	VALVE
XV	SOLENOID VALVE

MISCELLANEOUS

NC	NORMALLY CLOSED
NO	NORMALLY OPEN

LINE TYPES

- PROPOSED MAIN PROCESS FLOW (WITH TYPICAL DIRECTION OF FLOW SHOWN)
- INSTRUMENT SUPPLY, PROCESS TAPS, NON PROCESS FLOW; EXISTING MAIN PROCESS FLOW
- ELECTRIC SIGNAL (ANALOG)
- INPUT FROM CP OR PLC
- OUTPUT FROM CP OR PLC
- ELECTRIC SIGNAL (DISCRETE)
- SOFTWARE OR DATA LINK
- ELECTRIC POWER SUPPLY 120VAC, 60HZ U.N.O.
- SERVICE AIR SUPPLY
- CAPILLARY TUBING
- HYDRAULIC SIGNAL
- PNEUMATIC SIGNAL
- UNDEFINED SIGNAL
- DWG NO. X## — CONTINUATION DRAWING REFERENCE (RIGHT/LEFT)
- DWG NO. X##
- SONIC SIGNAL (GUIDED)
- SONIC SIGNAL (UNGUIDED)

PROCESS LINES:

MECHANICAL — ELECTRICAL

CONNECTED

NOT CONNECTED

OR — OR

SPECIFICALLY NOTED

GENERAL NOTES

NOTES:
1. THIS IS A STANDARD LEGEND. NOT ALL OF THE INFORMATION SHOWN ON THIS PAGE WILL APPEAR IN THIS SET OF PLANS.

2. SEE SPECIFICATIONS FOR INFORMATION ON SYSTEMS BY OTHERS.

3. THE PROCESS INFORMATION SHOWN ON THE P&ID'S IS SCHEMATIC IN NATURE. SEE THE MECHANICAL PLANS FOR A FULL REPRESENTATION OF ALL PIPING AND VALVES.

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RICHARD — BALLARD — STATE OF WASHINGTON — SECRETARY — SIGNED: 09/19/17

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WRF PHASE 2 IMPROVEMENTS

P&ID - LEGEND

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0V01.DWG
SAVE DATE: Sep 11, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JKK
REVIEWED: ETS

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y001
SHEET NO.: 128
158

TERMINATION LOCATION
EXISTING WRF SCADA
NETWORK

TERMINATION LOCATION
HEADWORKS GRIT
CONTROL PANEL, "GCP"

TERMINATION LOCATION
VACUUM PRIMING PANEL 2ME03

JC 200
DO 213
DI 202
DO 214
JC 200
DO 203
DI 203
DI 201
DO 201

14" FM(FUT)
14" FM
KCPS
8FE01
FIT
M
P6
IN-PLANT PS
8" FM
4FE03
M
FIT
10" FM(FUT)
FUTURE INDUSTRIAL AREA

2SAM01
SM
1/2" SAM
MANUAL BAR SCREEN
DP
2" WN
PLANT
2SLG02
2SLG01
AUTO BAR SCREEN
2BS02
3/4" NPW
S
2XV13

PI 212
GRIT PUMP
250 GPM
2P12
DISCHARGE PINCH VALVE
HEADWORKS
2LE01
2XV01
S
2SLG04
4" GR
GRIT CHAMBER
2GTC01
EXISTING GRIT PADDLE DRIVE CONNECTED TO NEW GRIT SYSTEM CONTROL PANEL
2SLG05
2SLG03
S
AIR LIFT
S
AIR SCOUR
1FE01
FLUME
24" RS
P4
HEADWORKS STRUCTURE

HS 202
HOA
GRIT CLASSIFIER (REPLACED)
2ME02
ODOR CONTROL
6" OV
4" OV
2" DR
2ME01
SCREENING COMPACTOR
HOPPER
2XV14
6" TD
2" WN
PLANT
TD
P6
IN-PLANT PS
EXISTING SOLENOID CONNECTED TO NEW GRIT SYSTEM CONTROL PANEL
AREA DRAIN
6" TD

EXISTING AIRLIFT SYSTEM REMOVED
2" AA
2CPR01
2" AA
PSH
2CPR02
2" AA

12" OF
8" SS
WATER PLANT SEWER
8" SS
SALISH LODGE SEWER
8" FM
WEY. CO. MILL F.M.
SS MH 1
SS MH 4
P6
IN-PLANT PS
VIA AREA SEWERS
FIT
LE
7LE01
ZS
ZS
7P01
7P11
LAGOON PS
EXISTING LAGOON 2
EXISTING LAGOON 1
12"
12"
15"
2" CLS
AREA 7 CHLORINATOR
LAGOON EFFLUENT BOX

EXISTING HEADWORKS PID SHOWN IN GRAY SOLID HATCH FOR REFERENCE. EXISTING EQUIPMENT TO BE REMOVED SHOWN WITH CROSS HATCHING.

FIELD

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

P&ID - HEADWORKS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0102.DWG
SAVE DATE: Sep 11, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JKK
REVIEWED: ETS

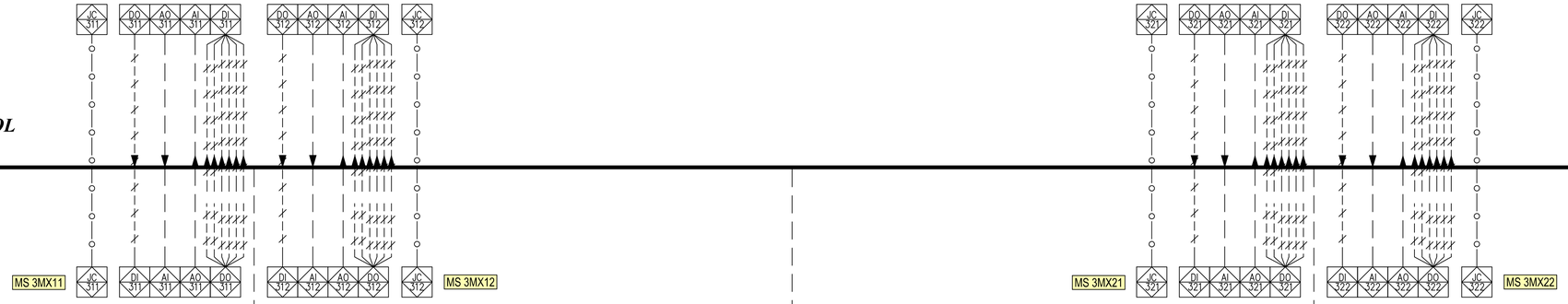
REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

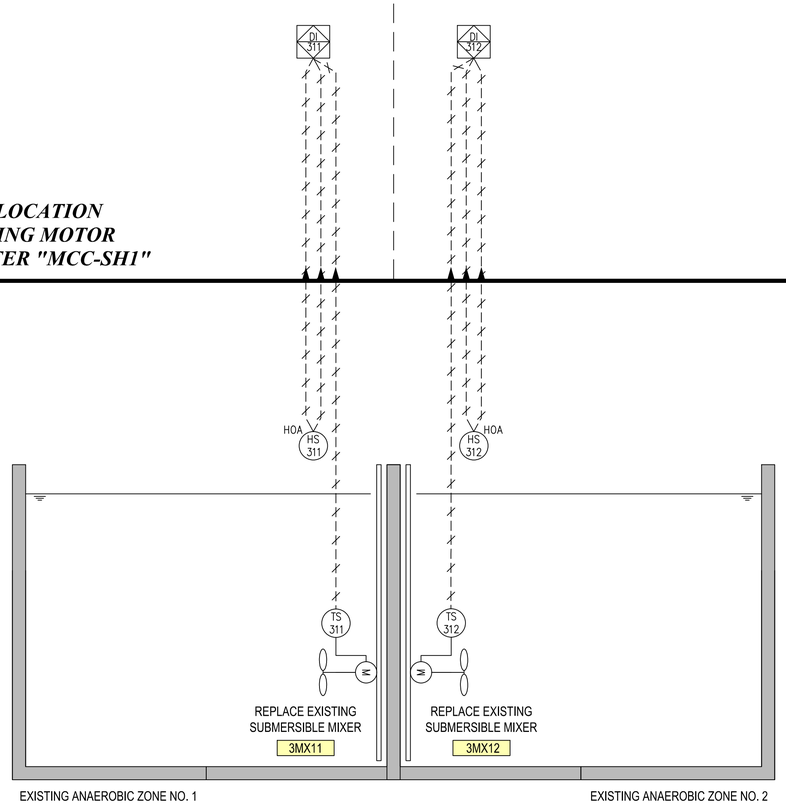
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

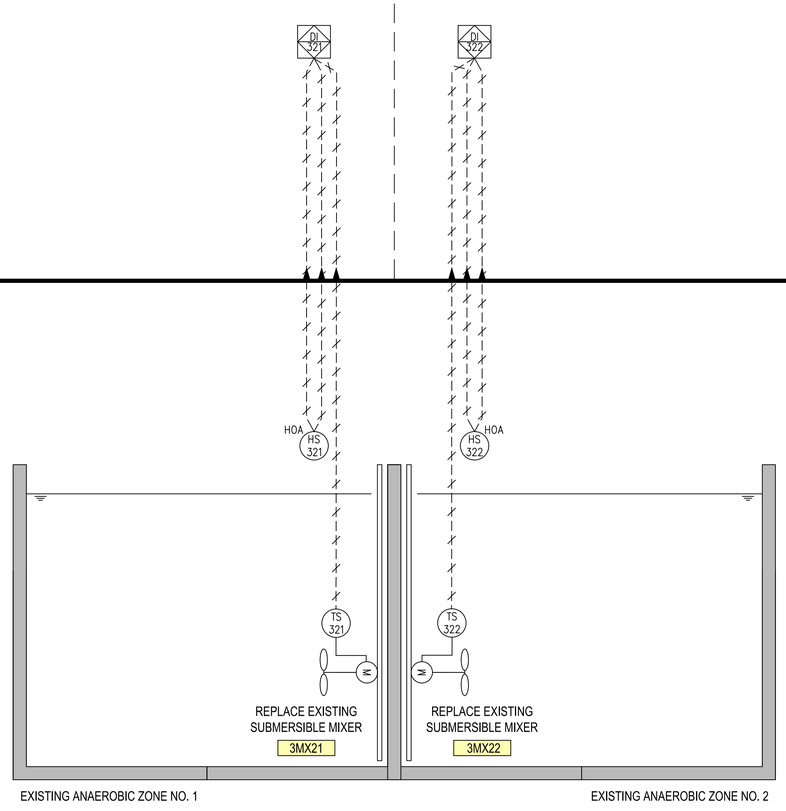
DWG NO.: Y002
SHEET NO.: 129
158

TERMINATION LOCATION SOLIDS HANDLING CONTROL PANEL, "SHCP"



TERMINATION LOCATION SOLIDS HANDLING MOTOR CONTROL CENTER "MCC-SH1"





P&ID - OXIDATION DITCH NO. 1 ANAEROBIC MIXER

NOT TO SCALE

P&ID - OXIDATION DITCH NO. 2 ANAEROBIC MIXER

NOT TO SCALE

FIELD

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

P&ID - BASINS - ANAEROBIC ZONE MIXERS

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0Y003.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JKK
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y003
SHEET NO.: 130
158

TERMINATION LOCATION SOLIDS HANDLING CONTROL PANEL, "SHCP"

DO 412 | DI 412 | AI 422

DI 412 | DO 412

DO 411 | DI 411 | AI 421

DI 411 | DO 411

MS 4P12

MS 4P11

TERMINATION LOCATION MOTOR CONTROL CENTER, "MCC-SH-1"

DI 412 | DI 424 | DI 423 | DI 411

HOA HS 412

HOA HS 411

PI

4" SC

4LE24 | LS 424 | LE 422 | 4LE22

4LE23 | LS 423 | LE 421 | 4LE21

SCUM COLLECTION BOX

SCUM PUMP NO. 2
150 GPM
4P12

SCUM PUMP NO. 1
150 GPM
4P11

SCUM PUMP STATION

SECONDARY CLARIFIER NO. 2

SECONDARY CLARIFIER NO. 1

4" SC | 6" SC

TO DIGESTERS
DWG, NO, Y006

FIELD

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

P&ID - CLARIFIERS - SCUM PUMP STATIONS

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ENGINEER: JKK
REVIEWED: ETS
SAVE DATE: Sep 15, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-0Y04.DWG
JOB NO.: 116-028

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

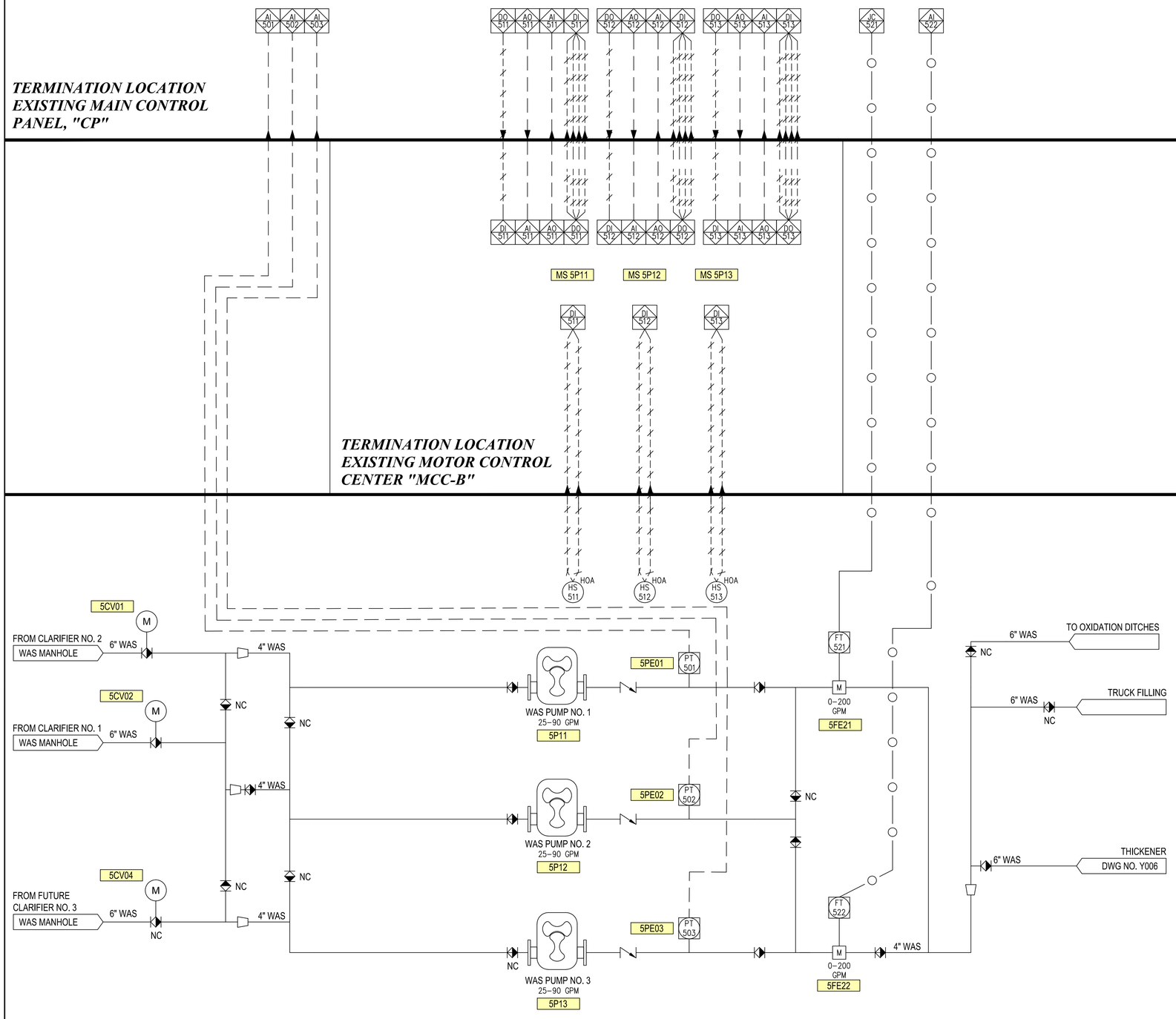
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y004

SHEET NO.: 131



FIELD

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

P&ID - SOLIDS HANDLING - WAS PUMPING

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REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNO
FILENAME: WRF02-D-0Y05.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JKK
REVIEWED: ETS

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y005

SHEET NO.: 132

TERMINATION LOCATION SOLIDS HANDLING CONTROL PANEL, "SHCP"

TERMINATION LOCATION RDT CONTROL PANEL, "RDTCP"

DI 701 | DO 701 | AI 702 | DI 704 | DI 704 | JC 707 | DI 702 | DO 702 | JC 702 | JC 702

AI 713 | AO 713 | DI 713 | DO 713 | DI 704 | DO 708 | AI 705 | AI 703 | JC 704

WAS PUMP STATION
DWG NO. Y005

6" WAS

4" WAS

7CV01

3-WAY PLUG VALVE

PE 702

7PE02

4" WAS

POLYMER FEED SYSTEM

7ME13

4" DS

MIXER MOTOR

DRUM MOTOR

LEVEL SWITCH

7LE04

ROTARY SCREEN THICKENER
50–125 GPM; 200–300 LB/HR
7ME02

2" W3

WASHWATER PRESSURE SWITCH

7PE04

WASHWATER SOLENOID

7XV08

6" FA

TO ODOR CONTROL
DWG NO. Y008

LE 705

7LE05

8" OV

OVERFLOW HOPPER

TS HOPPER

6" FLT

TO IPPS

8" DR

HOA HS 704

6" TS

3" TS

7P04

RECUPERATIVE THICKENING PUMP
25–75 GPM

FE 707

0–100 GPM

7FE07

7CV02

4" TS

6" TS

DS PIPE CONNECTION
DWG. NO. Y006

THICKENED SLUDGE TRANSFER PUMP NO. 1
5–30 GPM
7P01

PE 703

7PE03

3" TS

4" TS

FE 704

0–100 GPM

7FE04

TO DIGESTERS
DWG NO. Y007

FROM HAULING VEHICLE
4" CONNECTION

4" WAS BYPASS

FIELD

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SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

P&ID - SOLIDS HANDLING - THICKENING

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-Y006.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MKK
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y006

SHEET NO.: 133 158

TERMINATION LOCATION SOLIDS HANDLING CONTROL PANEL, "SHCP"

AI 701

DO 701 | AO 701 | AI 701 | DI 701
DO 702 | AO 702 | AI 702 | DI 702
DO 703 | AO 703 | AI 703 | DI 703
AI 702
AI 703
DO 701
AI 701
DO 701 | DI 701
DO 702
AI 702
DO 702 | DI 702
DO 703
AI 703
DO 703 | DI 703

DI 701 | AI 701 | AO 701 | DO 701 — MS 7B01
DI 702 | AI 702 | AO 702 | DO 702 — MS 7B02
DI 703 | AI 703 | AO 703 | DO 703 — MS 7B03
DI 701 | DO 701 — MS 7MX01
DI 702 | DO 702 — MS 7MX02
DI 703 | DO 703 — MS 7MX03

TERMINATION LOCATION MOTOR CONTROL CENTER, "MCC-SH-1"

DI 701 | DI 701 | DI 702 | DI 702
DI 703 | DI 703
DI 701
DI 702
DI 703

TERMINATION LOCATION PH/ORP CONTROLLER

IC 700
AT 700

FROM SCUM SYSTEM
DWG NO. Y004
4" SC

FROM THICKENING SYSTEM
DWG NO. Y006

HOA HS 701
HOA HS 702
HOA HS 703

4" TS

TO DIGESTER NO. 1
TO DIGESTER NO. 2
7FE02
185–620 SCFM
TO DIGESTER NO. 3

7FE01
185–620 SCFM
M
FE 701
FE 702
FE 703
185–620 SCFM
7FE03
NC

DIGESTER BLOWER NO. 1
185–620 SCFM
7B01
TS 701
7TS01

DIGESTER BLOWER NO. 2
185–620 SCFM
7B02
TS 702
7TS02

DIGESTER BLOWER NO. 3
185–620 SCFM
7B03
TS 703
7TS03

FUTURE DIGESTER BLOWER NO. 4
185–620 SCFM
7B23
TS 925
7TS26

ATMOSPHERE
7XV01
S
6" AA
7LE01
LE 701
7MX01
M
DECANT
24" V
6" OV
4" TS
ORP 701
TEMP 701
7ORP01
pH 701
7PH01
6" DS
6" TD
AEROBIC DIGESTER NO. 1

ATMOSPHERE
7XV02
S
6" AA
7LE02
LE 702
7MX02
M
DECANT
24" V
6" OV
4" TS
ORP 702
TEMP 702
7ORP02
pH 702
7PH02
6" DS
6" TD
AEROBIC DIGESTER NO. 2

ATMOSPHERE
7XV03
S
6" AA
7LE03
LE 703
7MX03
M
DECANT
24" V
6" OV
4" TS
ORP 703
TEMP 703
7ORP03
pH 703
7PH03
6" DS
6" TD
AEROBIC DIGESTER NO. 3

TO RECUPERATIVE THICKENING
DWG NO. Y006

6" DS
TO DEWATERING SYSTEM
DWG NO. Y008

6" TD
8" TD
TO IN-PLANT PUMP STATION

FIELD

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING - DIGESTERS

ENGINEER: JKK
REVIEWED: ETS
SAVE DATE: Sept 11, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNQ
FILENAME: WRF02-D-0Y07.DWG
JOB NO.: 116-028

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y007
SHEET NO.: 134
158

TERMINATION LOCATION
SOLIDS HANDLING CONTROL
PANEL, "SHCP"

TERMINATION LOCATION

FIELD

JC 704 · JC 703 · DO 706 · DI 715 · DO 715 · DI 705 · DO 707 · DI 704 · AI 704 · AI 706 · AI 701 · DO 704 · JC 705 · DI 714 · DO 714 · AI 714 · AO 714 · AI 703 · DO 706 · DO 705 · DO 707 · DI 708 · DO 708 · DO 709 · DI 709 · DO 710 · DI 710 · DO 711 · DI 711 · AI 712

CTF-2 · CTF-1 · MCC-SH1 · MS-7ME07 · MS-7ME08

FE 705 — 7FE05 — 75–125 GPM — 2" DS — M

POLYMER FEED SYSTEM — POLYMER FEED — 1" W2 — 7ME14 — S — 7XV04 — 1" W3

ODOR CONTROL — DWG. NO. Y008

8" FA

CENTRIFUGE NO. 1
70–190 GPM, 450–600 LB/HR
7ME03

HS 707 HOA · HS 708 HOA

S — 7XV05 — 3/4" W3

REVERSING CONVEYOR
45 CFH, 1.5 TPH
7ME06

DE-AERATOR — CENTRATE — SLOP

CABLE E-STOP · MOTION SENSOR

8" DR — TO IN-PLANT PUMP STATION

DEWATERED SLUDGE

PE 701 — 7PE01

7FE06 — 20–60 GPM (RELOCATE EXISTING) — FE 706 — 2" DS — M

CENTRIFUGE NO. 2 (RELOCATED)
20–60 GPM, 100–400 LB/HR
7ME04

S — 7XV07 — 3/4" W3

4" DS — DIGESTED SLUDGE PUMP #1 — 70–90 GPM — 7P02

PI — FROM DIGESTERS — DWG NO. Y006 — 6" DS

3" DS — NC — PI — 4" DS — DIGESTED SLUDGE PUMP #2 (RELOCATED) — 20–60 GPM — 7P03

S — 7XV06 — 1" W3

CENTRATE

REVERSING CONVEYOR
45 CFH, 1.5 TPH
7ME05

SLOP

CABLE E-STOP · MOTION SENSOR

DEWATERED SLUDGE

1" W2 · POLYMER FEED — POLYMER FEED SYSTEM — 7ME15 — (RELOCATE EXISTING)

8" DR — TO IN-PLANT PUMP STATION

INCLINED CONVEYOR
90 CFH, 3.0 TPH
7ME07

M 7ME09 · M 7ME10 · M 7ME11

DISTRIBUTION CONVEYOR
90 CFH, 3.0 TPH
7ME08

CABLE E-STOP · MOTION SENSOR

CABLE E-STOP · MOTION SENSOR

WEIGH BRIDGE — 7ME12

SMITH — STATE OF WASHINGTON — 22307 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

BALLARD — STATE OF WASHINGTON — 22307 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

P&ID - SOLIDS HANDLING - DEWATERING

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0Y08.DWG
SAVE DATE: Sep 13, 2017
PLOT DATE: Sep 20, 2017
ENGINEER: JKK
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y008
SHEET NO.: 135
158

TERMINATION LOCATION SOLIDS HANDLING CONTROL PANEL, "SHCP"

DO 701 | AO 701 | AI 701 | DI 701

DO 702 | AO 702 | AI 702 | DI 702

DO 741 | DO 742

DI 701 | AI 701 | AO 701 | DO 701

DI 702 | AI 702 | AO 702 | DO 702

MS 7F01

MS 7F02

TERMINATION LOCATION MOTOR CONTROL CENTER, "MCC-SH-1"

DI 701

DI 702

HS 701 HOA

HS 702 HOA

1" W3

BIOFILTER SPRINKLER SYSTEM

SOLIDS HANDLING BIOFILTER

BIOFILTER ZONE NO. 1

BIOFILTER ZONE NO. 2

1" W3

HUMIDIFIER SOLENOID

7XV41

DEWATERING/TRUCK BAY/EQUIPMENT

DWG NO. Y008

FOUL AIR FAN NO. 1

10,800 CFM

7F01

1" W3

HUMIDIFIER SOLENOID

7XV42

AEROBIC DIGESTERS

DWG NO. Y007

FOUL AIR FAN NO. 2

11,400 CFM

7F02

FIELD

P&ID - SOLIDS HANDLING ODOR CONTROL SYSTEM

NOT TO SCALE

TERMINATION LOCATION EXISTING WRF SCADA NETWORK

JC 220

JC 220

TERMINATION LOCATION HEADWORKS ODOR CONTROL FAN CONTROL PANEL, "OC-CP"

DO 221 | DO 222 | DO 224 | DO 223 | DO 225 | DO 226

HS 221

HS 222

IRRIGATION SOLENOID

2XV25

IRRIGATION SOLENOID

2XV26

1" W3

1" W3

HEADWORKS BIOFILTER NO. 1

HEADWORKS BIOFILTER NO. 2

1" W3

HUMIDIFIER SOLENOID

2XV23

HEADWORKS CHANNELS

DWG NO. Y002

FOUL AIR FAN NO. 1

700 CFM

2F21

1" W3

HUMIDIFIER SOLENOID

2XV24

HEADWORKS LOWER LEVEL

DWG NO. Y002

FOUL AIR FAN NO. 2

1,600 CFM

2F22

FIELD

P&ID - HEADWORKS ODOR CONTROL SYSTEM

NOT TO SCALE

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WRF PHASE 2 IMPROVEMENTS

P&ID - ODOR CONTROL

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0Y09.DWG
SAVE DATE: Sep 12, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: JKK
REVIEWED: ETS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

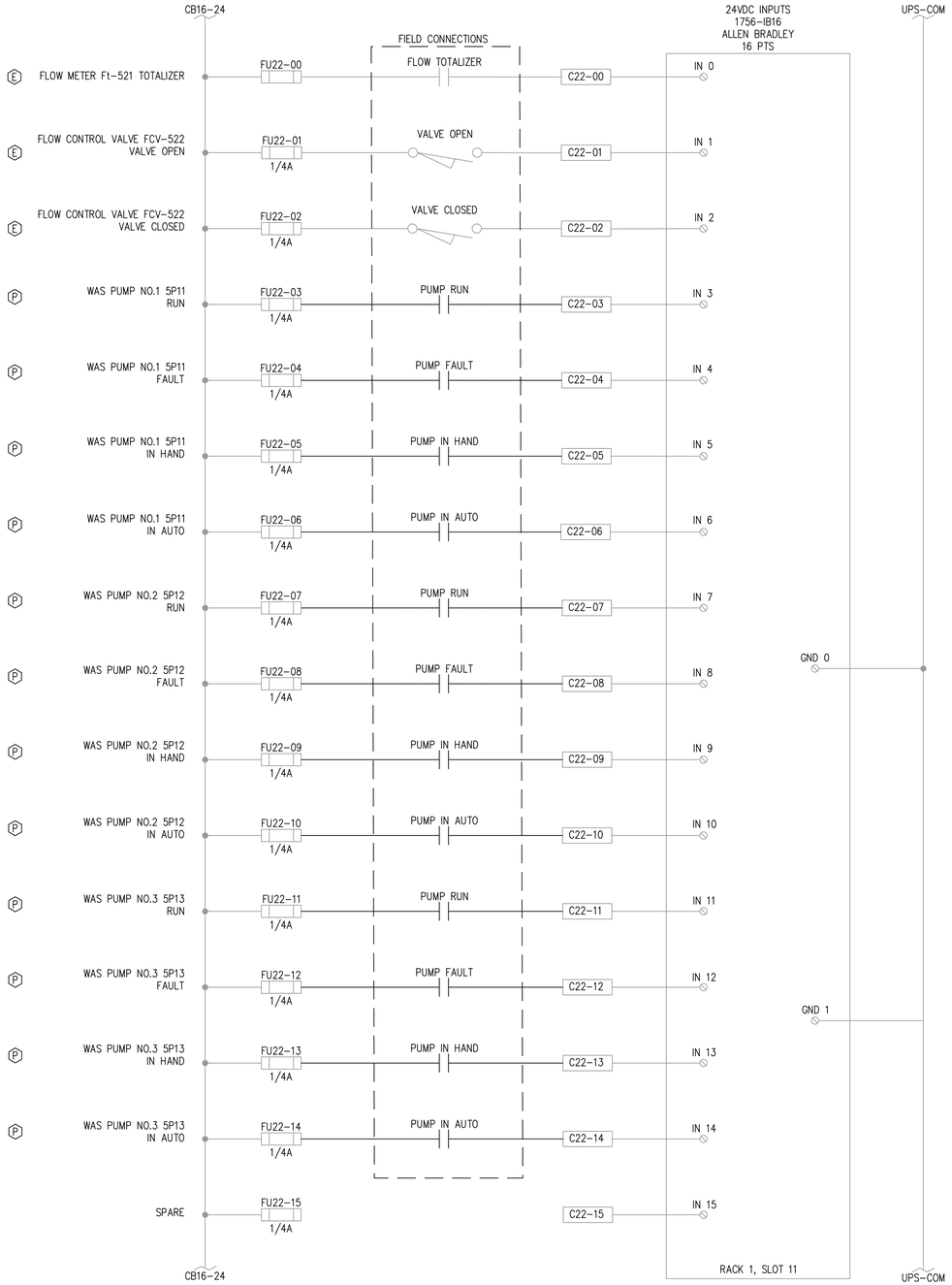
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

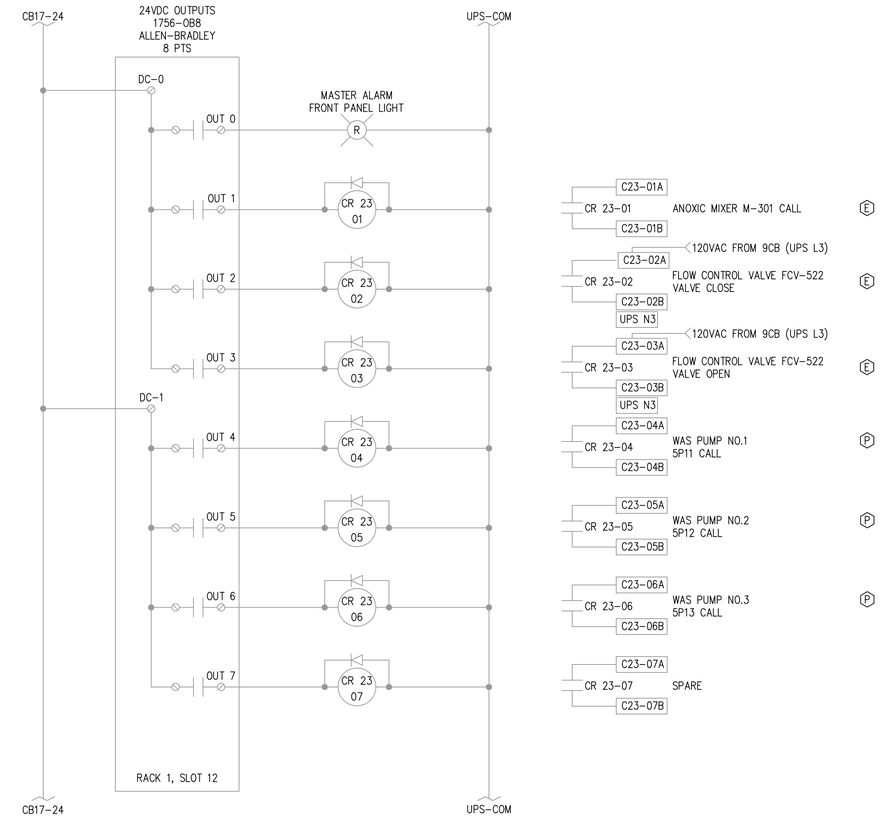
DWG NO.: Y009

SHEET NO.: 136



DIGITAL INPUTS, EXISTING RACK 1, SLOT 11

NOT TO SCALE



DIGITAL OUTPUTS, RACK 1, SLOT 12

NOT TO SCALE

LEGEND		
———	(E)	1. EXISTING EQUIPMENT OR CONNECTION.
———	(P)	2. PROPOSED EQUIPMENT OR CONNECTION.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

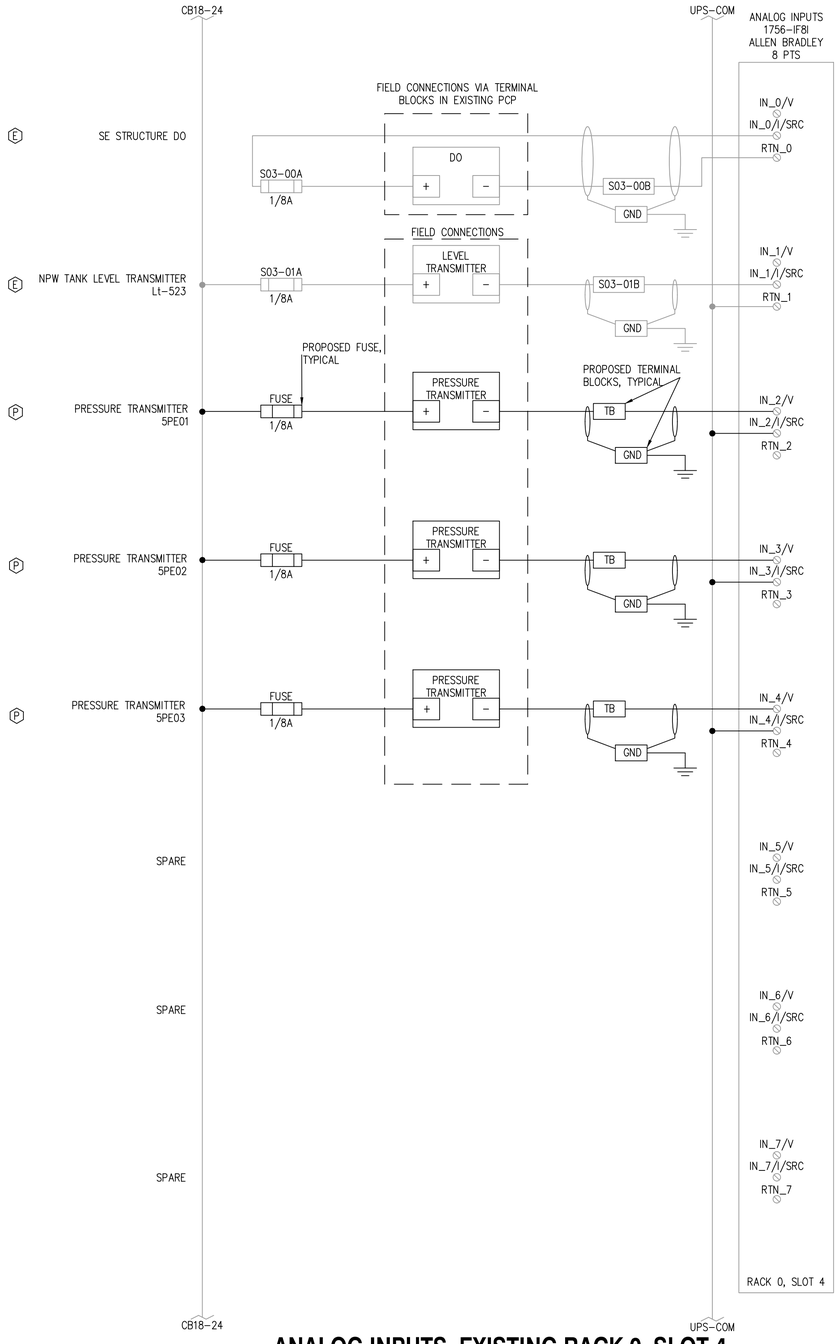
CONTROL PANEL CP - PLC INPUT AND OUTPUT WIRING 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0Y10.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

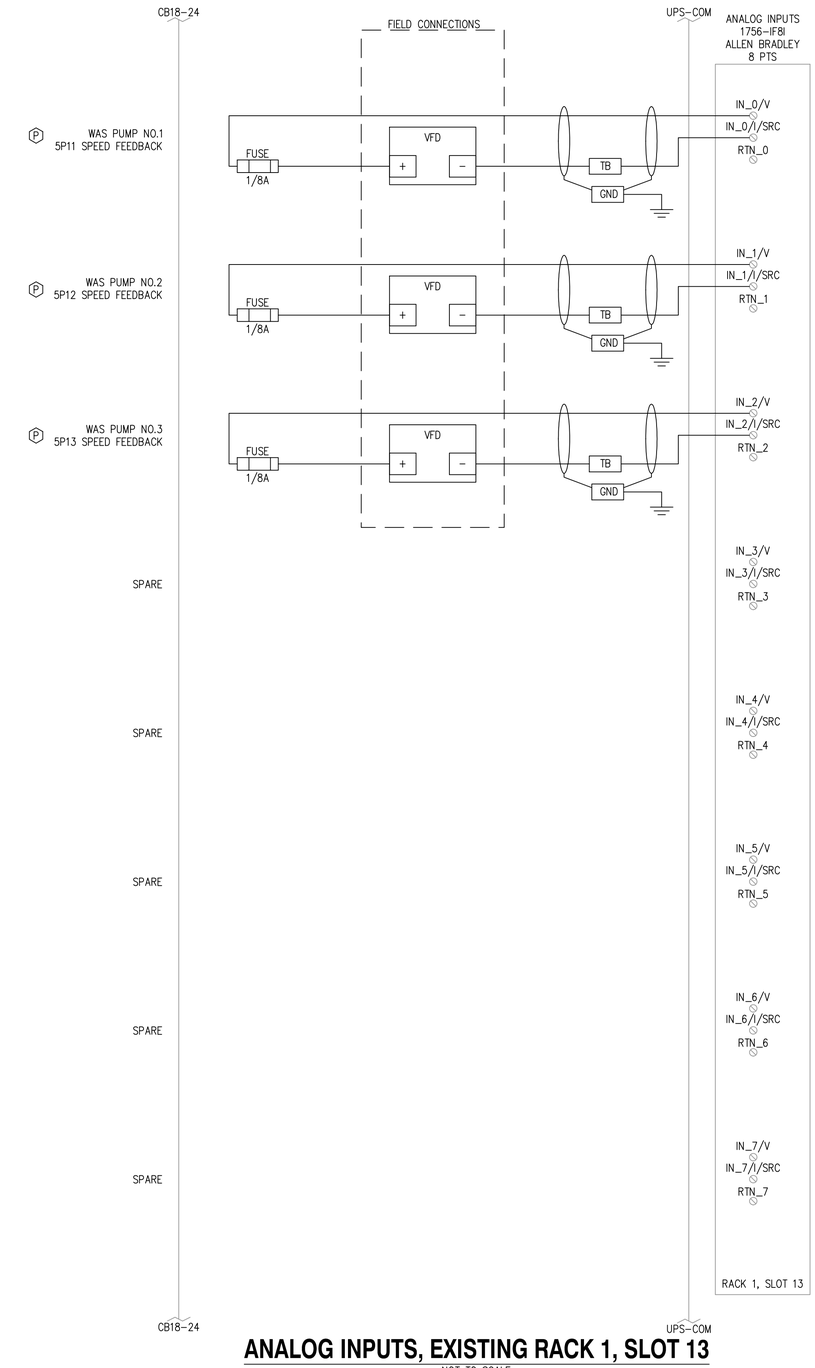
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y010
SHEET NO.: 137
158



ANALOG INPUTS, EXISTING RACK 0, SLOT 4

NOT TO SCALE



ANALOG INPUTS, EXISTING RACK 1, SLOT 13

NOT TO SCALE

LEGEND	
(E)	1. EXISTING EQUIPMENT OR CONNECTION.
(P)	2. PROPOSED EQUIPMENT OR CONNECTION.

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL PANEL CP - PLC INPUT AND OUTPUT WIRING 2

ENGINEER: KEG	SAVE DATE: Sep 14, 2017	CLIENT: SNQ	JOB NO.: 116-028
REVIEWED: CMR	PLOT DATE: Sep 19, 2017	FILENAME: WRF02-D-0Y10.DWG	

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

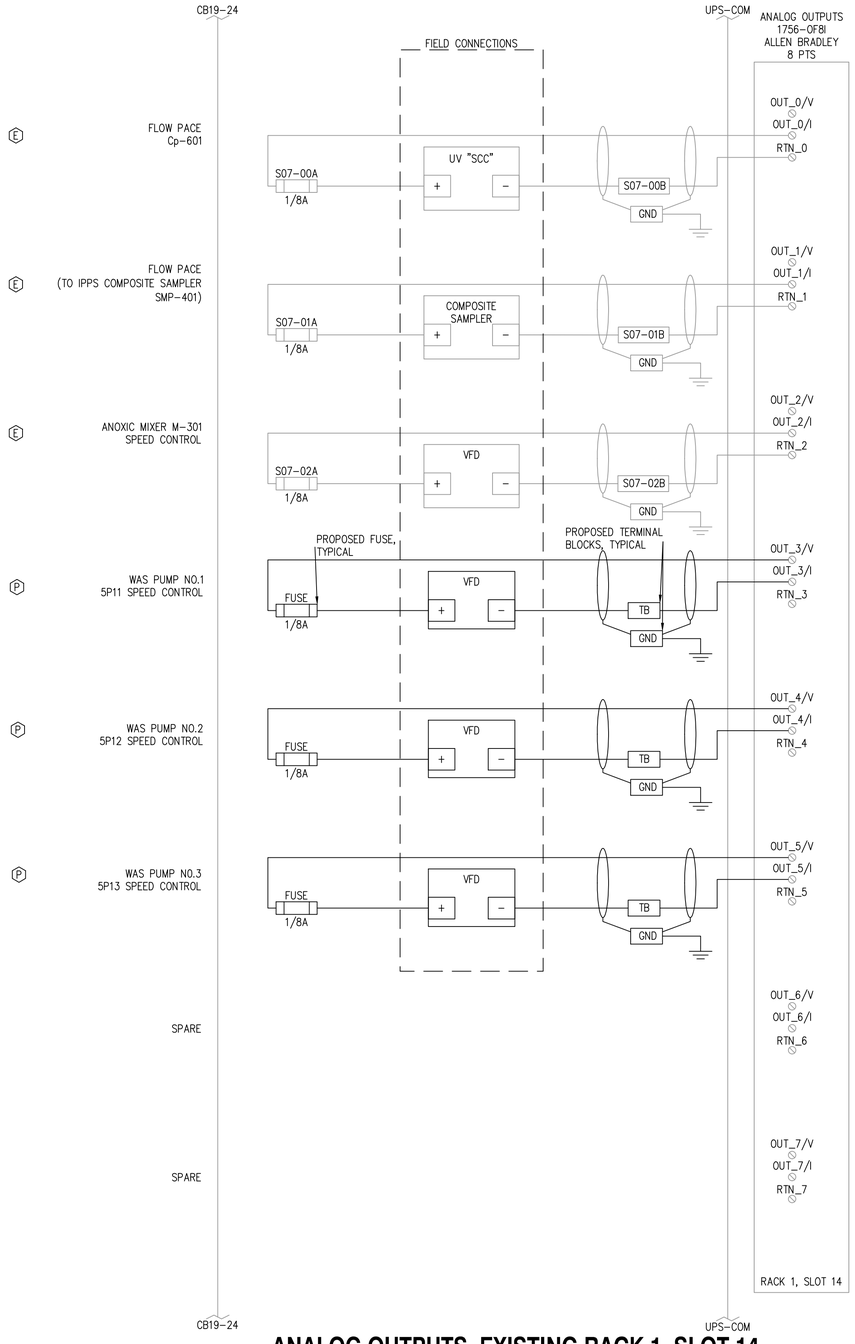
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y011

SHEET NO.: 138



ANALOG OUTPUTS, EXISTING RACK 1, SLOT 14

NOT TO SCALE

LEGEND	
(E)	1. EXISTING EQUIPMENT OR CONNECTION.
(P)	2. PROPOSED EQUIPMENT OR CONNECTION.

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RICHARD BALLARD — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

CONTROL PANEL CP - PLC INPUT AND OUTPUT WIRING 3

ENGINEER: KEG	SAVE DATE: Sep 14, 2017	CLIENT: SNQ	JOB NO.: 116-028	
REVIEWED: CMR	PLOT DATE: Sep 19, 2017	FILENAME: WRF02-D-0Y10.DWG		

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

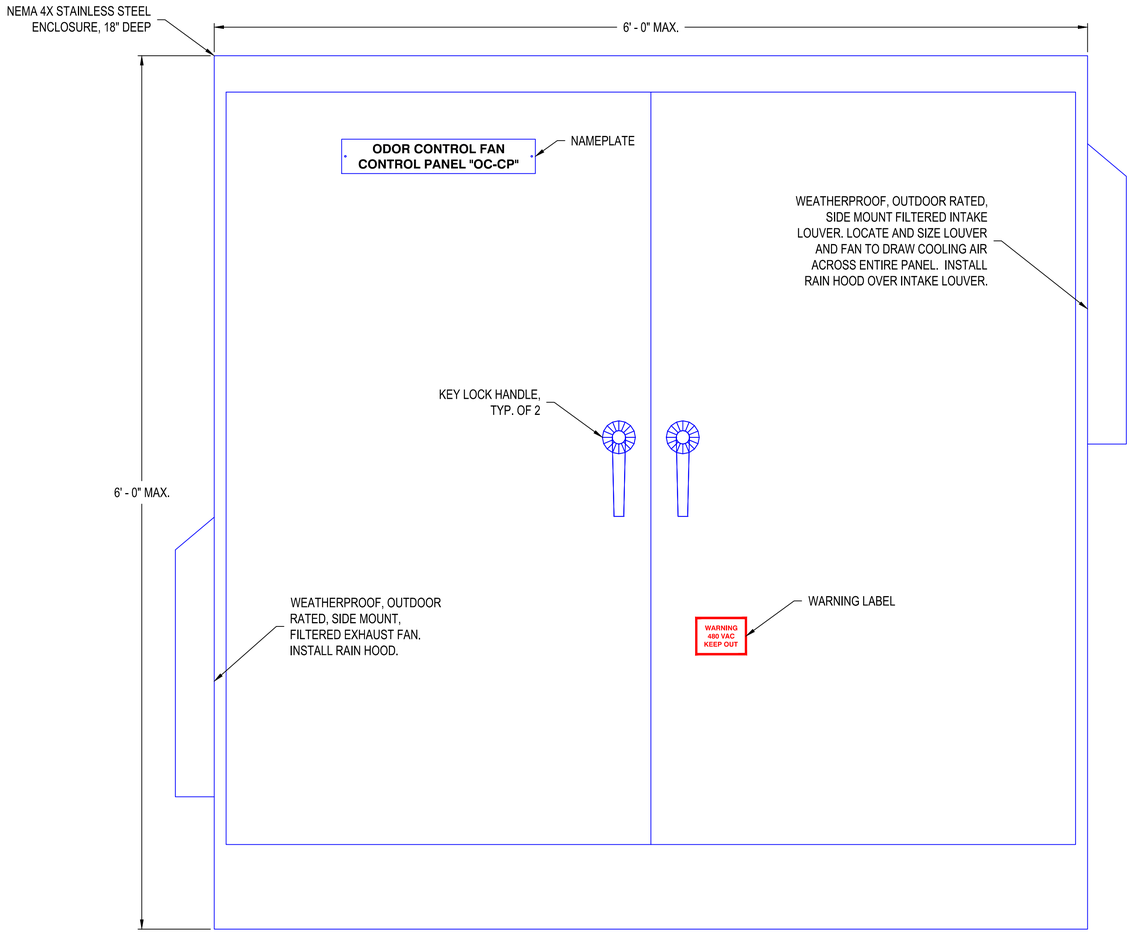
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

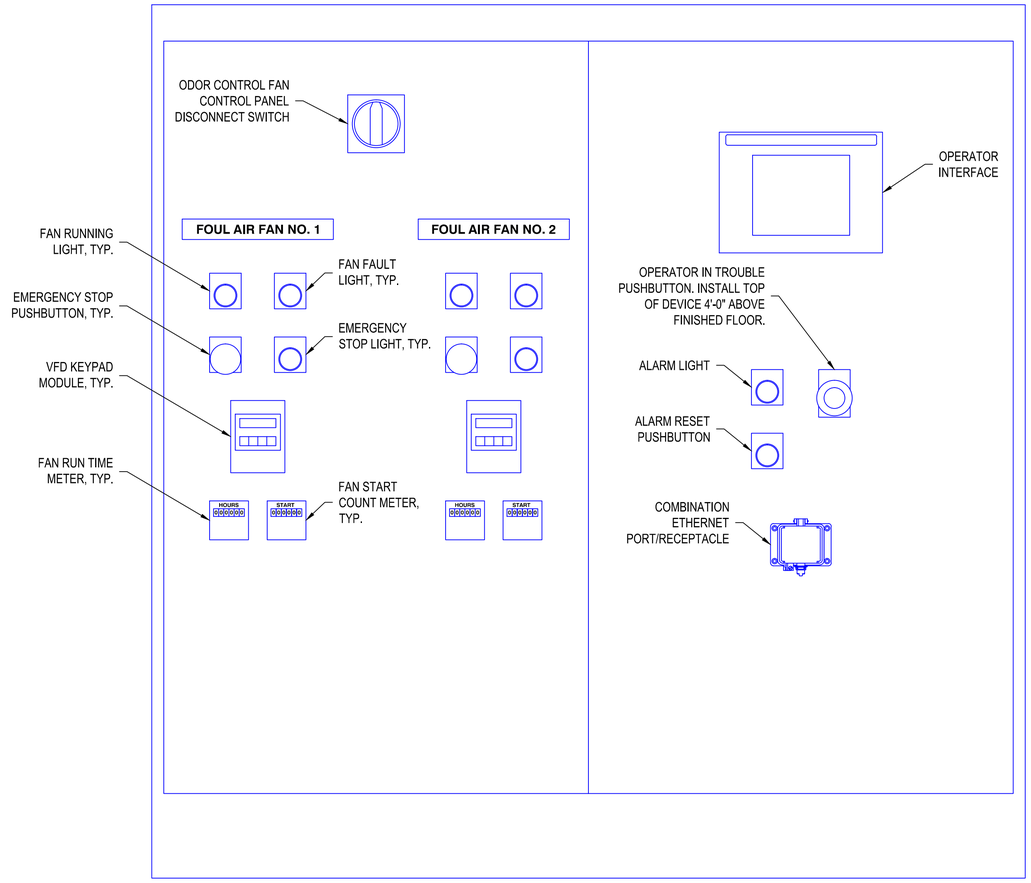
DWG NO.: Y012

SHEET NO.: 139 158



ODOR CONTROL FAN CONTROL PANEL, "OC-CP" EXTERIOR LAYOUT

NOT TO SCALE



ODOR CONTROL FAN CONTROL PANEL, "OC-CP" INTERIOR SWING DOOR LAYOUT

NOT TO SCALE

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WRF PHASE 2 IMPROVEMENTS

OC-CP - PANEL LAYOUT

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-OY12.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

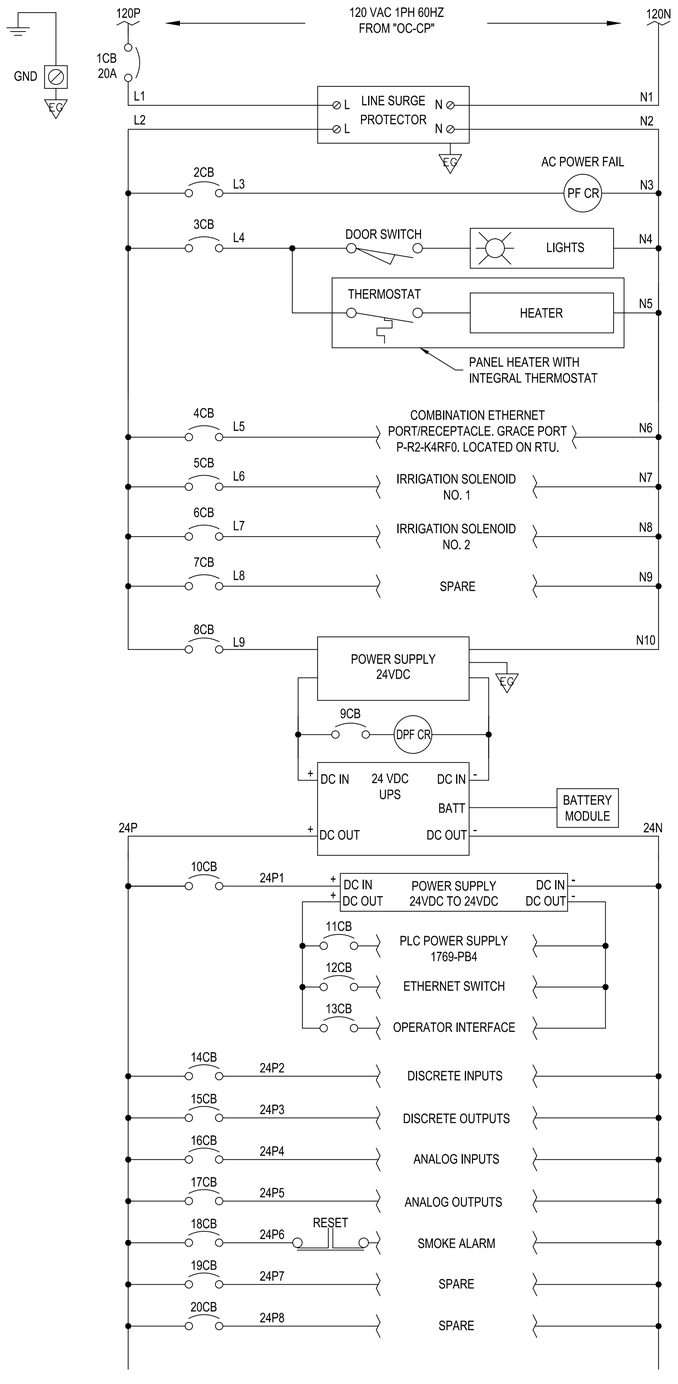
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

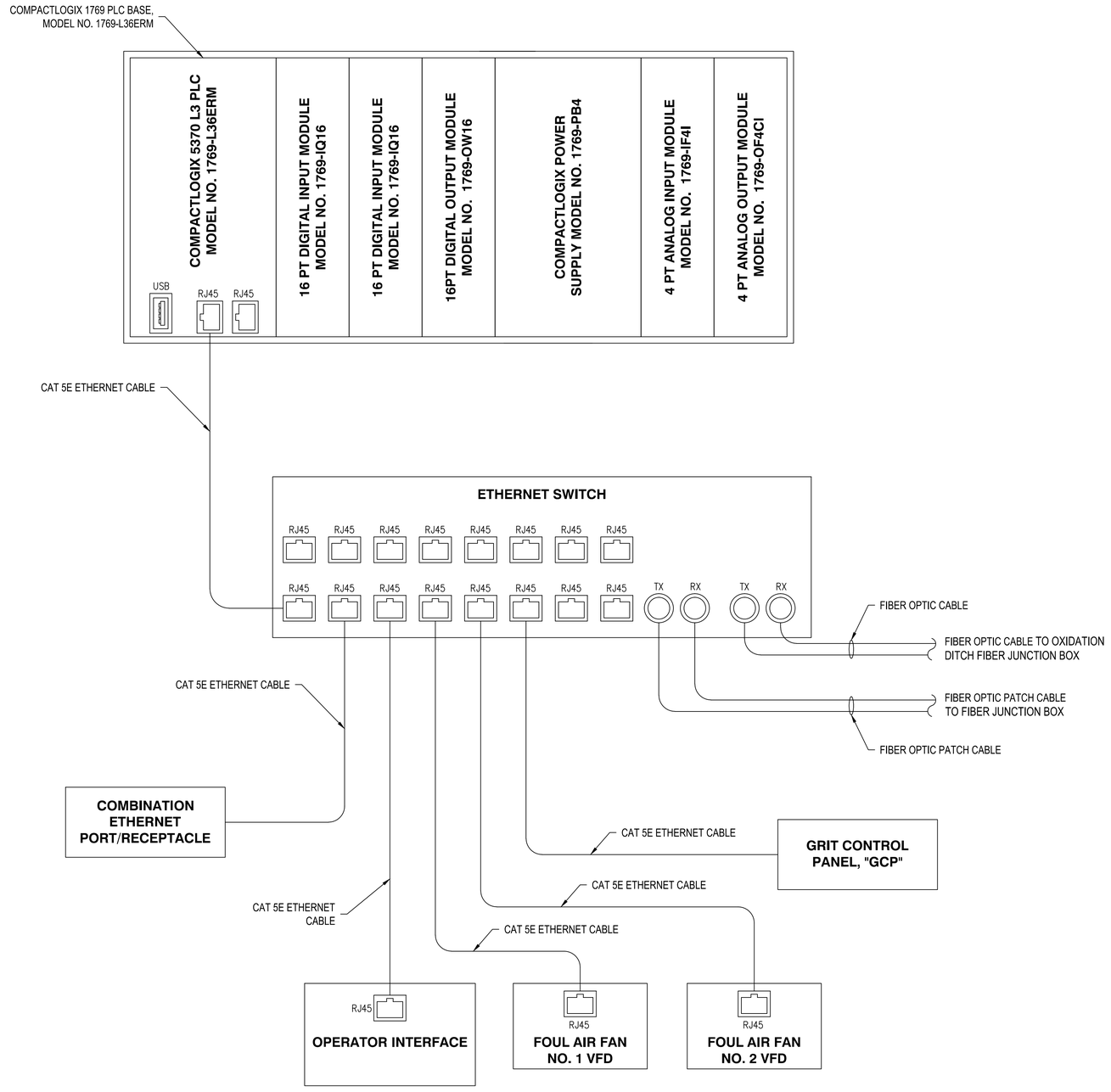
DWG NO.: Y013

SHEET NO.: 140



POWER LAYOUT

NOT TO SCALE



COMMUNICATIONS LAYOUT

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

OC-CP - POWER AND COMMUNICATIONS DIAGRAMS

ENGINEER: KMS	SAVE DATE: Sep 14, 2017	CLIENT: SNQ	JOB NO.: 116-028
REVIEWED: CMR	PLOT DATE: Sep 19, 2017	FILENAME: WRF02-D-0912.DWG	

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

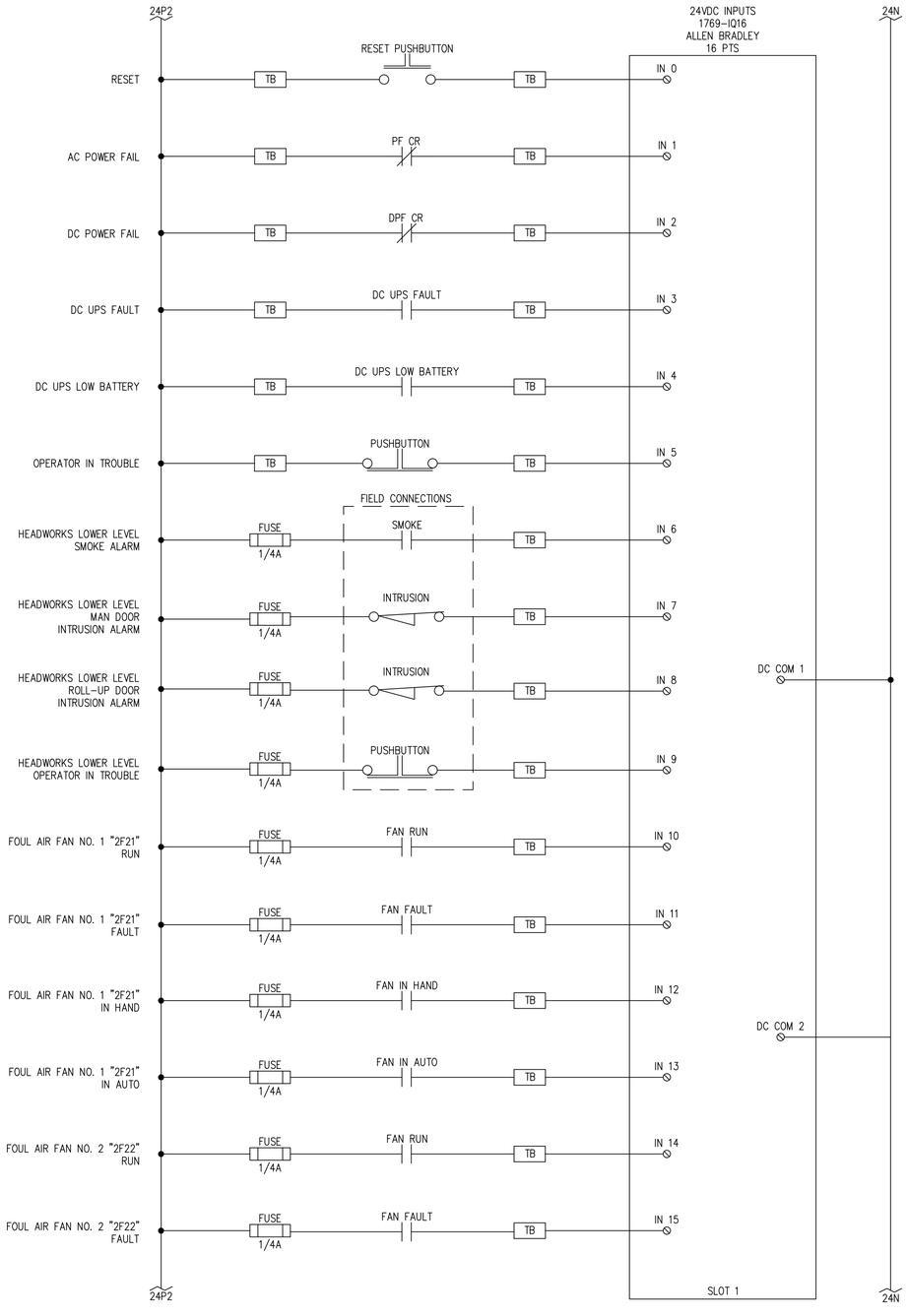
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y014

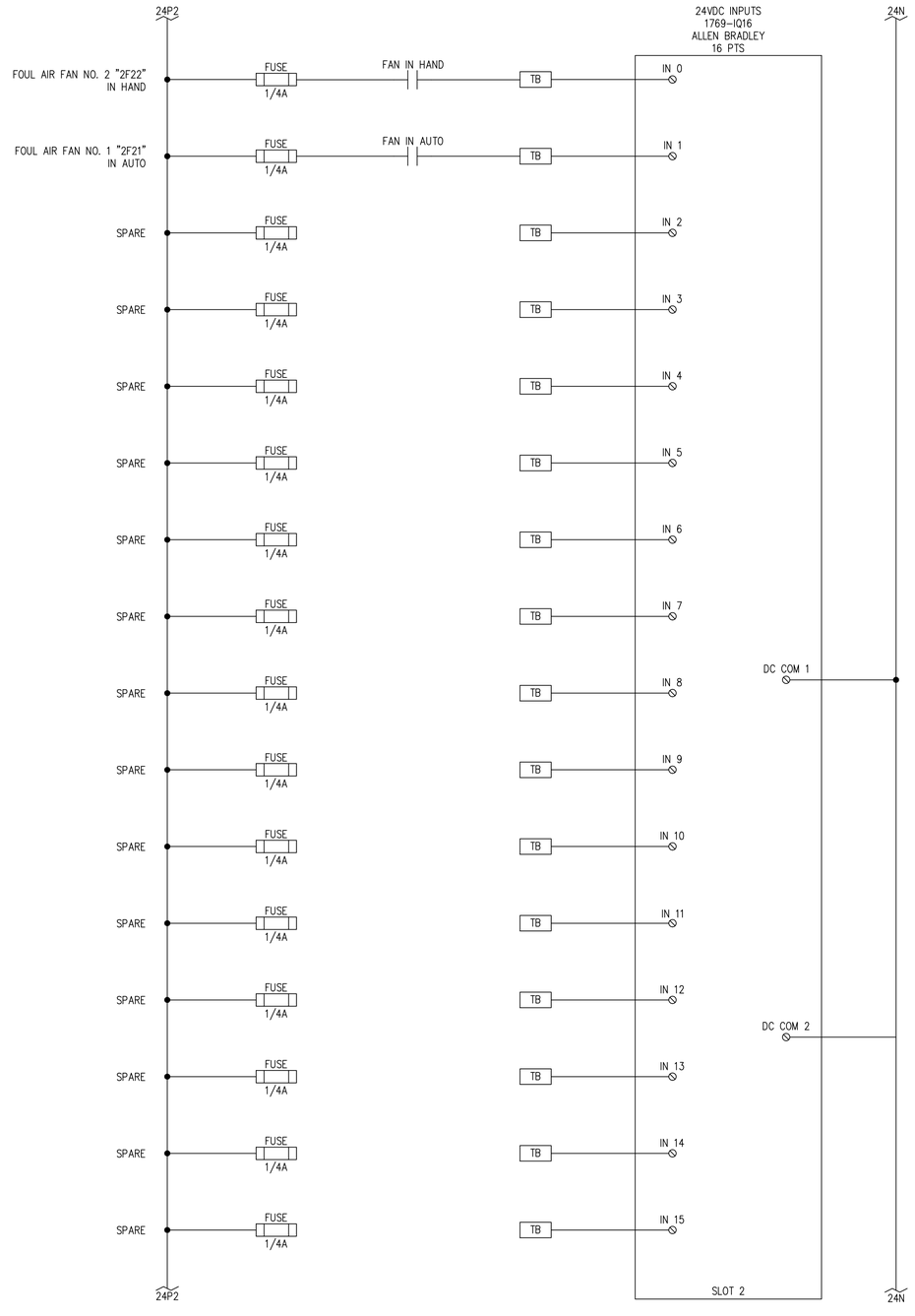
SHEET NO.: 141

158



DIGITAL INPUTS, SLOT 1

NOT TO SCALE



DIGITAL INPUTS, SLOT 2

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

OC-CP - PLC INPUT AND OUTPUT WIRING 1

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0112.DWG
SAVE DATE: Sep 14, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

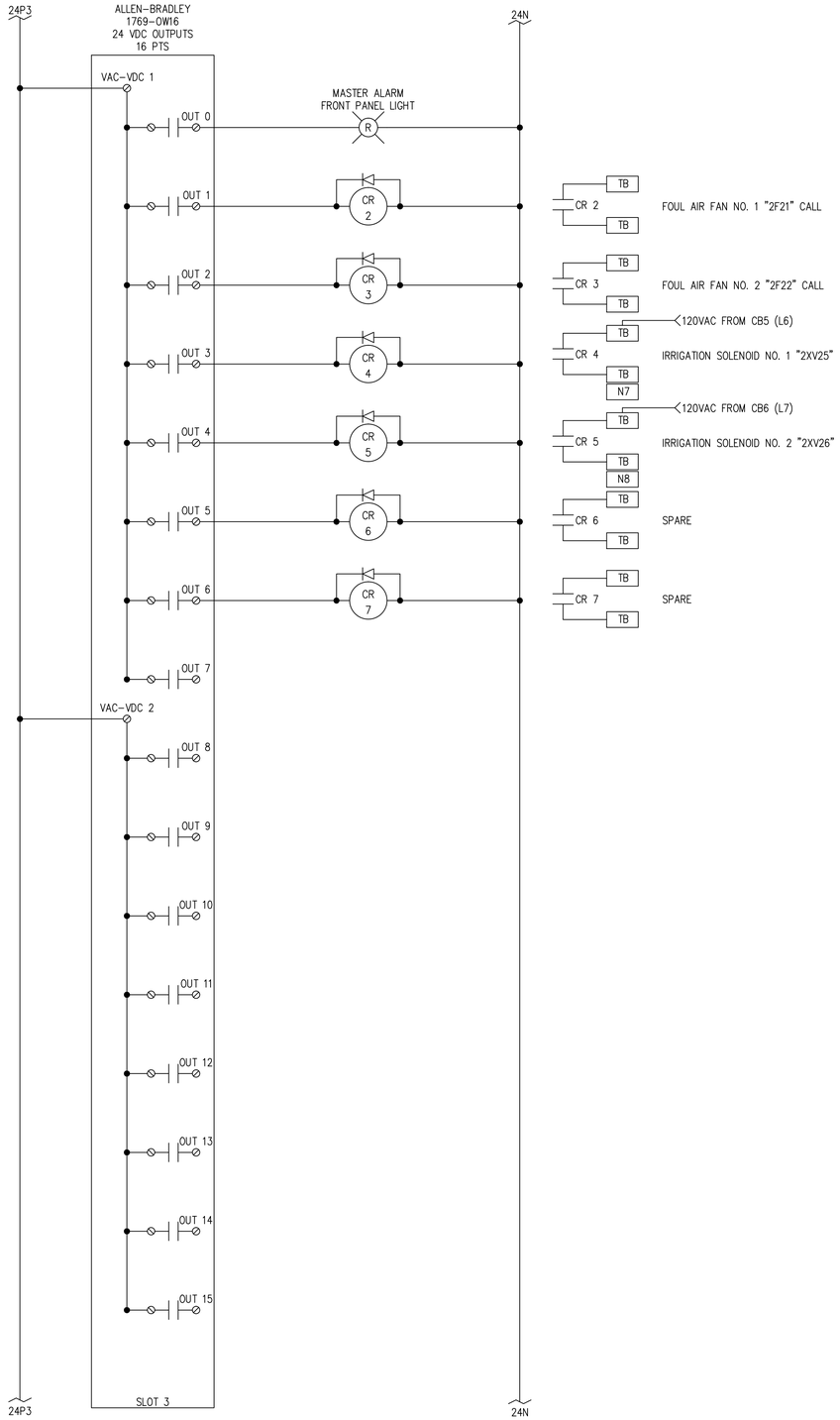
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

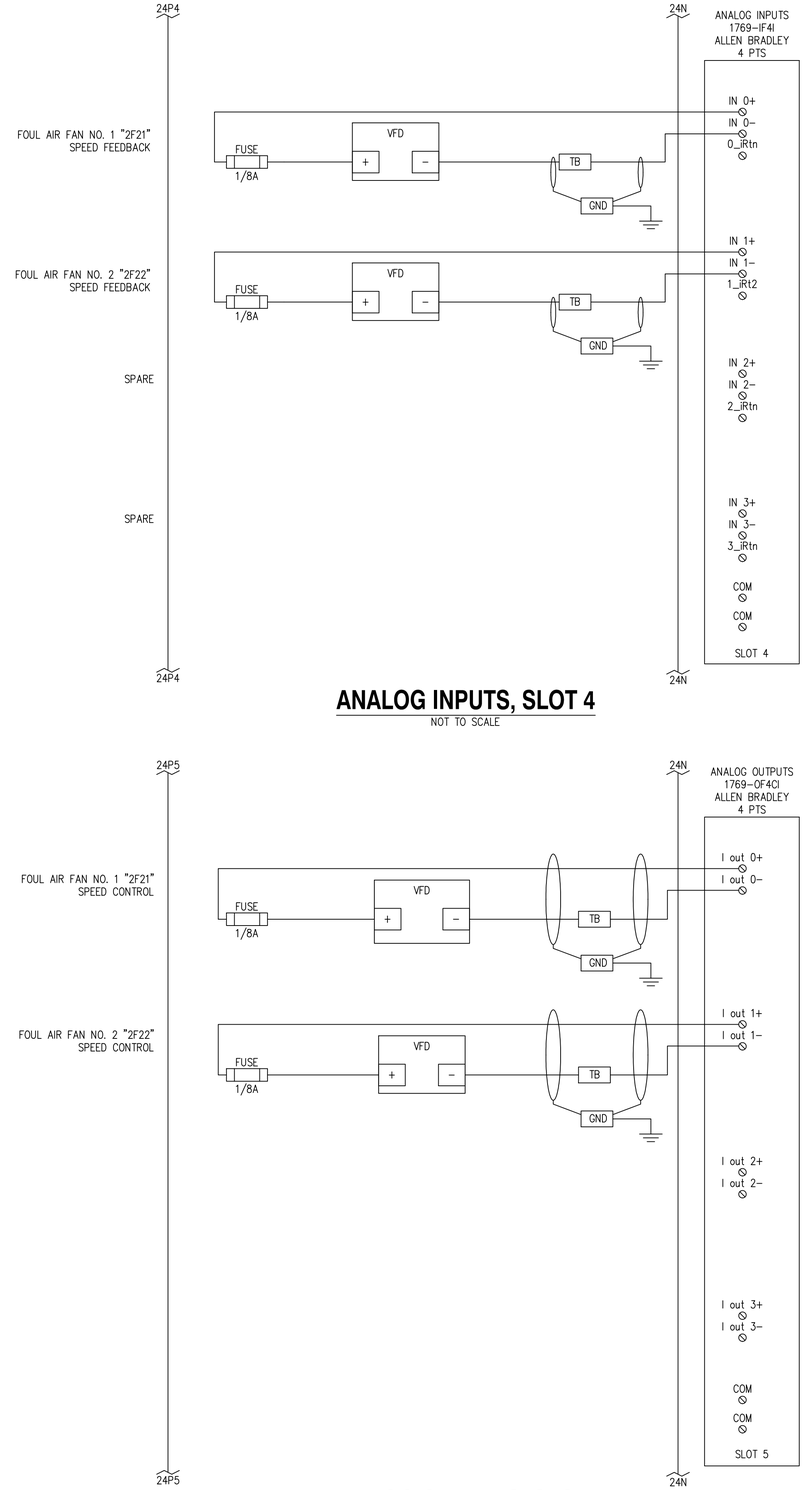
DWG NO.: Y015

SHEET NO.: 142



DIGITAL OUTPUTS, SLOT 3

NOT TO SCALE



ANALOG INPUTS, SLOT 4

NOT TO SCALE

ANALOG OUTPUTS, SLOT 5

NOT TO SCALE

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RICHARD M. BALLARD — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

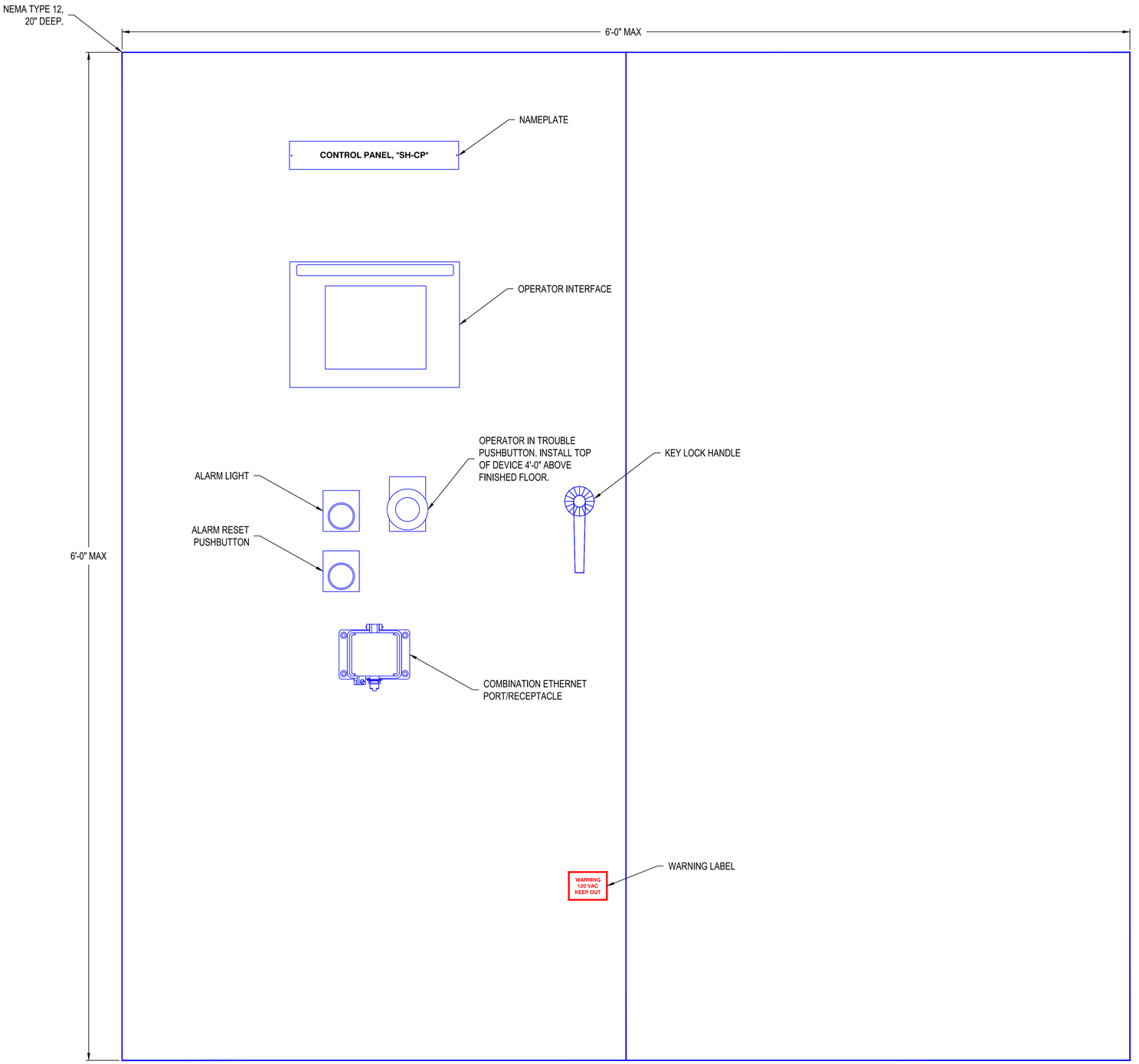
OC-CP - PLC INPUT AND OUTPUT WIRING 2

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-OY12.DWG
SAVE DATE: Sept 14, 2017
PLOT DATE: Sept 19, 2017
ENGINEER: KMS
REVIEWED: CMR

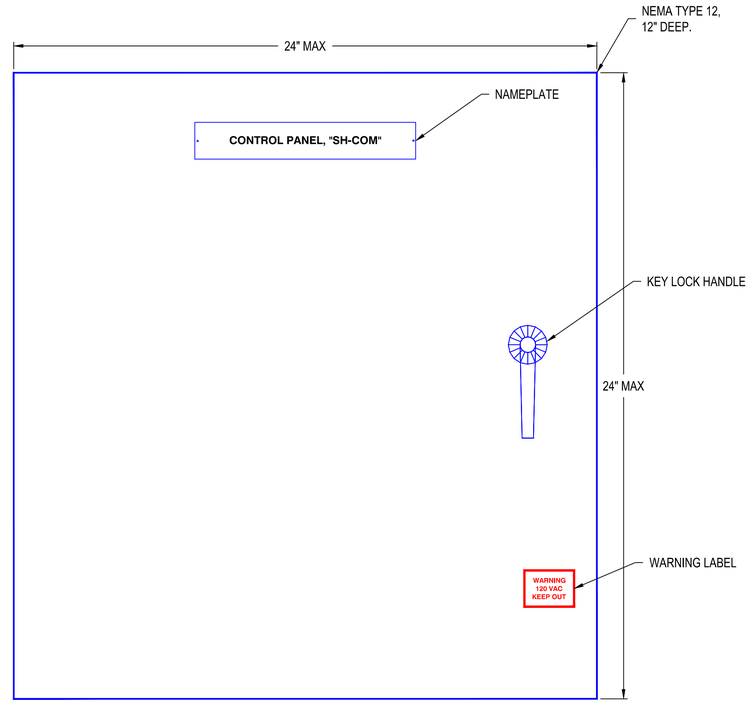
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y016
SHEET NO.: 143
158



SOLIDS HANDLING CONTROL PANEL "SH-CP" LAYOUT

NOT TO SCALE



CONTROL PANEL "SH-COM" LAYOUT

NOT TO SCALE

RICHARD MICHAEL RAWKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PANEL LAYOUT

JOB NO.:	116-028
CLIENT:	SNQ
FILENAME:	WRF02-D-DY11.DWG
SAVE DATE:	Sep 18, 2017
PLOT DATE:	Sep 19, 2017
ENGINEER:	KMS
REVIEWED:	CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

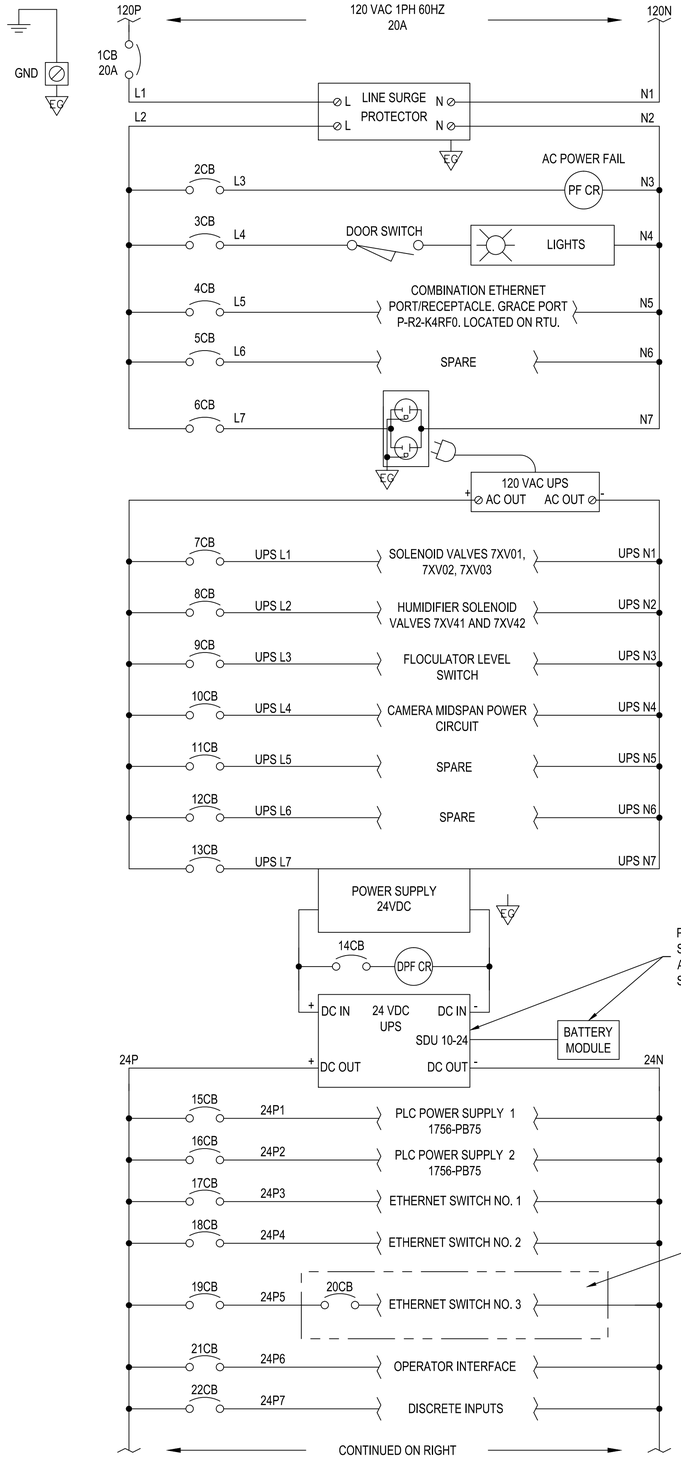
SCALE: SHOWN

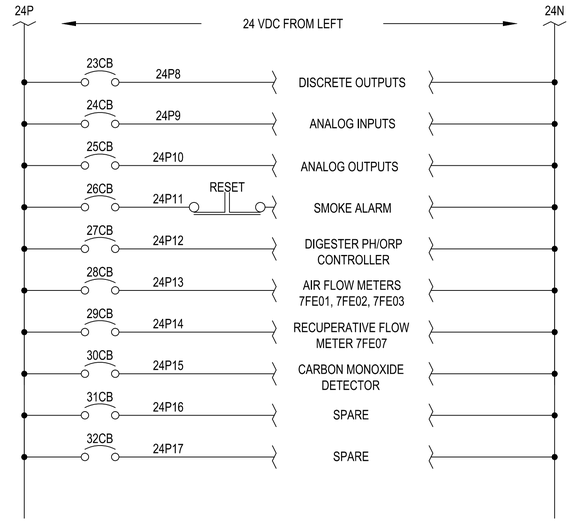
0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y017

SHEET NO.: 144





POWER LAYOUT

NOT TO SCALE

CHRISTOPHER MICHAEL RIMERMAN — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD ALLINGTON BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL
SHCP - POWER DIAGRAMS

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DY11.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y018
SHEET NO.: 145
158

CONTROLLOGIX 17 SLOT CHASSIS
(TYPICAL OF 2)

SLOT 0	SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14	SLOT 15	SLOT 16
CONTROLLOGIX POWER SUPPLY MODEL NO. 1756-PB75	RTU-COMPACTLOGIX 5580 MODEL NO. 1756-L83E (RJ45)	ETHERNET COMMUNICATIONS MODULE NO. 1756-EN2T (RJ45)	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	16 PT 24VDC DIGITAL INPUT MODULE MODEL NO. 1756-IB16	8 PT 24VDC DIGITAL OUTPUT MODULE MODEL NO. 1756-OB8	8 PT 24VDC DIGITAL OUTPUT MODULE MODEL NO. 1756-OB8	8 PT 24VDC DIGITAL OUTPUT MODULE MODEL NO. 1756-OB8	8 PT 24VDC DIGITAL OUTPUT MODULE MODEL NO. 1756-OB8	8 PT 24VDC DIGITAL OUTPUT MODULE MODEL NO. 1756-OB8

SLOT 17	SLOT 18	SLOT 19	SLOT 20	SLOT 21	SLOT 22	SLOT 23	SLOT 24	SLOT 25	SLOT 26	SLOT 27	SLOT 28	SLOT 29	SLOT 30	SLOT 31	SLOT 32	SLOT 33
CONTROLLOGIX POWER SUPPLY MODEL NO. 1756-PB75	ETHERNET COMMUNICATIONS MODULE NO. 1756-EN2T (RJ45)	8 PT 24VDC DIGITAL OUTPUT MODULE MODEL NO. 1756-OB8	8 PT ANALOG INPUTS MODULE MODEL NO. 1756-IF81	8 PT ANALOG INPUTS MODULE MODEL NO. 1756-IF81	8 PT ANALOG INPUTS MODULE MODEL NO. 1756-IF81	8 PT ANALOG INPUTS MODULE MODEL NO. 1756-IF81	8 PT ANALOG OUTPUTS MODULE MODEL NO. 1756-OF81	8 PT ANALOG OUTPUTS MODULE MODEL NO. 1756-OF81	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2	SLOT FILLER MODULE MODEL NO. 1756-N2

CAT 5E ETHERNET CABLE

CAT 5E ETHERNET CABLE

CAT 5E ETHERNET CABLE

ETHERNET SWITCH NO. 1

RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45 RJ45

TX RX

TX RX

TO FIBER OPTIC PATCH PANEL

FIBER OPTIC PATCH CABLES, TYP. OF 2

TO FIBER OPTIC PATCH PANEL

TO ETHERNET SWITCH NO. 2 LOCATED IN SOLIDS HANDLING CONTROL PANEL "SHCP" SEE DWG NO. Y020 FOR CONTINUATION

TO ETHERNET SWITCH NO. 3 LOCATED IN COMMUNICATIONS PANEL "SH-COM" SEE DWG NO. Y020 FOR CONTINUATION

CAT 5E ETHERNET CABLE (TYPICAL)

RJ45
OPERATOR INTERFACE

COMBINATION ETHERNET PORT/RECEPTACLE

MOTOR CONTROL CENTER "MCC-SH1"

SCADA HMI ETHERNET RECEPTACLE

OPERATIONS AREA TABLE #1 ETHERNET RECEPTACLE #1

OPERATIONS AREA TABLE #1 ETHERNET RECEPTACLE #2

OPERATIONS AREA TABLE #1 ETHERNET RECEPTACLE #3

DIGESTER PH/ORP CONTROLLER

COMMUNICATIONS LAYOUT

NOT TO SCALE

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WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL SHCP - COMMUNICATIONS DIAGRAM 1

ENGINEER: KMS
REVIEWED: CMR
SAVE DATE: Sep 19, 2017
PLOT DATE: Sep 19, 2017
CLIENT: SNO
FILENAME: WRF02-D-0Y11.DWG
JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y019

SHEET NO.: 146

SOLIDS HANDLING CONTROL PANEL "SHCP" COMMUNICATIONS LAYOUT

NOT TO SCALE

SOLIDS HANDLING COMMUNICATIONS CONTROL PANEL "SH-COM" COMMUNICATIONS LAYOUT

NOT TO SCALE

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WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL SHCP - COMMUNICATIONS DIAGRAM 2

ENGINEER: KES	SAVE DATE: Sep 18, 2017
REVIEWED: CMR	PLOT DATE: Sep 19, 2017
	FILENAME: WRF02-D-0Y11.DWG
	CLIENT: SNQ
	JOB NO.: 116-028

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

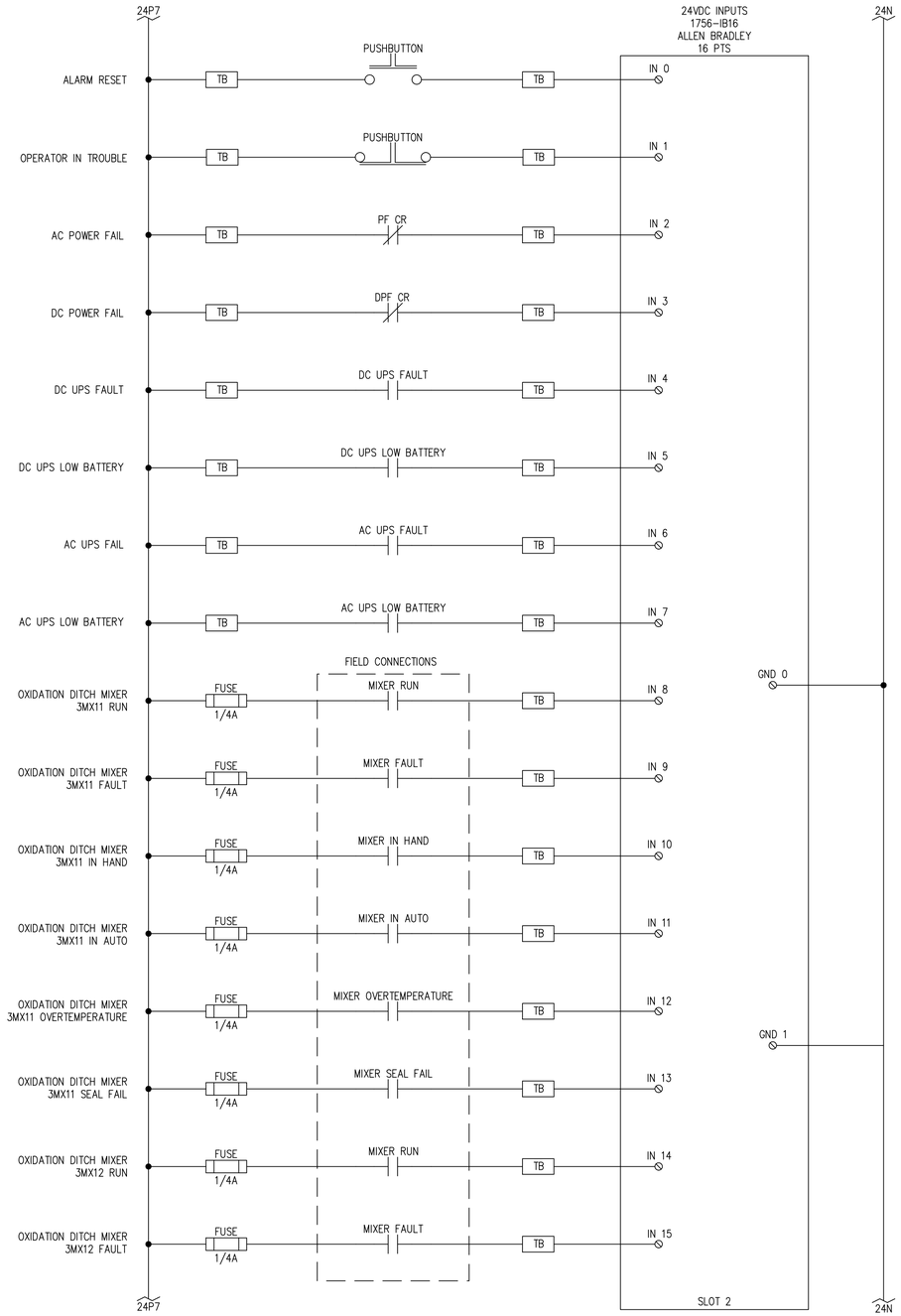
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y020

SHEET NO.: 147

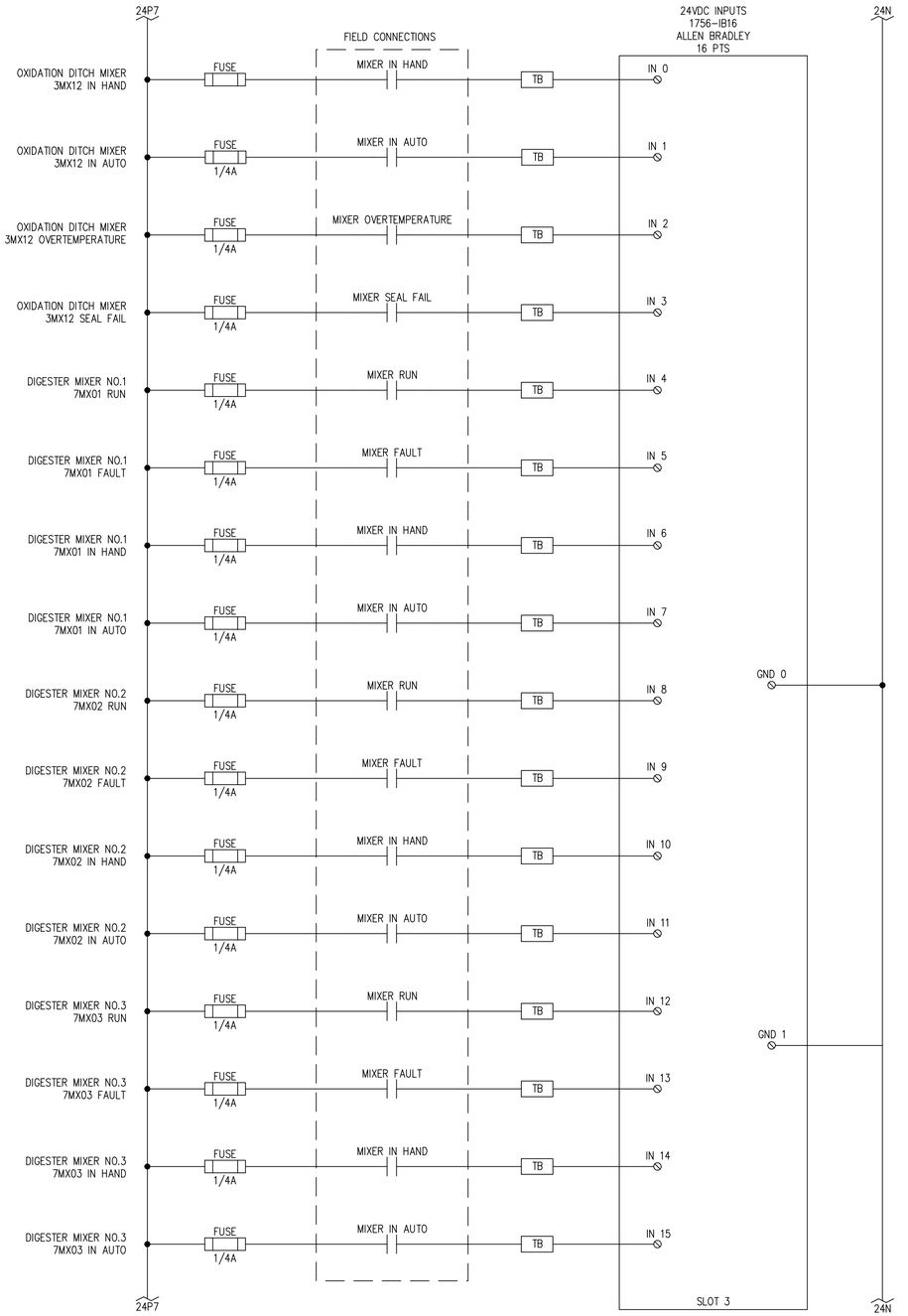
SIGNED: 09/19/17

SIGNED: 09/19/17



DIGITAL INPUTS, SLOT 2

NOT TO SCALE



DIGITAL INPUTS, SLOT 3

NOT TO SCALE

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SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 1

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

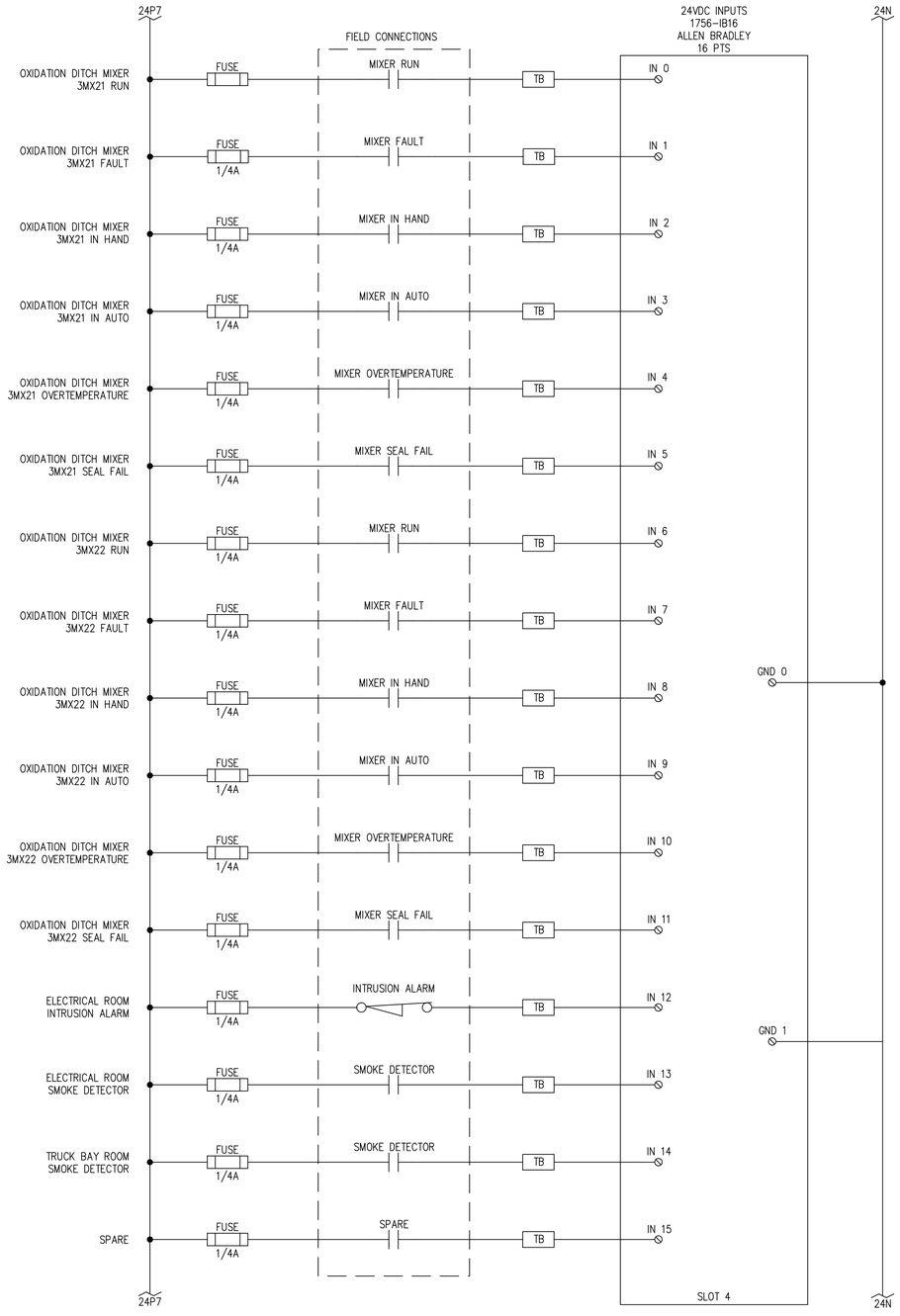
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DY11.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

SCALE: SHOWN

0" 1" 2"

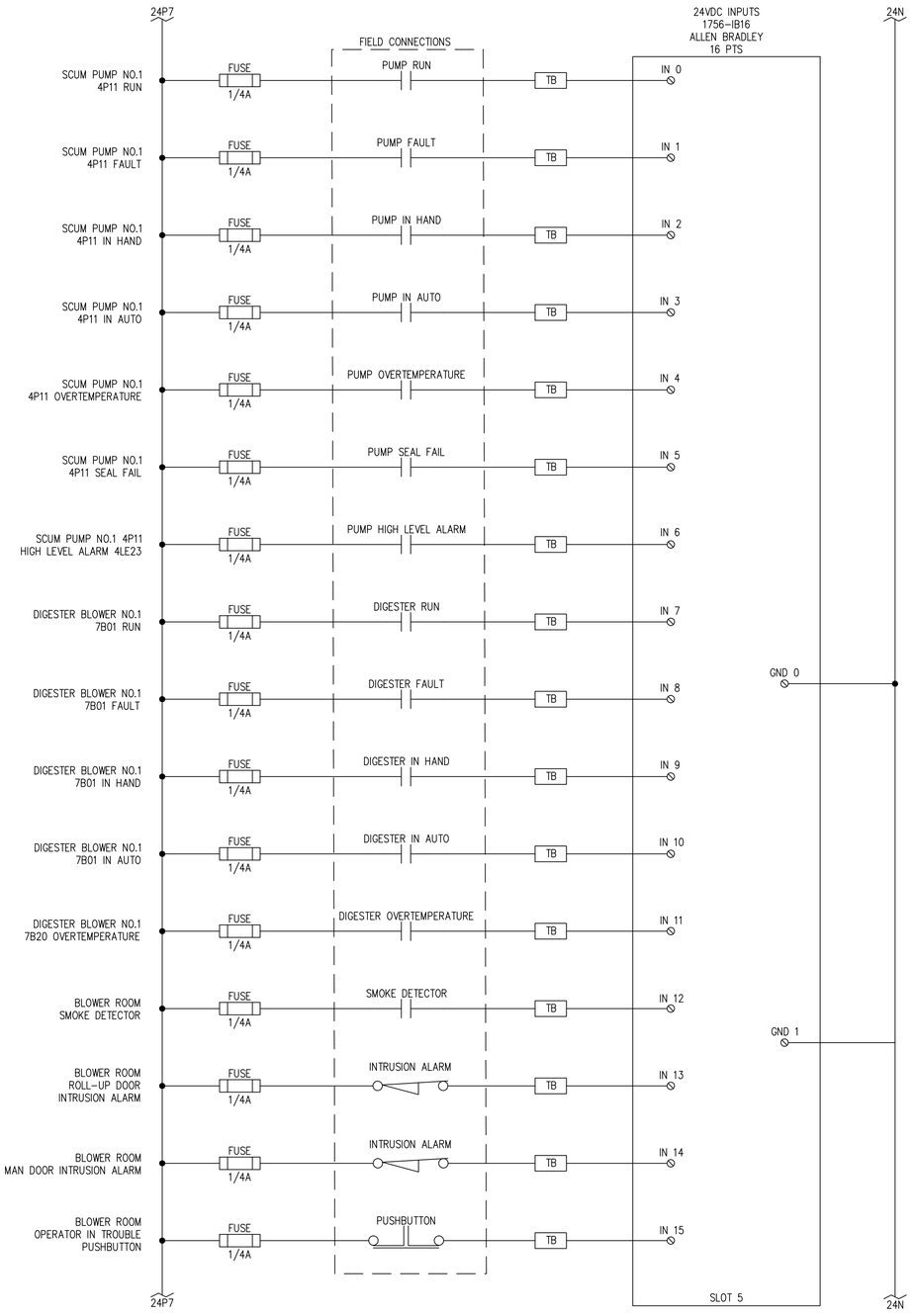
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y021
SHEET NO.: 148



DIGITAL INPUTS, SLOT 4

NOT TO SCALE



DIGITAL INPUTS, SLOT 5

NOT TO SCALE

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SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 2

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0911.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KMS
REVIEWED: CMR

REVISIONS

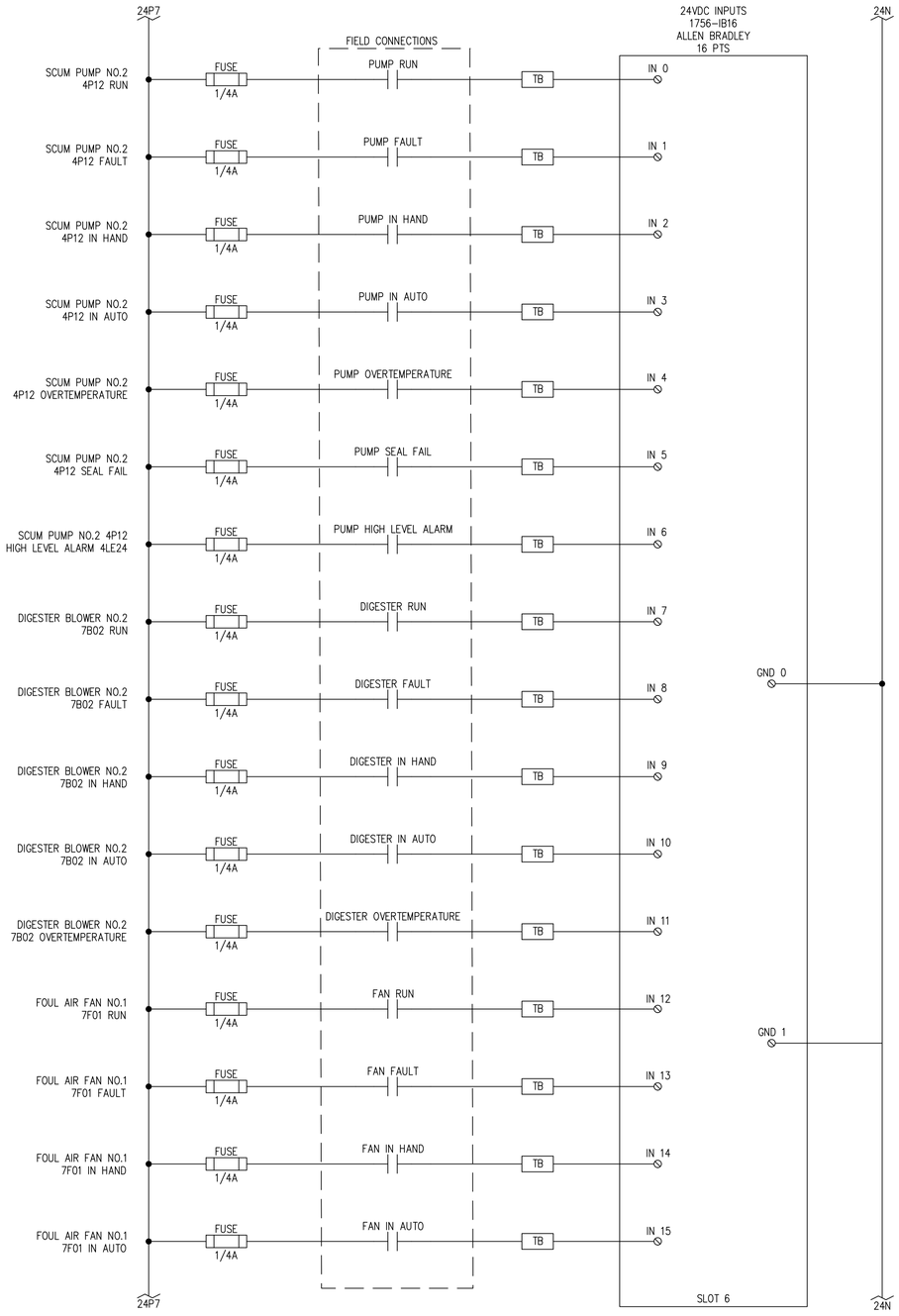
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

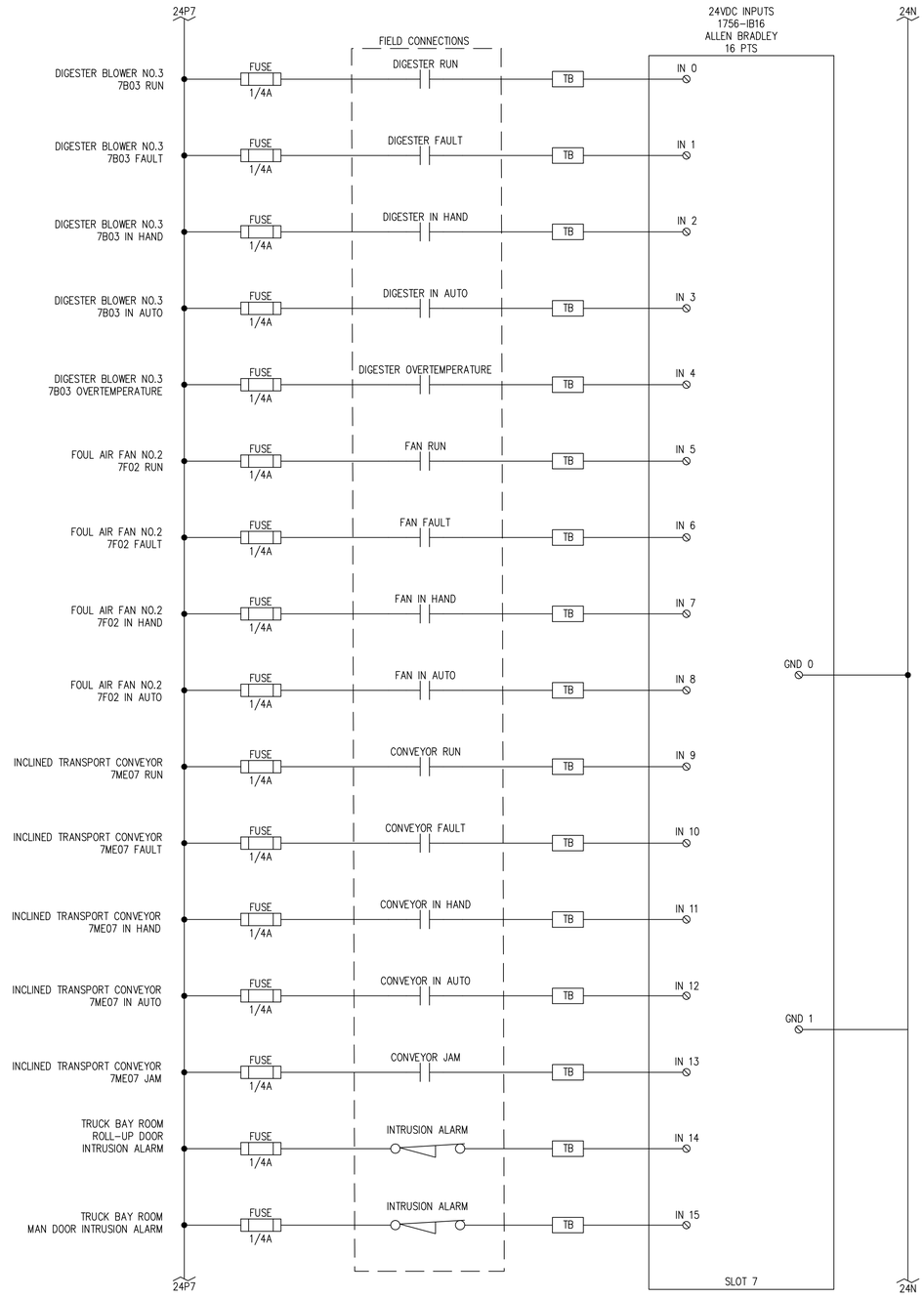
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y022
SHEET NO.: 149
158



DIGITAL INPUTS, SLOT 6

NOT TO SCALE



DIGITAL INPUTS, SLOT 7

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 3

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DY11.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

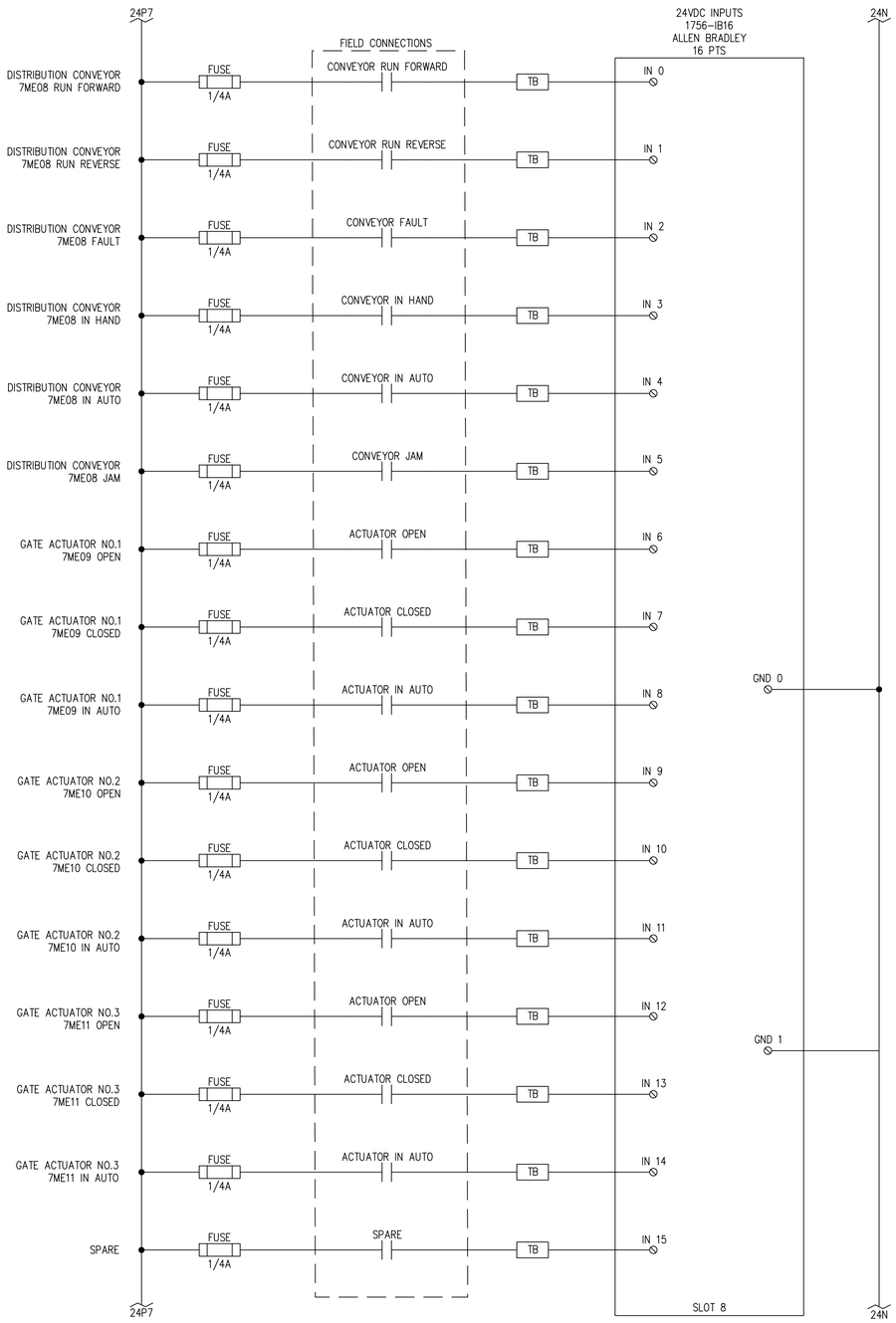
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

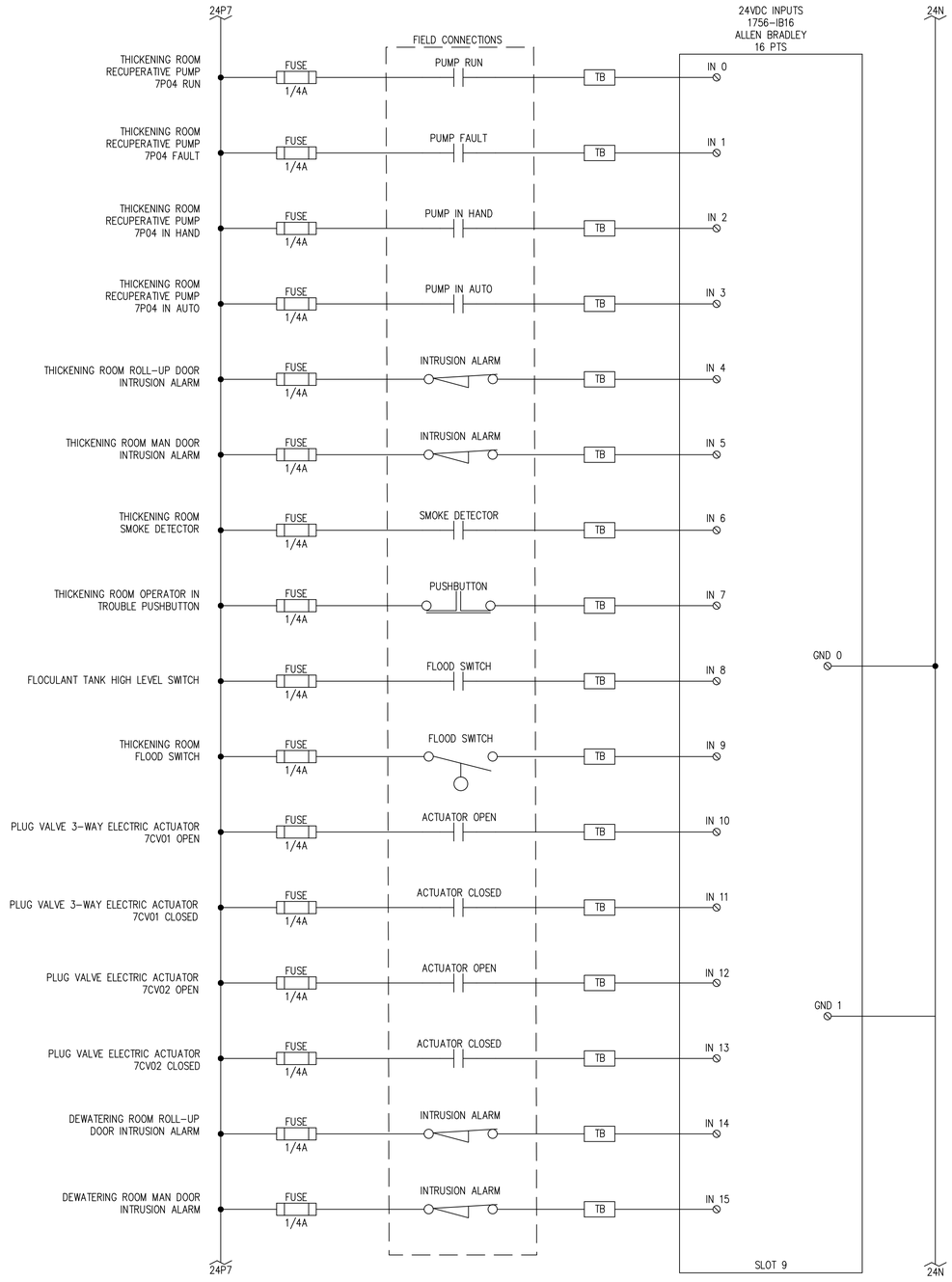
DWG NO.: Y023

SHEET NO.: 150



DIGITAL INPUTS, SLOT 8

NOT TO SCALE



DIGITAL INPUTS, SLOT 9

NOT TO SCALE

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SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 4

REVISIONS			
NO.	DATE	DESCRIPTION	BY
			REVIEW

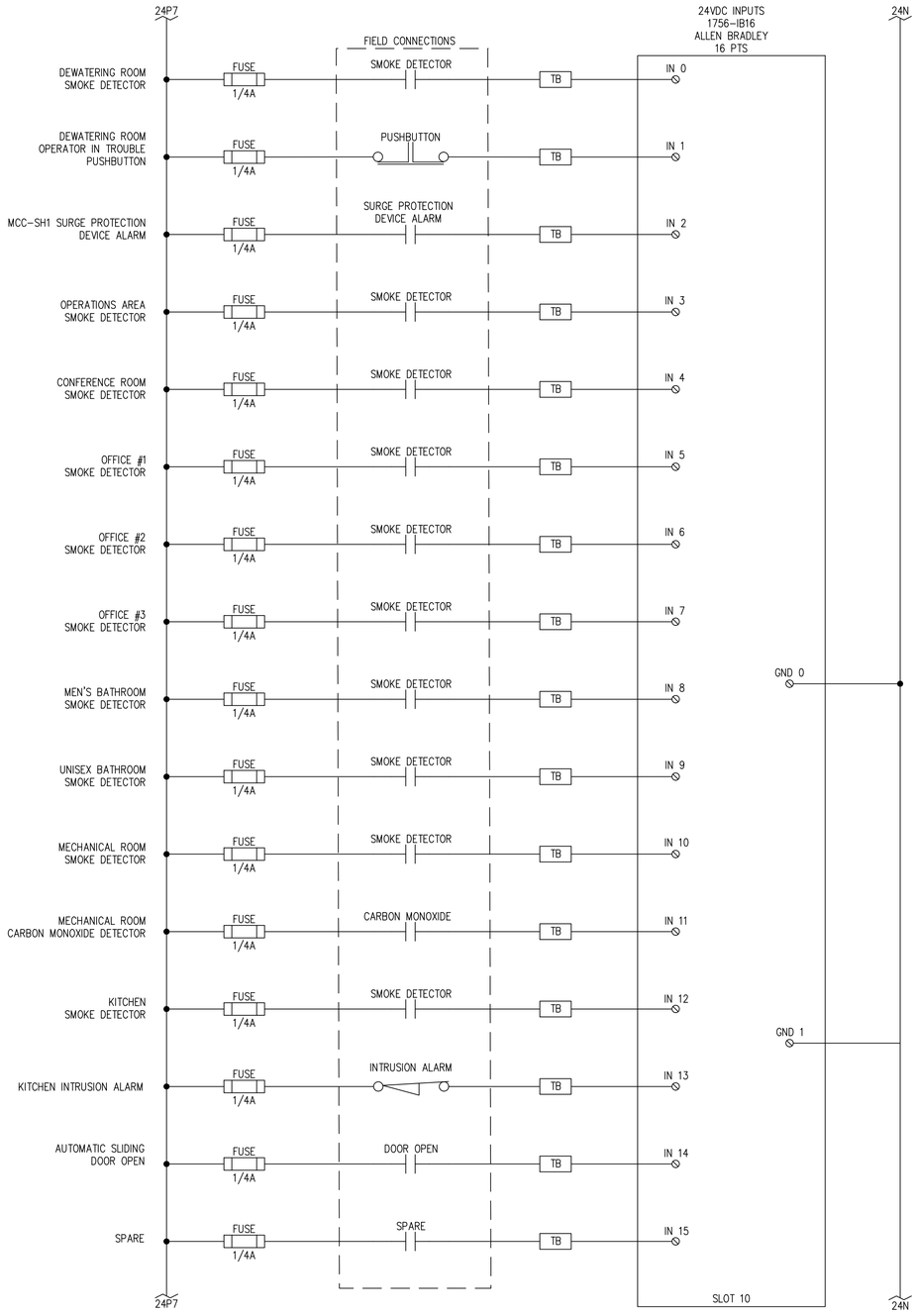
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DY11.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

SCALE: SHOWN

0" 1" 2"

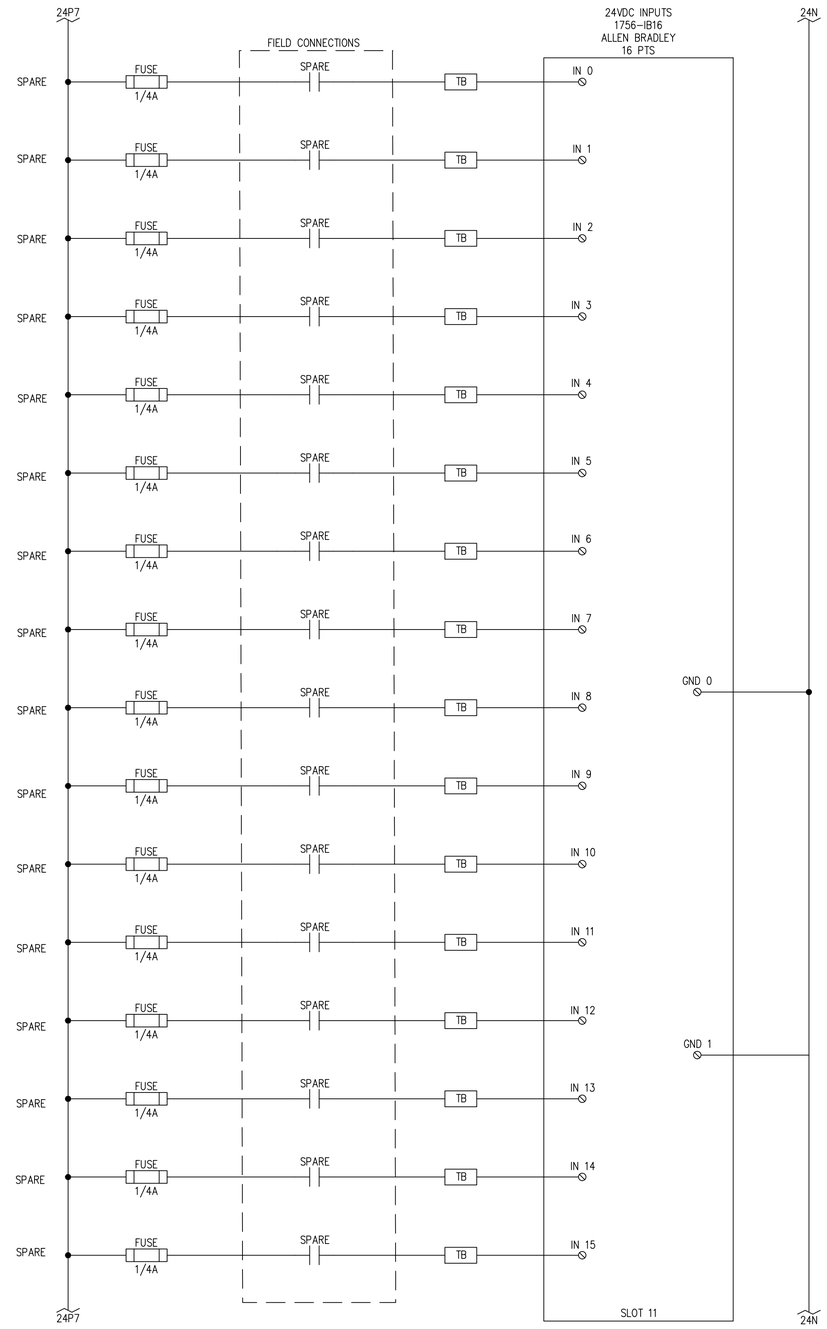
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y024
SHEET NO.: 151



DIGITAL INPUTS, SLOT 10

NOT TO SCALE



DIGITAL INPUTS, SLOT 11

NOT TO SCALE

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 5

ENGINEER	SAVE DATE	CLIENT	JOB NO.
KES	Sep 18, 2017	SNQ	116-028
REVIEWED	PLOT DATE	FILENAME	
CMR	Sep 19, 2017	WRF02-D-DY11.DWG	

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

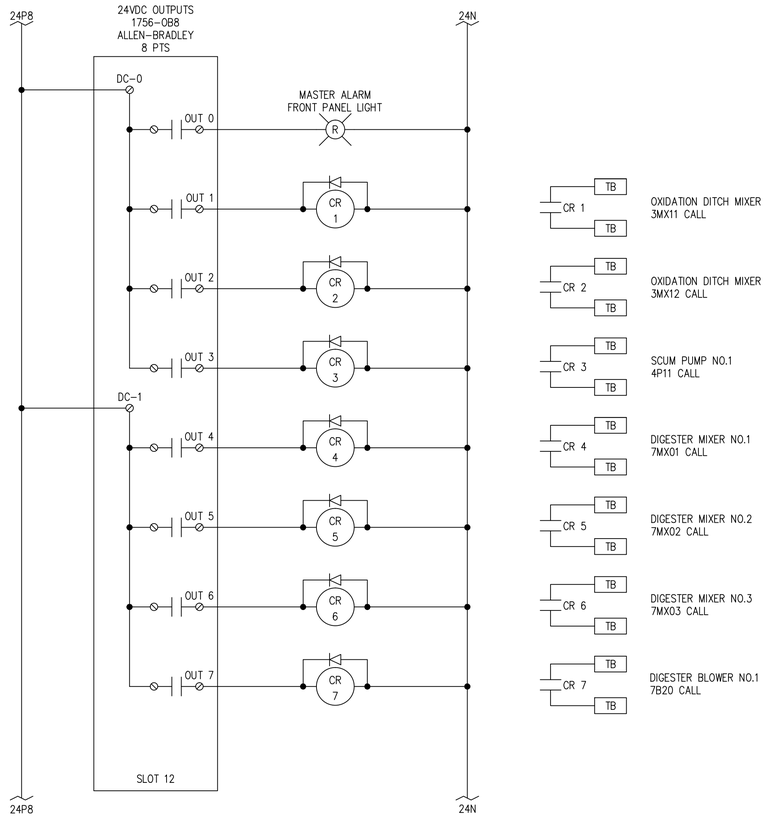
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

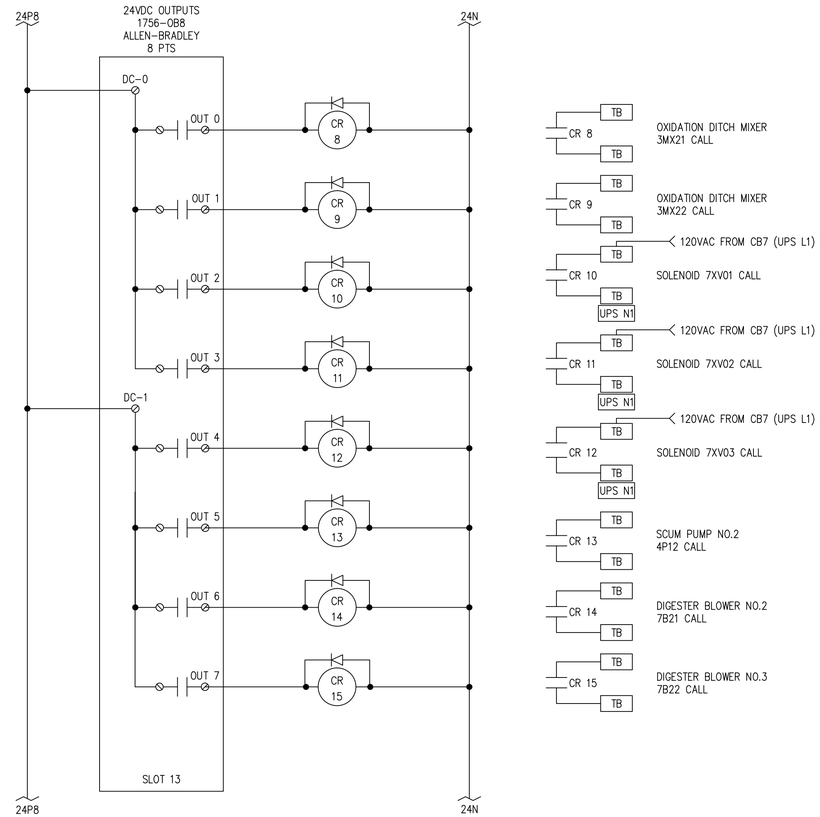
DWG NO.: Y025

SHEET NO.: 152



DIGITAL OUTPUTS, SLOT 12

NOT TO SCALE



DIGITAL OUTPUTS, SLOT 13

NOT TO SCALE

RICHARD MICHAEL ROBERTS
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

RICHARD BALLARD
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 6

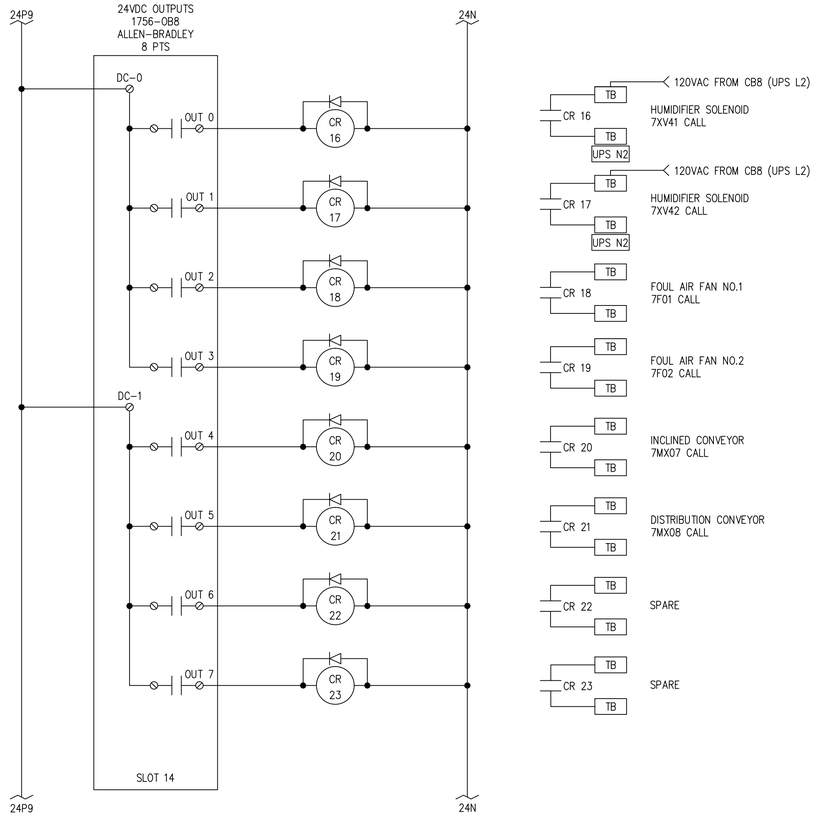
JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-DY11.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

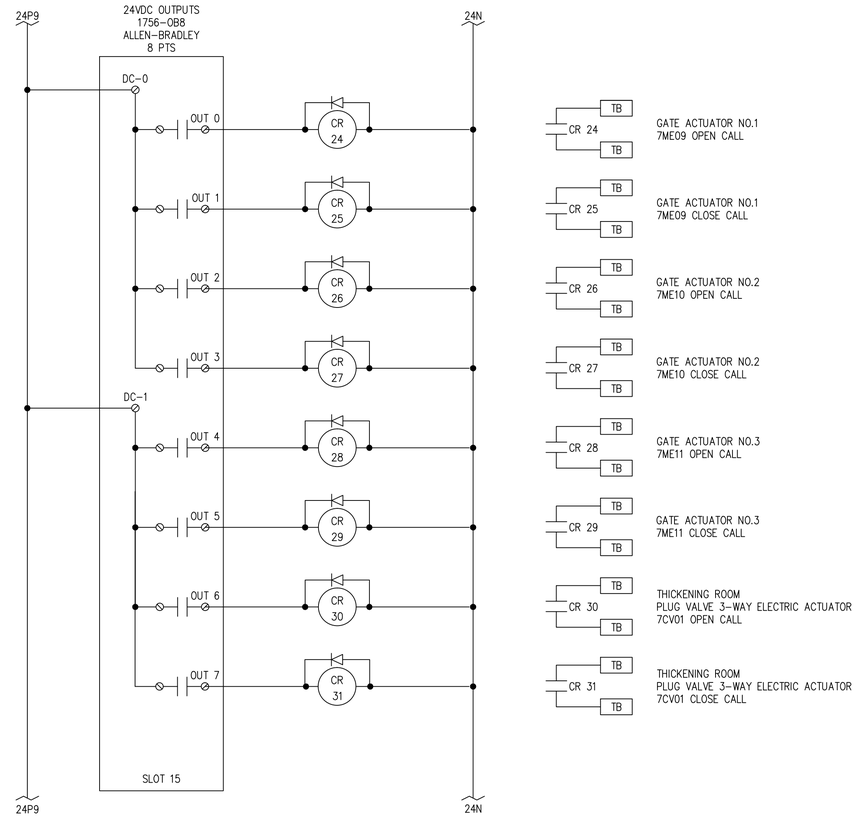
SCALE: SHOWN
0" 1" 2"
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y026
SHEET NO.: 153
158



DIGITAL OUTPUTS, SLOT 14

NOT TO SCALE



DIGITAL OUTPUTS, SLOT 15

NOT TO SCALE

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RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 7

ENGINEER: KES	SAVE DATE: Sep 18, 2017
REVIEWED: CMR	PLOT DATE: Sep 19, 2017
CLIENT: SNQ	JOB NO.: 116-028
FILENAME: WRF02-DY11.DWG	

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

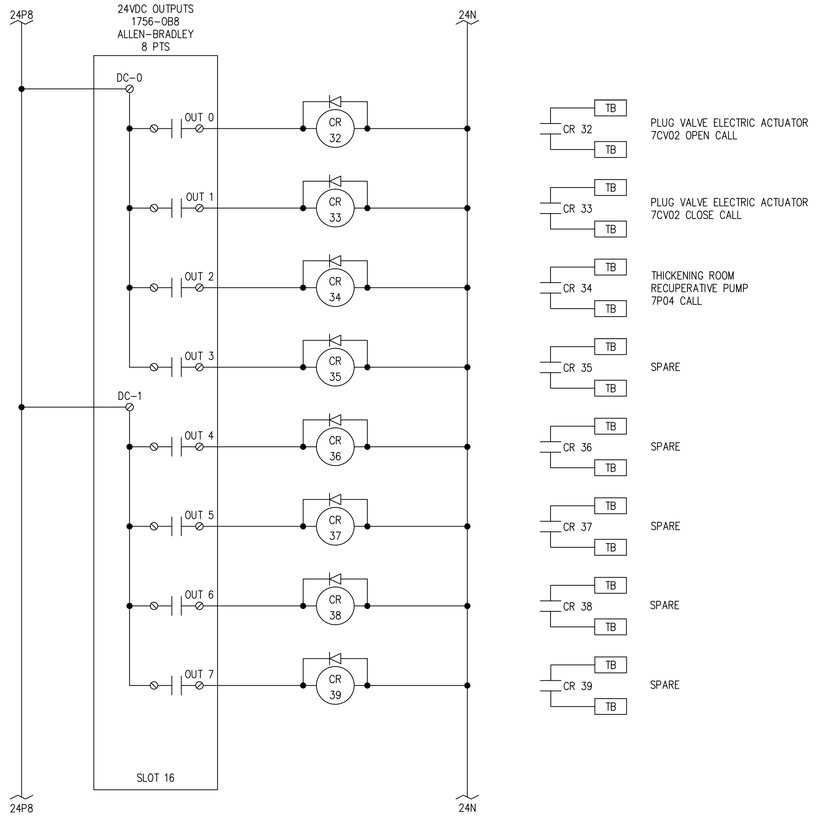
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

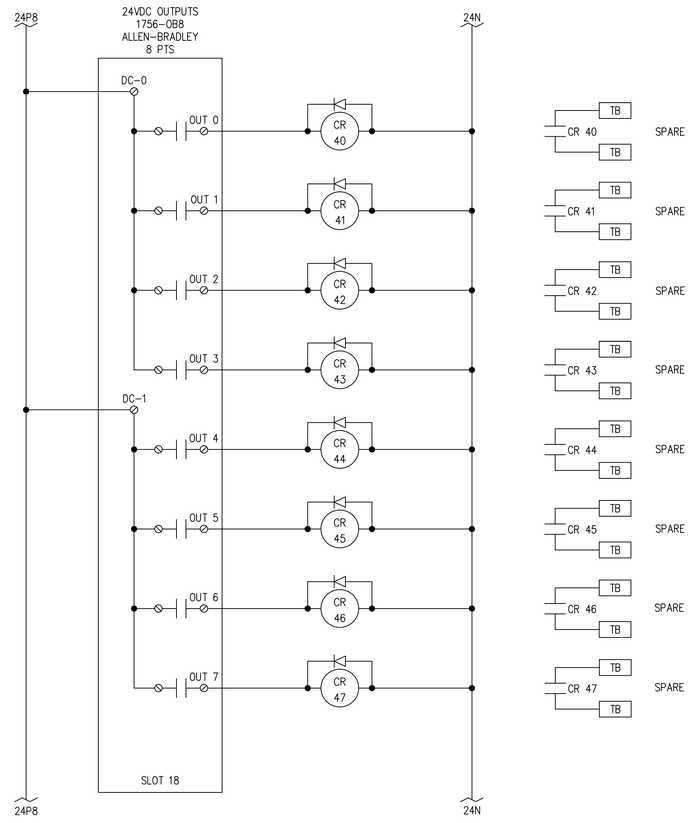
DWG NO.: Y027

SHEET NO.: 154 158



DIGITAL OUTPUTS, SLOT 16

NOT TO SCALE



DIGITAL OUTPUTS, SLOT 18

NOT TO SCALE

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SIGNED: 09/19/17

SIGNED: 09/19/17

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 8

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0911.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: KES
REVIEWED: CMR

REVISIONS

NO.	DATE	DESCRIPTION	BY	REVIEW

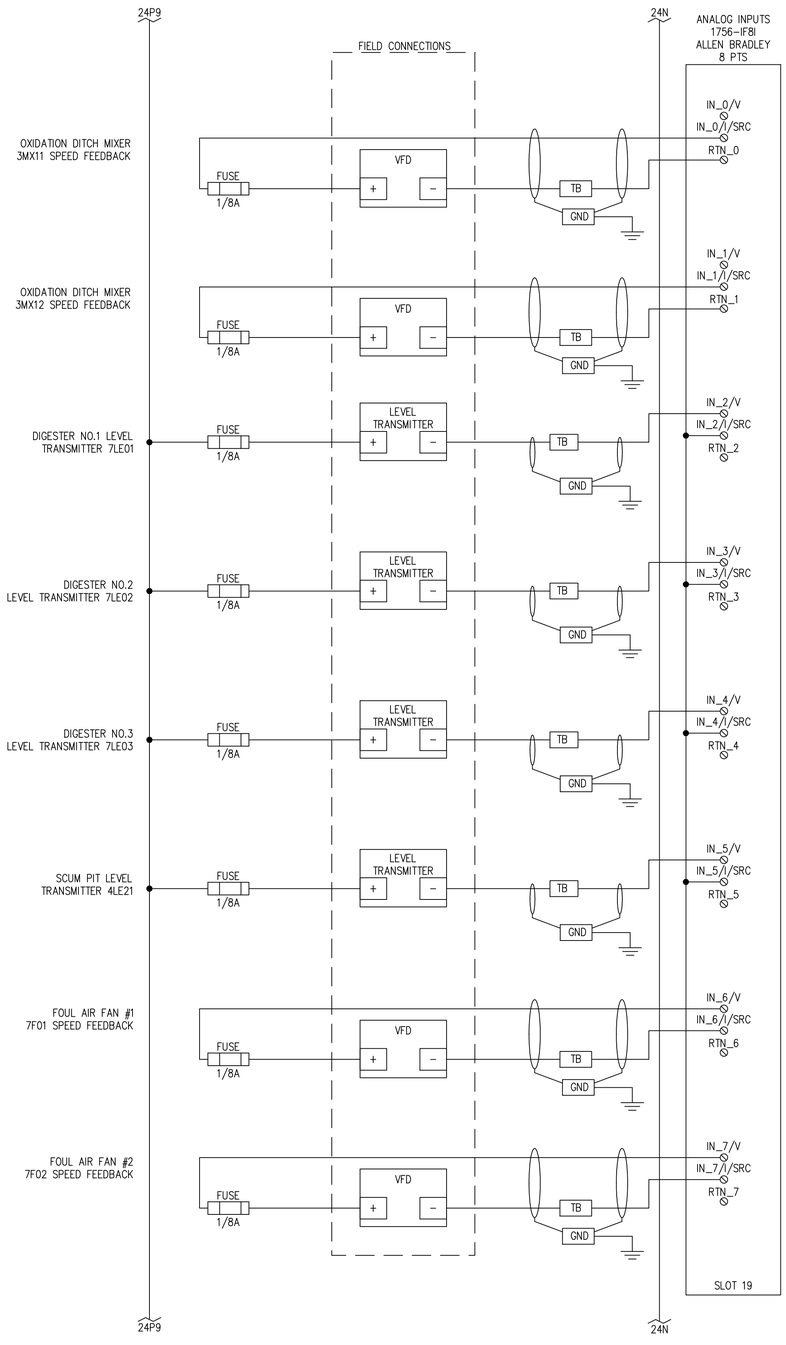
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

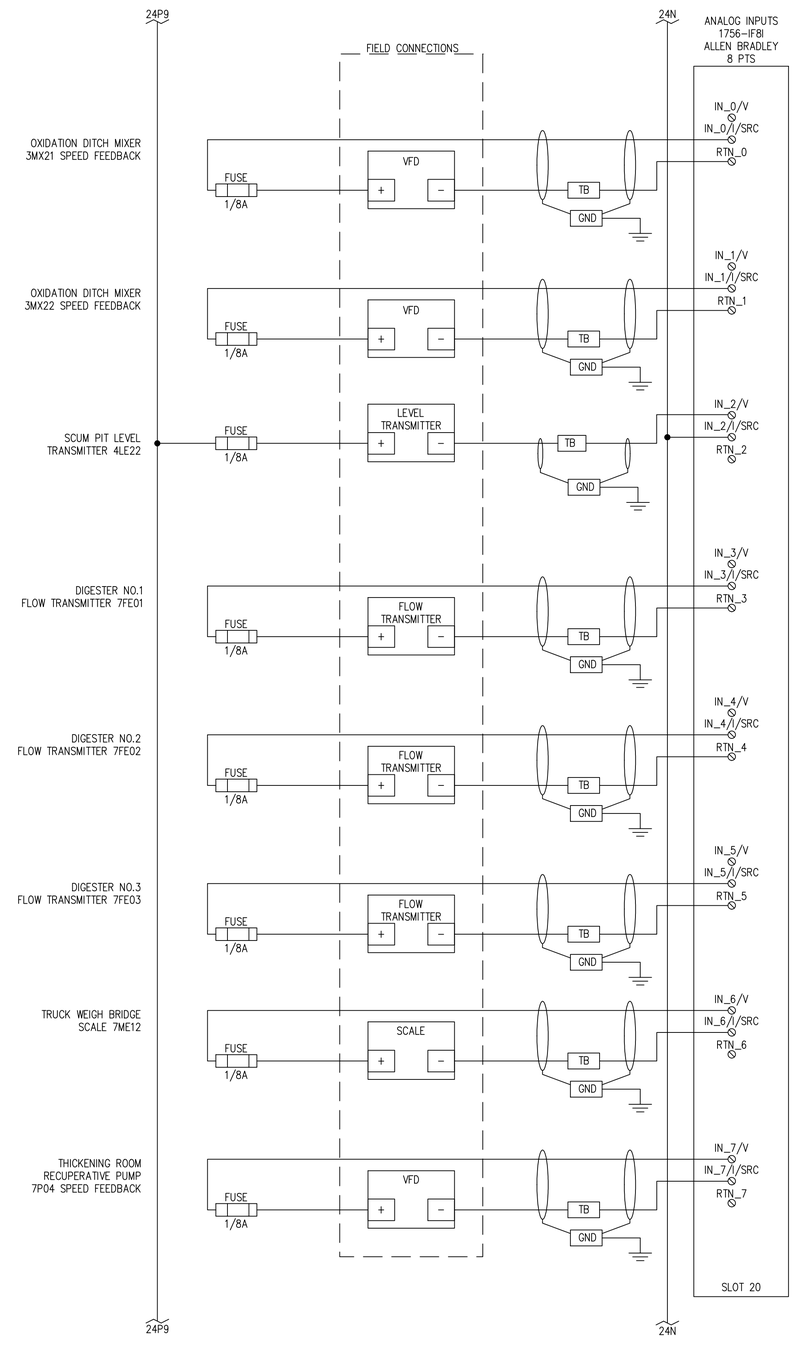
DWG NO.: Y028

SHEET NO.: 155



ANALOG INPUTS, SLOT 19

NOT TO SCALE



ANALOG INPUTS, SLOT 20

NOT TO SCALE

SIGNED: 09/19/17

SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 9

ENGINEER: KES	SAVE DATE: Sep 18, 2017
REVIEWED: CMR	PLOT DATE: Sep 19, 2017
CLIENT: SNQ	
FILENAME: WRF02-D-0911.DWG	
JOB NO.: 116-028	

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

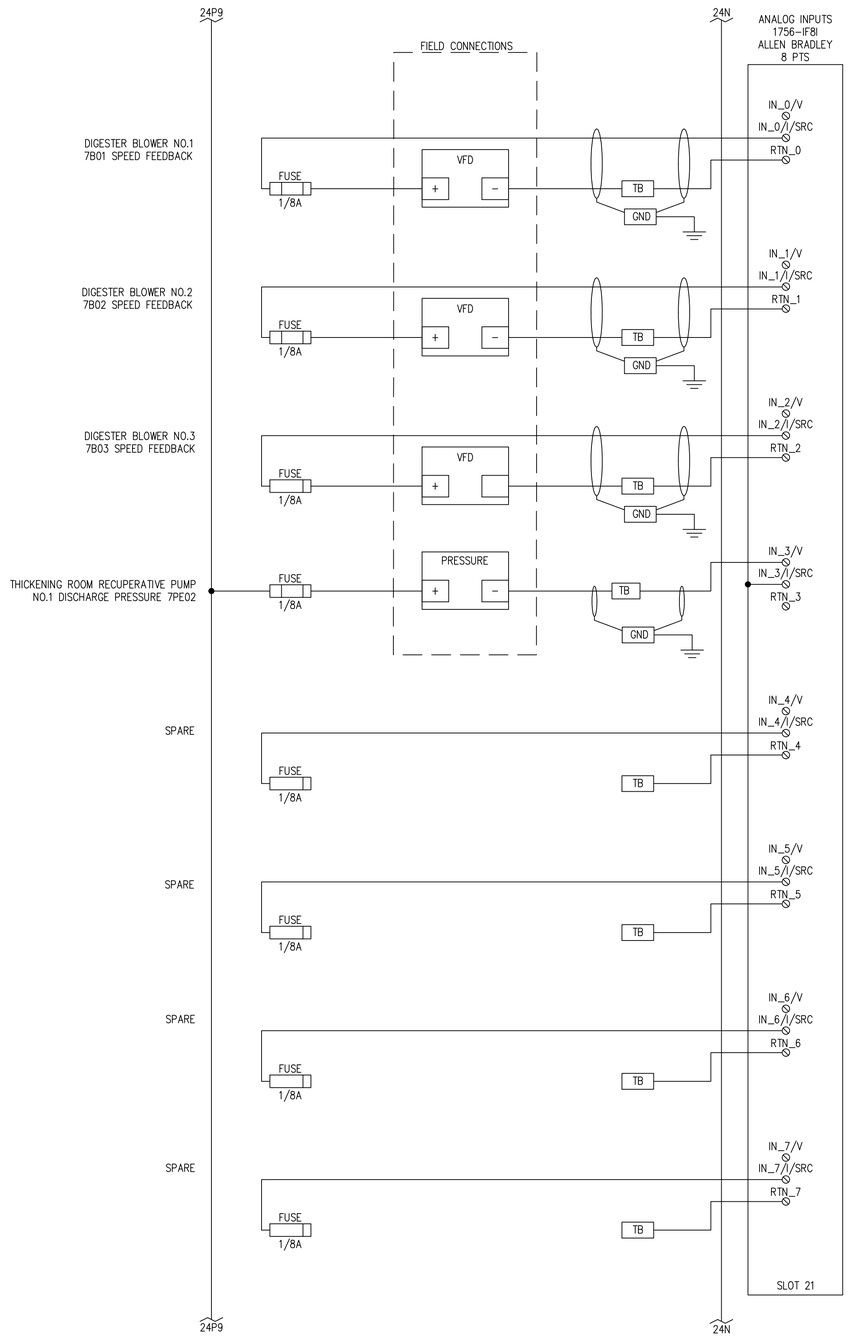
SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

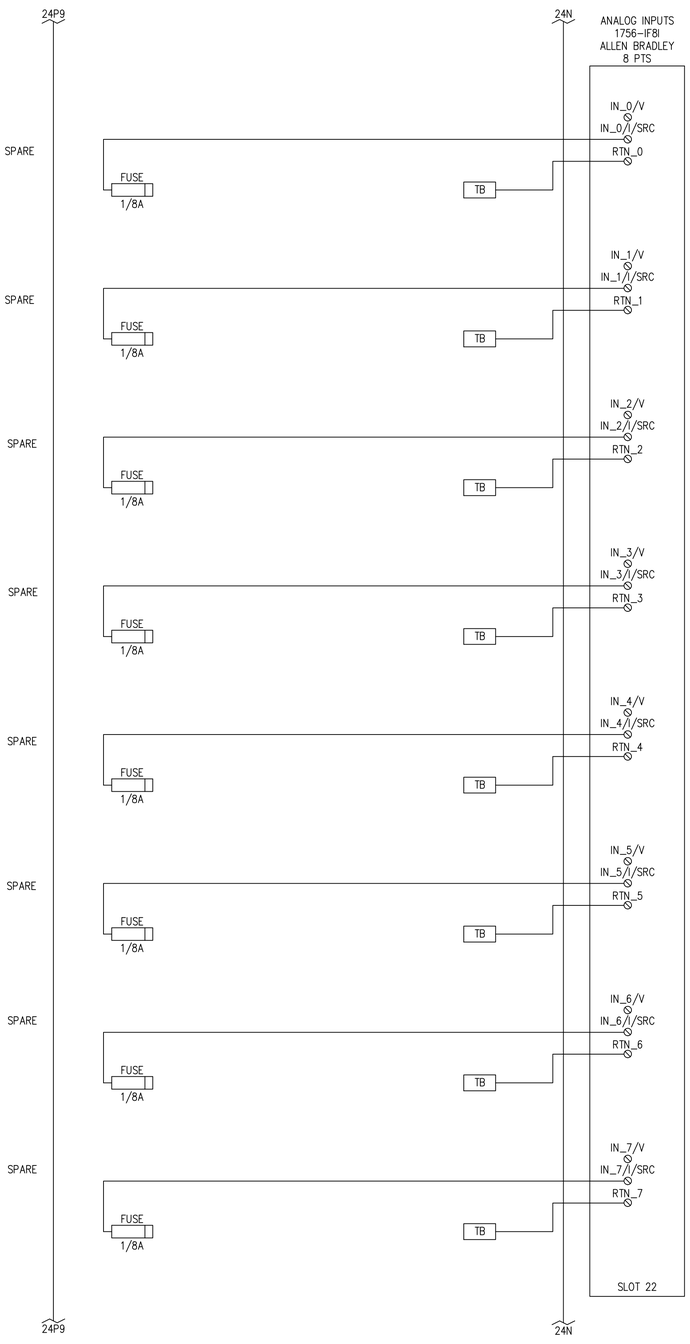
DWG NO.: Y029

SHEET NO.: 156 158



ANALOG INPUTS, SLOT 21

NOT TO SCALE



ANALOG INPUTS, SLOT 22

NOT TO SCALE

RICHARD WILLIAM PERKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RH2 ENGINEERING, INC.
Bothell, WA 1.800.720.8052
www.rh2.com
22722 29th Drive SE, Suite 210

CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 10

JOB NO.: 116-028
CLIENT: SNQ
FILENAME: WRF02-D-0911.DWG
SAVE DATE: Sep 18, 2017
PLOT DATE: Sep 19, 2017
ENGINEER: MES
REVIEWED: CMR

REVISIONS

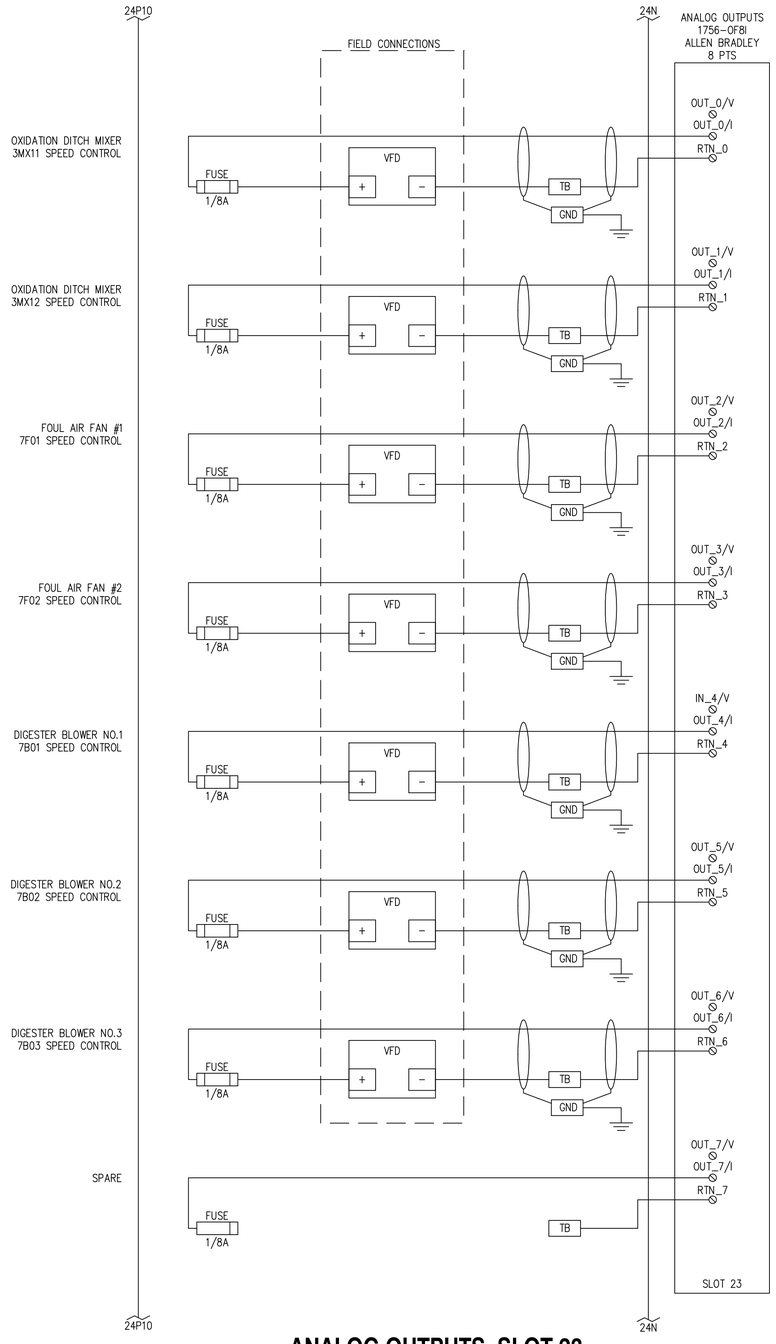
NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

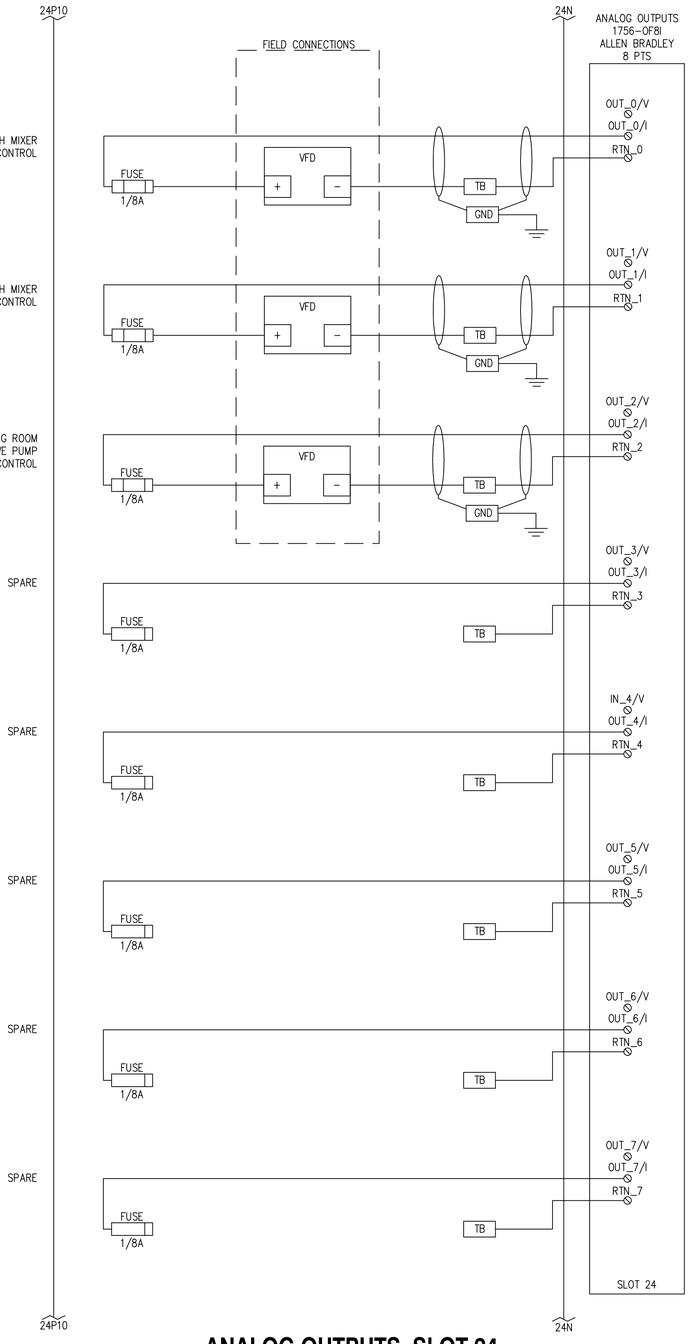
DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y030
SHEET NO.: 157 158



ANALOG OUTPUTS, SLOT 23

NOT TO SCALE



ANALOG OUTPUTS, SLOT 24

NOT TO SCALE

CHRISTOPHER MICHAEL PERKINS — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

RICHARD BALLARD — STATE OF WASHINGTON — 22000 — REGISTERED PROFESSIONAL ENGINEER — SIGNED: 09/19/17

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CITY OF SNOQUALMIE
WRF PHASE 2 IMPROVEMENTS

SOLIDS HANDLING CONTROL PANEL - PLC INPUT AND OUTPUT WIRING 11

JOB NO.:	116-028
CLIENT:	SNQ
FILENAME:	WRF02-D-0911.DWG
SAVE DATE:	Sep 18, 2017
PLOT DATE:	Sep 19, 2017
ENGINEER:	MES
REVIEWED:	CMR

REVISIONS

NO.	DESCRIPTION	DATE	BY	REVIEW

SCALE: SHOWN

0" 1" 2"

DRAWING IS FULL SCALE WHEN BAR MEASURES 2"

DWG NO.: Y031

SHEET NO.: 158