T.M.K.: (1) 1–5–41: 003
STATE OF HAWAII DLNR (OWNER)

T.M.K.: (1) 1-5-041: 003
STATE OF HAWAII DLNR (OWNER)

DRAINAGE EASEMENT B-1

S4" 9 LF @ 12.55%

COTG

SEWER STA 3+51.67
SSCO
TOP = 7.00
INV = 3.75 (S4" IN)
SEE MECH FOR CONT
SEE DETAIL SHEET C501

SEWER STA 3+43.76
INSTALL:
1-DUPLEX GRINDER PUMP
E/ONE MODEL DH 152 SYSTEM
OR APPROVED EQUAL
SEE DETAIL SHEET C501
1-1-1/4" CHECK VALVE

PROPERTY LINE

LPS1-1/4"

PROPERTY LINE

GUY WIRE AND ANCHOR EASEMENT "3"

DRAINAGE EASEMENT A–2
DRAINAGE EASEMENT A-2

GUY WIRE & ANCHOR EASEMENT "3"

T.M.K.: (1) 1-5-041: 006
STATE OF HAWAII DLNR (OWNER)

WATERLINE EASEMENT

SAND ISLAND PARKWAY (STATE)

SAND ISLAND PARKWAY (STATE)

SAND ISLAND PARKWAY (STATE)

ROAD AND UTILITY EASEMENT (50 FT. WIDE)

PC: 0+11.00
PT: 0+16.81
331°02'24.39" — 118.52'
267°57'07.45"
11.00'
R=5'
0+00
1+00
R=15'
291°43'59.38" — 193.53'
2+00
PC: 1+34.87
PT: 1+49.93
331° 06' 26" — 368.24
(STA. 44 TO STA. 45)
174.20'
171°02'44"
BENCHMARK TO EXIST SMH

SEWER STA 0+00
CONNECT TO EXIST SMH WITH Z-LOK
PIPE TO MANHOLE CONNECTOR, OR
APPROVED EQUAL
INV = 3.64 (LPS 1-1/4")
INV = 2.56 (E/S6" IN)
INV = 2.56 (E/S6" OUT)

BENCHMARK
PARK 1 6 (NGS)
BRASS DISK
ELEV=4.7

STA. 45
MAU. NAV.
ELEV.=4.77

158° 35' 34" — 247.19
(STA. 46 TO STA. 45)

WATERLINE EASEMENT

NORTH

PLAN

SCALE: 1"=20'

PROFILE

SCALE: 1"=20' HORIZONTAL
1"=4' VERTICAL

EXIST GRADE

3' COVER
MIN

S=0.00%

LPS 1-1/4"
HDPE DR 11
L = 344 LF

LPS 1-1/4" (IN) E/SMH 3.64
E/S6" (IN) 2.56
E/S6" (OUT) 2.56

PL

FENCE

DRAINAGE
EASEMENT

S4"
PVC SDR-35
L = 9 LF
S=12.55%

WAREHOUSE
BLDG

E/W2

27" CLR

E/D72

E/D72

68.5'

SEWER STA 3+52.13
SSCO 3.75 S4"

SEWER STA 3+43.76
GRINDER PUMP
LPS 1-1/4" (OUT) 3.64
S4" (IN) 2.7

20
10
0
-0+50
0+00
1+00
2+00
3+00
4+00

LEGEND

- PROPERTY LINE
- PROPERTY EASEMENT
- EXIST CHAIN-LINK FENCE
- EXIST MAJOR CONTOUR
- EXIST MINOR CONTOUR
- EXIST WATERLINE
- EXIST SEWER LINE
- EXIST DRAINLINE
- EXIST ELECTRICAL LINE
- EXIST TELEPHONE LINE
- 1-1/4" LOW PRESSURE SEWER
- 4" GRAVITY SEWER LINE

4 0 4 8
SCALE IN FEET

20 0 20 40
SCALE IN FEET

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
1		ADDENDUM 1		5/15/26	GL DL

LINDSAY L. M. NAKASHIMA
LICENSED PROFESSIONAL ENGINEER
No. 12569–C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

APRIL 30, 2028
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

ANUENUE FISHERIES RESEARCH CENTER
ANNEX FACILITY IMPROVEMENTS - PHASE 1B
(SEWER IMPROVEMENTS)
SAND ISLAND, O'AHU, HAWAI'I

UTILITY PLAN AND PROFILE

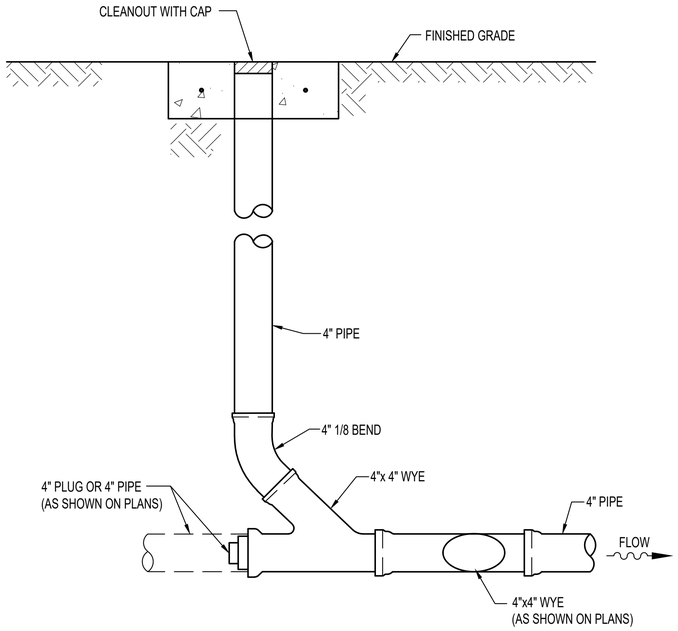
DESIGNED: JLG	SUBMITTED: APRIL 2026
DRAWN: JLT	DATE: APRIL 2026
CHECKED: LLN	SCALE: AS NOTED

APPROVED: May 18, 2026
CHIEF ENGINEER — DATE

DRAWING NO. C103

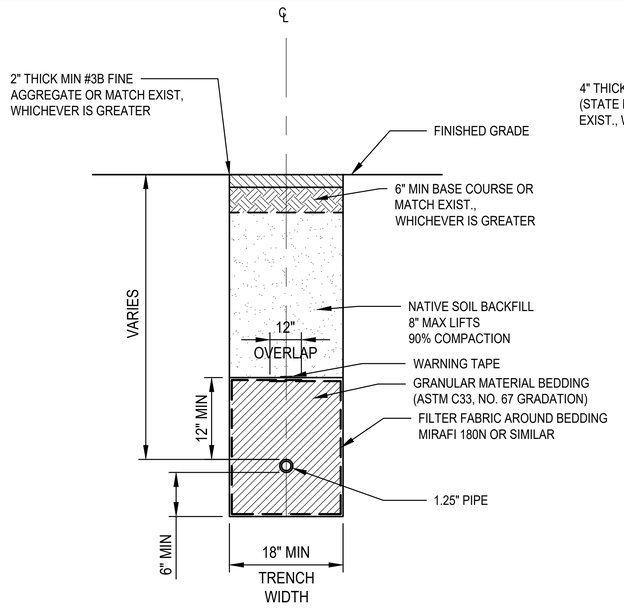
Job No. C00BO91C

SHEET NO. 6 OF 11 SHEETS



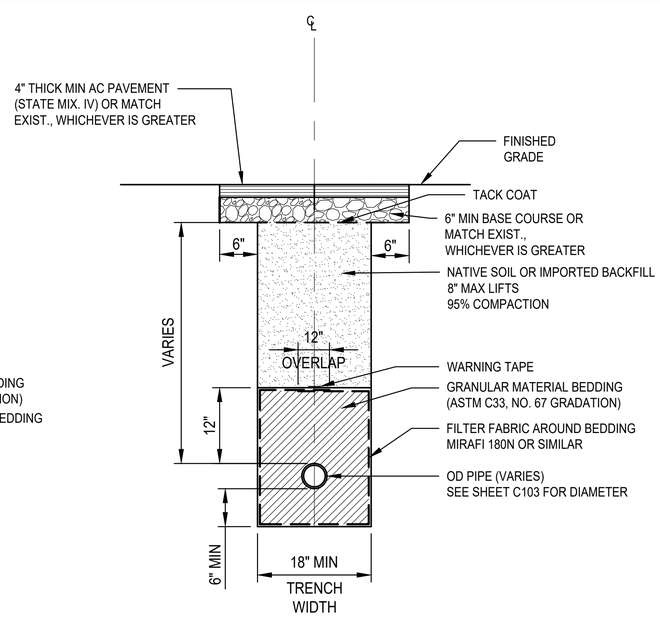
SEWERLINE TRENCH DETAIL (UNPAVED AREAS)

SCALE: NTS



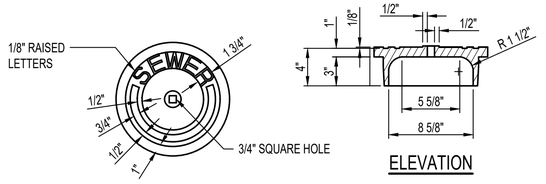
SEWERLINE TRENCH DETAIL (PAVED AREAS)

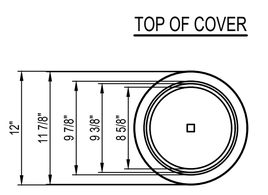
SCALE: NTS

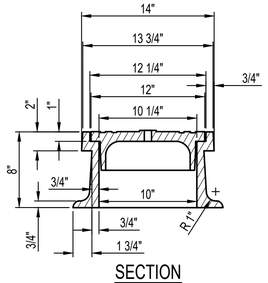


SEWER COTG DETAIL

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



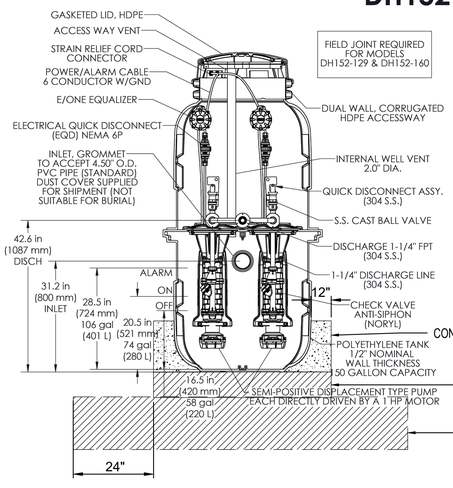




CLEANOUT FRAME AND COVER DETAIL

NOT TO SCALE

DH152



NOTES:

1. SEWER PUMP SYSTEM CONSISTS OF GRINDER PUMPS, CHECK VALVE, CONCRETE ANCHOR, AND ALL NECESSARY CONTROL PACKAGED INTO A SINGLE UNIT.
2. DISCHAGE RATES (PER PUMP):
   15 GPM AT 0 PSIG
   11 GPM AT 40 PSIG
   7.8 GPM AT 80 PSIG
3. PUMP SHALL BE EONE D-SERIES OR APPROVED EQUAL.

GRINDER PUMP DETAIL

NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
1		ADDENDUM 1		5/15/26	GL DL

LINDSAY L. M. NAKASHIMA
LICENSED PROFESSIONAL ENGINEER
No. 12569-C
HAWAII, U.S.A.

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APRIL 30, 2028
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

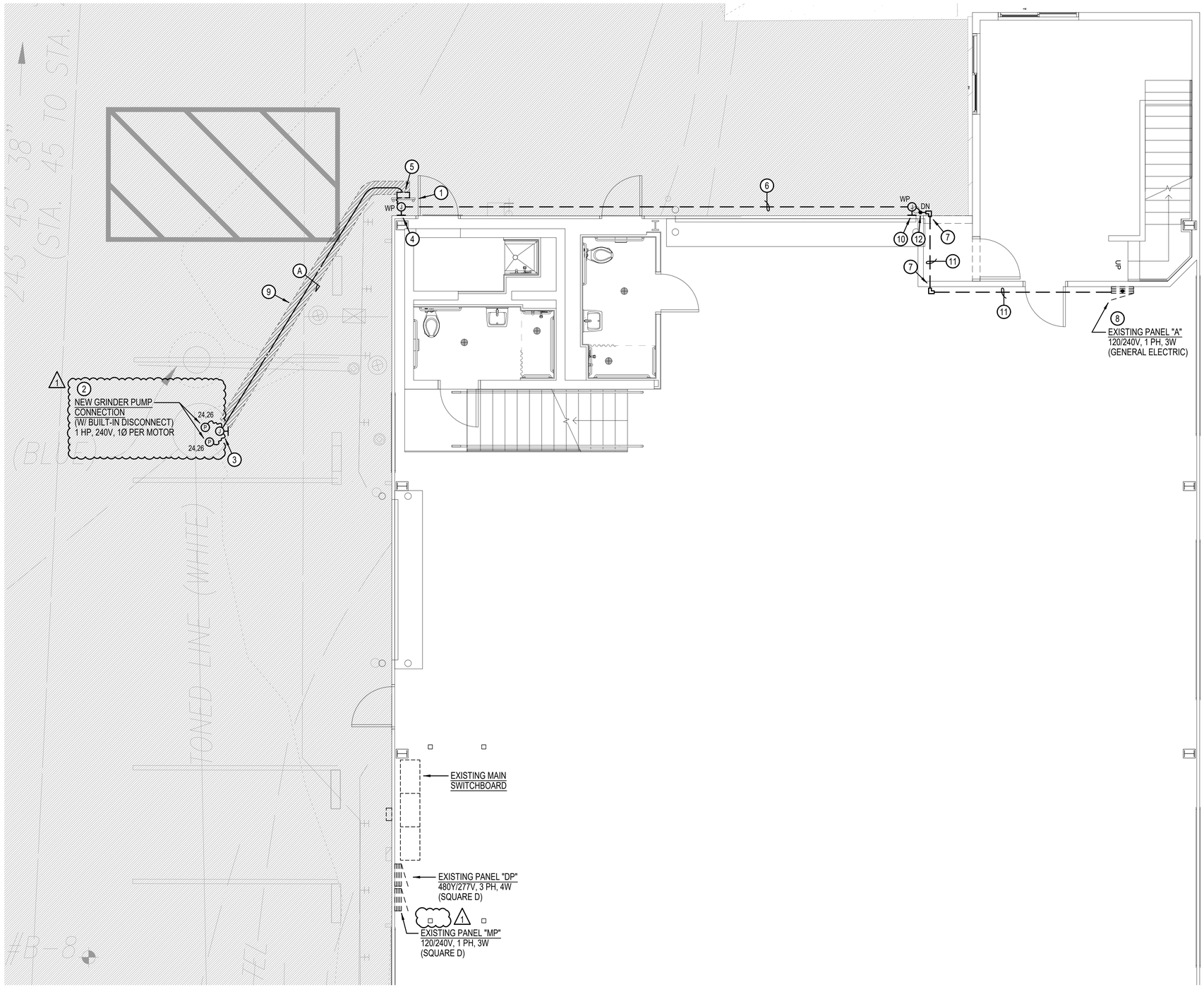
ANUENUE FISHERIES RESEARCH CENTER
ANNEX FACILITY IMPROVEMENTS - PHASE 1B
(SEWER IMPROVEMENTS)
SAND ISLAND, O'AHU, HAWAI'I

MISCELLANEOUS DETAILS

DESIGNED: JLG	SUBMITTED: APRIL 2026
DRAWN: JLT	DATE: APRIL 2026
CHECKED: LLN	SCALE: AS NOTED

APPROVED: May 18, 2026
CHIEF ENGINEER — DATE

DRAWING NO. C501



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

NOTE:
FOR DUCT SECTIONS
SEE SHEET: E201.

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

ELECTRICAL NOTES: NEW WORK

1. PROVIDE NEW STEEL CHANNEL H-FRAME.
2. PROVIDE WATERTIGHT CONNECTION TO PUMP WITH SUBMERSIBLE RATED CABLING.
3. PROVIDE WATERTIGHT BOX FOR POWER AND CONTROL WIRING. SEE DIAGRAM: 1/E201.
4. PROVIDE NEW SURFACE MOUNTED 4"SQ. x 4"D. JUNCTION BOX (NEMA 4X - STAINLESS STEEL). MOUNT WALL @ 7'-6" A.F.F. TO TOP. /1
5. INSTALL NEW CONTROL PANEL FURNISHED BY OTHERS. PROVIDE ALL WIRING CONNECTIONS. MOUNT ON H-FRAME @ 5'-6" A.F.F. TO TOP. SEE DETAIL: 2/E201.
6. MOUNT NEW EXPOSED RACEWAY ABOVE EXISTING ROLL-UP DOOR ON WALL/ON CEILING. PROVIDE HANGERS AND SUPPORTS PER N.E.C.
7. DRILL THROUGH EXISTING WALL TO INSTALL NEW RACEWAY. PATCH TO MATCH EXISTING CONDITION. MAINTAIN FIRE RATING OF WALL. PROVIDE WATERTIGHT SEAL AT EXTERIOR WALLS.
8. CONNECT NEW RACEWAY TO TOP OF PANEL.
9. SAWCUT EXISTING ASPHALT TO INSTALL NEW DUCTLINE. PATCH TO MATCH EXISTING CONDITION. SEE DETAIL: 3/E201.
10. PROVIDE NEW SURFACE MOUNTED 4"SQ. x 4"D. JUNCTION BOX (NEMA 4X - STAINLESS STEEL). MOUNT ON WALL ABOVE EXISTING ROLL-UP DOOR. /1
11. MOUNT NEW EXPOSED RACEWAY HIGH ON WALL/ON CEILING. PROVIDE HANGERS AND SUPPORTS PER N.E.C.
12. ROUTE NEW EXPOSED RACEWAY DOWN WALL.

/1

NOTE:
CONTRACTOR SHALL VERIFY GRINDER PUMPS POWER REQUIREMENTS WITH SUPPLIER AND REVISE ELECTRICAL SYSTEM AS REQUIRED TO ACCOMMODATE SELECTED SYSTEM.

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
ADD-1	/1	REVISED GRINDER PUMP		5/15/26	GC

BRIAN T. ITOZAKI
LICENSED PROFESSIONAL ENGINEER
No. 9058-E
HAWAII, U.S.A.

EXPIRATION DATE OF LICENSE
04/30/2028

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STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

ANUENUE FISHERIES RESEARCH CENTER
ANNEX FACILITY IMPROVEMENTS - PHASE 1B
(SEWER IMPROVEMENTS)
SAND ISLAND, O'AHU, HAWAI'I

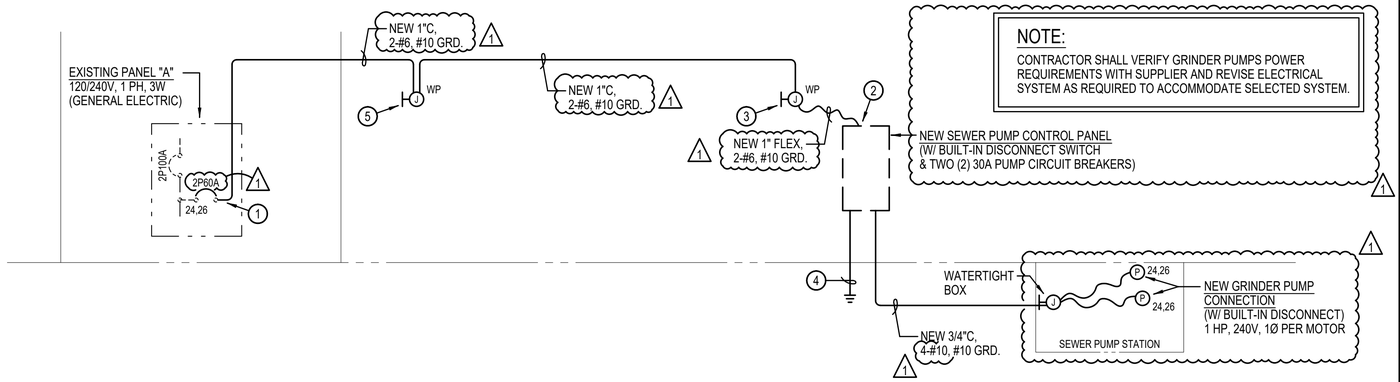
ELECTRICAL PLAN

DESIGNED: BI	SUBMITTED: APRIL 2026
DRAWN: KN	DATE: APRIL 2026
CHECKED: BI	SCALE: AS NOTED

APPROVED: May 18, 2026
CHIEF ENGINEER DATE

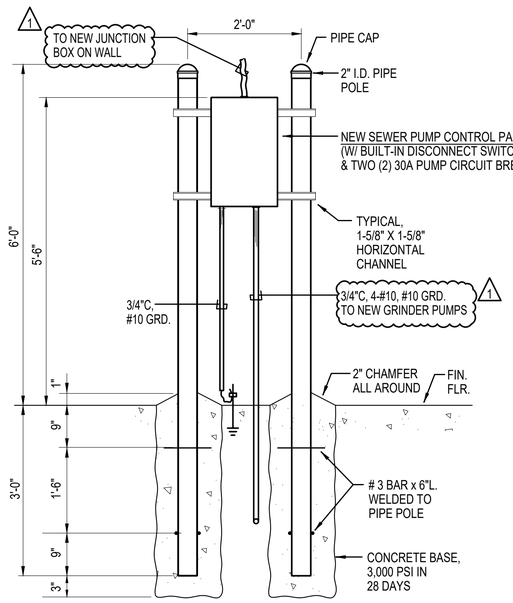
DRAWING NO. E101

Job No. C00BO91C SHEET NO. OF SHEETS



1 SEWER PUMP CONNECTION DIAGRAM

SCALE: N.T.S.



3 ELEVATION - CONTROL PANEL MTD. ON H-FRAME

SCALE: N.T.S.

ELECTRICAL NOTES: NEW WORK

1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE.
2. PROVIDE ELECTRICAL CONNECTION TO EQUIPMENT WITH LIQUID-TIGHT FLEXIBLE CONDUIT.
3. PROVIDE NEW SURFACE MOUNTED 4"SQ. x 4"D. JUNCTION BOX (NEMA 4X - STAINLESS STEEL). MOUNT WALL @ 7'-6" A.F.F. TO TOP. 1
4. PROVIDE NEW 3/4"C, # 10 GROUNDING ELECTRODE CONDUCTOR TO NEAREST METAL WATER PIPE OR STRUCTURAL METAL GROUNDING ELECTRODE AND ADDITIONAL GROUND PER N.E.C. 250.53.
5. PROVIDE NEW SURFACE MOUNTED 4"SQ. x 4"D. JUNCTION BOX (NEMA 4X - STAINLESS STEEL). MOUNT ON WALL ABOVE EXISTING ROLL-UP DOOR. 1

EXISTING PANEL "A"

(GENERAL ELECTRIC)

120/240 VOLTS, 1 PHASE, 3 WSN
BREAKER MIN. A.I.C. 10,000
SURFACE MTG. 100A MAIN BREAKER

CKT. NO.	USE	CIRCUIT BREAKER POLES	CIRCUIT BREAKER AMPS	CONNECTED LOAD (KVA) A	B	C	WIRE SIZE
1	RECEP. RM. 105	1	20	0.4			12
2	RECEP. RM. 105	1	20	0.4			12
3	RECEP. RM. 105	1	20		0.7		12
4	RECEP. FOR REFRIG.	1	20		0.6		12
5	RECEP. RM. 105	1	20	0.7			12
6	DISPOSER 3/4 HP	1	20	1.6			12
7	RECEP. RM. 105	1	20		0.7		12
8	RECEP. RM. 201	1	20		0.4		12
9	RECEP. RM. 201	1	20	0.5			12
10	RECEP. RM. 100	1	20	0.2			12
11	SUMP PUMP 1/3 HP	1	20		1.2		12
12	SPARE	1	20		0.4		12
13	PFB	---	---	---			---
14	PFB	---	---	---			---
15	PFB	---	---		---		---
16	PFB	---	---		---		---
17	PFB	---	---	---			---
18	PFB	---	---	---			---
19	A/C FAN COIL UNIT 1/3 HP	2	15		0.4		12
20	EWH	2	30		2.3		10
21	A/C FAN COIL UNIT 1/3 HP	---	---	0.4			12
22	EWH	---	---	2.3			10
23	PFB	---	---		---		---
* 24	GRINDER PUMP	2	60		2.0		6
25	PFB	---	---	---			---
* 26	GRINDER PUMP	---	60	2.0			6
27	PFB	---	---		---		---
28	PFB	---	---		---		---
29	PFB	---	---	---			---
30	PFB	---	---	---			---
31	PFB	---	---		---		---
32	PFB	---	---		---		---
33	PFB	---	---	---			---
34	PFB	---	---	---			---
35	PFB	---	---		---		---
36	PFB	---	---		---		---
37	PFB	---	---	---			---
38	PFB	---	---	---			12
39	MAIN BREAKER	2	100		---		2
40	PFB	---	---		---		---
41	MAIN BREAKER	---	100	---			2
42	PFB	---	---	---			---
	TOTAL LOAD/ PHASE			8.5	8.7		
	TOTAL LOAD			17.2	KVA		
	DEMAND FACTOR			0.8			
	DEMAND LOAD			13.8	KVA		

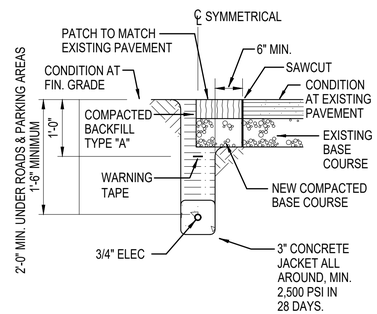
PFB - PROVISION FOR FUTURE BREAKER

* PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE. UPDATE PANEL SCHEDULE.

1

NOTES:

1. BACKFILL MATERIAL TYPE " A"
   BLACK OR BEACH SAND, EARTH AND GRAVEL MIXTURE. IF EARTH & GRAVEL MIXTURE, ROCK SIZE SHALL BE 1-INCH OR SMALLER AND SHALL NOT CONTAIN MORE THAN 50% ROCK PARTICLES BY VOLUME. THIS FILL SHALL BE USED OVER CONCRETE ENCASED DUCTS IN ACCORDANCE WITH DRAWINGS.
2. ALL DUCTS SHALL BE PVC SCHEDULE 40.
3. PROVIDE DETECTABLE DUCT WARNING TAPE 12" BELOW FINISH GRADE OR PAVEMENT DIRECTLY ABOVE DUCTS.
4. PROVIDE AC SEALER AT SAWCUT TRANSITION BETWEEN NEW AND EXISTING AC. SEALER SHALL BE PER AC MATERIAL REQUIREMENTS.
5. PROVIDE SMOOTH TRANSITION BETWEEN NEW AND EXISTING PAVEMENT SURFACES.
6. PROVIDE A MINIMUM OF 4" TOPSOIL AND GRASS TO RESTORE THE NON-PAVED AREA. GRASS SHALL BE FULLY ESTABLISHED AT COMPLETION OF PROJECT.
7. PROVIDE A MINIMUM OF 12" CLEARANCE FROM WATERPIPE.



DUCT SECTION (A)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
ADD-1	1	REVISED GRINDER PUMP		5/15/26	GL

BRIAN T. ITOZAKI
LICENSED PROFESSIONAL ENGINEER
No. 9058-E
HAWAII, U.S.A.

EXPIRATION DATE OF LICENSE
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STATE OF HAWAI'I
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ANUENUE FISHERIES RESEARCH CENTER
ANNEX FACILITY IMPROVEMENTS - PHASE 1B
(SEWER IMPROVEMENTS)
SAND ISLAND, O'AHU, HAWAI'I

MISCELLANEOUS ELECTRICAL DETAILS

DESIGNED: BI	SUBMITTED: APRIL 2026
DRAWN: KN	DATE: APRIL 2026
CHECKED: BI	SCALE: AS NOTED

APPROVED: May 18, 2026
CHIEF ENGINEER — DATE

DRAWING NO. E201

Job No. C00BO91C SHEET NO. OF SHEETS