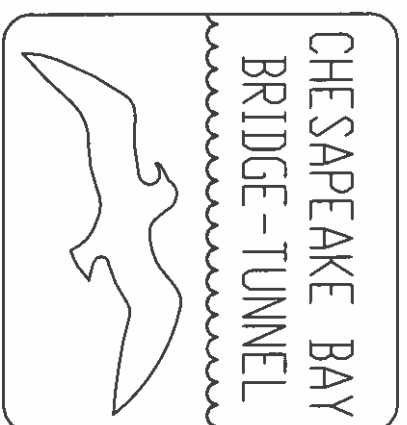


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CHESAPEAKE BAY BRIDGE
AND TUNNEL DISTRICT

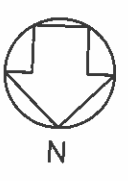
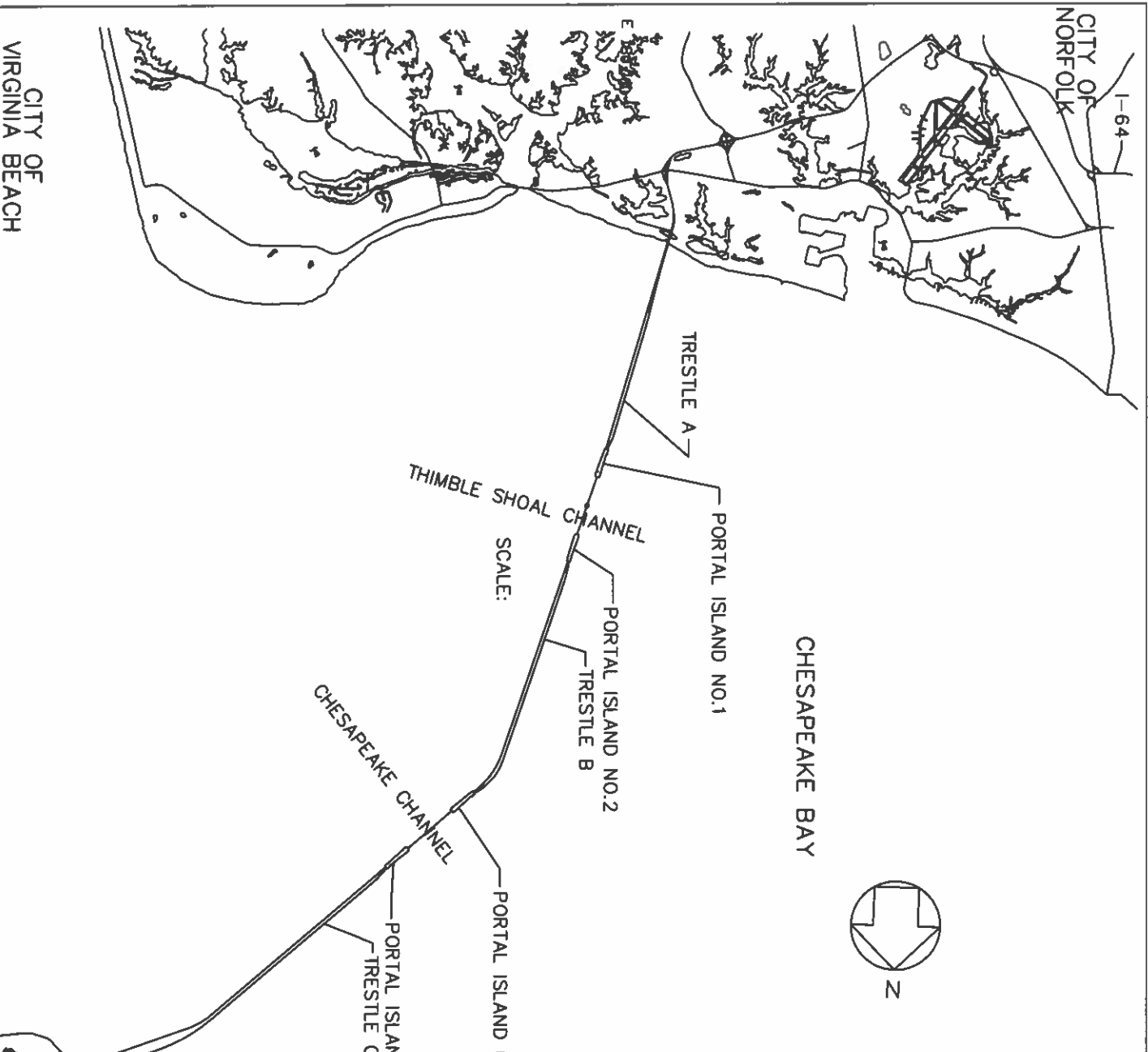
PROJECT NUMBER 1143.1935

WELCOME CENTER ALTERNATIVE
ON SITE SEPTIC SYSTEM

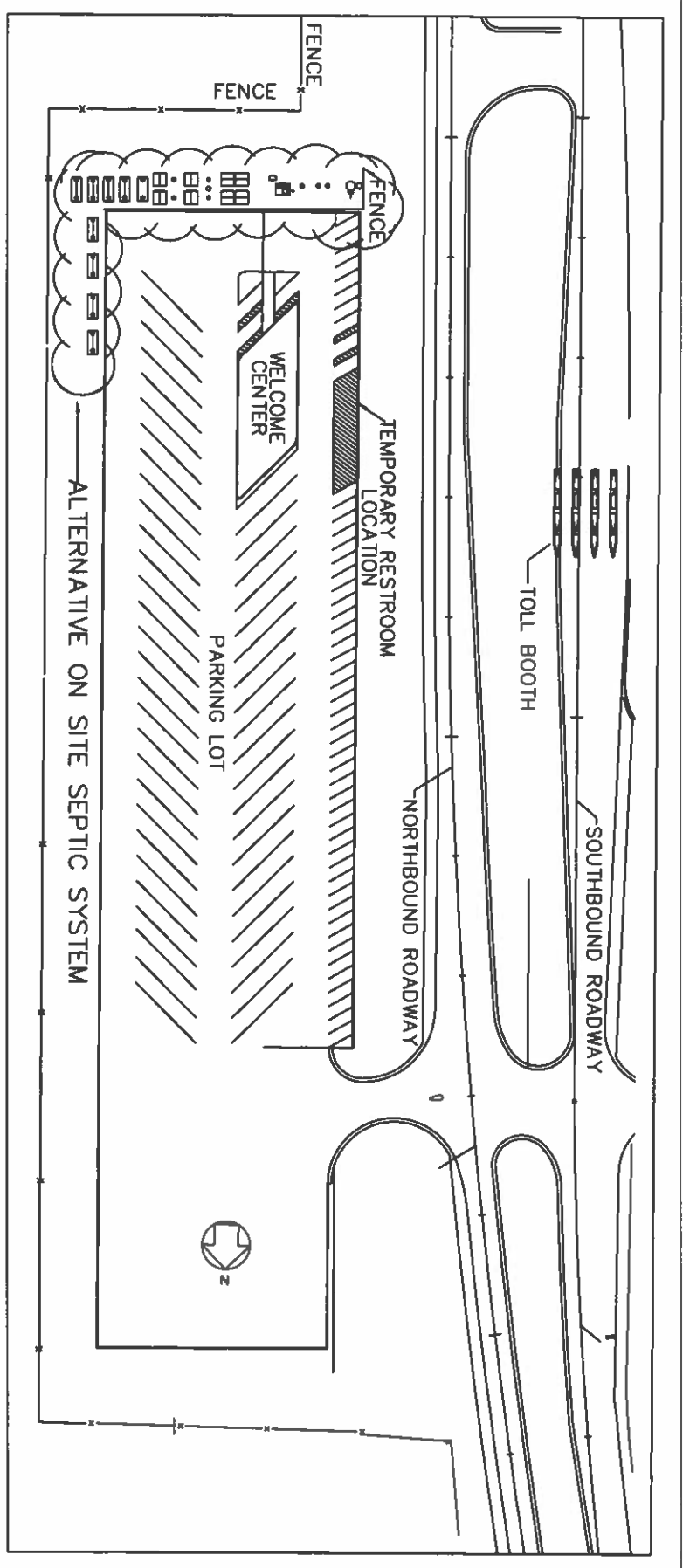
NOVEMBER 2021

PREPARED BY
CBBT
CAPE CHARLES, VIRGINIA

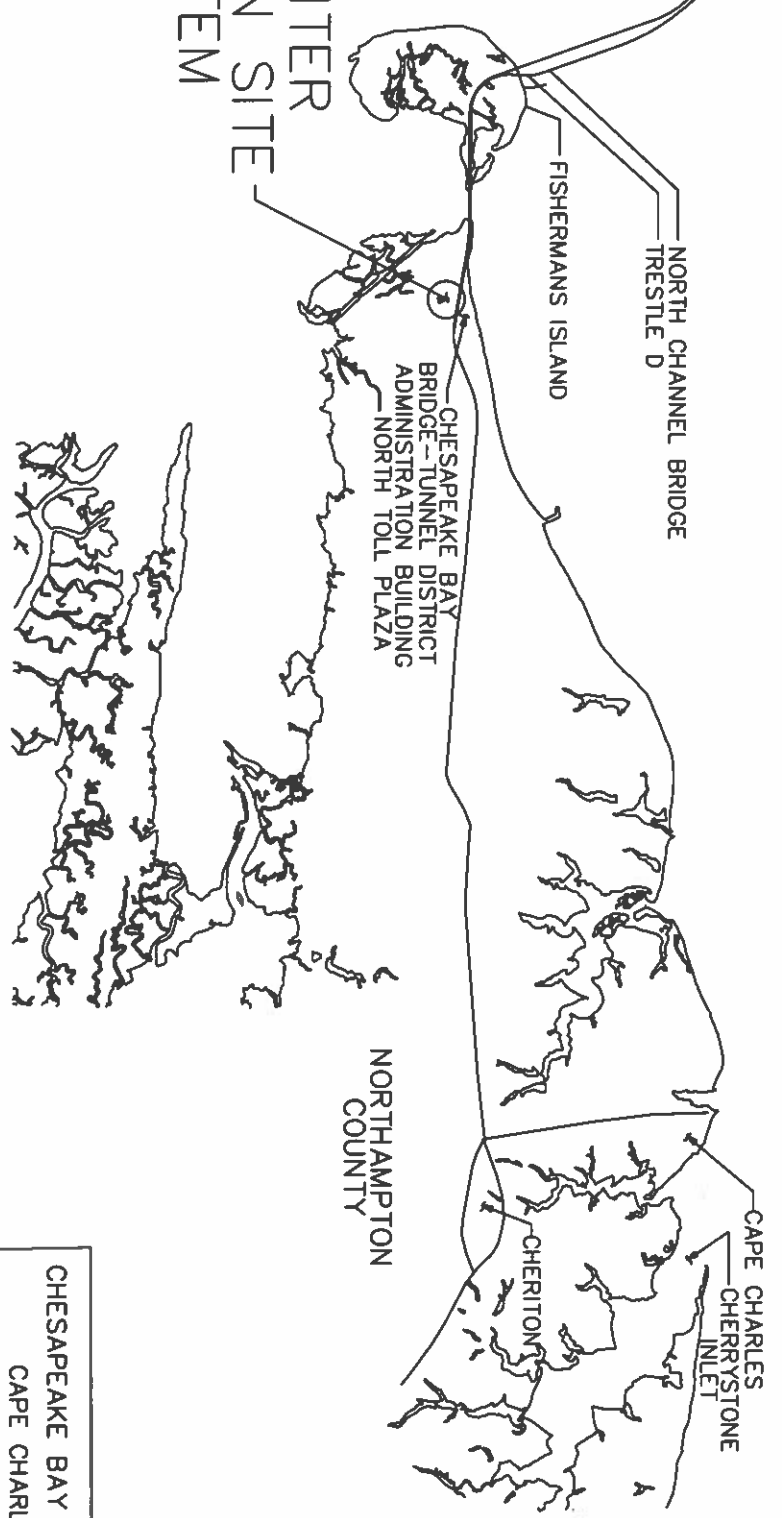
APPROVED _____



WELCOME CENTER
ALTERNATIVE ON SITE
SEPTIC SYSTEM



SITE PLAN



LOCATION MAP

SCALE: 1" = 6,000'

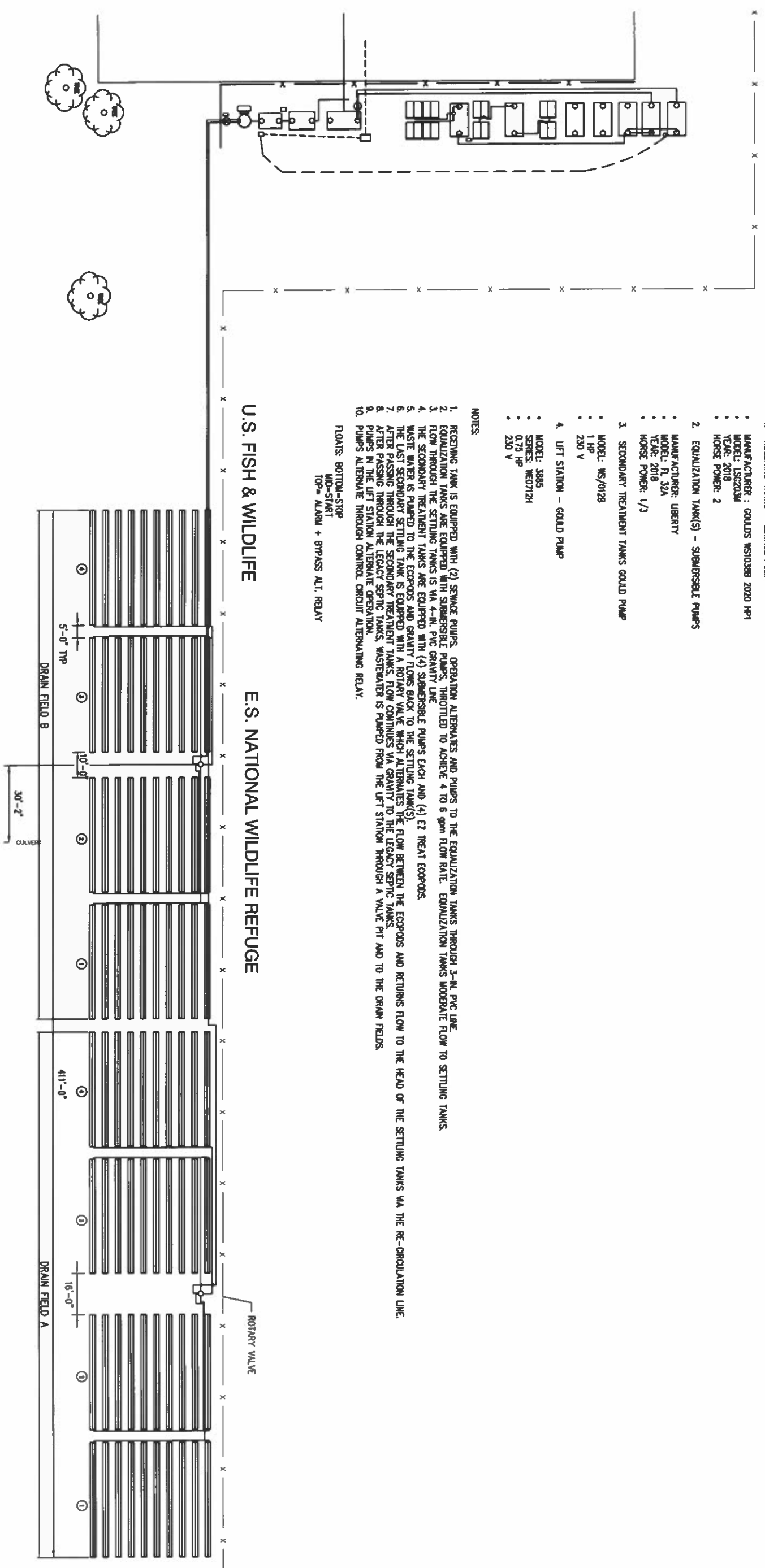
CHESAPEAKE BAY BRIDGE-TUNNEL DISTRICT		CAPE CHARLES, VIRGINIA 23310	
WELCOME CENTER ALTERNATIVE ON SITE SEPTIC SYSTEM			
LOCATION MAP			
DRAWN BY: NIS	SCALE: 1" = 6000'	DWG NO. 2	
CHECKED BY: MTC	DATE: 11/09/2021	SHEET 2 OF 7	

WELCOME CENTER PARKING LOT

U.S. 13 NORTHBOUND

U.S. FISH & WILDLIFE

E.S. NATIONAL WILDLIFE REFUGE



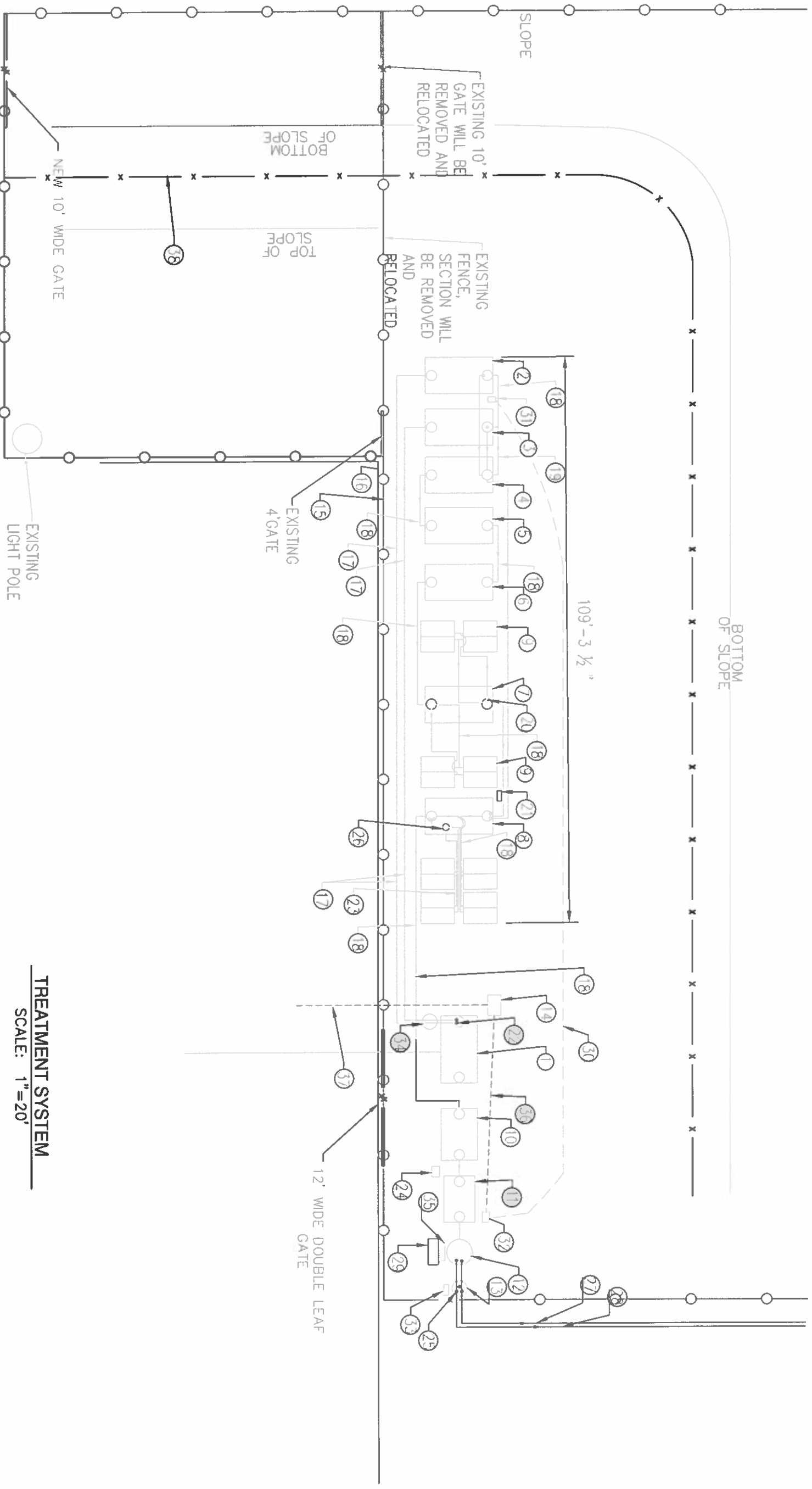
PUMPS:

1. RECEIVING TANKS - SEWAGE PUMP
 - MANUFACTURER : GOLLDS WS10389 2020 HP1
 - MODEL: LS2020M
 - YEAR: 2018
 - HORSE POWER: 2
2. EQUALIZATION TANK(S) - SUBMERSIBLE PUMPS
 - MANUFACTURER: LIBERTY
 - MODEL: FL 32A
 - YEAR: 2018
 - HORSE POWER: 1/3
3. SECONDARY TREATMENT TANKS GOULD PUMP
 - MODEL: WS/0128
 - 1 HP
 - 230 V
4. LIFT STATION - GOULD PUMP
 - MODEL: 3885
 - SERIES: WE072H
 - 0.75 HP
 - 230 V

NOTES:

1. RECEIVING TANK IS EQUIPPED WITH (2) SEWAGE PUMPS. OPERATION ALTERNATES AND PUMPS TO THE EQUALIZATION TANKS THROUGH 3-IN. PVC LINE.
 2. EQUALIZATION TANKS ARE EQUIPPED WITH SUBMERSIBLE PUMPS. THROTTLED TO ACHIEVE 4 TO 6 gpm FLOW RATE. EQUALIZATION TANKS MODERATE FLOW TO SETTLING TANKS.
 3. FLOW THROUGH THE SETTLING TANKS IS VIA 4-IN. PVC GRAVITY LINE.
 4. THE SECONDARY TREATMENT TANKS ARE EQUIPPED WITH (4) SUBMERSIBLE PUMPS EACH AND (4) EZ TREAT ECOPRODS.
 5. WASTE WATER IS PUMPED TO THE ECOPRODS AND GRAVITY FLOWS BACK TO THE SETTLING TANK(S).
 6. THE LAST SECONDARY SETTLING TANK IS EQUIPPED WITH A ROTARY VALVE WHICH ALTERNATES THE FLOW BETWEEN THE ECOPRODS AND RETURNS FLOW TO THE HEAD OF THE SETTLING TANKS VIA THE RE-CIRCULATION LINE.
 7. AFTER PASSING THROUGH THE SECONDARY TREATMENT TANKS, FLOW CONTINUES VIA GRAVITY TO THE LEGACY SEPTIC TANKS.
 8. PUMPS IN THE LIFT STATION ALTERNATE OPERATION.
 9. PUMPS IN THE LIFT STATION THROUGH A VALVE FIT AND TO THE DRAIN FIELDS.
 10. PUMPS ALTERNATE THROUGH CIRCUIT ALTERNATING RELAY.
- FLOATS: BOTTOM-STOP
 MID-START
 TOP= ALARM + BYPASS A.L.T. RELAY

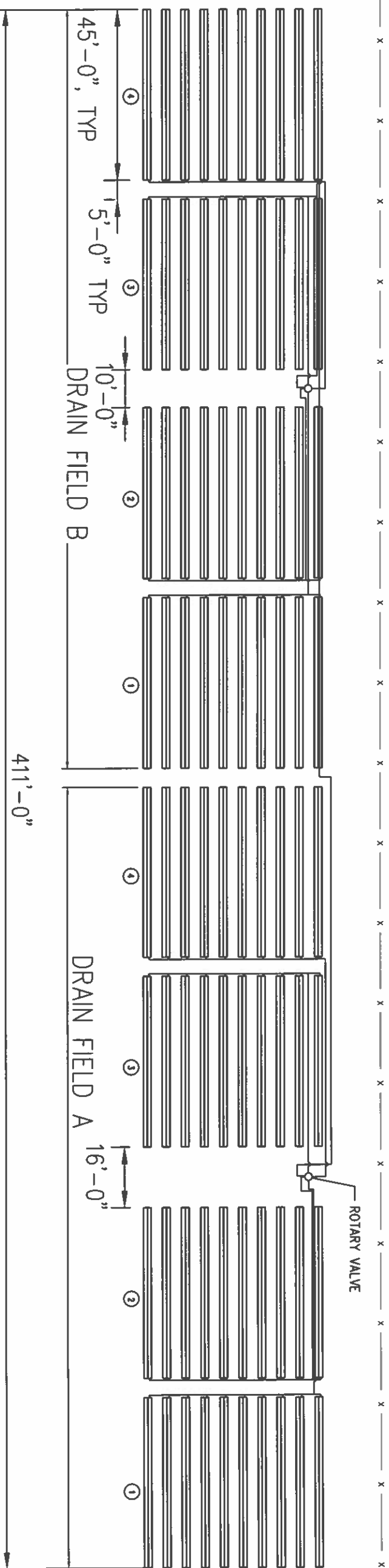
CHESAPEAKE BAY BRIDGE-TUNNEL DISTRICT			
CAPE CHARLES, VIRGINIA 23310			
WELCOME CENTER ALTERNATIVE ON SITE SEPTIC SYSTEM			
EXISTING CONDITIONS			
DRAWN BY: NIS	SCALE: 1"=40'	DWG NO. 3	
CHECKED BY: MTC	DATE: 11/09/2021	SHEET 3 OF 7	



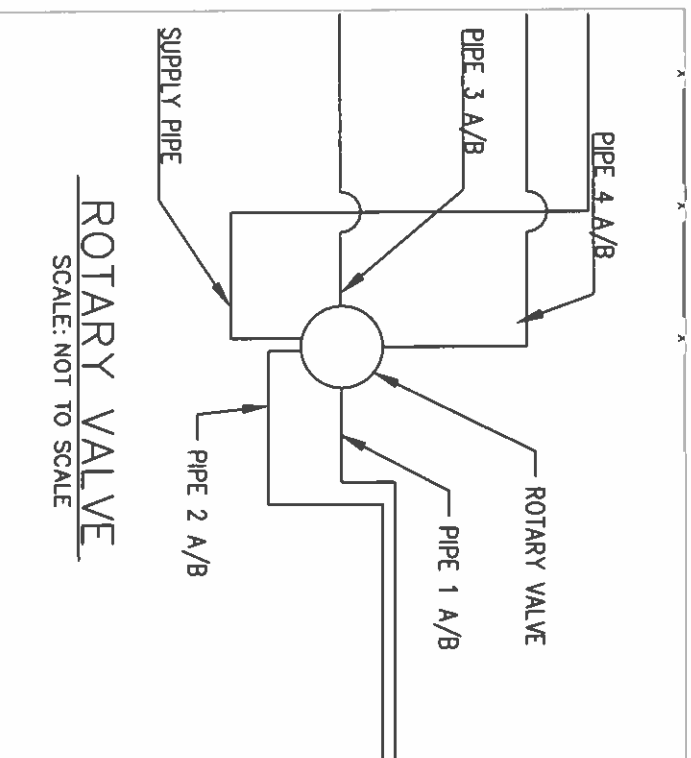
TREATMENT SYSTEM
SCALE: 1"=20'

- LEGEND**
1. 2,500 GALLON RECEIVING TANK
 2. 2,500 GALLON EQUALIZATION TANK
 3. 2,500 GALLON SETTLING TANK
 4. 2,500 GALLON SETTLING TANK
 5. 2,500 GALLON SETTLING TANK
 6. 2,500 GALLON SETTLING TANK
 7. 2,500 GALLON SECONDARY TREATMENT TANK
 8. 2,500 GALLON SECONDARY TREATMENT TANK
 9. EZ TREAT ECPROD (1200) TYP
 10. 1,700 GALLON TERTIARY TANK (LEGACY SYSTEM)
 11. 1,250 GALLON TERTIARY TANK (LEGACY SYSTEM)
 12. VALVE PIT
 13. LIFT STATION
 14. POWER JUNCTION BOX
 15. FENCE
 16. QUMB
 17. 3" PVC
 18. 4" PVC
 19. OVERFLOW LINE
 20. PUMP TYP
 21. PUMP BOX CONTROLS
 22. SEWAGE PUMPS
 23. 1 1/2" PIPING FROM PUMPS TYP
 24. PUMP CONTROLS - (GRINDER PUMPS)
 25. CONTROLS CIRCUIT ALTERNATING RELAY
 26. ROTARY VALVE
 27. DRAIN FIELD SUPPLY LINE A
 28. DRAIN FIELD SUPPLY LINE B
 29. LIFT CONTROLS
 30. POWER SUPPLY LINE TO SUBMERSIBLE PUMPS
 31. POWER SUPPLY BOX (TO SUBMERSIBLE PUMPS)
 32. POWER PANEL BOX (CIRCUIT BREAKERS)
 33. SCAADA ALARM INTERFACE
 34. ISOLATION VALVE PIT
 35. ALARM SYSTEM BOX
 36. POWER SUPPLY LINE FROM JUNCTION BOX TO POWER PANEL BOX
 37. SERVICE LINES GOING TO WELCOME CENTER
 38. SLIT FENCE

CHESAPEAKE BAY BRIDGE - TUNNEL DISTRICT			
CAPE CHARLES, VIRGINIA 23310			
WELCOME CENTER ALTERNATIVE ON SITE SEPTIC SYSTEM			
EXISTING TREATMENT SYSTEM			
DRAWN BY: NIS	SCALE: 1"=20'	DWG NO. 4	
CHECKED BY: MTC	DATE: 11/09/2021	SHEET 4 OF 7	



DRAIN FIELD
SCALE: 1"=30'



ROTARY VALVE
SCALE: NOT TO SCALE

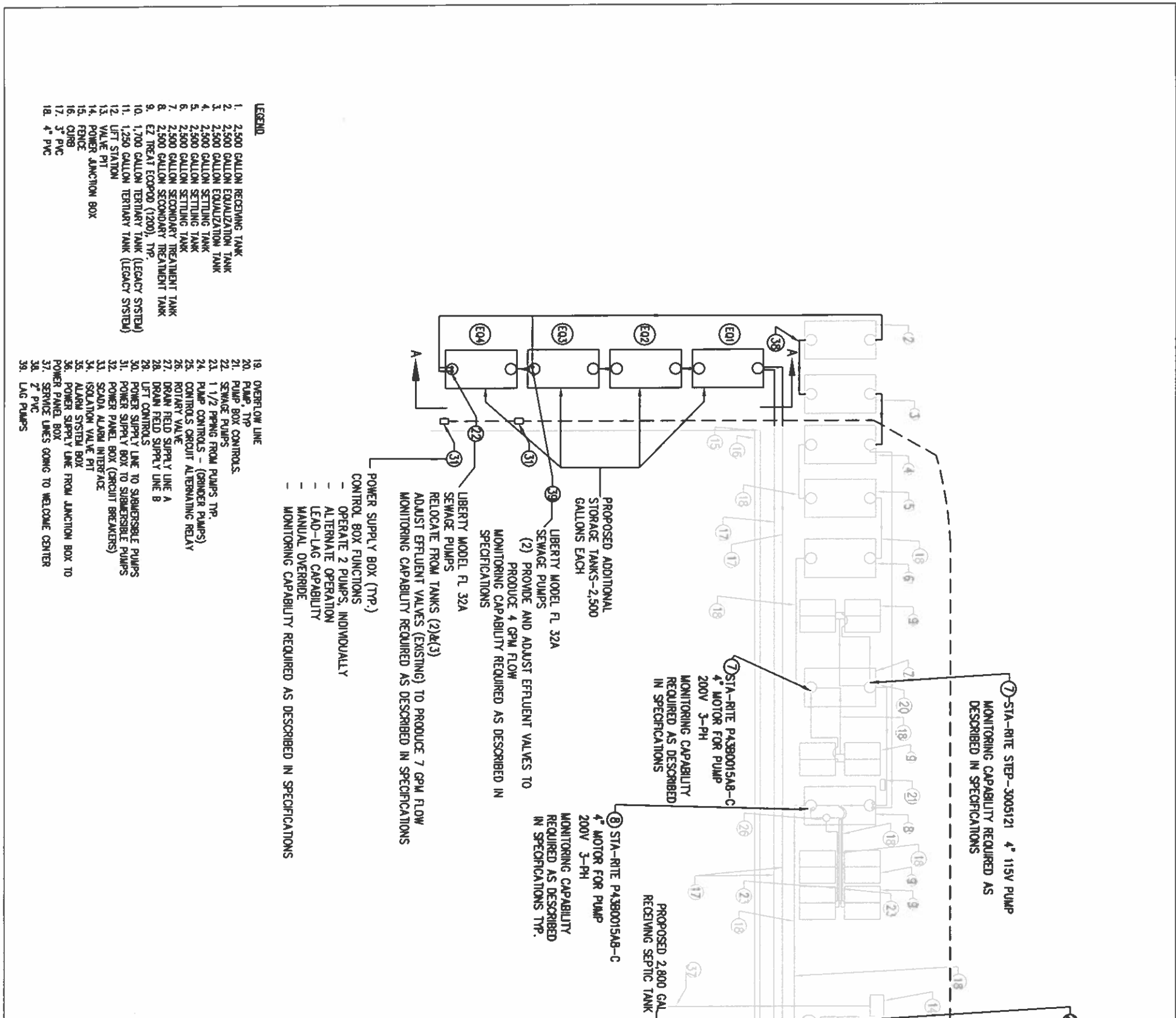
CHESAPEAKE BAY BRIDGE - TUNNEL DISTRICT
CAPE CHARLES, VIRGINIA 23310

WELCOME CENTER ALTERNATIVE
ONSITE SEPTIC SYSTEM

EXISTING DRAIN FIELD

DRAWN BY: NIS SCALE: AS NOTED DWG NO. 5

CHECKED BY: MTC DATE: 11/09/2021 SHEET 5 OF 7



- LEGEND**
1. 2,500 GALLON RECEIVING TANK
 2. 2,500 GALLON EQUALIZATION TANK
 3. 2,500 GALLON EQUALIZATION TANK
 4. 2,500 GALLON SETTLING TANK
 5. 2,500 GALLON SETTLING TANK
 6. 2,500 GALLON SETTLING TANK
 7. 2,500 GALLON SECONDARY TREATMENT TANK
 8. 2,500 GALLON SECONDARY TREATMENT TANK
 9. E2 TREAT ECOPROD (1200) TYP
 10. 1,700 GALLON TERTIARY TANK (LEGACY SYSTEM)
 11. 1,250 GALLON TERTIARY TANK (LEGACY SYSTEM)
 12. LIFT STATION
 13. VALVE PIT
 14. POWER JUNCTION BOX
 15. FENCE
 16. GIBB
 17. 3" PVC
 18. 4" PVC

19. OVERFLOW LINE
20. PUMP, TYP
21. PUMP BOX CONTROLS
22. SEWAGE PUMPS
23. 1 1/2" PIPING FROM PUMPS TYP
24. PUMP CONTROLS - (GENERATOR PUMPS)
25. CONTROL CIRCUIT ALTERNATING RELAY
26. ROTARY VALVE
27. DRAIN FIELD SUPPLY LINE A
28. DRAIN FIELD SUPPLY LINE B
29. LIFT CONTROLS
30. POWER SUPPLY LINE TO SUBMERSIBLE PUMPS
31. POWER SUPPLY BOX TO SUBMERSIBLE PUMPS
32. POWER PANEL BOX (CIRCUIT BREAKERS)
33. SCADA ALARM INTERFACE
34. ISOLATION VALVE PIT
35. ALARM SYSTEM BOX
36. POWER SUPPLY LINE FROM JUNCTION BOX TO POWER PANEL BOX
37. SERVICE LINES GOING TO WELCOME CENTER
38. 2" PVC
39. LAG PUMPS

- POWER SUPPLY BOX (TYP.)
- CONTROL BOX FUNCTIONS
- OPERATE 2 PUMPS, INDIVIDUALLY
- ALTERNATE OPERATION
- LEAD-LAG CAPABILITY
- MANUAL OVERRIDE
- MONITORING CAPABILITY REQUIRED AS DESCRIBED IN SPECIFICATIONS

PROPOSED MODIFICATIONS

SCALE: 1"=20'

- SCADA MODIFICATIONS**
1. CONTRACTOR SHALL PROVIDE NEW SCADA MONITORING EQUIPMENT (PLC, ETHERNET, FIBER, ETC.) TO THE INTO THE DISTRICT'S EXISTING VT SCADA SYSTEM.
 2. MONITORING SHALL BE PROVIDED AS FOLLOWS:
 - A.) ON/OFF FOR ALL SEWAGE PUMPS AND SECONDARY TREATMENT PUMPS, TOTAL EIGHT(8).
 - B.) HIGH LEVEL ALARMS - NEW SEPTIC TANK AND NEW (E04).
 3. AUDIBLE AND VISUAL ALARMS SHALL BE PROVIDED AT THE CBBT CONTROL ROOM(S) ON ISLAND 1 AND 3.
 4. ALL CONTROL SYSTEMS TO BE ON SEPARATE ELECTRICAL CIRCUIT FROM SEWAGE PUMP.

NO:	DATE:	BY:	DESCRIPTION:
11/03/2021	MTC		REVISED TANK SIZE, ADD PUMP, AND CONTROL NOTES

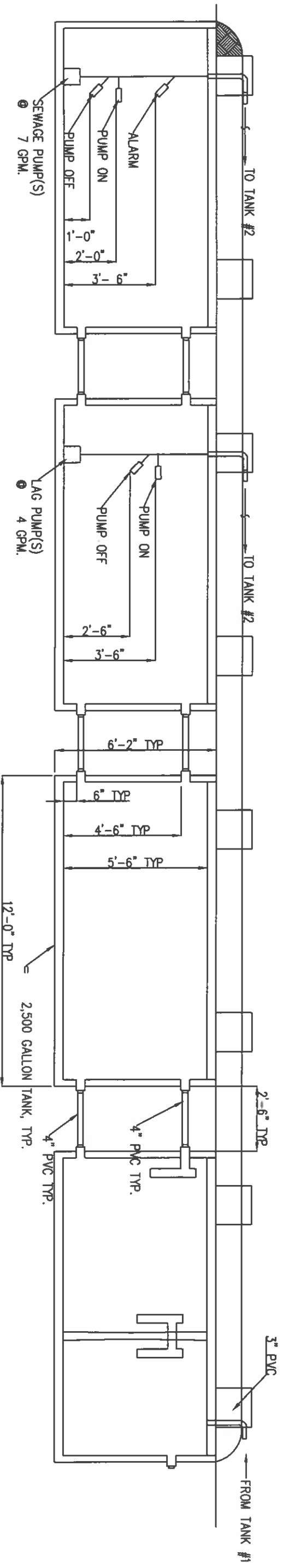
CHESAPEAKE BAY BRIDGE - TUNNEL DISTRICT
CAPE CHARLES, VIRGINIA 23310

WELCOME CENTER ALTERNATIVE ON SITE SEPTIC SYSTEM

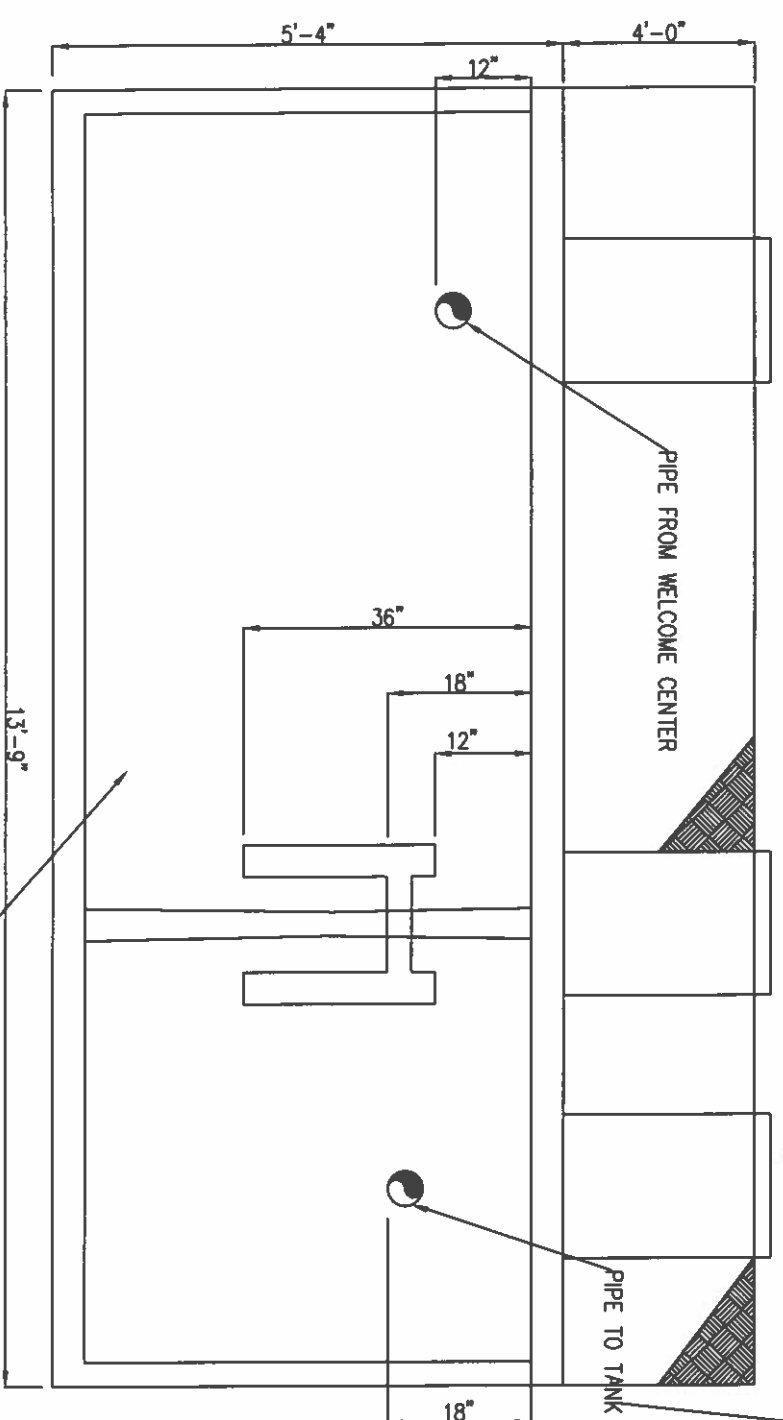
PROPOSED MODIFICATIONS

DRAWN BY: NIS SCALE: 1"=20' DWG NO. 6

CHECKED BY: MTC DATE: 11/09/2021 SHEET 6 OF 7



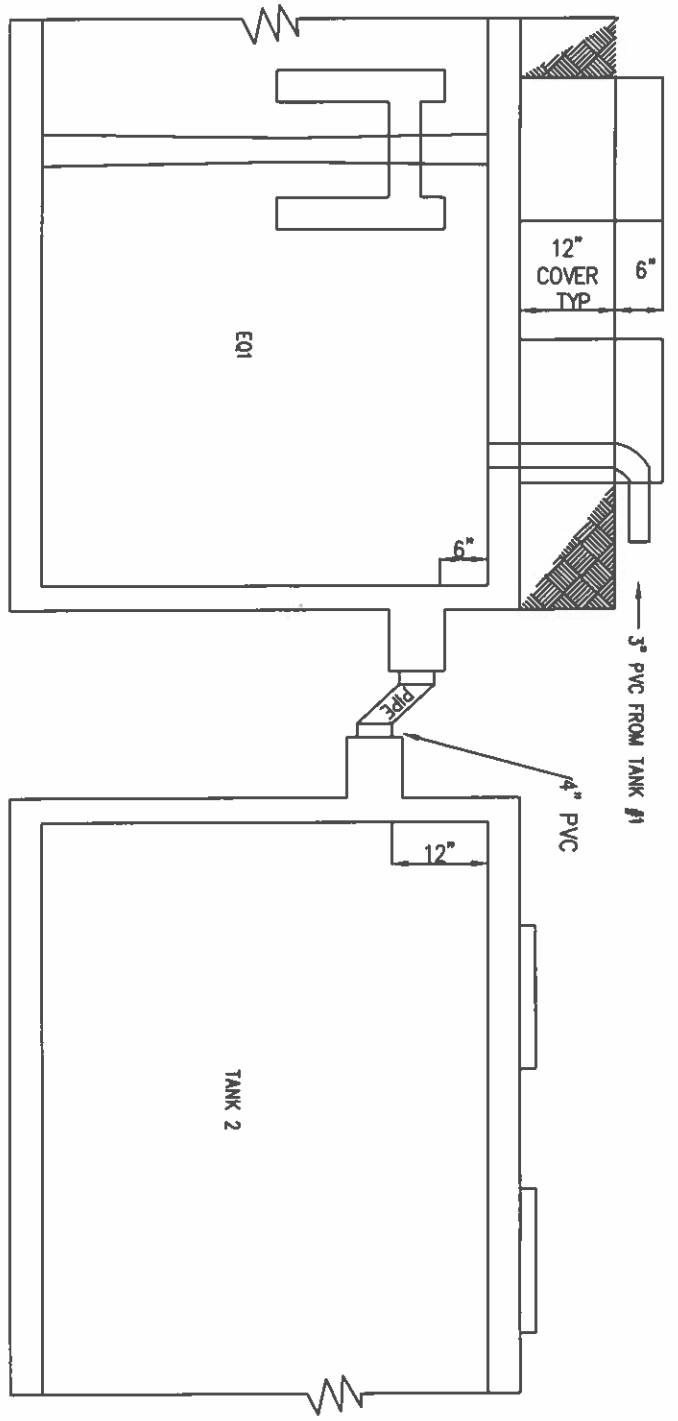
SECTION A-A EQUALIZATION TANK CROSS SECTION
SCALE: 1/4"=1'-0"



RECEIVING SEPTIC TANK
SCALE: 1/2"=1'-0"

2,800 GALLON TANK, TYP.

GRAVITY FLOW TO TANK #1. ADJUST PIPE ENTRY AT TANK #1 WITH A NEW HOLE THROUGH TANK WALL AS NECESSARY TO PROVIDE GRAVITY FLOW WITH A MINIMUM 12" DROP. PLUG EXISTING HOLE WITH NON SHRINK GROUT



#1 EQUALIZATION TANK TO OVERFLOW TANK 2
SCALE: 1/2"=1'-0"

CHESAPEAKE BAY BRIDGE - TUNNEL DISTRICT			
WELCOME CENTER ON SITE SEPTIC SYSTEM			
EQUALIZATION TANK CROSS SECTION			
DRAWN BY: NIS	SCALE: AS NOTED	DWG NO. 7	
CHECKED BY: MTC	DATE: 11/09/2021	SHEET 7 OF 7	