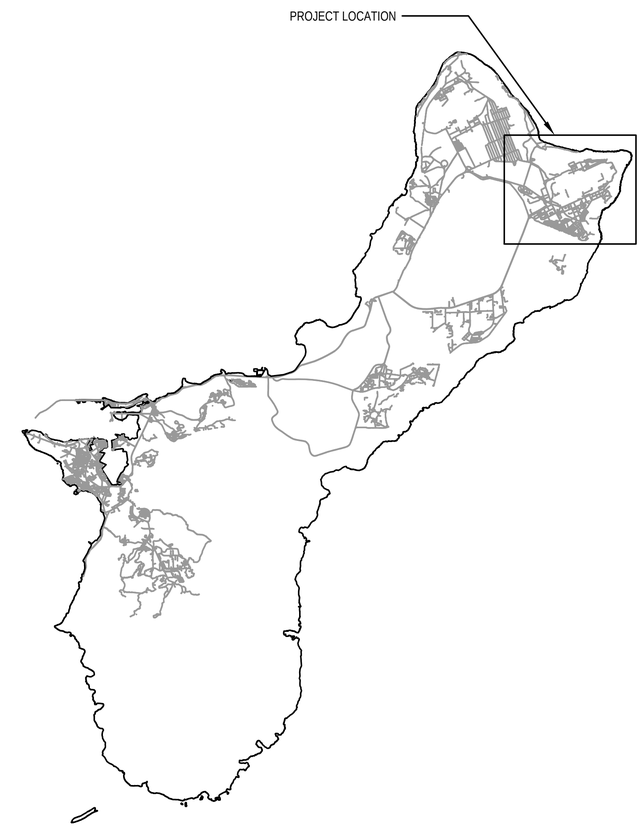
DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

Contract Number:
FA8903-18-D-0008

Task Order:
FA8903-23-F-0093

GENERAL NOTES:

1. BRAND NAMES: REFERENCE TO SPECIFIC BRAND NAMES OR COMPANIES IS FOR THE PURPOSE OF ESTABLISHING MINIMUM QUALITY STANDARDS, IDENTIFICATION AND GUIDANCE AND IS NOT INTENDED TO LIMIT SELECTION OF OTHER MANUFACTURERS THAT ARE EQUAL OR EXCEED THE SPECIFIED ITEMS IN TERMS OF PHYSICAL PROPERTIES, INCLUDING, COLOR RANGE, FINISH, DURABILITY, APPEARANCE, PERFORMANCE CHARACTERISTICS, AND OTHER FACTORS. OTHER PRODUCTS, MATERIALS, COLORS AND SYSTEMS, MAY BE SUBMITTED FOR EVALUATION AND APPROVAL/DISAPPROVAL BY THE CONTRACTING OFFICER.
2. THIS SET OF CONSTRUCTION DOCUMENTS MUST BE CONSIDERED AS A WHOLE IN THAT THE GENERAL CONTRACTOR AND SUB-CONTRACTORS ARE RESPONSIBLE FOR THE INFORMATION PRESENTED IN THE SET OF DRAWINGS AND THE SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR ERECTING CONSTRUCTION FENCING AND BARRICADES, TO PROTECT CONSTRUCTION MATERIAL AND TO PREVENT UNAUTHORIZED PERSONNEL FROM ENTERING THE CONSTRUCTION SITE.
4. DAMAGE TO THE EXISTING GROUNDS OR FACILITIES CAUSED BY CONSTRUCTION TRAFFIC OR CONSTRUCTION OPERATION MUST BE REPAIRED OR REPLACED BY THE CONTRACTOR TO MATCH OR EXCEED EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE GOVERNMENT.
5. WORK NOTED & LOCATED IN THESE DOCS MUST BE UNDERSTOOD BY THE CONTRACTOR TO REQUIRE LABOR & MATERIALS UNLESS SPECIFICALLY NOTED AS "EXISTING" OR "BY OTHERS".



PROJECT DRAWING INDEX

SHT.	SHEET TITLE	SHT.	SHEET TITLE
GENERAL		ELECTRICAL	
03G-001	GENERAL SHEET INDEX, SITE, AND LOCATION MAP	03E-001	LEGENDS SYMBOLS AND ABBREVIATIONS
CIVIL		03ED-201	I&C AND ELECTRICAL SITE PLAN AREA 3 - DEMOLITION
03C-001	CIVIL OVERALL SITE PLAN - PUMP HOUSE 3	03E-101	OVERALL I&C AND ELECTRICAL SITE PLAN
03C-002	CIVIL FRANGIBLE EFSO REQUIREMENT PLAN	03E-201	I&C AND ELECTRICAL SITE PLAN AREA 3
03C-101	CIVIL SITE PLAN AND PROFILE SHEET 1	03E-501	ELECTRICAL DETAILS
03C-102	CIVIL SITE PLAN AND PROFILE SHEET 2		
03C-103	CIVIL SITE PLAN AND PROFILE SHEET 3		
03C-104	CIVIL SITE PLAN AND PROFILE SHEET 4		
03C-105	CIVIL SITE PLAN AND PROFILE SHEET 5		
03C-106	CIVIL SITE PLAN AND PROFILE SHEET 6		
03C-107	CIVIL SITE PLAN AND PROFILE SHEET 7		
03C-108	CIVIL SITE PLAN AND PROFILE SHEET 8		
03C-109	CIVIL SITE PLAN AND PROFILE SHEET 9		
03C-110	CIVIL SITE PLAN AND PROFILE SHEET 10		
03C-111	CIVIL SITE PLAN AND PROFILE SHEET 11		
03C-112	CIVIL SITE PLAN AND PROFILE SHEET 12		
03C-113	CIVIL SITE PLAN AND PROFILE SHEET 13		
01C-031	12" TRENCHLESS CROSSING 3-1 PLAN AND PROFILE		
01C-032	12" TRENCHLESS CROSSING 3-2 PLAN AND PROFILE		
01C-033	12" TRENCHLESS CROSSING 3-3 PLAN AND PROFILE		
01C-034	12" TRENCHLESS CROSSING 3-4 PLAN AND PROFILE		
01C-035	12" TRENCHLESS CROSSING 3-5 PLAN AND PROFILE		
01C-036	12" TRENCHLESS CROSSING 3-6 PLAN AND PROFILE		
01C-037	12" TRENCHLESS CROSSING 3-7 PLAN AND PROFILE		
FIRE PROTECTION			
FA101	PUMPHOUSE 3 FIRE ALARM PLAN		
STRUCTURAL			
03S-101	STRUCTURAL NOTES, & ABBREVIATIONS		
03S-102	STRUCTURAL EFSO POST DETAILS		
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03Y-101	EFSO CONTROL PANEL LAYOUT & BILL OF MATERIAL		
03Y-102	EFSO FIBER NETWORK OVERVIEW		
03Y-103	EFSO AND PUMP HOUSE WIRING LAYOUT		
03Y-104	PUMP HOUSE I&C PLAN AND DETAILS		

35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: C. GOYETTE
DRAWN BY: J. WAGES
CHECKED BY: B. TAYLOR
DESIGN FILE LOCATION: 10374683

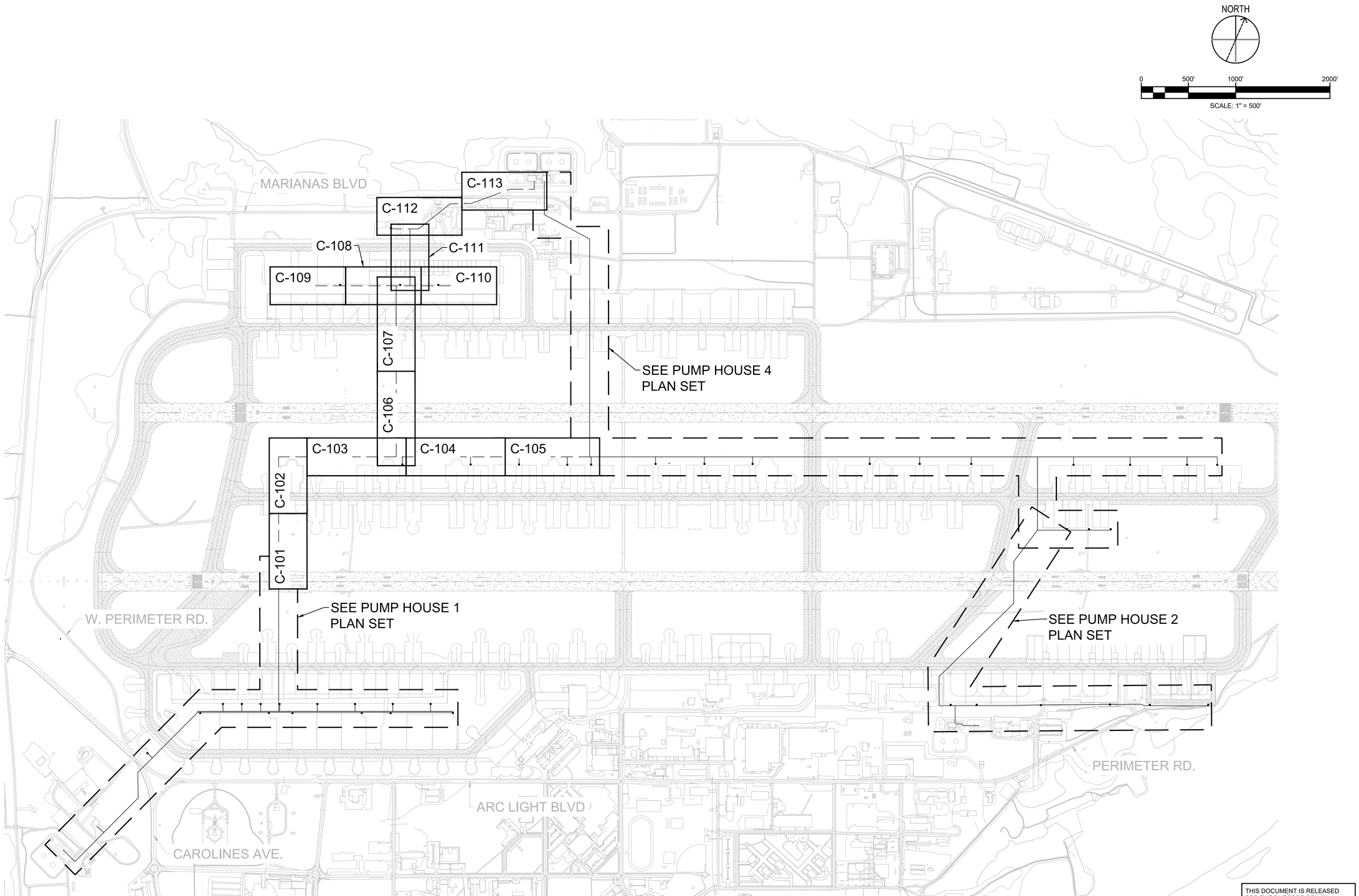
SHEET TITLE

GENERAL SHEET INDEX, SITE, AND LOCATION MAP

SHEET NUMBER

03G-001

SHEET ___ OF ___



1 OVERALL SITE PLAN - PUMP HOUSE 3
SCALE: 1" = 500'

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DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

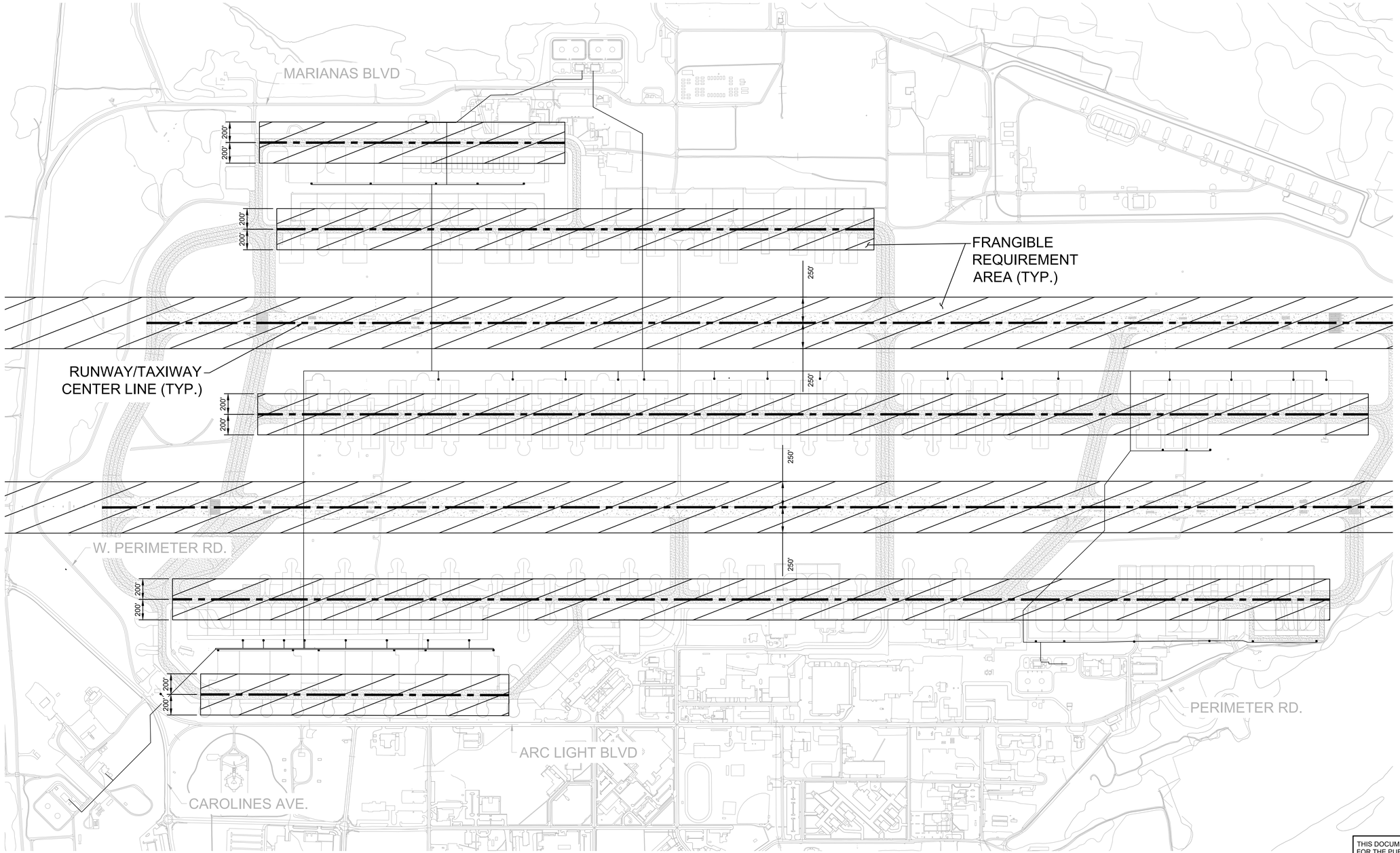
SHEET TITLE

CIVIL
OVERALL
SITE PLAN
PUMP HOUSE 3

SHEET NUMBER

03C-001

SHEET ___ OF ___



1 FRANGIBLE EFSO REQUIREMENT PLAN
SCALE: 1" = 500'

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DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

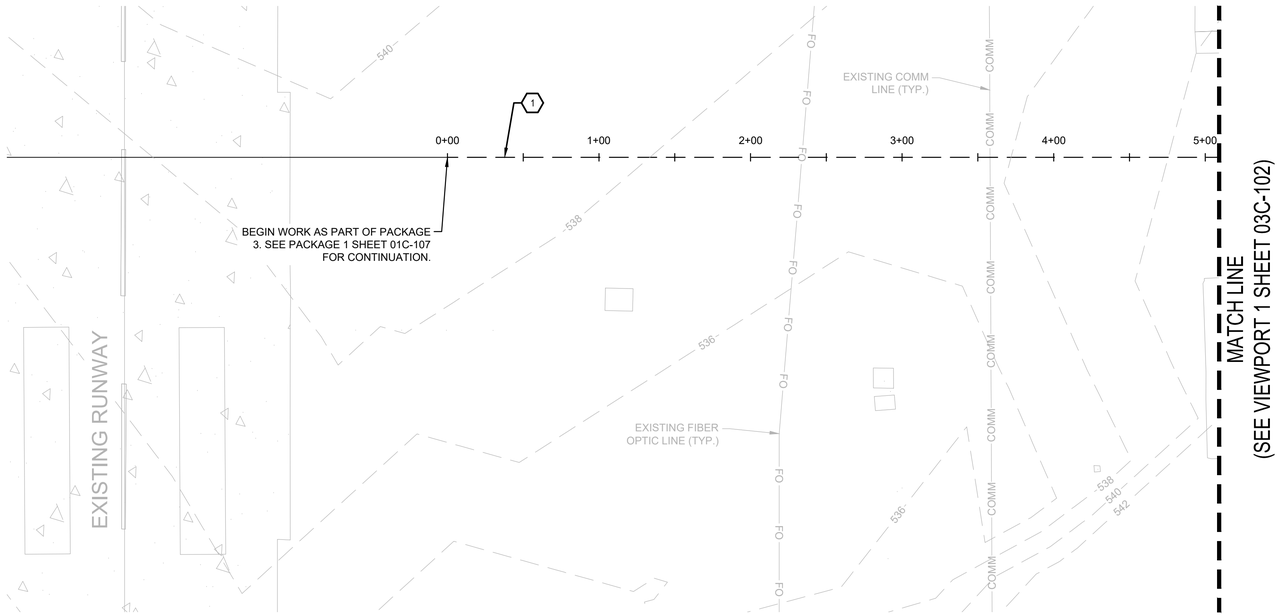
SHEET TITLE

CIVIL
FRANGIBLE EFSO
REQUIREMENT PLAN

SHEET NUMBER

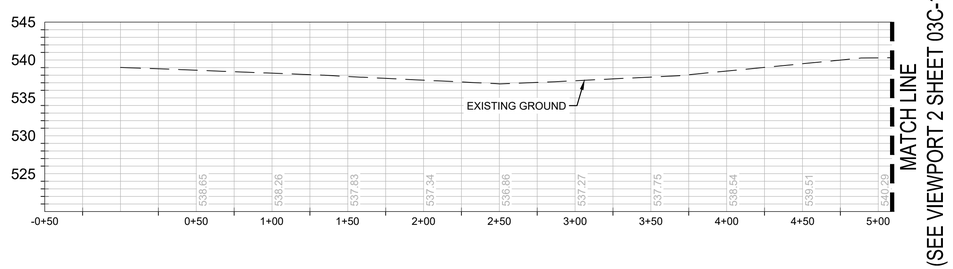
03C-002

SHEET OF



1 SITE PLAN - SHEET 1

SCALE: 1" = 50'



2 PROFILE - SHEET 1

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

NORTH

0 50' 100' 200'

SCALE: 1" = 50'

LEGEND

FO FO	EXISTING FIBER OPTIC LINE
COMM	EXISTING COMM LINE
XXXX	EXISTING CONTOUR
	TRENCHLESS ALIGNMENT
	TRENCH ALIGNMENT
	EXISTING CONCRETE PAVEMENT

KEYED NOTES

1. TRENCH ALIGNMENT.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
2. CONTRACTOR MUST ADJUST HANDHOLES WITHIN PROJECT LIMIT TO FINISH GRADE.

EXCAVATION NOTE

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF RETAINED, MUST REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES MUST PROVIDE FOR TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT MUST IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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ANDERSEN AIR FORCE BASE, GUAM

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DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

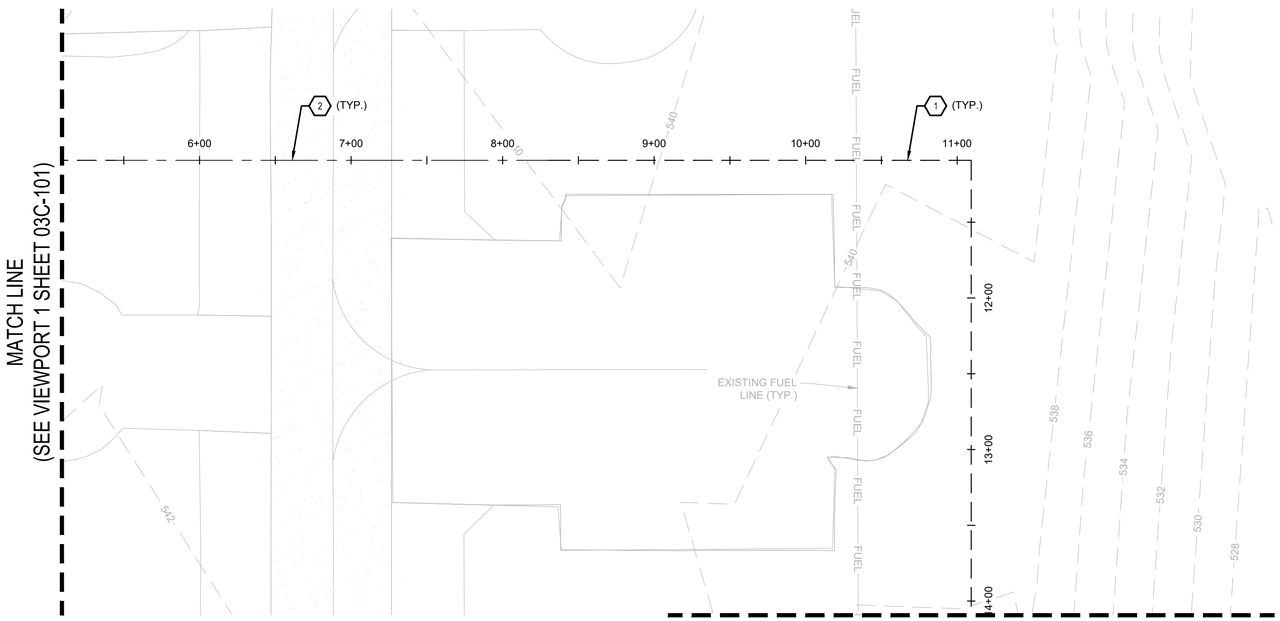
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 1

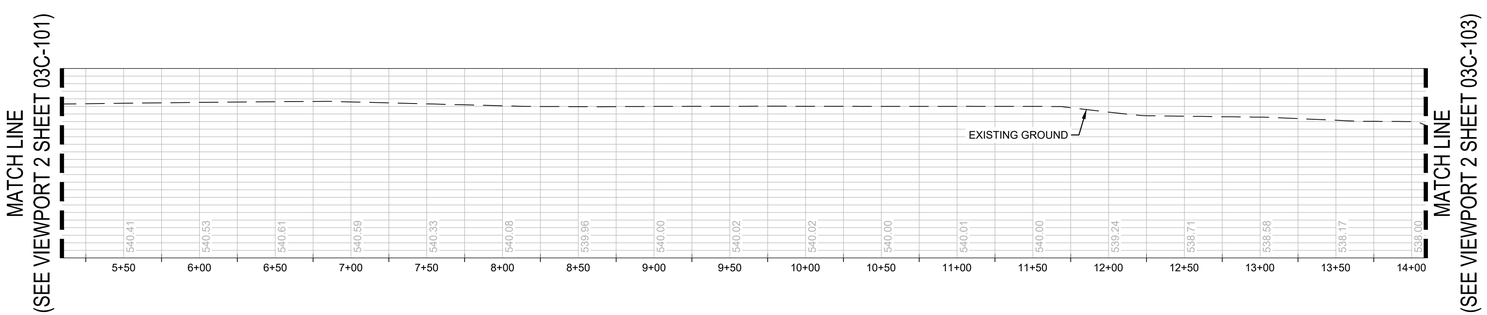
SHEET NUMBER

03C-101

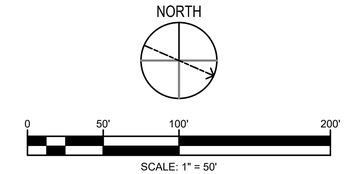
SHEET OF



1 SITE PLAN - SHEET 2
SCALE: 1" = 50'



2 PROFILE - SHEET 2
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

FUEL	EXISTING WATER LINE
XXXX	EXISTING CONTOUR
	TRENCHLESS ALIGNMENT
	TRENCH ALIGNMENT
	EXISTING ASPHALT PAVEMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. TRENCHLESS ALIGNMENT.

GENERAL NOTES

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DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

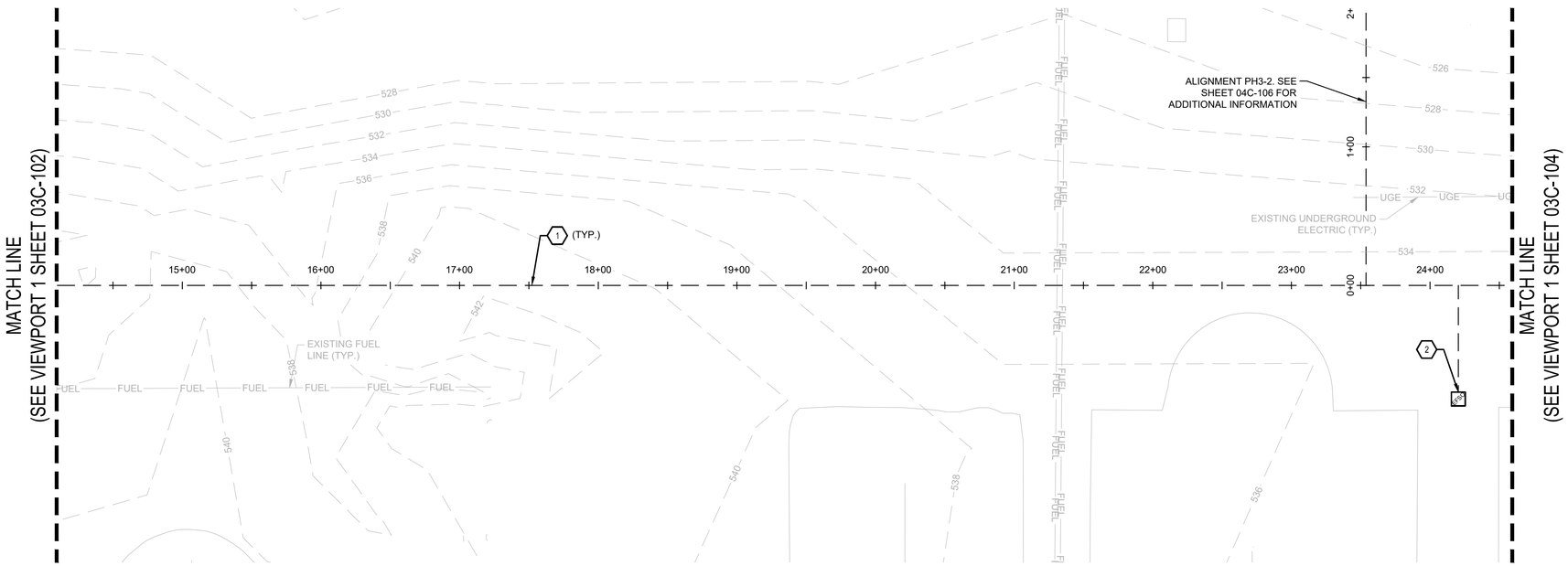
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 2

SHEET NUMBER

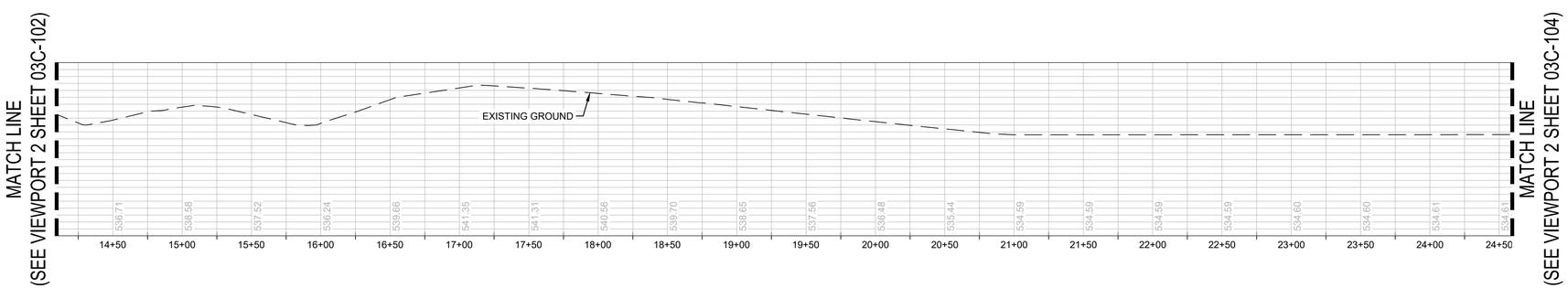
03C-102

SHEET OF



1 SITE PLAN - SHEET 3

SCALE: 1" = 50'



2 PROFILE - SHEET 3

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

NORTH

0 50' 100' 200'

SCALE: 1" = 50'

LEGEND

FUEL	EXISTING FUEL LINE
UGE	EXISTING UNDERGROUND ELECTRIC
XXXX	EXISTING CONTOUR
	TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. EMERGENCY FUEL SHUT OFF.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
2. CONTRACTOR MUST ADJUST HANDHOLES WITHIN PROJECT LIMIT TO FINISH GRADE.

EXCAVATION NOTE

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35% DESIGN

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

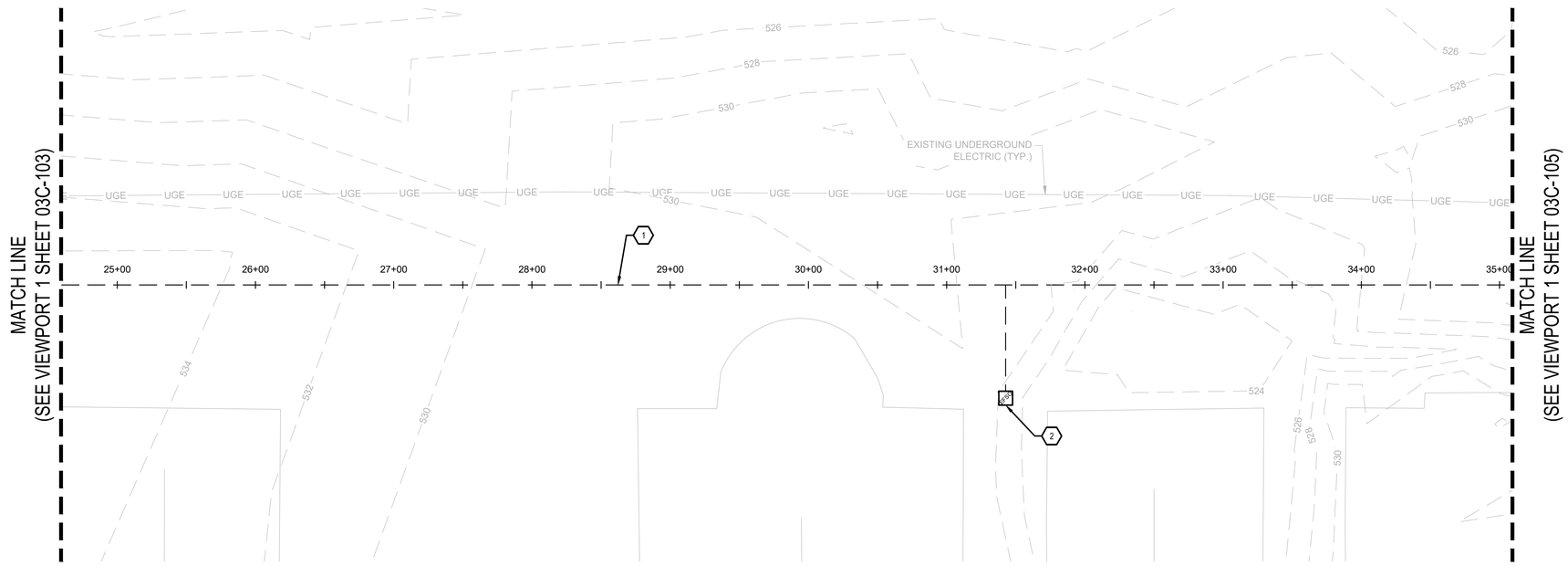
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 3

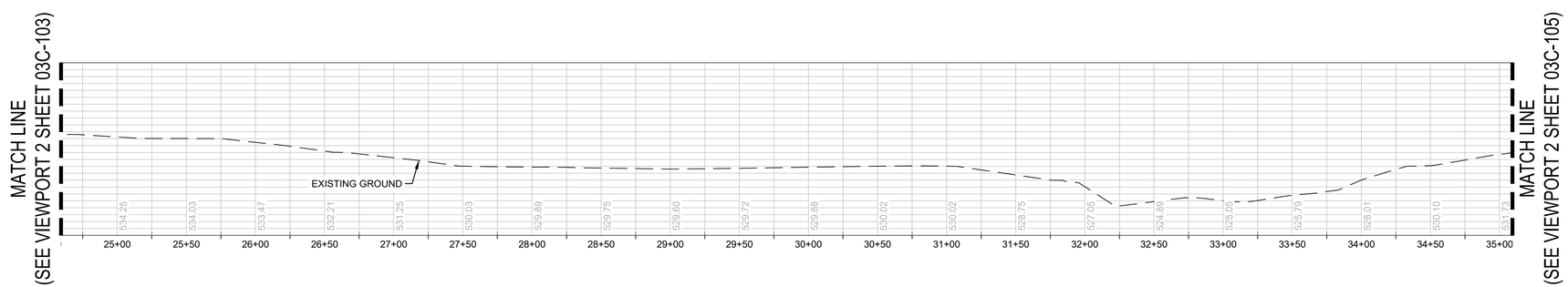
SHEET NUMBER

03C-103

SHEET OF



1 SITE PLAN - SHEET 4
SCALE: 1" = 50'



2 PROFILE - SHEET 4
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

NORTH

0 50' 100' 200'
SCALE: 1" = 50'

LEGEND

UGE	EXISTING UNDERGROUND ELECTRIC
XXXX	EXISTING CONTOUR
	TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. EMERGENCY FUEL SHUT OFF.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
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EXCAVATION NOTE

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DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

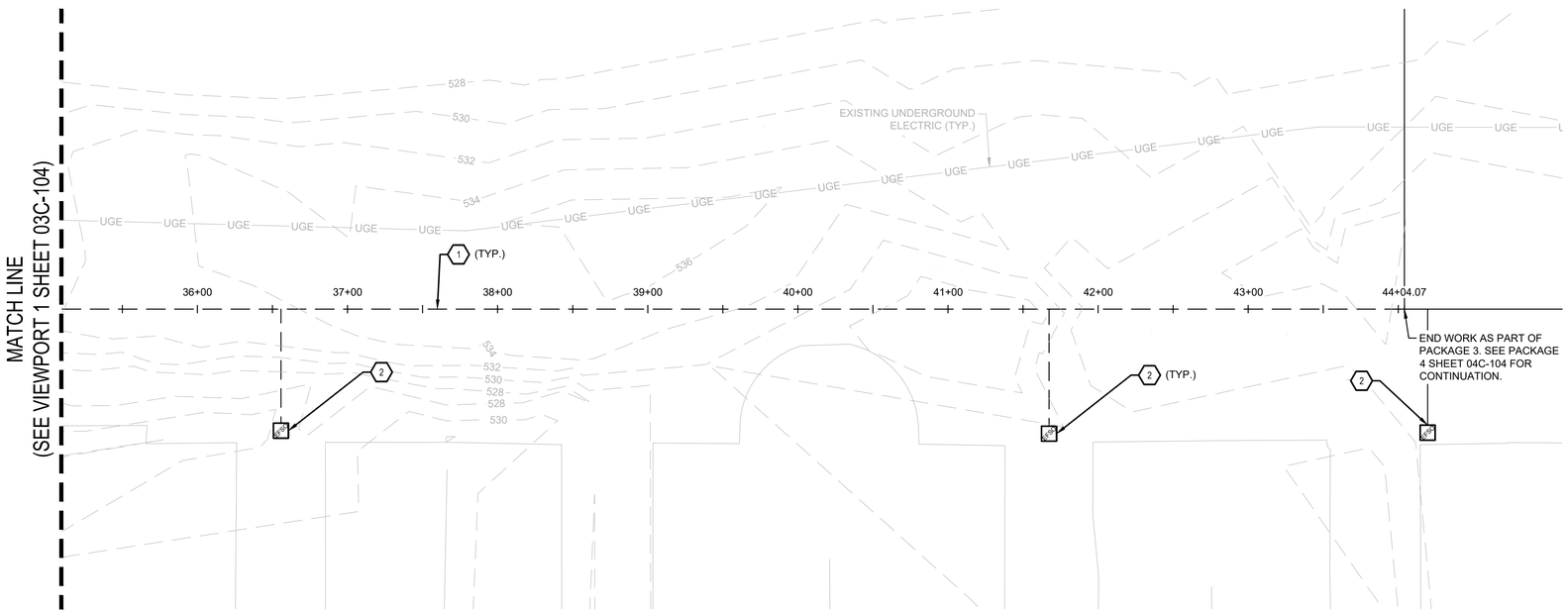
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 4

SHEET NUMBER

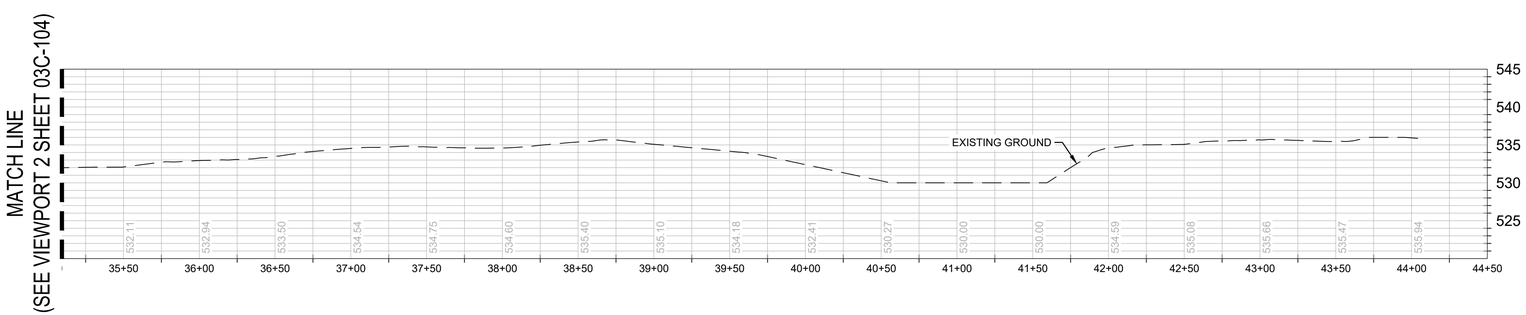
03C-104

SHEET OF



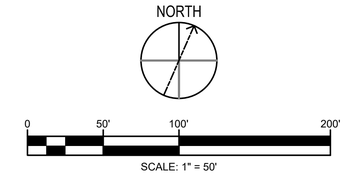
1 SITE PLAN - SHEET 5

SCALE: 1" = 50'



2 PROFILE - SHEET 5

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

UGE	EXISTING UNDERGROUND ELECTRIC
XXXX	EXISTING CONTOUR
	TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. EMERGENCY FUEL SHUT OFF.

GENERAL NOTES

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ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

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DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

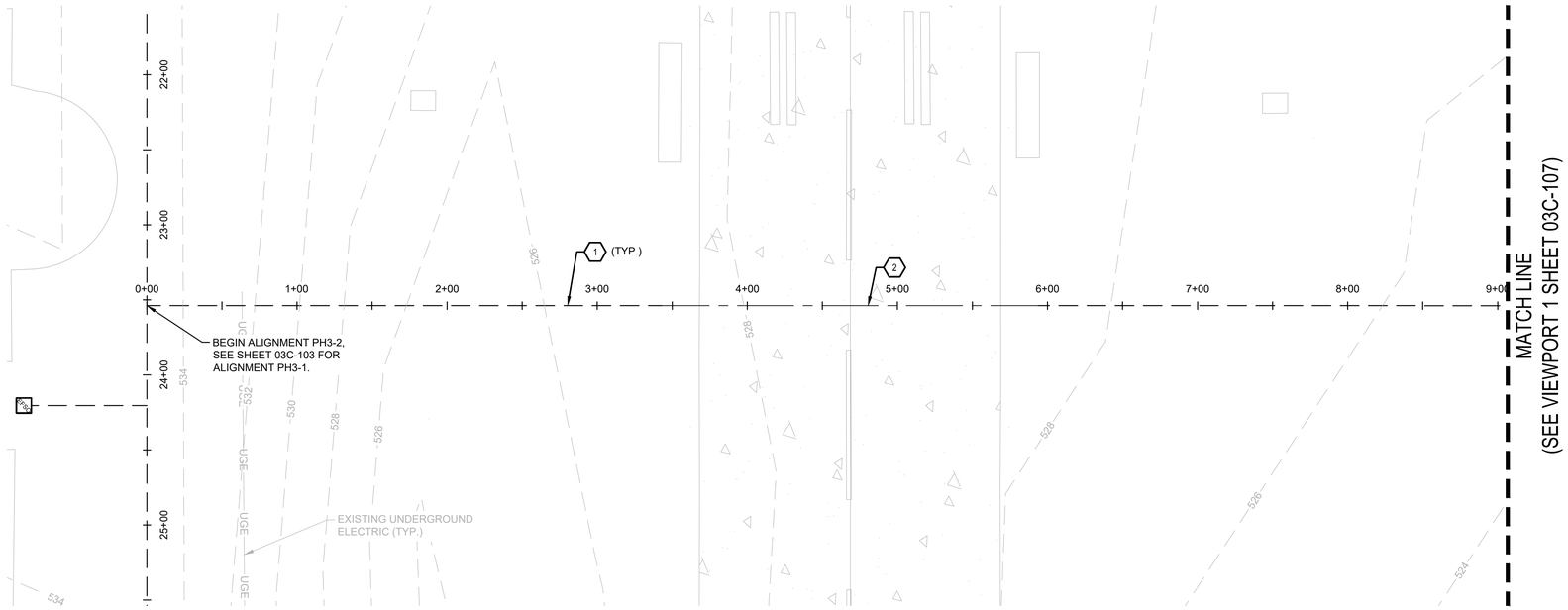
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 5

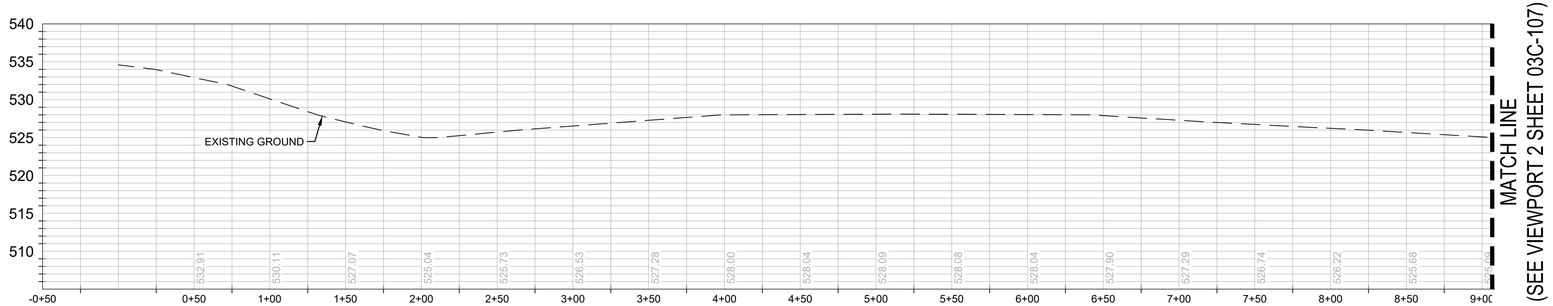
SHEET NUMBER

03C-105

SHEET OF



1 SITE PLAN - SHEET 6
SCALE: 1" = 50'



2 PROFILE - SHEET 6
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'

NORTH

0 50' 100' 200'
SCALE: 1" = 50'

LEGEND

- UGE — EXISTING UNDERGROUND ELECTRIC
- XXXX — EXISTING CONTOUR
- TRENCHLESS ALIGNMENT
- TRENCH ALIGNMENT
- EXISTING CONCRETE PAVEMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. TRENCHLESS ALIGNMENT.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
2. CONTRACTOR MUST ADJUST HANDHOLES WITHIN PROJECT LIMIT TO FINISH GRADE.

EXCAVATION NOTE

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF RETAINED, MUST REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES MUST PROVIDE FOR TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT MUST IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

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35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

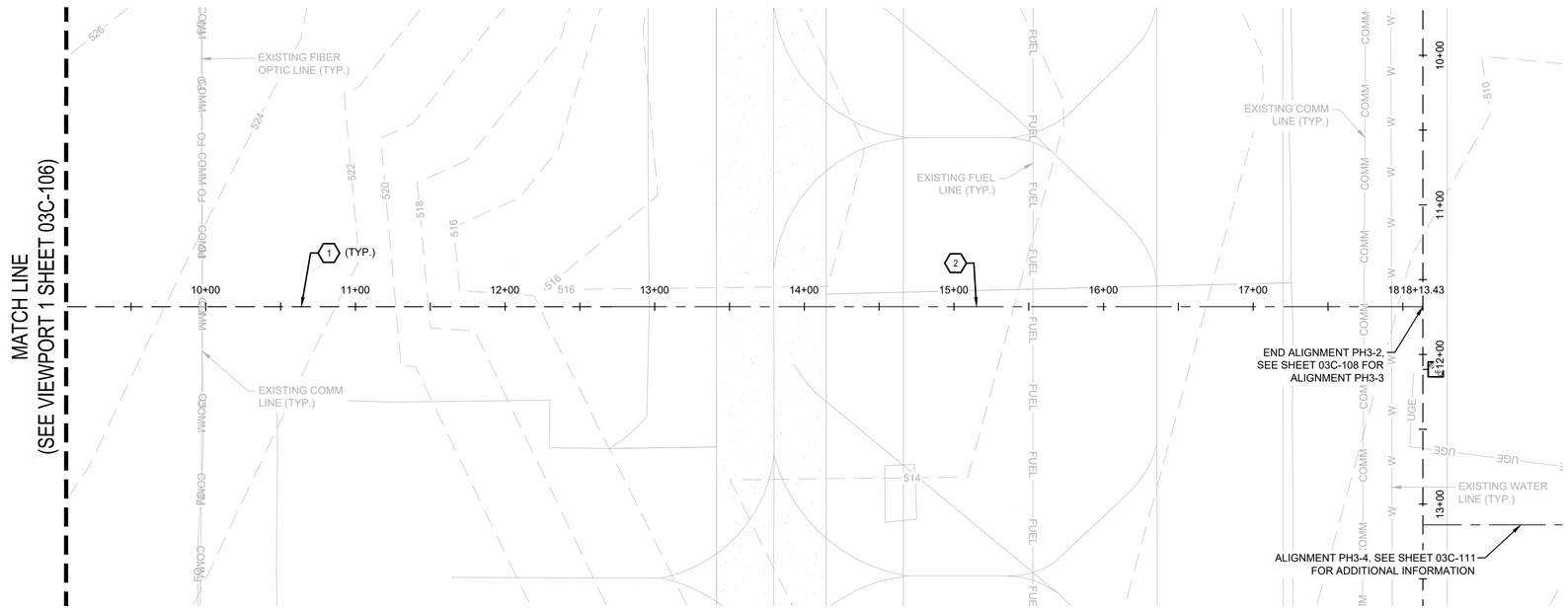
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 6

SHEET NUMBER

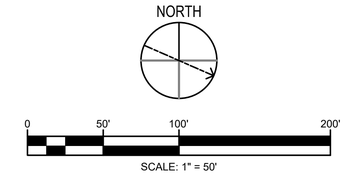
03C-106

SHEET OF



1 SITE PLAN - SHEET 7
SCALE: 1" = 50'

2 PROFILE - SHEET 7
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

- EXISTING WATER LINE
- EXISTING FUEL LINE
- EXISTING COMM LINE
- EXISTING FIBER OPTIC LINE
- EXISTING CONTOUR
- TRENCHLESS ALIGNMENT
- TRENCH ALIGNMENT
- EXISTING ASPHALT PAVEMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. TRENCHLESS ALIGNMENT.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
2. CONTRACTOR MUST ADJUST HANDHOLES WITHIN PROJECT LIMIT TO FINISH GRADE.

EXCAVATION NOTE

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

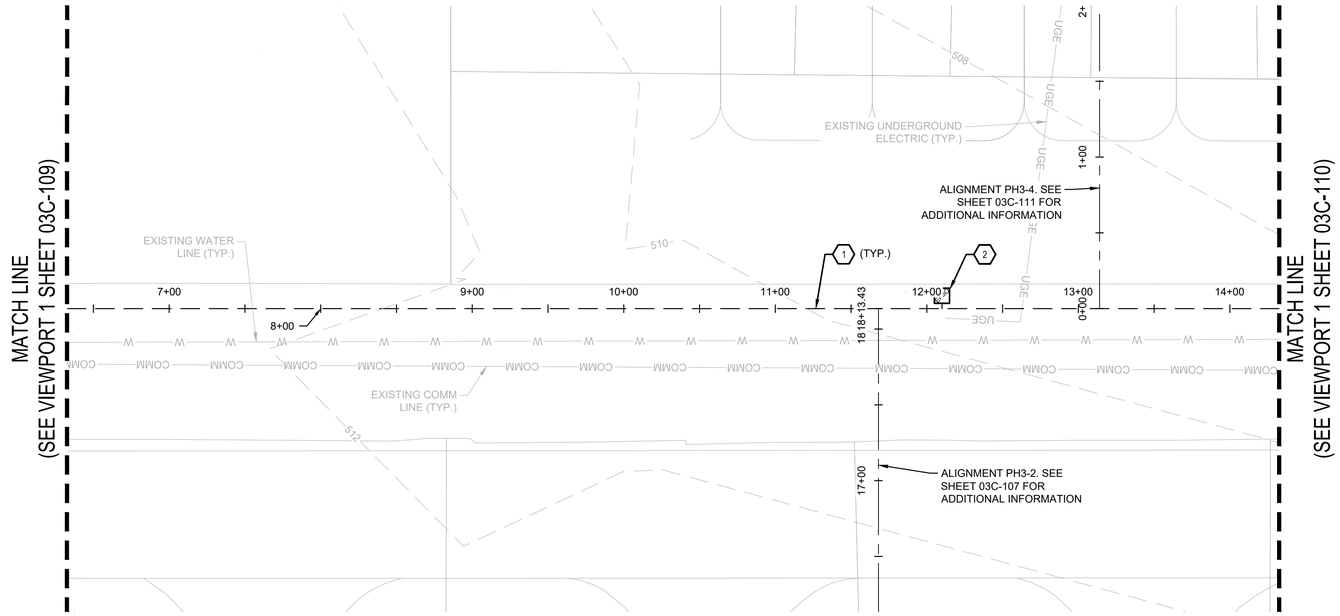
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 7

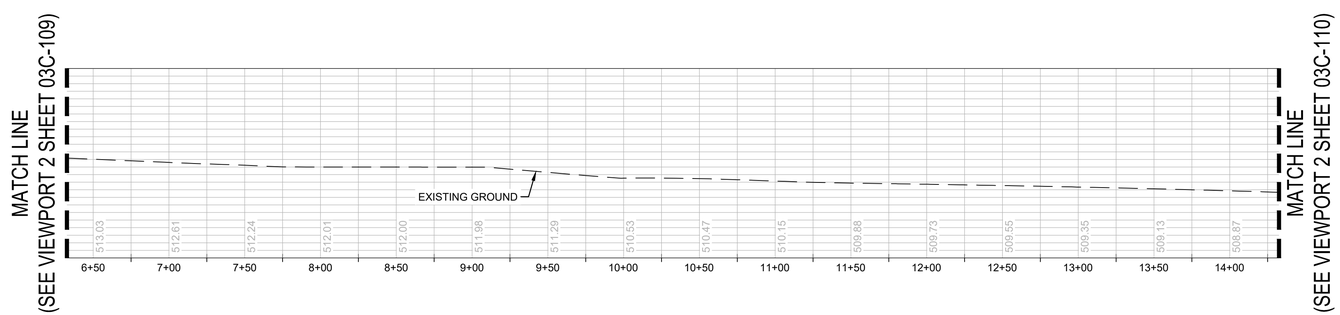
SHEET NUMBER

03C-107

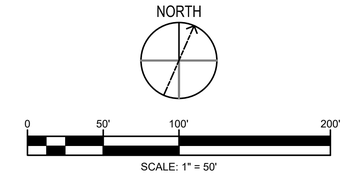
SHEET OF



1 SITE PLAN - SHEET 8
SCALE: 1" = 50'



2 PROFILE - SHEET 8
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

- W — EXISTING WATER LINE
- COMM — EXISTING COMM LINE
- UGE — EXISTING UNDERGROUND ELECTRIC
- XXXX — EXISTING CONTOUR
- TRENCHLESS ALIGNMENT
- TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. EMERGENCY FUEL SHUT OFF.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
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CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

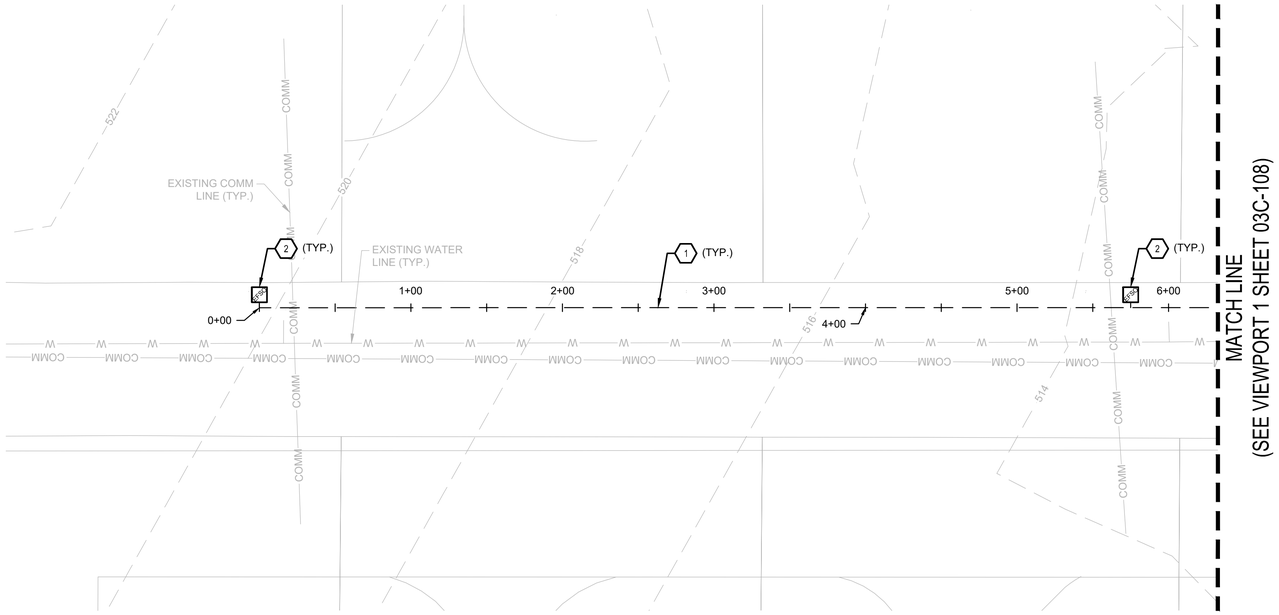
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 8

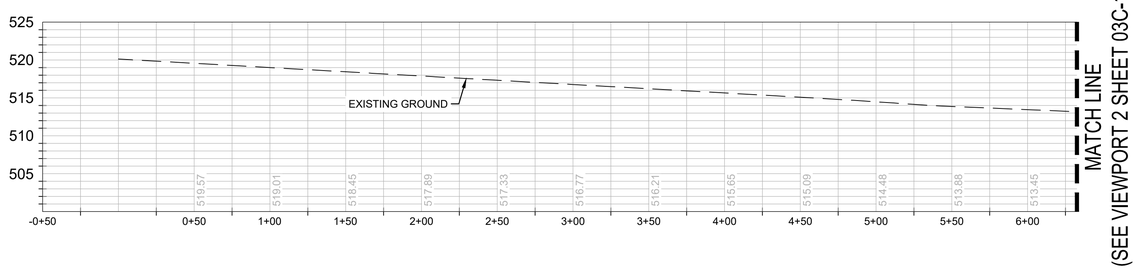
SHEET NUMBER

03C-108

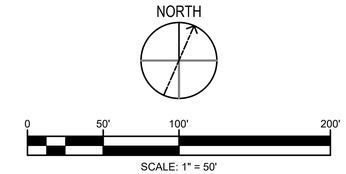
SHEET OF



1 SITE PLAN - SHEET 9
SCALE: 1" = 50'



2 PROFILE - SHEET 9
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

- W — W — EXISTING WATER LINE
- COMM — EXISTING COMM LINE
- XXXX — EXISTING CONTOUR
- TRENCHLESS ALIGNMENT
- TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. EMERGENCY FUEL SHUT OFF.

GENERAL NOTES

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PROJECT INFORMATION

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ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

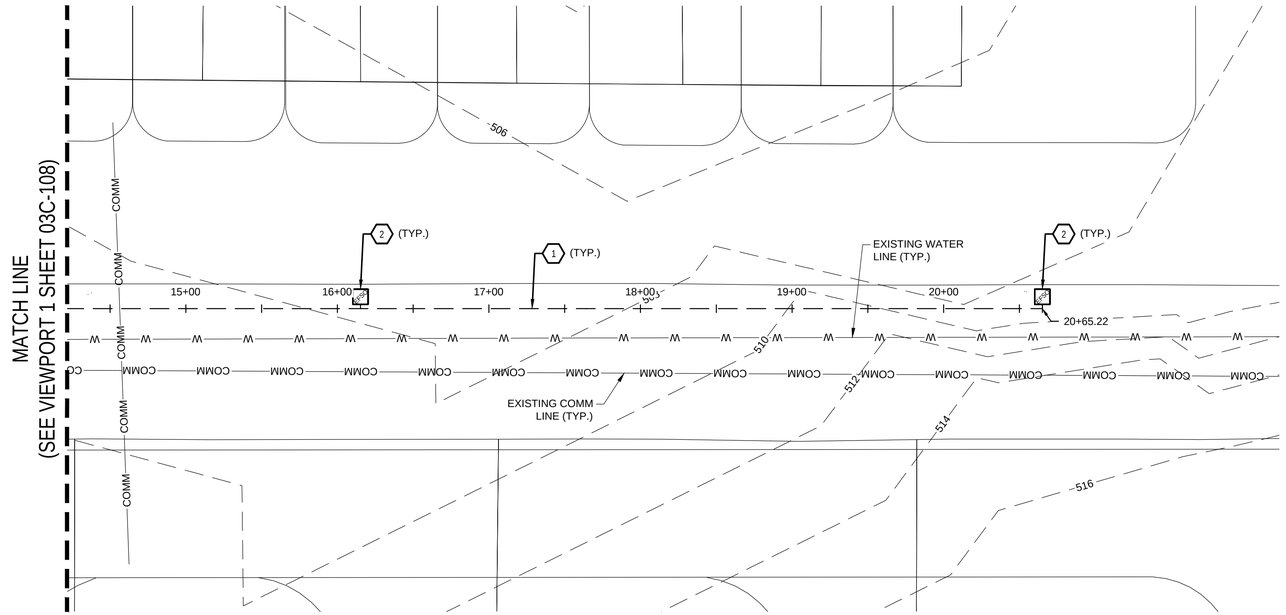
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 9

SHEET NUMBER

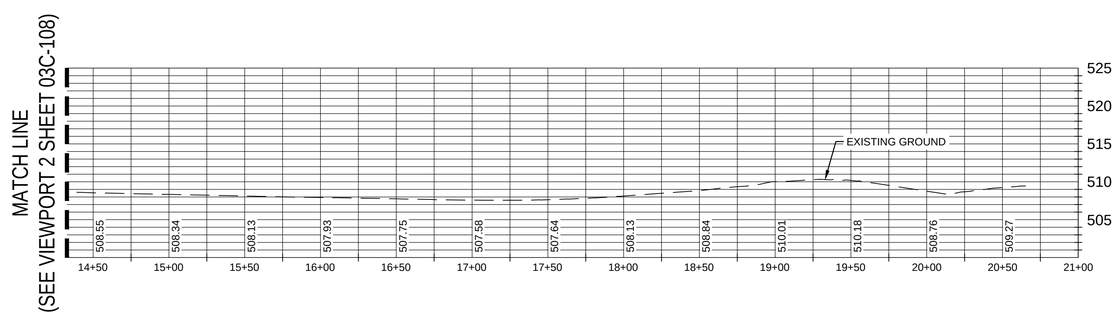
03C-109

SHEET OF



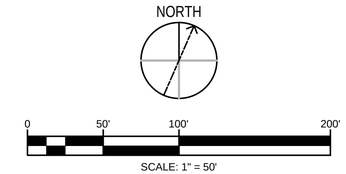
1 SITE PLAN - SHEET 10

SCALE: 1" = 50'



2 PROFILE - SHEET 10

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

—W—W—	EXISTING WATER LINE
—COMM—	EXISTING COMM LINE
— — XXXX — —	EXISTING CONTOUR
— — — —	TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. EMERGENCY FUEL SHUT OFF.

GENERAL NOTES

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PROJECT INFORMATION

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ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

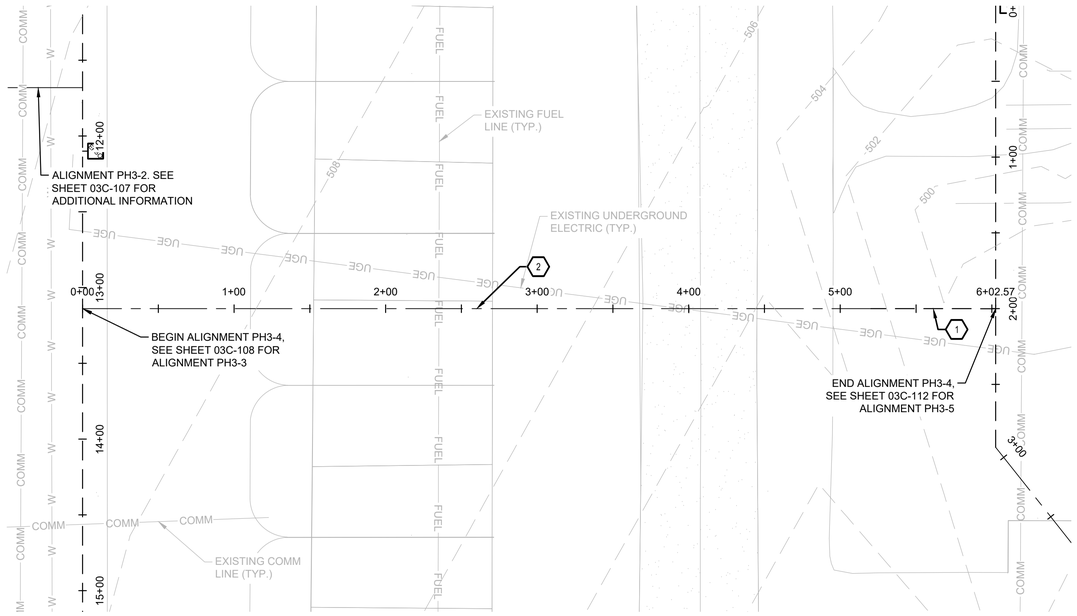
SHEET TITLE

CIVIL
SITE PLAN
AND PROFILE
SHEET 10

SHEET NUMBER

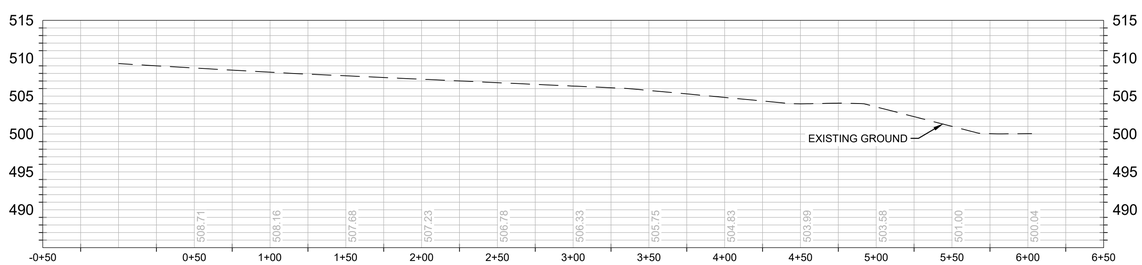
03C-110

SHEET OF



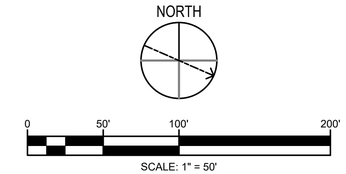
1 SITE PLAN - SHEET 11

SCALE: 1" = 50'



2 PROFILE - SHEET 11

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

- W — W — EXISTING WATER LINE
- COMM — EXISTING COMM LINE
- FUEL — EXISTING FUEL LINE
- UGE — EXISTING UNDERGROUND ELECTRIC
- XXXX — EXISTING CONTOUR
- TRENCHLESS ALIGNMENT
- TRENCH ALIGNMENT
- EXISTING ASPHALT PAVEMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. TRENCHLESS ALIGNMENT.

GENERAL NOTES

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ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

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MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

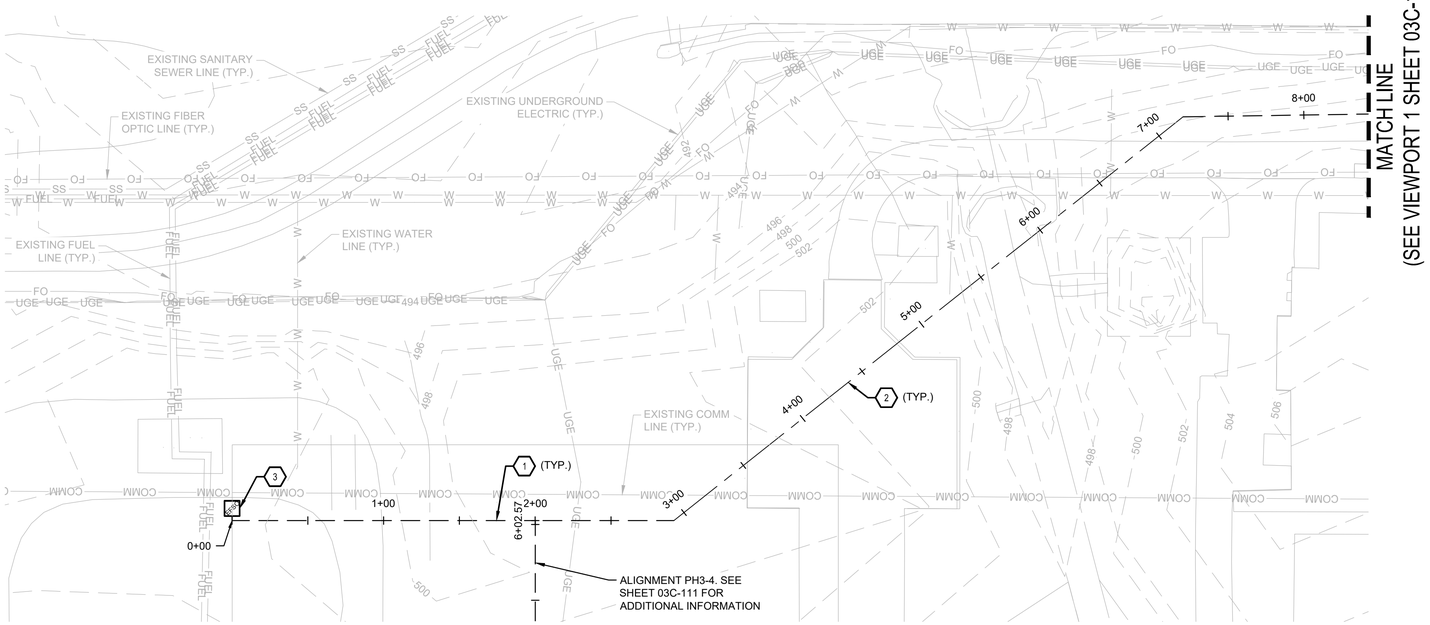
SHEET TITLE

CIVIL SITE PLAN AND PROFILE SHEET 11

SHEET NUMBER

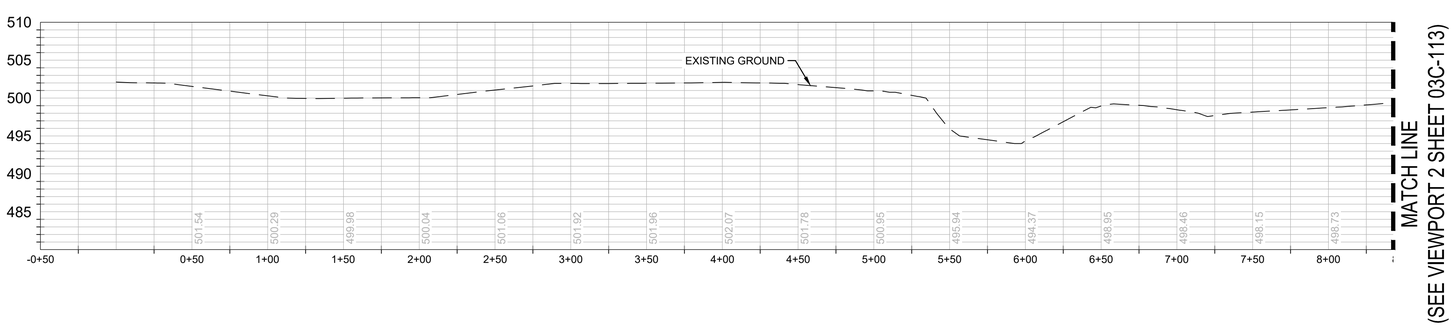
03C-111

SHEET OF



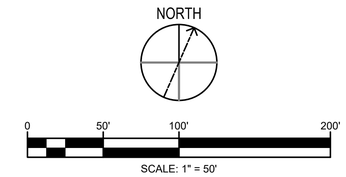
1 SITE PLAN - SHEET 12

SCALE: 1" = 50'



2 PROFILE - SHEET 12

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

W — W	EXISTING WATER LINE
SS — SS	EXISTING SANITARY SEWER LINE
FUEL	EXISTING FUEL LINE
COMM	EXISTING COMM LINE
UGE	EXISTING UNDERGROUND ELECTRIC
FO — FO	EXISTING FIBER OPTIC LINE
XXXX	EXISTING CONTOUR
	TRENCHLESS ALIGNMENT
	TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. TRENCHLESS ALIGNMENT.
3. EMERGENCY FUEL SHUT OFF.

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MANAGEMENT INFORMATION

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DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

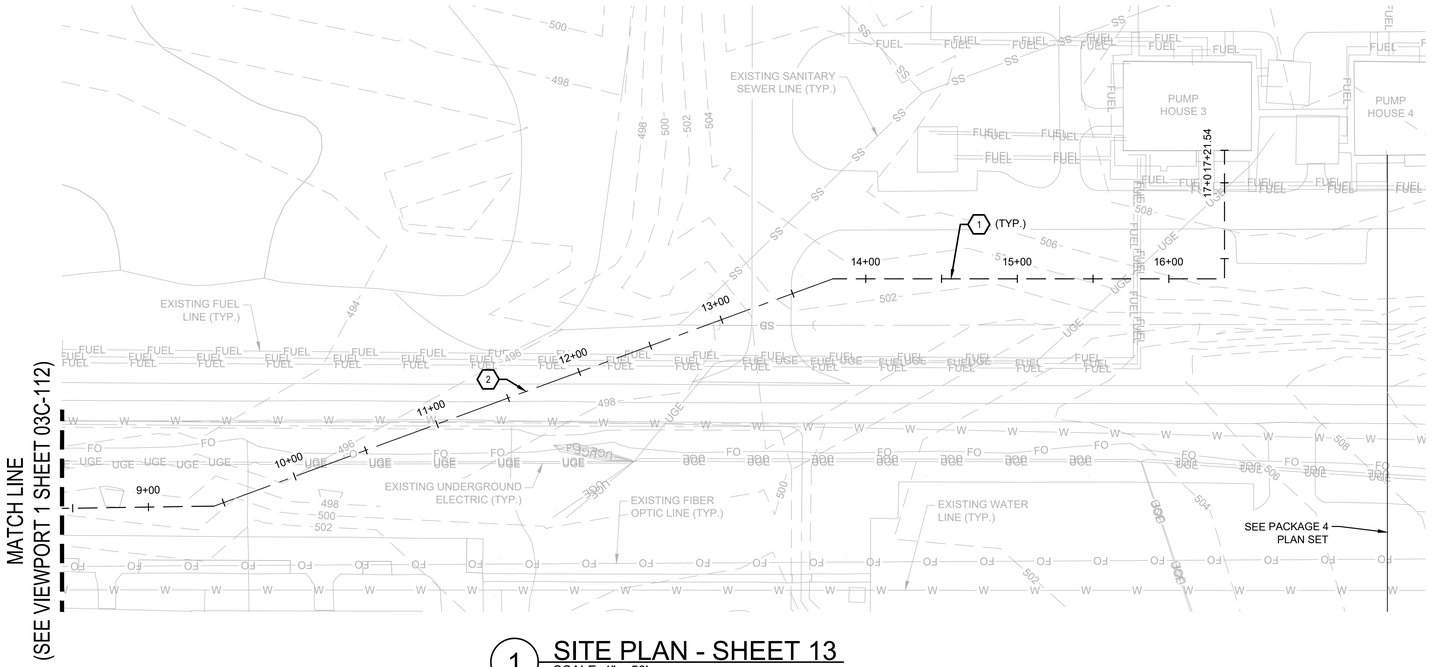
SHEET TITLE

CIVIL SITE PLAN AND PROFILE SHEET 12

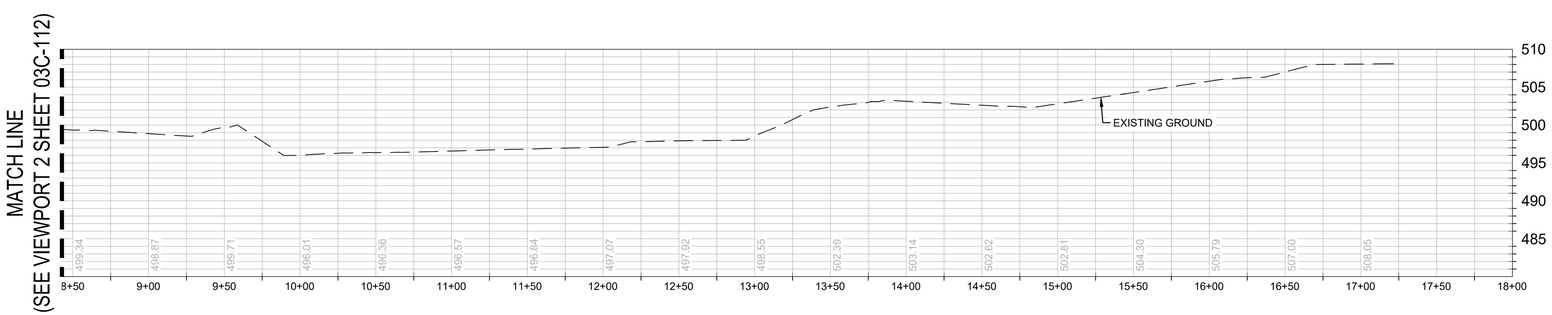
SHEET NUMBER

03C-112

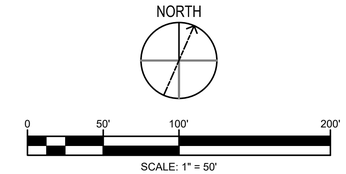
SHEET OF



1 SITE PLAN - SHEET 13
SCALE: 1" = 50'



2 PROFILE - SHEET 13
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 10'



LEGEND

W — W	EXISTING WATER LINE
SS — SS	EXISTING SANITARY SEWER LINE
FUEL	EXISTING FUEL LINE
UGE	EXISTING UNDERGROUND ELECTRIC
FO — FO	EXISTING FIBER OPTIC LINE
XXXX	EXISTING CONTOUR
	TRENCHLESS ALIGNMENT
	TRENCH ALIGNMENT

KEYED NOTES

1. TRENCH ALIGNMENT.
2. TRENCHLESS ALIGNMENT.

GENERAL NOTES

1. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES AND SURVEY INFORMATION PRIOR TO CONSTRUCTION.
2. CONTRACTOR MUST ADJUST HANDHOLES WITHIN PROJECT LIMIT TO FINISH GRADE.

EXCAVATION NOTE

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF RETAINED, MUST REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES MUST PROVIDE FOR TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT MUST IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 35% DESIGN REVIEW UNDER THE AUTHORITY OF RICHARD A WHITE, TX LICENSE #86423 ON 11/06/23. IT IS NOT FOR CONSTRUCTION.

35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. WHITE
DRAWN BY: G. GUERRA
CHECKED BY: G. ROMERO
DESIGN FILE LOCATION: 10374683

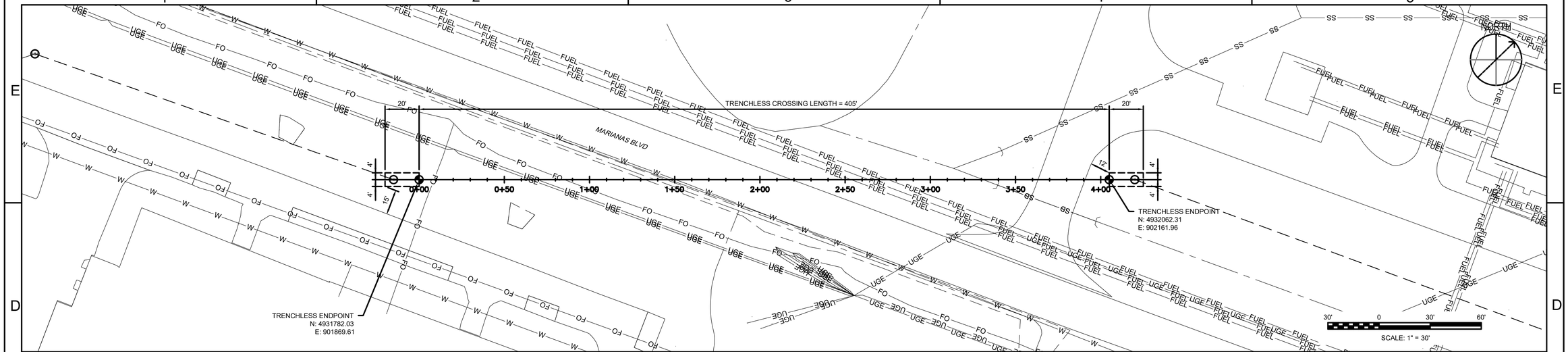
SHEET TITLE

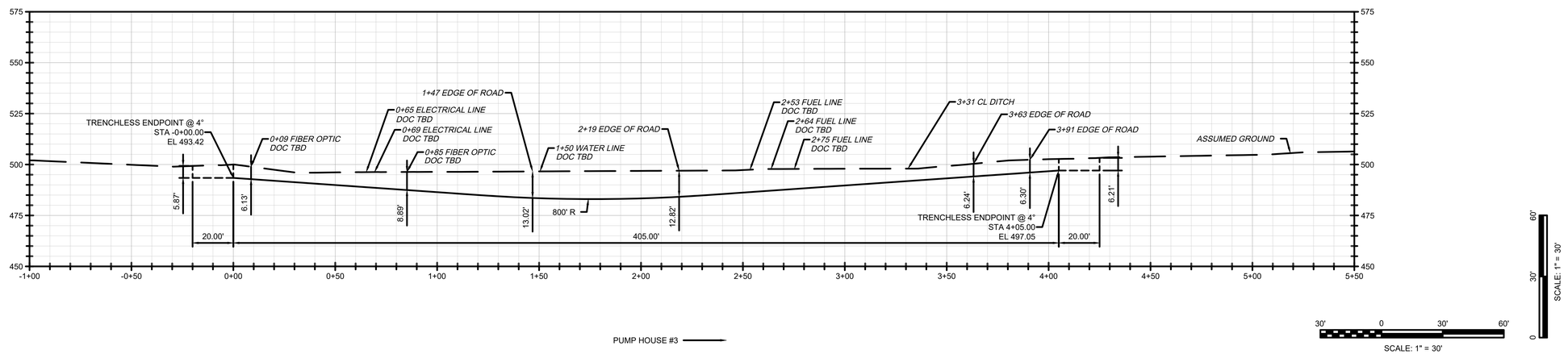
CIVIL
SITE PLAN
AND PROFILE
SHEET 13

SHEET NUMBER

03C-113

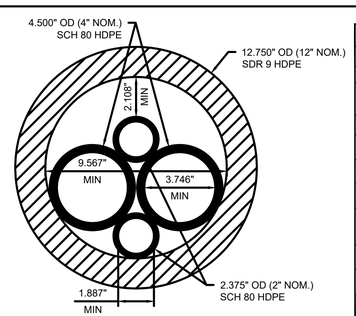
SHEET OF





GENERAL NOTES

1. NORTHINGS AND EASTINGS ARE IN INTERNATIONAL FEET REFERENCED TO 1993 GUAM GEODETIC NETWORK (GGN) MONUMENTS.
2. ELEVATIONS ARE IN INTERNATIONAL FEET, REFERENCED TO GUAM GEODETIC NETWORK MONUMENTS MEAN SEA LEVEL (1993 GGN MSL/GUVD) BENCHMARK.
3. TOPOGRAPHIC SURVEY PENDING.
4. BASE FILE(S) BY ANDERSON AIR FORCE BASE.
5. LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES/UTILITIES PENDING.
6. ESTABLISHED BORE PATH STATIONING IS IN FEET BY HORIZONTAL MEASUREMENT AND IS REFERENCED TO THE CONTROL POSITION FOR THE BORE.
7. SPECIFICATIONS, PERMIT REQUIREMENTS AND CONTRACT DOCUMENTS MUST BE ADHERED TO BY CONTRACTOR.
8. CONTRACTOR MUST MAKE NOTIFICATION TO AAFB BEFORE CONSTRUCTION COMMENCES.
9. PRESENCE, LOCATION, AND ELEVATIONS (POTHOLE IF NEEDED) OF UTILITIES/FACILITIES MUST BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION AND CLEARLY MARKED AND EXPOSED (IF NECESSARY).
10. CONTRACTOR TO ACTIVELY MONITOR THE AREA FOR IMPACTS THAT COULD OCCUR AS A RESULT OF TRENCHLESS OPERATIONS (E.G. SETTLEMENT, HEAVE, AND FLUID FLOW).
11. BORING PIT PLAN AND SECTION ARE CONCEPTUAL ONLY. PLAN FOR AND CONSTRUCT EXCAVATIONS FOR THE SITE CONDITIONS AND INSTALLATION. EXCAVATIONS, INCLUDING ACCESS TO THEM, MUST BE IN ACCORDANCE WITH OSHA, PERMIT AND REGULATORY REQUIREMENTS AND AAFB POLICY.
12. BLASTING IS NOT PERMITTED.
13. IF REQUIRED, PROVIDE AN APPROVED DEWATERING SYSTEM TO COMPLETE THE UTILITY INSTALLATION.
14. GEOTECHNICAL DATA PENDING.
15. UPON COMPLETION OF TIE-INS TO THE CONNECTING CONDUITS, CONDUITS WITHIN THE BELL HOLE AREAS MUST BE SUPPORTED VIA COMPACTED NATIVE MATERIAL AND/OR SANDBAGS UNTIL UNDISTURBED GROUND IS CONTACTED.
16. CONSTRUCTION ACTIVITIES NORMALLY WILL NOT BE PERMITTED WITHIN 30 METERS (100 FEET) OF THE RUNWAY/TAXIWAY EDGE. HOWEVER, CONSTRUCTION MAY BE PERMITTED WITHIN 30 METERS (100 FEET) OF THE RUNWAY/TAXIWAY EDGE ON A CASE-BY-CASE BASIS WITH A TEMPORARY WAIVER APPROVED BY THE INSTALLATION COMMANDER. (PER UFC 3-260-01 PAGE 525, PARAGRAPH B14-67.7.2 RUNWAY EDGES)
17. PER CONSTRUCTION SPECIFICATIONS, DE-BEAD 12.750" FROM ID OF HDPE CASING PIPE PRIOR TO INSTALLING CONDUITS.



A SECTION VIEW
CASING / CONDUIT BUNDLE CROSS SECTION

MATERIAL SPECIFICATIONS AND TOLERANCES	
ITEM	SPECIFICATIONS
CASING PIPE	(1) 12.750" OD (12" NOM.), SDR 9, HDPE
CONDUIT PIPE	(2) 4.500" OD (4" NOM.), SCH 80, HDPE (2) 2.375" OD (2" NOM.), SCH 80, HDPE
ITEM	TOLERANCE
PILOT HOLE ENTRY ANGLE	INCREASE ANGLE UP TO 0.5° (STEEPER). NO DECREASE IN ANGLE ALLOWED.
PILOT HOLE ENTRY LOCATION	AS PER COORDINATES ON DRAWING. NO CHANGES WITHOUT COMPANY APPROVAL.
PILOT HOLE EXIT ANGLE	INCREASE ANGLE UP TO 0.5° (STEEPER) OR DECREASE UP TO 1° (FLATTER).
PILOT HOLE EXIT LOCATION	UP TO 10 FEET BEYOND OR 5 FEET SHORT OF THE EXIT STAKE. BETWEEN 2.5 FEET LEFT AND 2.5 FEET RIGHT OF CENTERLINE.
PILOT HOLE DEPTH	UP TO 0 FEET ABOVE THE DESIGN DRILL PROFILE OR 5 FEET BELOW THE DESIGN DRILL PROFILE.
PILOT HOLE ALIGNMENT	MUST REMAIN WITHIN 2.5 FEET LEFT OR RIGHT OF THE HDD CENTERLINE.
MINIMUM RADIUS OF CURVATURE	MINIMUM COMBINED (HORIZONTAL AND VERTICAL) RADIUS OF CURVATURE = "TBD" OVER EACH 3 JOINT SEGMENT

LEGEND

- PROPOSED PIPE (TRENCHLESS)
- PROPOSED PIPE (OPEN-CUT)
- CONCEPTUAL BORE PIT
- TRENCHLESS ENDPOINT
- HANDHOLE LOCATION
- EFSO LOCATION

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF 35% DESIGN REVIEW UNDER THE AUTHORITY OF REILLY J. SCHOO MN LICENSE #53697 ON 11/06/23. IT IS NOT FOR CONSTRUCTION.

PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING

35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374683

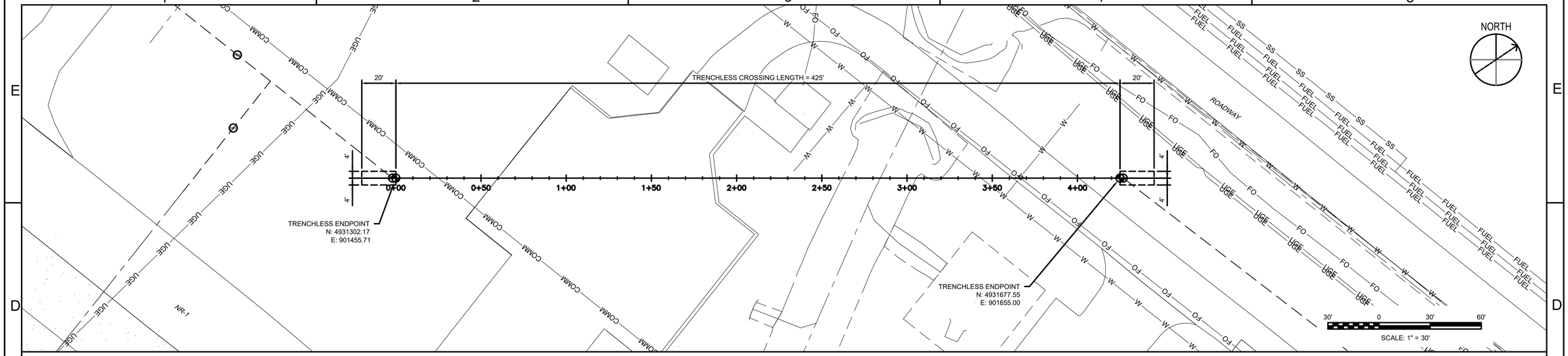
SHEET TITLE

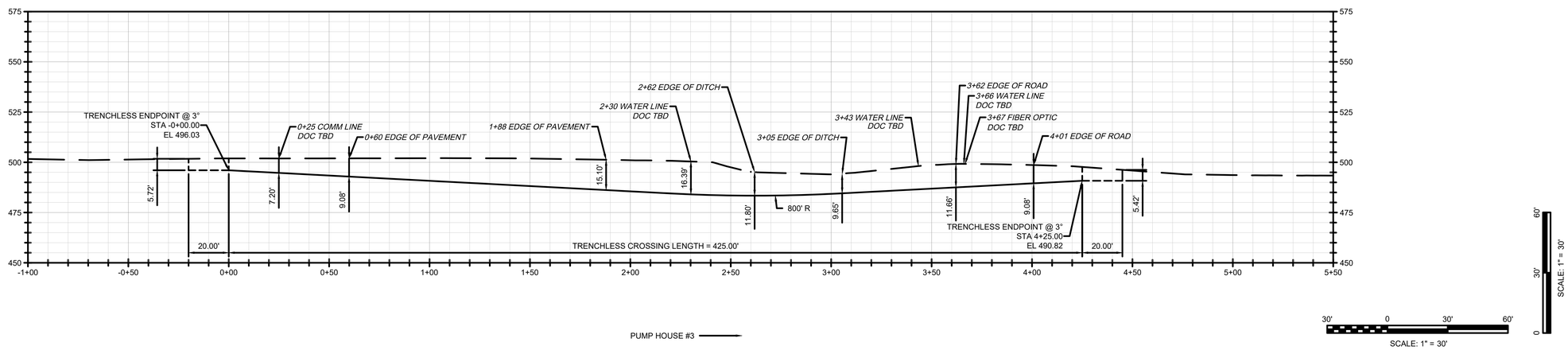
12" TRENCHLESS CROSSING 3-1 PLAN AND PROFILE

SHEET NUMBER

03C-031

SHEET - OF -





GENERAL NOTES

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2. ELEVATIONS ARE IN INTERNATIONAL FEET, REFERENCED TO GUAM GEODETIC NETWORK MONUMENTS MEAN SEA LEVEL (1993 GGN MSL/GUVD) BENCHMARK.
3. TOPOGRAPHIC SURVEY PENDING.
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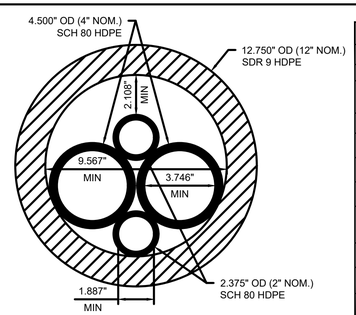
17. PER CONSTRUCTION SPECIFICATIONS, DE-BEAD 12.750" FROM ID OF HDPE CASING PIPE PRIOR TO INSTALLING CONDUITS.



A SECTION VIEW
CASING / CONDUIT BUNDLE CROSS SECTION

MATERIAL SPECIFICATIONS AND TOLERANCES	
ITEM	SPECIFICATIONS
CASING PIPE	(1) 12.750" OD (12" NOM.), SDR 9, HDPE
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MINIMUM RADIUS OF CURVATURE	MINIMUM COMBINED (HORIZONTAL AND VERTICAL) RADIUS OF CURVATURE = "TBD" OVER EACH 3 JOINT SEGMENT

LEGEND

- PROPOSED PIPE (TRENCHLESS)
- PROPOSED PIPE (OPEN-CUT)
- CONCEPTUAL BORE PIT
- TRENCHLESS ENDPOINT
- HANDHOLE LOCATION
- EFSO LOCATION

PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING

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35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374983

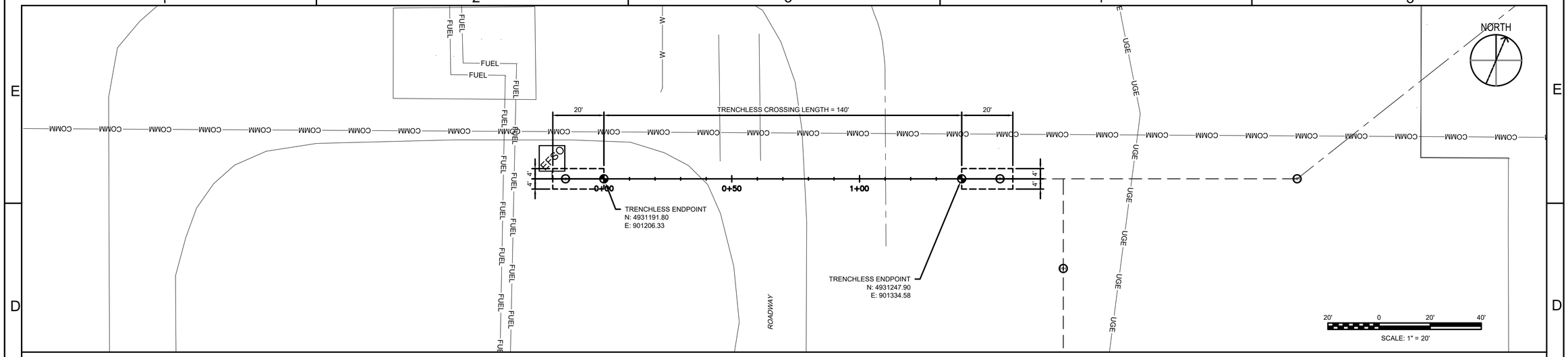
SHEET TITLE

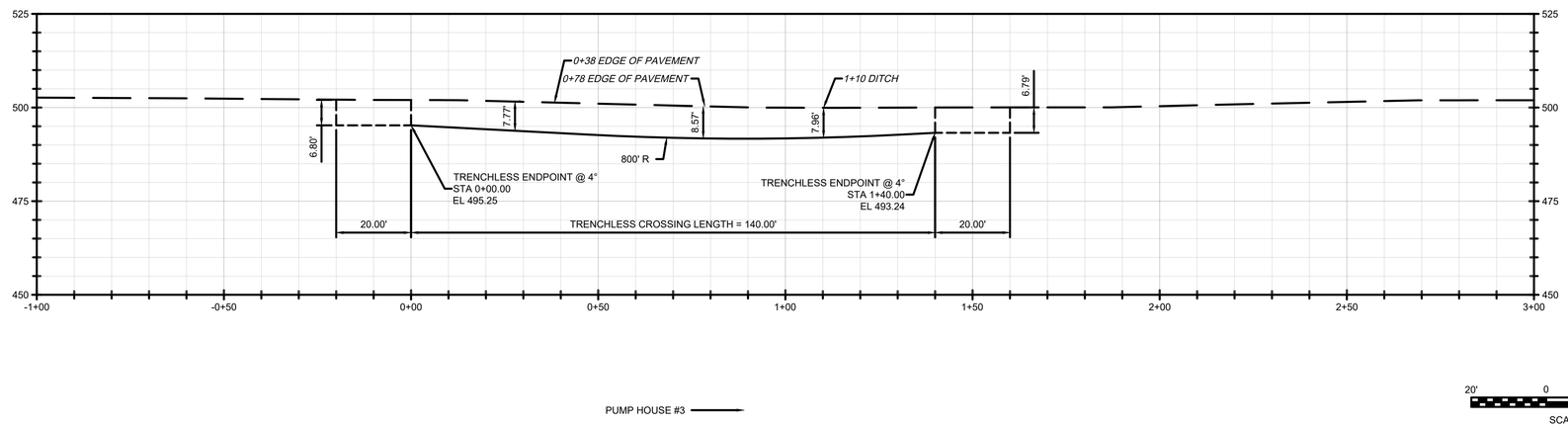
12" TRENCHLESS CROSSING 3-2 PLAN AND PROFILE

SHEET NUMBER

03C-032

SHEET - OF -





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14. GEOTECHNICAL DATA PENDING.
15. UPON COMPLETION OF TIE-INS TO THE CONNECTING CONDUITS, CONDUITS WITHIN THE BELL HOLE AREAS MUST BE SUPPORTED VIA COMPACTED NATIVE MATERIAL AND/OR SANDBAGS UNTIL UNDISTURBED GROUND IS CONTACTED.
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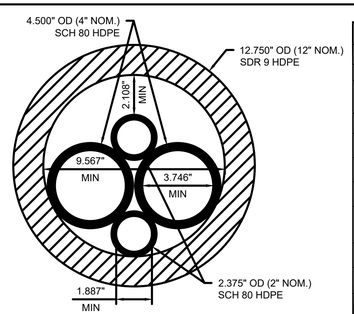
17. PER CONSTRUCTION SPECIFICATIONS, DE-BEAD 12.750" FROM ID OF HDPE CASING PIPE PRIOR TO INSTALLING CONDUITS.



A SECTION VIEW
CASING / CONDUIT BUNDLE
CROSS SECTION

MATERIAL SPECIFICATIONS AND TOLERANCES

ITEM	SPECIFICATIONS
CASING PIPE	(1) 12.750" OD (12" NOM.), SDR 9, HDPE
CONDUIT PIPE	(2) 4.500" OD (4" NOM.), SCH 80, HDPE (2) 2.375" OD (2" NOM.), SCH 80, HDPE
ITEM	**TOLERANCE**
PILOT HOLE ENTRY ANGLE	INCREASE ANGLE UP TO 0.5° (STEEPER). NO DECREASE IN ANGLE ALLOWED.
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MINIMUM RADIUS OF CURVATURE	MINIMUM COMBINED (HORIZONTAL AND VERTICAL) RADIUS OF CURVATURE = "TBD" OVER EACH 3 JOINT SEGMENT

LEGEND

- PROPOSED PIPE (TRENCHLESS)
- PROPOSED PIPE (OPEN-CUT)
- CONCEPTUAL BORE PIT
- TRENCHLESS ENDPOINT
- HANDHOLE LOCATION
- EFSO LOCATION

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PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING

35% DESIGN
NOT FOR CONSTRUCTION

PROJECT INFORMATION
DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)
ANDERSEN AIR FORCE BASE, GUAM

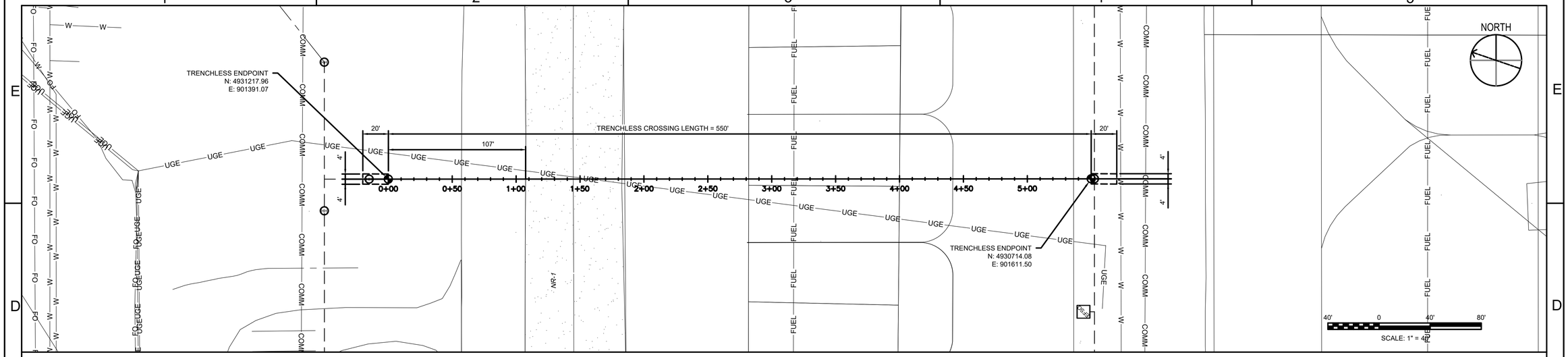
REVISIONS

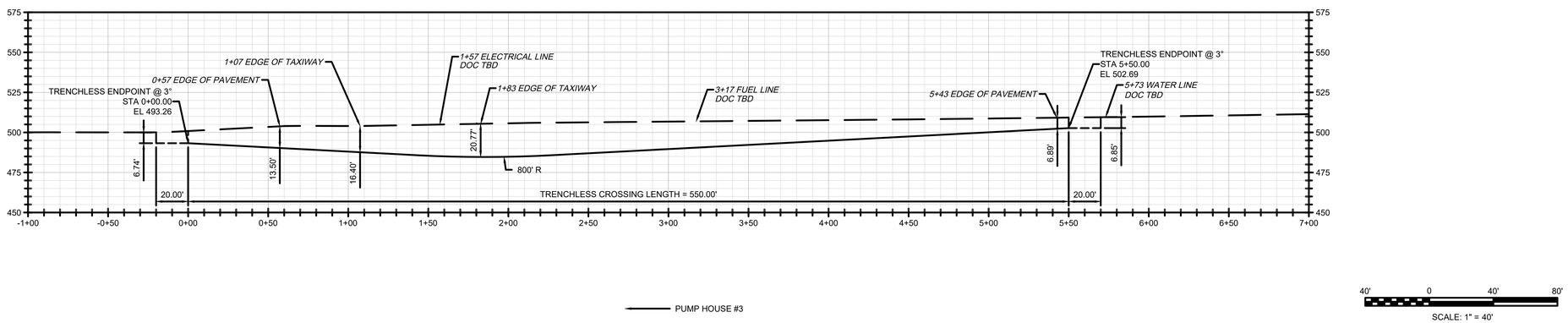
MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION
ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374683

SHEET TITLE
12" TRENCHLESS CROSSING 3-3 PLAN AND PROFILE

SHEET NUMBER
03C-033
SHEET - OF -





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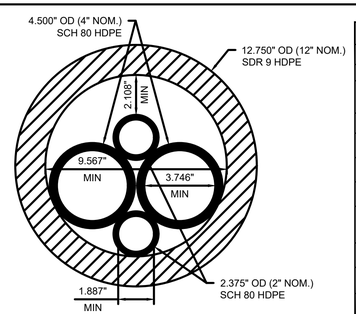

A SECTION VIEW
CASING / CONDUIT BUNDLE CROSS SECTION

MATERIAL SPECIFICATIONS AND TOLERANCES

ITEM	SPECIFICATIONS
CASING PIPE	(1) 12.750" OD (12" NOM.), SDR 9, HDPE
CONDUIT PIPE	(2) 4.500" OD (4" NOM.), SCH 80, HDPE (2) 2.375" OD (2" NOM.), SCH 80, HDPE
ITEM	**TOLERANCE**
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PILOT HOLE ALIGNMENT	MUST REMAIN WITHIN 2.5 FEET LEFT OR RIGHT OF THE HDD CENTERLINE.
MINIMUM RADIUS OF CURVATURE	MINIMUM COMBINED (HORIZONTAL AND VERTICAL) RADIUS OF CURVATURE = "TBD" OVER EACH 3 JOINT SEGMENT

LEGEND

- PROPOSED PIPE (TRENCHLESS)
- PROPOSED PIPE (OPEN-CUT)
- CONCEPTUAL BORE PIT
- TRENCHLESS ENDPOINT
- HANDHOLE LOCATION
- EFSO LOCATION

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PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING

35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374683

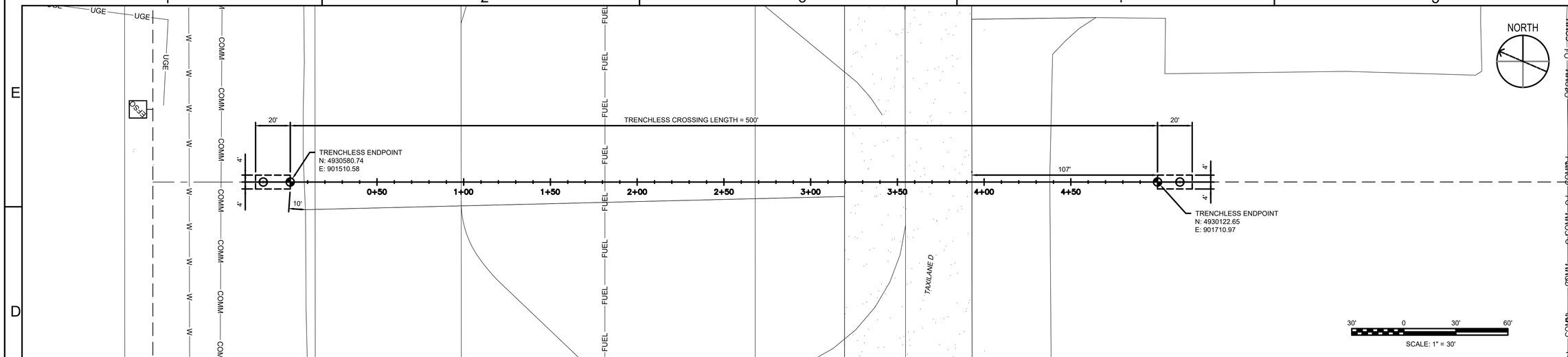
SHEET TITLE

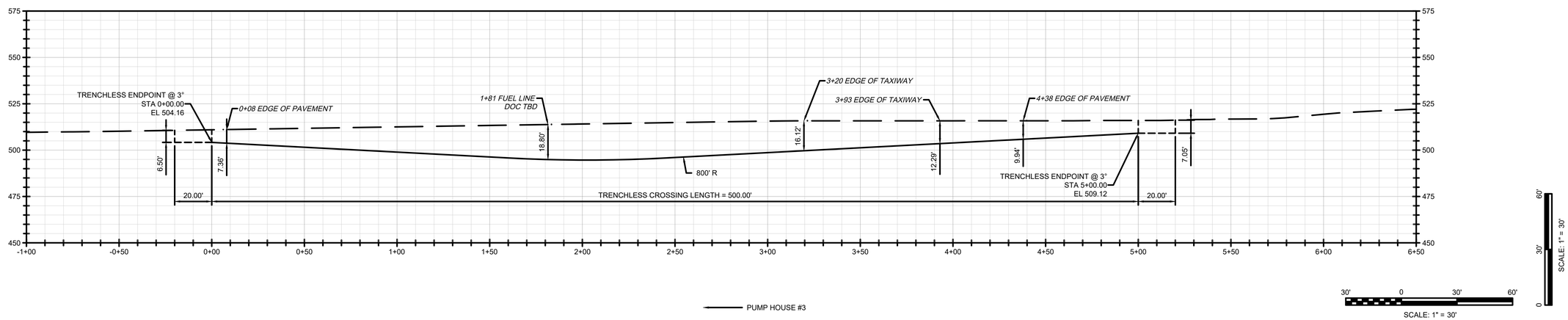
12" TRENCHLESS CROSSING 3-4 PLAN AND PROFILE

SHEET NUMBER

03C-034

SHEET - OF -





GENERAL NOTES

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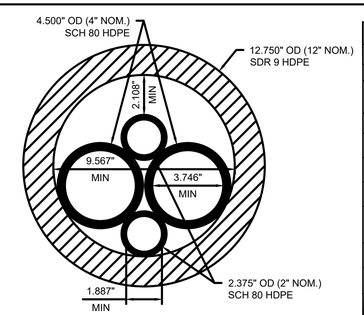

A SECTION VIEW
CASING / CONDUIT BUNDLE
CROSS SECTION

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ITEM	SPECIFICATIONS
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- TRENCHLESS ENDPOINT
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35% DESIGN

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374683

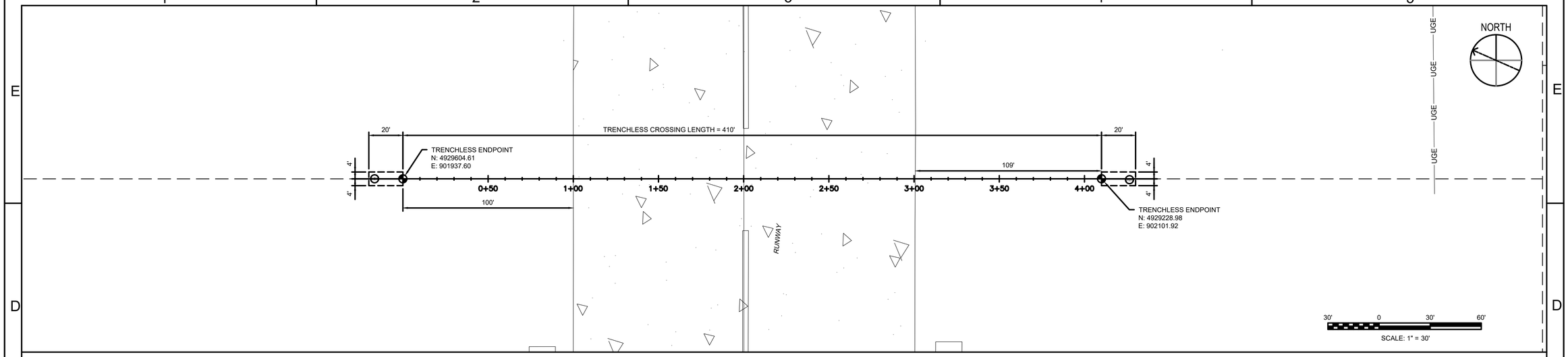
SHEET TITLE

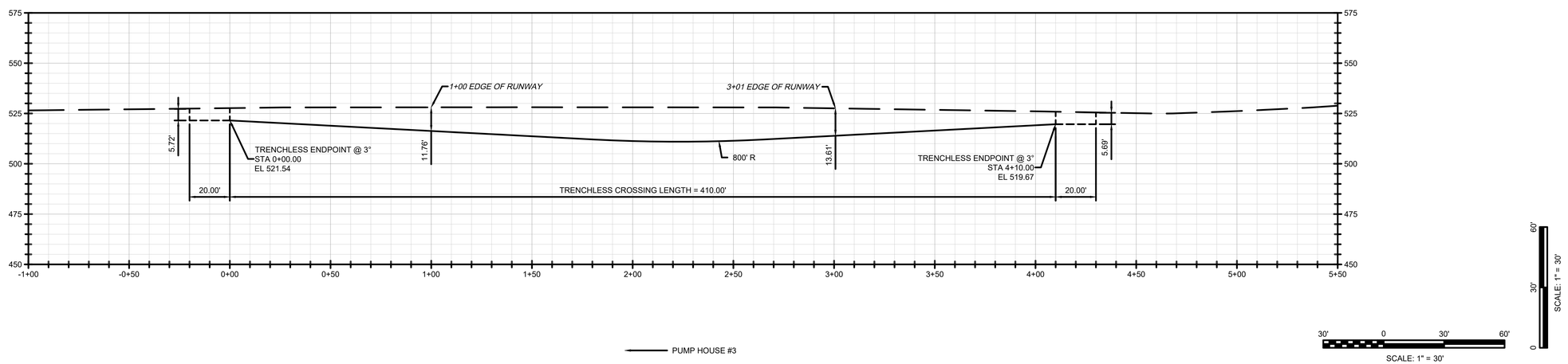
12" TRENCHLESS CROSSING 3-5 PLAN AND PROFILE

SHEET NUMBER

03C-035

SHEET - OF -





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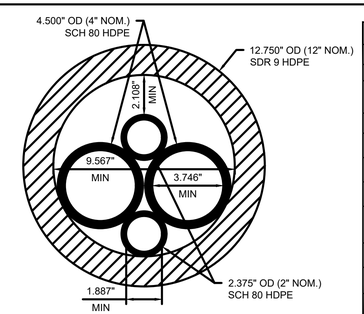

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CASING / CONDUIT BUNDLE
CROSS SECTION

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374683

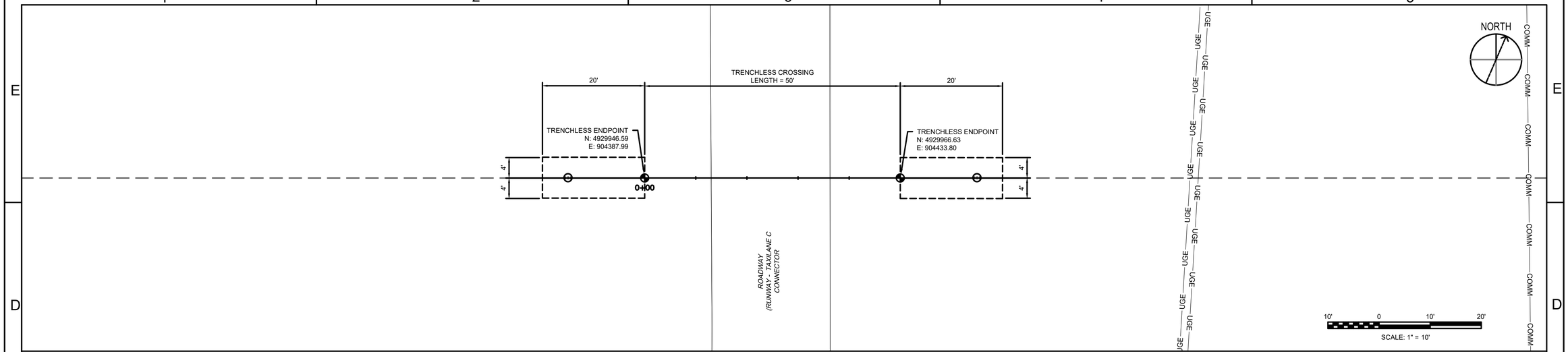
SHEET TITLE

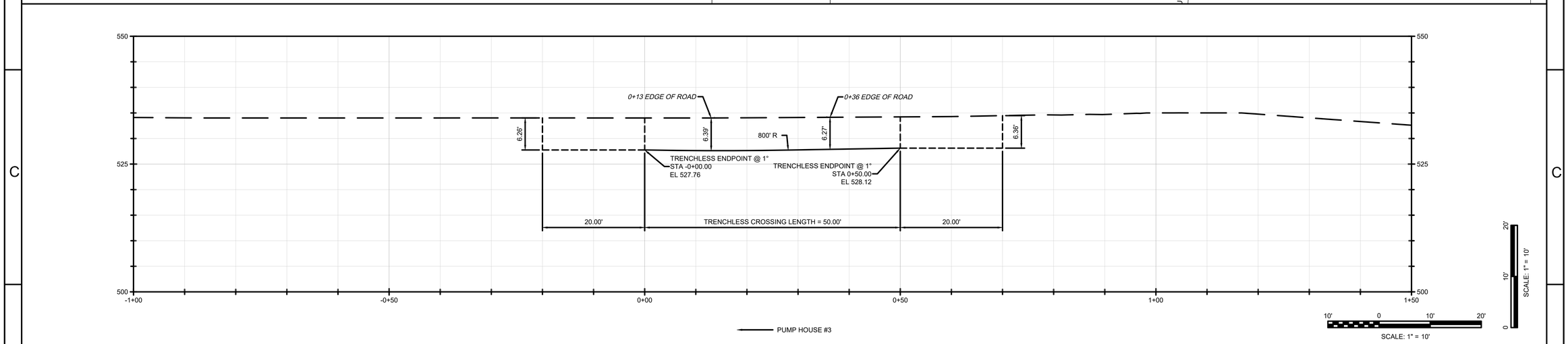
12" TRENCHLESS CROSSING 3-6 PLAN AND PROFILE

SHEET NUMBER

03C-036

SHEET - OF -





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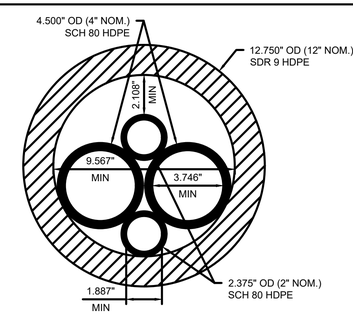

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CASING / CONDUIT BUNDLE
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ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: R. SCHOO
DRAWN BY: T. VONBERGE
CHECKED BY: P. BEARDEN
DESIGN FILE LOCATION: 10374683

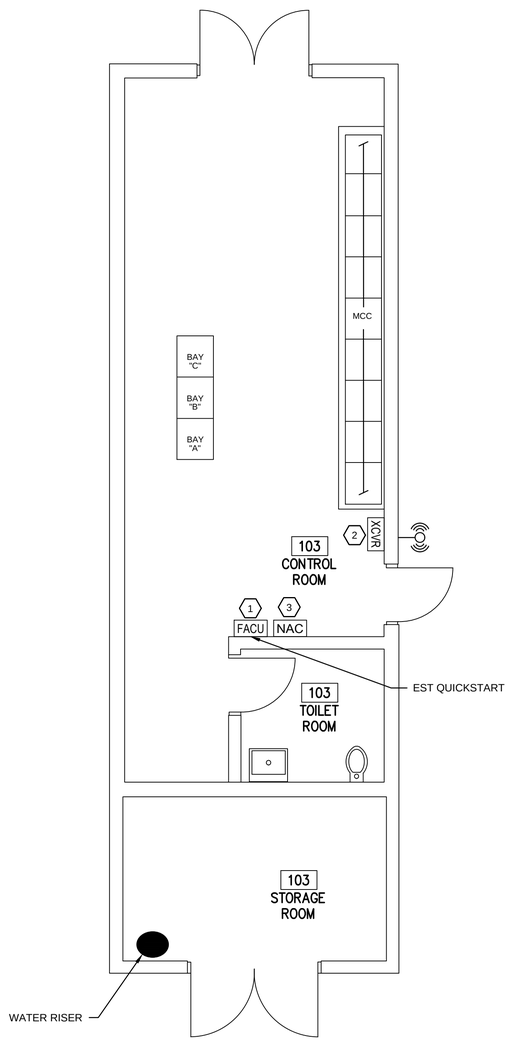
SHEET TITLE

12" TRENCHLESS CROSSING 3-7 PLAN AND PROFILE

SHEET NUMBER

03C-037

SHEET - OF -



1 PUMPHOUSE 3 - FIRE ALARM PLAN

SCALE: 1/4" = 1'

GENERAL FIRE ALARM NOTES:

1. PROVIDE A FIRE ALARM SYSTEM AS INDICATED ON THE CONTRACT DOCUMENTS, AS EVIDENTLY INTENDED, AND IN ACCORDANCE WITH NFPA 70 (2020), NFPA 72 (2022), UFC 3-600-01 (2021) AND ANDERSON AIR FORCE BASE STANDARDS. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE GENERAL ARRANGEMENTS OF SYSTEMS AND WORK, BUT MAY NOT INCLUDE NECESSARY INTERCONNECTIONS WITH OTHER SYSTEMS. PROVIDE CONDUIT, BACK BOXES, RACEWAY AND WIRING TO ACCOMPLISH THE FUNCTIONS INTENDED AND REQUIRED BY CODE.
2. COORDINATE WORK WITH THAT OF OTHER TRADES SO AS TO AVOID CONFLICTS. RESOLVE CONFLICTS THROUGH THE A/E PRIOR TO ROUGH-IN. FAILURE TO PROVIDE SUCH COORDINATION PRIOR TO WORK BEING INSTALLED WILL NOT BE CAUSE FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR, AND MAY RESULT IN REJECTION OF THE WORK.
3. COMMISSIONING AND PRELIMINARY AND FINAL ACCEPTANCE TESTING WILL BE IN ACCORDANCE WITH SPECIFICATION SECTION 28 31 70 FIRE ALARM SYSTEM. COORDINATE TESTING WITH OTHER TRADES AND BASE PERSONNEL. EFSO AND FIRE ALARM TESTING WILL OCCUR SIMULTANEOUSLY TO EXPEDITE COMMISSIONING.
4. THE BUILDING FIRE ALARM SYSTEM MUST REMAIN OPERATIONAL. SUPERVISE FIRE PROTECTION IMPAIRMENTS IN ACCORDANCE WITH UFC 3-601-02 (2021).
5. PROVIDE MATERIALS BEARING LABELS OR MARKINGS INDICATING THIRD PARTY TESTING AND APPROVAL.
6. PROVIDE FIRE ALARM CABLE IN METAL RACEWAY. FREE-RUN CABLE IS NOT PERMITTED. RACEWAY MUST BE CONCEALED IN FINISHED SPACES, BUT MAY BE INSTALLED EXPOSED IN UNFINISHED SPACES SUCH AS MECHANICAL AND ELECTRICAL ROOMS. PROVIDE RACEWAY PERPENDICULAR OR PARALLEL TO THE BUILDING'S STRUCTURAL COMPONENTS.
7. PROVIDE PULL AND JUNCTION BOXES TO MEET CODE AND INSTALLATION REQUIREMENTS. PULL AND JUNCTION BOXES MUST BE CONCEALED IN FINISHED SPACES. COORDINATE WITH TRADES SO AS TO AVOID CONFLICTS.
8. SUPPORT CONDUIT AND BACK BOXES BY MEANS OF ANCHORS, RODS, HANGERS, ETC., TO MAINTAIN ALIGNMENT AND PREVENT MOVEMENT. SUPPORT CEILING MOUNTED BACK BOXES WITH "T" HANGERS OR EQUAL METHOD OF SUPPORT. BACK BOXES MUST NOT BE SUPPORTED SOLELY BY CONDUIT.
9. IDENTIFY CONDUCTORS AT EACH JUNCTION BOX, OUTLET BOX, CABINET, PULL BOX, ETC., WITH VINYL HEAT SHRINK TAGS INDICATING PANEL AND CIRCUIT NUMBER AND CONTROL WIRE IDENTIFICATION NUMBER.
10. SUBMIT SHOP DRAWINGS AND CALCULATIONS TO ENGINEER FOR REVIEW PER NFPA 72 AND UFC 3-600-01. SUBMIT EQUIPMENT DATA SHEETS FOR A COMPLETE INSTALLATION OF THE FIRE ALARM SYSTEM. APPROVED SHOP DRAWINGS, DATA SHEETS, AND CALCULATIONS ARE REQUIRED PRIOR TO COMMENCEMENT OF WORK.
11. SEAL PENETRATIONS AT FIRE OR SMOKE RATED CONSTRUCTION WITH FIRESTOPPING MATERIALS APPROVED AND LISTED FOR THE RATING OF THE FIRE OR SMOKE ASSEMBLY. PROVIDE DOCUMENTATION FOR EACH PENETRATION SEALING SYSTEM FOR VERIFICATION OF COMPLIANT INSTALLATION.
12. PERFORM WORK ON DE-ENERGIZED SYSTEMS ONLY TO PREVENT PERSONNEL INJURY AND POTENTIAL SYSTEM FAILURE. WHERE WORK ON EXISTING SYSTEMS REQUIRES INTERRUPTION OF ELECTRICAL SERVICE, TEMPORARY PROVISIONS ACCEPTABLE TO THE OWNER ARE REQUIRED.
13. THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION. THE CONTRACTOR MUST COORDINATE WORK SCHEDULE WITH GOVERNMENT PRIOR TO COMMENCING WORK. CONTRACTOR IS RESPONSIBLE FOR WORKING AROUND OCCUPANT SCHEDULE AS DETERMINED BY THE GOVERNMENT AND MAINTAINING MINIMUM IMPACT.
14. SHOP DRAWINGS AND CALCULATIONS MUST BE PREPARED BY A PERSON CERTIFIED AS NICET LEVEL III IN FIRE ALARM DESIGN, AT MINIMUM.
15. SHOP DRAWINGS, CALCULATIONS, AND MATERIAL SUBMITTAL MUST BE REVIEWED AND BEAR THE STAMP AND SIGNATURE OF A QUALIFIED FIRE PROTECTION ENGINEER AS PER UFC 3-600-01.

KEY NOTES:

1. REMOVE EXISTING FACU AND PROVIDE A NEW FACU.
2. PROVIDE ADDITIONAL ZONE MODULES TO EXPAND THE MONACO TRANSMITTER.
3. EXISTING BOOSTER POWER SUPPLY. RE-USE IF COMPATIBLE WITH THE PROVIDED FACU OR PROVIDE A BOOSTER POWER SUPPLY TO ENSURE COMPATIBILITY WITH PROVIDED FACU.

FIRE ALARM SYMBOLS LEGEND

FACU	FIRE ALARM CONTROL UNIT
NAC	NAC EXTENDER BOOSTER POWER SUPPLY
XCVR	MONACO BASE SIGNAL TRANSCEIVER (BT-X)
	OMNIDIRECTIONAL ANTENNA

4 2 0 4 8

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

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35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: D. EMANUS
DRAWN BY: J. MARTINEZ
CHECKED BY: R. MILLER
DESIGN FILE LOCATION: 10374683

SHEET TITLE

PUMPHOUSE 3
FIRE ALARM PLAN

SHEET NUMBER

FA101

SHEET - OF -

APPLICABLE CODES AND STANDARDS

1. LOCAL, STATE, AND FEDERAL AGENCIES HAVE JURISDICTION OVER THIS PROJECT.
2 AMERICAN CONCRETE INSTITUTE (ACI):
ACI 318-19(22) BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
3 ALUMINUM ASSOCIATION (AA):
A ALUMINUM DESIGN MANUAL (ADM) (2020)
B. ALUMINUM STANDARDS AND DATA
4 AMERICAN WELDING SOCIETY (AWS):
A. AWS D1.2/D1.2M STRUCTURAL WELDING CODE -ALUMINUM (2014)
B. AWS A5.1l 5.10M SPECIFICATION FOR BARE ALUMINUM AND ALUMINUM ALLOY WELDING ELECTRODES AND RODS (2023)
5 AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE):
ASCE 7-22 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
6 ASTM INTERNATIONAL (ASTM):
MATERIAL STANDARDS NOTED, UNLESS OTHERWISE NOTED
7 UNIFIED FACILITIES CRITERIA (UFC)
A UFC 1-200-01 DOD BUILDING CODE (2022, C2)
B. UFC 3-301-01 STRUCTURAL ENGINEERING (2023)

DESIGN METHODOLOGY AND LOADS

1. DESIGN METHODOLOGY LOAD RESISTANCE FACTORED DESIGN (LRFD).
2 DEAD LOAD
ACTUAL WEIGHT OF MATERIALS USED.
3. WIND DESIGN DATA
ULTIMATE DESIGN WIND SPEED, Vult 210 mph
WIND EXPOSURE CATEGORY D
4 EARTHQUAKE DESIGN DATA
RISK CATEGORY III
SEISMIC IMPORTANCE FACTOR, Ie 1.25
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS
Ss 2.80g
S1 0.68 g
SITE CLASS D
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS
SDS 2.28g
SD1 1.16g
DESIGN CATEGORY D
BASIC SEISMIC FORCE-RESISTING SYSTEM(S):
SIGNS AND BILLBOARDS
RESPONSE MODIFICATION COEFFICIENT, R = 3.0
ANALYSIS PROCEDURE USED:
EQUIVALENT LATERAL FORCE

MATERIALS OF CONSTRUCTION

1.	NORMAL WEIGHT CONCRETE		f'c =	4,000 psi
2	REINFORCING STEEL	ASTM A615 GR 60	Fy =	60 ksi
3.	WELDED WIRE REINFORCING	ASTM A1064	Fy =	70 ksi
4	STRUCTURAL ALUMINUM			
	PLATE 6061-T6	ASTM B928	Fy =	35 ksi
	RECTANGULAR TUBE 6061-T6	ASTM B308	Fy =	35 ksi
	WELDED 6061-T6 MATERIALS		Fy =	18 ksi
5	FASTENERS			
	NUTS (STRUCTURAL)	ASTM A563 GR C		
	WASHERS (STRUCTURAL)	ASTM F436		
	ANCHOR BOLTS/RODS	ASTM F1554 GR 36	Fy =	36 ksi
6	WELDING FILLING MATERIAL	5356	Ftu =	35 ksi

7 NON-SHRINK AND NON-METALLIC GROUT AT BASE PLATES
AT 7 DAYS f'c = 4,000 psi
AT 28 DAYS f'c = 8,000 psi

EARTHWORK AND SLABS ON GRADE

1. EARTHWORK AND SITE PREPARATION MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND BASE REQUIREMENTS.
2. EXISTING FILLS OR UNSUITABLE SOILS MUST BE EXCAVATED AND REPLACED WITH COMPACTED ENGINEERED GRANULAR CLEAN FILL.
3. EXTREME CARE WILL BE EXERCISED WHEN EXCAVATING OR GRADING ADJACENT TO EXISTING STRUCTURES OR IMPROVEMENTS SO AS NOT TO DAMAGE OR UNDERMINE FOUNDATIONS, WALLS, SLABS, UTILITIES, ETC.
4. DO NOT EXCAVATE BELOW THE BEARING ELEVATION OF COMPLETED FOOTING NOR CLOSER TO THE FOOTING THAN A SLOPE OF TWO HORIZONTAL (MEASURED FROM EDGE OF FOOTING TO NEAREST POINT IN EXCAVATION) TO ONE VERTICAL.
5. HORIZONTAL CONSTRUCTION JOINTS IN SLABS ON GRADE ARE NOT PERMITTED.

STRUCTURAL CONSTRUCTION NOTES

1. STRUCTURAL DRAWINGS SHOULD NOT BE SCALED. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE SCALE OVER SMALL.
2. STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATION AND SIZE OF OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, CURBS, DIMENSIONS, ETC. NOT INDICATED ON THE STRUCTURAL DRAWINGS. THE LOCATION AND SIZE OF MECHANICAL AND ELECTRICAL OPENINGS IN SLABS, WALLS AND DECKS WILL BE COORDINATED BY THE CONTRACTOR. PROVIDE ADDITIONAL FRAMING OR REINFORCING TO ACCOMMODATE OPENINGS IN ACCORDANCE WITH APPLICABLE STANDARD DETAILS SHOWN ON THE STRUCTURAL DRAWINGS. NO HOLES, NOTCHES, BLOCKOUTS, ETC. ARE ALLOWED IN STRUCTURAL MEMBERS UNLESS DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE CONTRACTING OFFICER.
3. WHERE DIMENSIONS ARE INDICATED FOR OPENINGS, BLOCKOUTS, FLOOR DEPRESSIONS, CURBS, ETC., BUT MAY BE AFFECTED BY THE EQUIPMENT PURCHASED, THE CONTRACTOR WILL VERIFY THE INFORMATION INDICATED PRIOR TO CONSTRUCTION.
4. PROVIDE CONCRETE EQUIPMENT PADS AND INERTIAL BASES FOR MECHANICAL AND ELECTRICAL INSTALLATIONS. CONSTRUCT PADS AND BASES IN ACCORDANCE WITH THE DETAILS. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LIMITS AND LOCATIONS.
5. THE CONTRACTOR WILL VISIT THE SITE AND GET FAMILIAR WITH EXISTING CONDITIONS, CHECK AND VERIFY EXISTING DIMENSIONS AND TAKE ADDITIONAL MEASUREMENTS AS NEEDED. NOTIFY THE CONTRACTING OFFICER OF DISCREPANCY BETWEEN ACTUAL CONDITIONS AND INDICATED CONDITIONS. MODIFICATION OF DETAILS OF CONSTRUCTION WILL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE CONTRACTING OFFICER.
6. CONTRACTOR MUST PROVIDE AND BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED BY WORK.
7. COLUMNS AND FOUNDATIONS, UNLESS NOTED OTHERWISE, WILL BE CENTERED ON GRIDLINES IN EACH DIRECTION. BEAMS WILL BE EQUALLY SPACED BETWEEN COLUMN CENTERLINES UNLESS NOTED OTHERWISE.
8. TYPICAL DETAILS APPLY IN GENERAL CONSTRUCTION UNLESS SPECIFICALLY DETAILED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION WILL BE AS SHOWN FOR SIMILAR WORK.
9. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF FORMS, SHORING AND TEMPORARY BRACING. THE CONTRACTOR MUST PROVIDE MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKERS DURING CONSTRUCTION.
   A. DO NOT PLACE CONSTRUCTION MATERIALS OR OTHER CONSTRUCTION LOADS ON THE STRUCTURE SUCH THAT THE LOADS PLACED EXCEED THE CAPACITY OF THE STRUCTURE.
   B. TAKE INTO CONSIDERATION THAT FULL STRUCTURAL CAPACITY OF STRUCTURAL MEMBERS IS NOT REALIZED UNTIL STRUCTURAL ASSEMBLY IS COMPLETE; THAT IS, UNTIL SLABS, DECKS, DIAGONAL BRACING AND SHEAR WALLS ARE INSTALLED.
   C. PROVIDE TEMPORARY BRACING AND GUYING TO PROVIDE STABILITY AND RESIST LOADS TO WHICH THE PARTIALLY COMPLETED STRUCTURE MAY BE SUBJECTED INCLUDING ERECTION EQUIPMENT AND ITS OPERATION. ADEQUACY OF TEMPORARY BRACING AND GUYING FOR THIS PURPOSE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

CONCRETE AND REINFORCING

1. LOCATION OF CONSTRUCTION JOINTS OR POUR JOINTS AS SHOWN ON APPROVED SHOP DRAWINGS.
2. CONCRETE WILL BE VIBRATED DURING PLACEMENT.
3. PROVIDE 3/4" CHAMFER ON EXPOSED CONCRETE CORNERS.
4. NO STAKES, STEEL OR WOOD, WILL BE PERMITTED IN CONCRETE POUR. SUSPEND FORMS FROM ABOVE GRADE.
5. ANCHOR RODS, DOWELS, REINFORCING STEEL, INSERTS, ETC, BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE. USE CONCRETE BLOCKS (DOBIES) ONLY TO SUPPORT REINFORCING OFF GRADE.
6. REINFORCEMENT WILL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315.
7. MINIMUM CONCRETE COVERING FOR REINFORCEMENT IS NOTED BELOW, UNLESS OTHERWISE NOTED:

CONDITION	CLR COVER
CONCRETE DEPOSITED AGAINST EARTH	3 INCH
FORMED SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH EARTH:	
REINFORCING #6 OR LARGER	2 INCH
REINFORCING LESS THAN #6	1-1/2 INCH
FORMED SURFACES IN BUILDING INTERIOR:	
BEAMS, GIRDERS, AND COLUMNS	1-1/2 INCH
SLABS, WALLS AND JOISTS:	
REINFORCING #11 OR SMALLER	3/4 INCH
REINFORCING #14 AND #18	1-1/2 INCH

8. PROVIDE DOWELS OF SAME SIZE AND NUMBER FROM ADJACENT POUR, BOTH VERTICALLY AND HORIZONTALLY, TO MATCH REINFORCING SHOWN. LAPS ARE TO BE IN ACCORDANCE WITH THE DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE. DOWELS WILL BE CLEANED AFTER POUR.
9. FIELD WELDING OR BENDING OF REINFORCING IS NOT PERMITTED EXCEPT AS INDICATED ON THE DRAWINGS OR AS APPROVED BY THE CONTRACTING OFFICER. USE LOW HYDROGEN ELECTRODES GRADE E70 OR E90.

10. APPROVED ELECTRICAL CONDUIT MATERIAL CAST WITHIN STRUCTURAL CONCRETE MEMBERS WILL CONFORM TO ACI 318 UNO AND TO THE FOLLOWING:
   A. PERMITTED CONDUIT WILL BE PLACED INSIDE THE REINFORCING CAGE IN COLUMNS, WALLS, SLABS & BELOW REINFORCING IN SLABS ON GRADE.

PIER NOTES

1. PIERS MUST BE CONSTRUCTED AS SHOWN ON DRAWINGS AND IN ACCORDANCE WITH NOTES BELOW. CONTRACTOR MUST REVIEW AND INCORPORATE THE CONSTRUCTION RECOMMENDATIONS IN THE GEOTECHNICAL ENGINEERING REPORT.
2. CONCRETE IN PIER SHAFTS MUST BE AS FOLLOWS:
   A. MINIMUM 28 DAY COMPRESSIVE STRENGTH EQUAL TO OR GREATER THAN 4,000 PSI.
   B. ALLOWABLE RANGE OF SLUMP: 4" ±1" PRIOR TO INTRODUCING WATER REDUCING ADMIXTURE.
   C. CONCRETE ABOVE BOTTOM OF ANCHOR BOLTS MUST BE VIBRATED. DO NOT VIBRATE CONCRETE BELOW BOTTOM OF ANCHOR BOLTS. ANCHOR BOLTS AND STEEL REINFORCEMENT MUST NOT BE DIRECTLY VIBRATED.
   D. CONCRETE MUST BE CAST IN THE DRY OR WITH NO MORE THAN 2 (TWO) INCHES OF WATER IN BOTTOM OF HOLE UNLESS UNDERWATER OR SLURRY CONSTRUCTION PROCEDURES ARE APPROVED BY OWNER'S REPRESENTATIVE.
   E. CONCRETE MUST BE PLACED BY FREEFALL METHODS USING A HOPPER OR OTHER DEVICES TO PREVENT CONCRETE FROM STRIKING THE SIDES OF THE CASING, EXCAVATION, OR REINFORCING CAGE.
   F. REINFORCEMENT MUST BE NEW GRADE 60 BARS, FY = 60 KSI
3. QUALITY CONTROL:
   A. BOTTOM OF PIERS MUST BE CLEANED AND FREE OF LOOSE MATERIALS.
4. IF ADDITIONAL FLOWABILITY IS REQUIRED FOR PLACEMENT OF CONCRETE MIX, A WATER-REDUCING ADDITIVE CONFORMING TO ASTM C494, TYPE A,D,E OR F MUST BE USED. NO ADDITIONAL WATER MAY BE ADDED TO THE MIX AT THE SITE. SLUMP FOR CONCRETE CONTAINING WATER-REDUCING OR HIGH-RANGE WATER REDUCING ADMIXTURE MUST NOT EXCEED 8" AFTER ADMIXTURE IS ADDED TO CONCRETE WITH A 2"-4" SLUMP.
5. TESTING OF FRESH CONCRETE MUST BE DONE BY A PRE-QUALIFIED TESTING LABORATORY RETAINED BY THE CONTRACTOR AND APPROVED BY THE OWNER.
6. PROVIDE TEMPORARY SHORING AND BRACING OF STRUCTURAL AND MISCELLANEOUS ELEMENTS UNTIL CONCRETE HAS OBTAINED 80% OF DESIGN STRENGTH.
7. DETAILING, MATERIALS AND INSTALLATION OF CONCRETE REINFORCING STEEL MUST MEET TEH REQUIREMENTS SET FORTH BY CRSI AND THE AMERICAN CONCRETE INSTITUTE AND THE APPLICABLE BUILDING CODE.
8. SHOP DRAWINGS MUST BE SUBMITTED INDICATING COMPLETE INFORMATION REQUIRED FOR CONSTRUCTION OF THE REINFORCED CONCRETE ELEMENTS. SHOP DRAWINGS MUST INCLUDE LAYOUT AND DIMENSIONS OF REINFORCING INCLUDING OPENINGS, CONVENTIONAL REINFORCEMENT DETAILS, CONNECTION DETAILS, PROCEDURES AND SEQUENCES ETC.
9. WHEN PLACING CONCRETE IN HOT WEATHER, REFER TO ACI 305R. WHEN PLACING CONCRETE IN COLD WEATHER, REFER TO ACI 306.1.

STRUCTURAL ABBREVIATIONS

@	AT
AE	ANCHOR BOLTS
ADDL	ADDITIONAL
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
ARCH	ARCHITECTURAL
BKT	BRACKET
BL	BASE LINE
BM	BEAM
BN	BOUNDARY NAILING
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
CANT	CANTILEVER
CG	CENTER OF GRAVITY
CIF	CAST IN PLACE
CJ	CONSTRUCTION OR CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR	CLEARANCE, OR CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINOUS OR CONTINUED
CTR	CENTER
C TO C	CENTER TO CENTER
C/C	CENTER TO CENTER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
D	DEAD LOAD
DO	DITTO
DWG	DRAWING
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
EFF	EFFECTIVE
EFSO	EMERGENCY FUEL SHUTOFF
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMB	EMBEDMENT, EMBEDDED
EN	EDGE NAILING
EOS	EDGE OF SLAB
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXIST	EXISTING
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FLR	FLOOR
FN	FIELD NAILING
FS	FAR SIDE
FT	FEET
FTG	FOOTING
FUT	FUTURE
FV	FIELD VERIFY
GA	GAGE OR GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GR	GRADE
HDG	HOT DIP GALVANIZED
HK	HOOK
HORIZ	HORIZONTAL
HS	HEADED STUD
HSB	HIGH STRENGTH BOLT
HSS	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
IF	INSIDE FACE
IJ	ISOLATION JOINT
IN	INCHES
INFO	INFORMATION
INT	INTERIOR
I/I	INSIDE TO INSIDE

STRUCTURAL ABBREVIATIONS

JT	JOINT
K	KIPS
KSF	KIPS PER SQUARE FOOT
L	LIVE LOAD
LE	LEFT END
LF	LINEAR FEET
LLH	LONG LEG HORIZ
LLV	LONG LEG VERT
LOC	LOCATION
LONG	LONGITUDINAL
LWT	LIGHTWEIGHT
MATL	MATERIAL
MAX	MAXIMUM
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
NWT	NORMALWEIGHT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OSL	OUTSTANDING LEG
O/O	OUTSIDE TO OUTSIDE
PAF	POWER ACTUATED FASTENER
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PR	PAIR
PREFAB	PREFABRICATED
PRL	PARALLEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVMT	PAVEMENT
R	RADIUS
RD	ROOF DRAIN
RE	RIGHT END
REF	REFER TO
REV	REVISION
REINF	REINFORCEMENT
REQD	REQUIRED
RO	ROUGH OPENING
SCH	SCHEDULE
SECT	SECTION
SEOR	STRUCTURAL ENGINEER OF RECORD
SEPN	SEPARATION
SF	SQUARE FEET
SIM	SIMILAR
SMS	SHEET METAL SCREW
SOG	SLAB ON GRADE
SOMD	SLAB ON METAL DECK
SPA	SPACING, SPACES
SPEC	SPECIFICATION
SQ	SQUARE
SSL	SHORT SLOTTED HOLES
STD	STANDARD
STIFF	STIFFENER
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
T & B	TOP AND BOTTOM
TEMP	TEMPERATURE
TC	TOP OF
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH
W	WIND LOAD
WLD	WELDED
W/C	WITHOUT
WT	WEIGHT
WWF	WELDED WIRE FABRIC

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: J. SIINO
DRAWN BY: R. WENS
CHECKED BY: M. HUAZI
DESIGN FILE LOCATION: 10374683

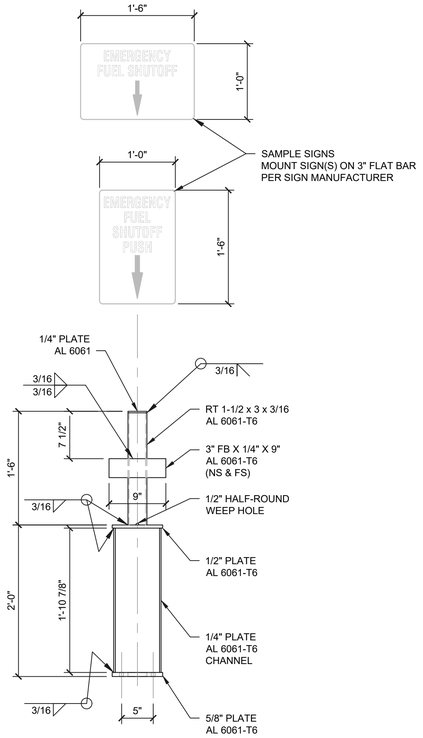
SHEET TITLE

STRUCTURAL NOTES, & ABBREVIATIONS

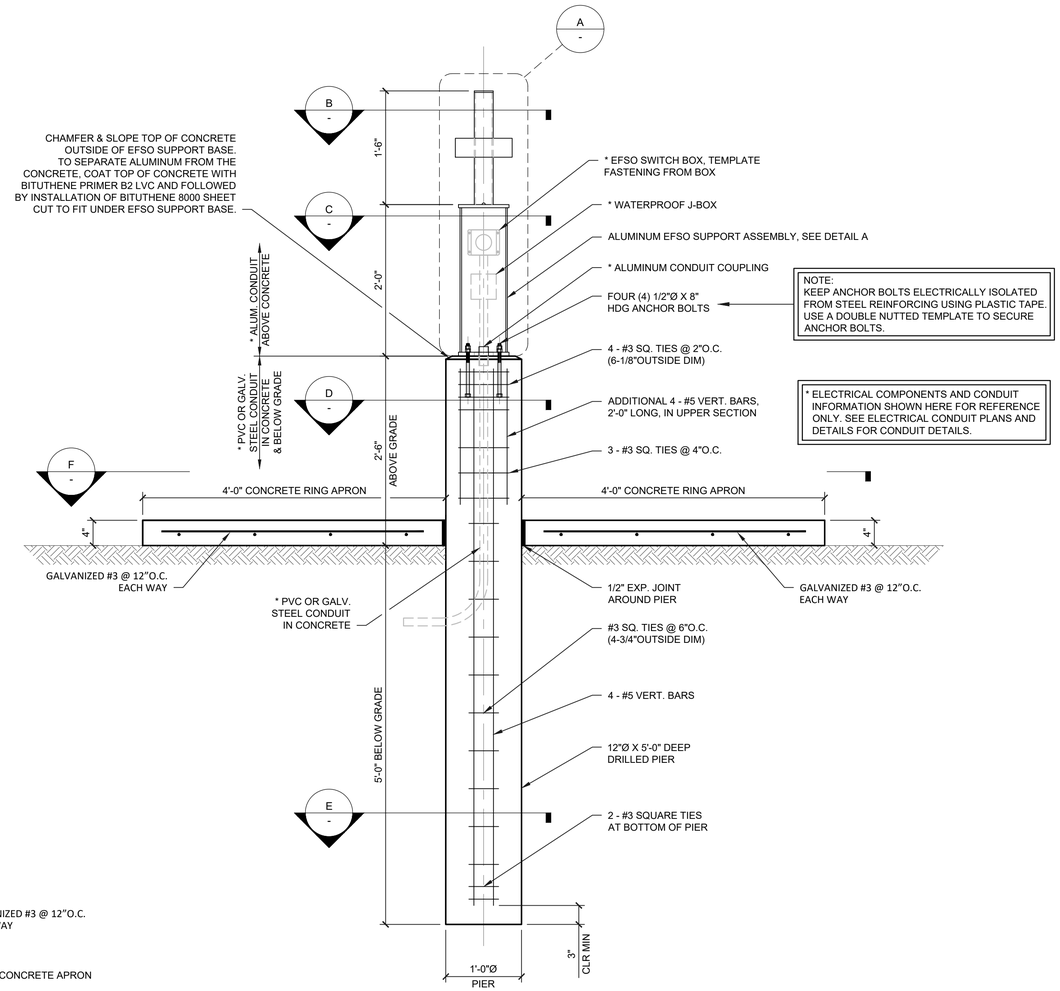
SHEET NUMBER

03S-101

SHEET OF



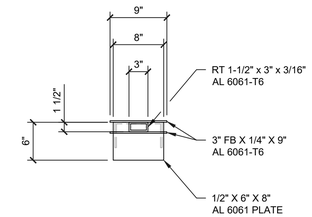
A - DETAIL - ALUMINUM POST
1" = 1'-0"



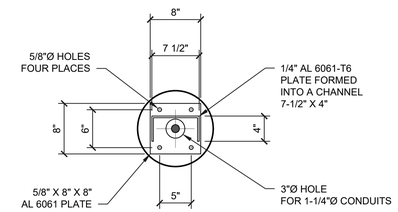
NOTE:
KEEP ANCHOR BOLTS ELECTRICALLY ISOLATED FROM STEEL REINFORCING USING PLASTIC TAPE. USE A DOUBLE NUTTED TEMPLATE TO SECURE ANCHOR BOLTS.

* ELECTRICAL COMPONENTS AND CONDUIT INFORMATION SHOWN HERE FOR REFERENCE ONLY. SEE ELECTRICAL CONDUIT PLANS AND DETAILS FOR CONDUIT DETAILS.

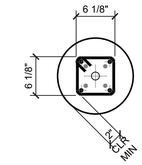
1 - POST DETAILS
EFSO (EMERGENCY FUEL SHUTOFF)
1" = 1'-0"



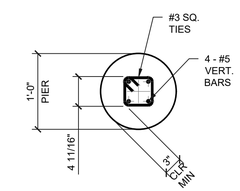
B - SECTION
1" = 1'-0"



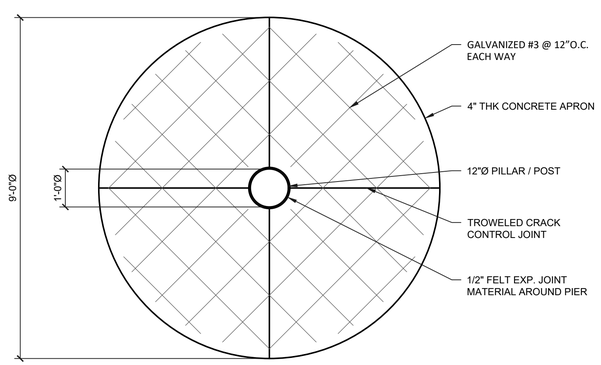
C - SECTION
1" = 1'-0"



D - SECTION
PIER ABOVE GROUND
1" = 1'-0"



E - SECTION
PIER BELOW GROUND
1" = 1'-0"



F - PLAN
CONCRETE APRON
1/2" = 1'-0"

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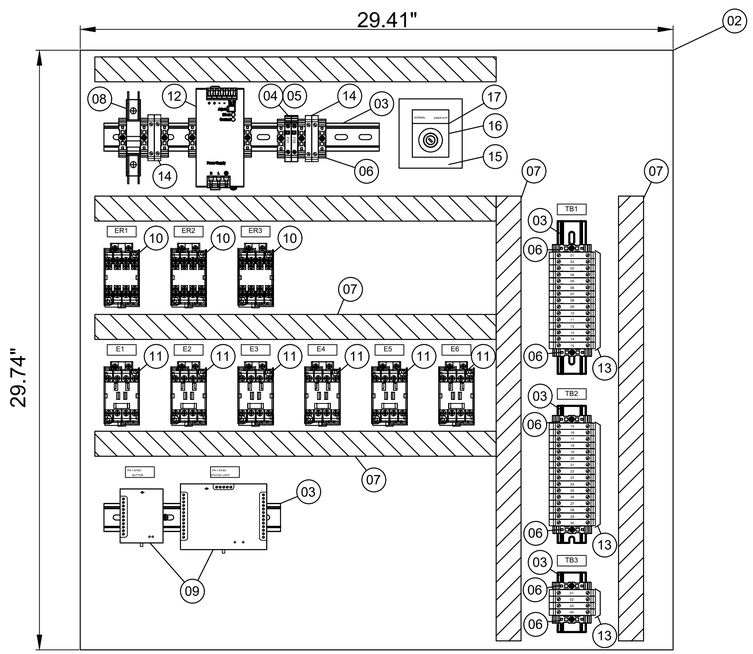
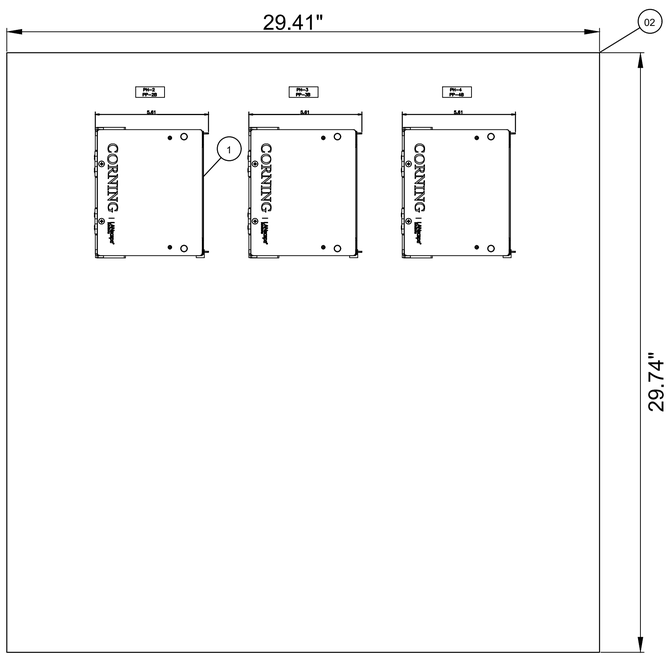
DESIGN FILE LOCATION: 10374683

SHEET TITLE
STRUCTURAL
EFSO POST DETAILS

SHEET NUMBER
03S-102
SHEET OF



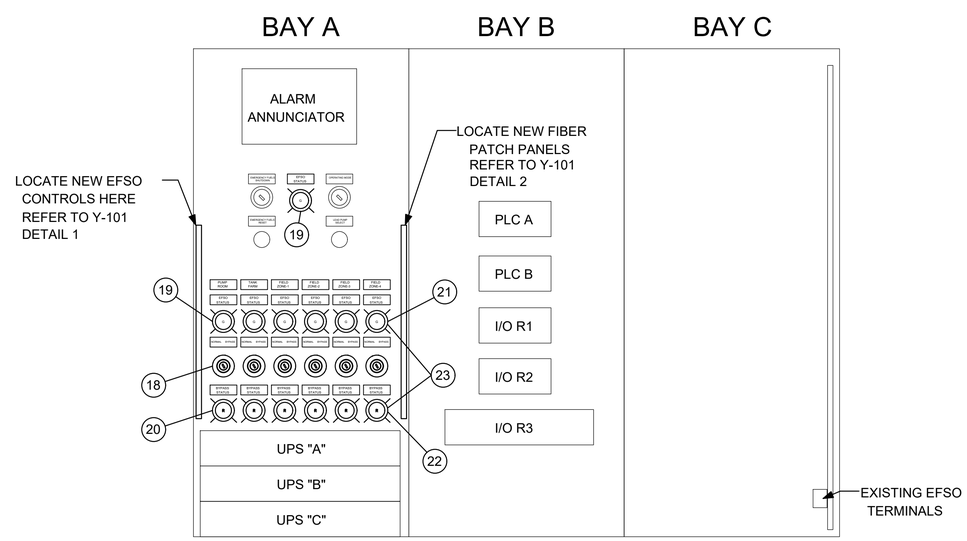
1 CONTROL BACK PANEL LAYOUT
NTS



2 FIBER PATCH PANEL LAYOUT
NTS

ID	QTY	MFG	PART #	DESCRIPTION	NOTE
01	1	CG	CORNING SPH-01P	FIBER PATCH PANEL	
02	2		CUSTOM	BACK PLATE, 29.74"Hx29.41"W	OR EQUAL
03	20in	AB	1492-DR1	MOUNTING DIN RAIL	OR EQUAL / CUT TO FIT
04	2	LF	0217.200HXP	FUSES	OR EQUAL
05	2	AB	1492-WFB4	1-TIER FUSED TERMINAL BLOCKS	OR EQUAL
06	14	AB	1492-EAJ35	END CLAMPS	OR EQUAL
07	144in	PAN	F1X2LG6 (C1LG6)	1"X2" WIREWAY, LIGHT GREY, 6' PIECE (LID)	OR EQUAL / CUT TO FIT
08	1	AB	1489-M1C050	INCOMING POWER CIRCUIT BREAKER, 5A, 120VAC, 1 POLE	OR EQUAL
09	1	AAL	AFL-80-TT-REL1-SM	CONTACT CLOSURE OPTICAL FIBER LINK QTY. 1 - PAIR (TX AND RX MODULES) QTY. 8 - 5V TTL DI (TX) QTY. 8 - 24VDC RELAYS, 1A (RX) SINGLE MODE (SM) FIBER INTERFACE 12VDC POWER IN (PLUG TYPE)	OR APPROVED EQUAL NEEDS TO BE ABLE TO PASS SIGNALS OVER FIBER
10	3	AB	700S-CF620DBC	SAFETY CONTROL RELAYS	OR EQUAL
11	6	AB	700-CF400D	CONTROL RELAYS	OR EQUAL
12	1	AB	1606-XLP30B	120V/12VDC POWER SUPPLY (PS), 30W	OR EQUAL
13	35	AB	1492-J3	1-TIER TERMINAL BLOCKS	OR EQUAL
14	4	AB	1492-J3	1-TIER TERMINAL BLOCKS	OR EQUAL
15	1	HFM	E1PBXM4	1-HOLE PB BOX, 22.5mm, EXTRA DEEP	OR EQUAL
16	1	AB	800FM-KM21R	22 mm 2-POS KEYSWITCH, MAINTAINED BOTH WAYS, KEY HELD LEFT, NO CONTACTS, INCLUDE LABEL AS SHOWN	OR EQUAL
17	1	AB	800F-MX60	22 mm CONTACT BLOCK WITH LATCH, SCREW TERMINATION, 6 NO CONTACTS, INCLUDE LABEL AS SHOWN	OR EQUAL
18	6	AB	800FM-KM21	22 mm 2-POS KEYSWITCH, MAINTAINED BOTH WAYS, KEY HELD LEFT, NO/NC CONTACT, INCLUDE LABEL AS SHOWN	OR EQUAL
19	7	AB	800FP-P3	22 mm PILOT LIGHT, LED, GREEN, 12-130V AC/DC, PUSH TO TEST, INCLUDE LABEL AS SHOWN	OR EQUAL
20	6	AB	800FP-P4	22 mm PILOT LIGHT, LED, RED, 12-130V AC/DC, PUSH TO TEST, INCLUDE LABEL AS SHOWN	OR EQUAL
21	1	AB	800F-N5G	22 mm INTEGRATED LED MODULE, GREEN LED, PKG OF 10	OR EQUAL
22	1	AB	800F-N5R	22 mm INTEGRATED LED MODULE, RED LED, PKG OF 10	OR EQUAL
23	2	AB	800F-ALM	22 mm METAL MOUNTING LATCH, PACKAGE OF 10	OR EQUAL

3 BILL OF MATERIALS
NTS



(CONTROL PANEL FRONT VIEW)

3 LOCATION OF EFSO CONTROLS
NTS

NOTES

1. BOM ABBREVIATIONS:

   1.1. OR EQUAL: PROVIDE MANUFACTURER AND PART NUMBER THAT MATCHES LISTED PART. NO APPROVAL NECESSARY FOR SUBSTITUTION.

   1.2. OR APPROVED EQUAL: PROVIDE MANUFACTURER AND PART NUMBER THAT MATCHES LISTED PART. SUBSTITUTION BY APPROVAL.

2. MANUFACTURER CODE
   - CG = CORNING
   - AB = ALLEN BRADLEY
   - LF = LITTLEFUSE
   - PAN = PANDUIT
   - AAL = A.A. LAB-SYSTEMS
   - HFM = HOFFMAN

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35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: S. HORRAS
DRAWN BY: S. HORRAS
CHECKED BY: K. CHANDRA
DESIGN FILE LOCATION: 10374683

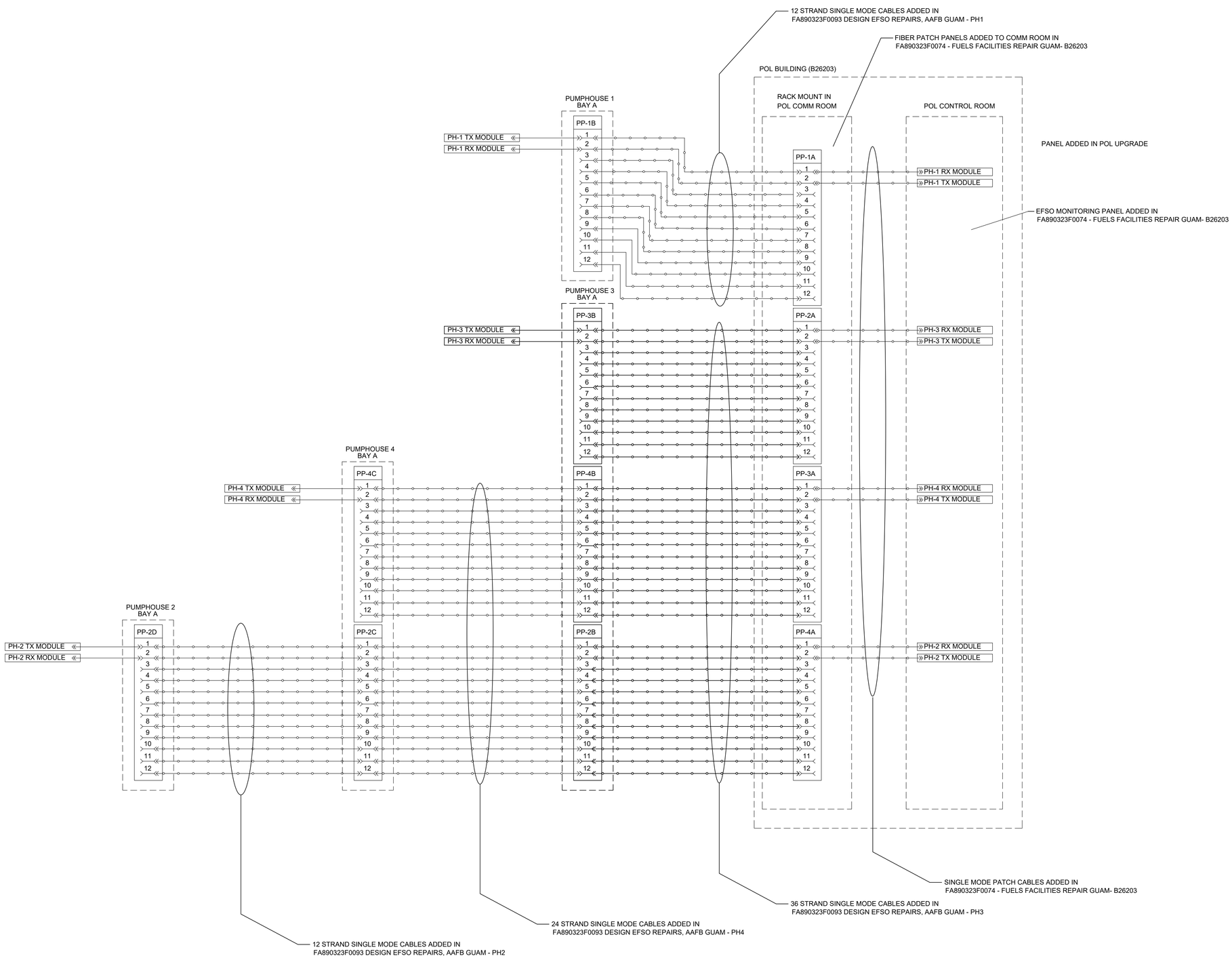
SHEET TITLE

EFSO CONTROL PANEL LAYOUT & BILL OF MATERIAL

SHEET NUMBER

03Y-101

SHEET - OF -



1 FIBER ROUTING OVERVIEW
NTS

NOTES

1. THIS DRAWING SHOWS AN OVERVIEW OF THE FIBER INSTALLED DURING MULTIPLE PROJECTS TO PROVIDE MONITORING OF EFSO STATUS FOR PUMP HOUSES AT B26203.

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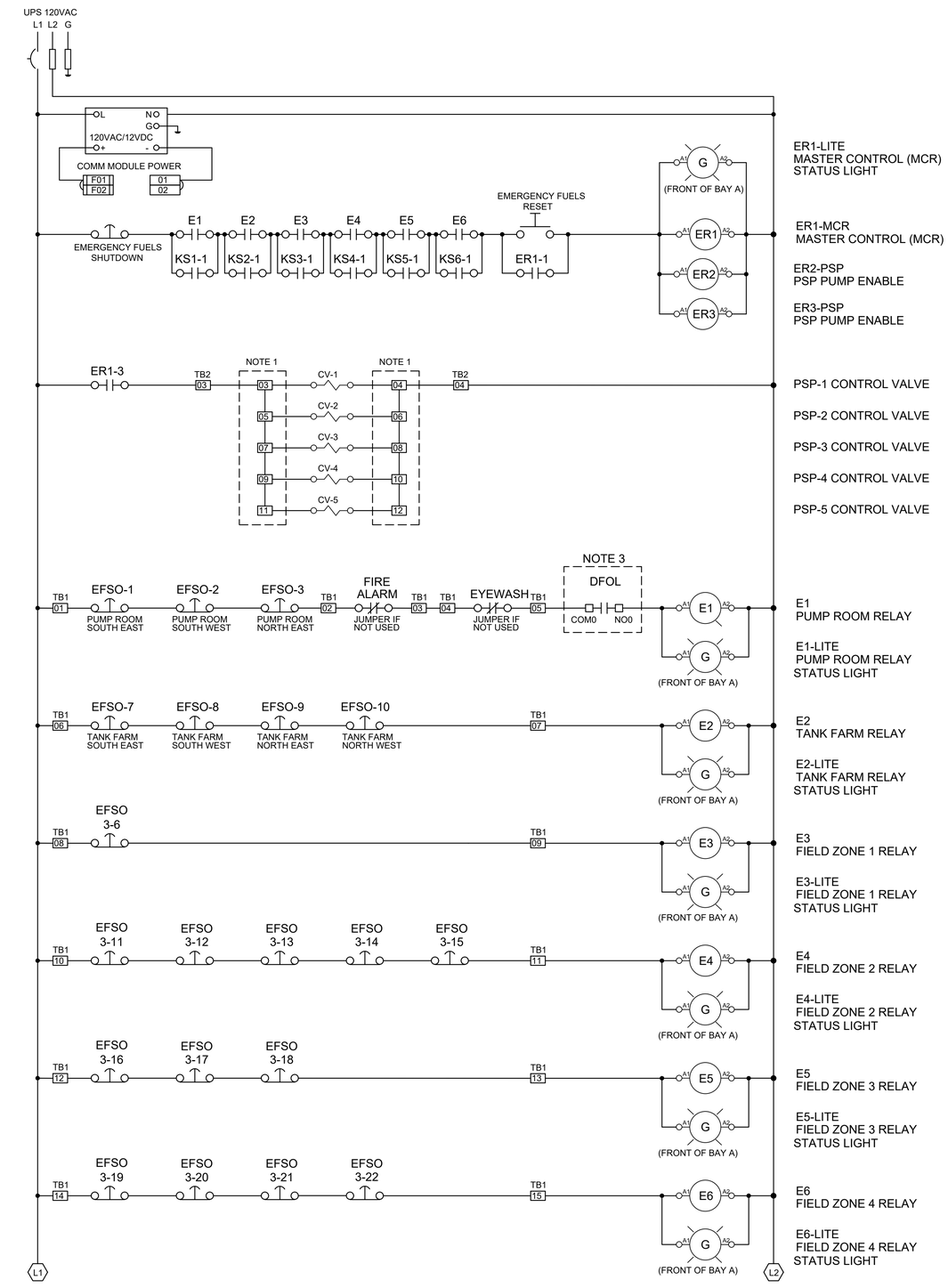
SHEET TITLE

EFSO FIBER NETWORK OVERVIEW

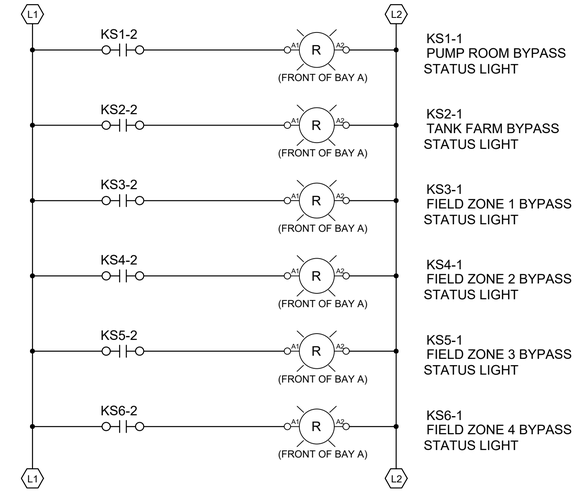
SHEET NUMBER

03Y-102

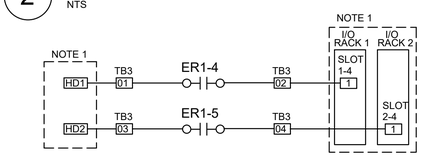
SHEET - OF OVERVIEW



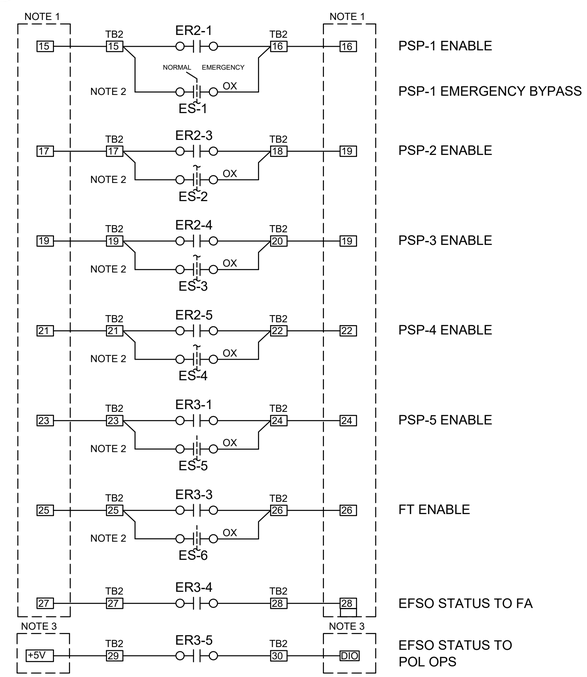
1 EFSO WIRING
NTS



2 BYPASS STATUS LIGHT WIRING
NTS



3 PSP CONTROL PLC - EFSO MONITORING
NTS



4 PUMP ENABLE WIRING
NTS

NOTES

1. EXISTING TERMINALS IN BAY C.
2. EMERGENCY BYPASS SWITCH ALLOWS FOR PUMP TO RUN WITHOUT ER1 ENABLED. LOCATE SWITCH INSIDE BAY A WITH LIMTED ACCESS KEYSWITCH.
3. DIGITAL FIBER OPTIC LINK (DFOL)

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ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: S. HORRAS
DRAWN BY: S. HORRAS
CHECKED BY: K. CHANDRA
DESIGN FILE LOCATION: 10374683

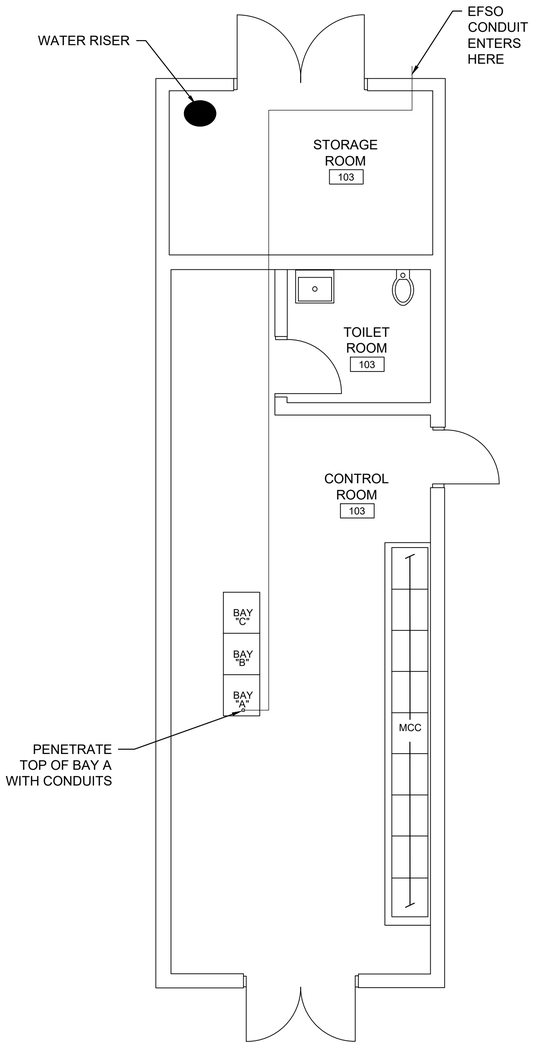
SHEET TITLE

EFSO AND PUMP HOUSE WIRING LAYOUT

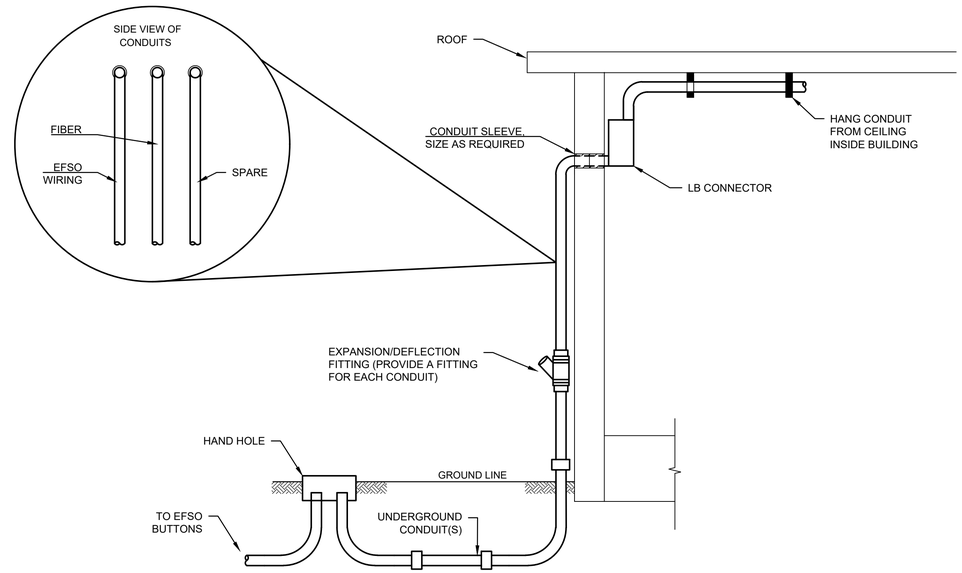
SHEET NUMBER

03Y-103

SHEET - OF -



1 PUMP STATION PH-3 I&C PLAN
1" = 50'-0"



2 UNDERGROUND CONDUIT BUILDING ENTRY DETAIL
NTS

NOTES

1. PROVIDE CONDUIT SEAL FOR ALL CONDUITS ENTERING BUILDING.

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PROJECT INFORMATION

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ANDERSEN AIR FORCE BASE, GUAM

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ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: S. HORRAS
DRAWN BY: S. HORRAS
CHECKED BY: K. CHANDRA
DESIGN FILE LOCATION: 10374683

SHEET TITLE

PUMP HOUSE I&C PLAN AND DETAILS

SHEET NUMBER

03Y-104

SHEET - OF -

LEGENDS, SYMBOLS AND ABBREVIATIONS

SINGLE POLE CIRCUIT BREAKER

SINGLE TIER (1-TIER) TERMINAL BLOCK

SINGLE TIER (1-TIER) FUSED TERMINAL BLOCK

R — 120VAC PILOT LIGHT (RED)

G — 120VAC PILOT LIGHT (GREEN)

SOLENOID VALVE

DEVICE — DVC-P — POLE
NORMALLY OPEN CONTACT

DEVICE — DVC-P — POLE
NORMALLY CLOSED CONTACT

ERx — MASTER CONTROL RELAY (SAFETY)

Ex — ZONE CONTROL RELAY

NORMALLY CLOSED PUSHBUTTON (MAINTAINED)

NORMALLY CLOSED PUSHBUTTON (MOMENTARY)

NORMALLY OPEN PUSHBUTTON (MAINTAINED)

NORMALLY OPEN PUSHBUTTON (MOMENTARY)

G — GENERATOR

ATS — TRANSFER SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

ATS - AUTOMATIC
MTS - MANUAL

TRANSFORMER

3-PHASE, 3-WIRE DELTA CONNECTION

3-PHASE, 4-WIRE GROUNDED WYE CONNECTION

LP100 208/120V 3Ø, 4W — SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

100 KVA — NON-MOTOR LOAD WITH DESIGN KVA, KW, OR AMP

VOLTAGE TRANSFORMER (VT OR PT)

CURRENT TRANSFORMER (CT)

WH — UTILITY WATT-HOUR METER PER UTILITY REQUIREMENTS

DMP — DIGITAL METERING PACKAGE

GROUND

LIGHTNING ARRESTER

SPD — LOW VOLTAGE SURGE PROTECTIVE DEVICE

IC — INSTRUMENTATION/CONTROL DEVICE

CONTROL PANEL INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

CONTROL PANEL WITH DISCONNECT SWITCH INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

J — JUNCTION OR PULL BOX

PANELBOARD (250V TO 600V)

PANELBOARD (LESS THAN 250V)

X — ELECTRICAL EQUIPMENT ENCLOSURE: SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, TRANSFORMER OR OTHER EQUIPMENT AS INDICATED. ESTIMATED SIZE AS INDICATED. WHEN USED X INDICATES EQUIPMENT TYPE.

EQUIPMENT TYPES:

ATS	-	AUTOMATIC TRANSFER SWITCH
CP	-	CONTROL PANEL
MTS	-	MANUAL TRANSFER SWITCH
MCC	-	MOTOR CONTROL CENTER
UPS	-	UNINTERUPTABLE POWER SUPPLY
VFD	-	VARIABLE FREQUENCY DRIVE
SB	-	SWITCHBOARD
SG	-	SWITCHGEAR
T	-	TRANSFORMER

PB:X-YY — EFSO — EFSO PUSH BUTTON STATION.
PB - PUSH BUTTON
X - PHASE OR HYDRANT SYSTEM NUMBER
YY - SEQUENTIAL NUMBER

CONDUIT TURNING UP

CONDUIT TURNING DOWN

HOME RUN TO PANEL, 2 #12, 1 #12G IN 3/4"C UNLESS OTHERWISE NOTED

CIRCUIT RUN BETWEEN DEVICES EXPOSED IN NON-ARCHITECTURALLY FINISHED AREAS; CONCEALED IN ARCHITECTURALLY FINISHED AREAS. CONDUIT AND CONDUCTOR SIZES MUST BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CONDUIT RUN BETWEEN DEVICES CONCEALED IN NON-ARCHITECTURALLY FINISHED AREAS OR UNDER FLOOR SLAB. CONDUIT AND CONDUCTOR SIZES MUST BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CIRCUIT HASH MARKS (WHEN INDICATED); LONG, SHORT, SINGLE DOT, AND DOUBLE DOT REPRESENT PHASE, NEUTRAL, EQUIPMENT GROUND, AND ISOLATED EQUIPMENT GROUND, RESPECTIVELY. #12 IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

CIRCUIT CONTINUATION

CONDUIT STUBBED OUT AND CAPPED

XXX OR XXX — CONDUIT TAG OR CIRCUIT NUMBER - WIRE AND CONDUIT SIZE AS SPECIFIED IN CIRCUIT SCHEDULE ON THE SHEETS

G — G — GROUND CABLE

GROUND ROD

E — E — CONCRETE ENCASED UNDERGROUND DUCTBANK RE: 1/01E-501 (TRENCHED ALIGNMENT. RE: CIVIL DWGS)

DB — DB — HORIZONTAL DIRECT DRILLING RE: A/01C-103 - 01C-105 (TRENCHLESS ALIGNMENT, RE: CIVIL DWGS)

EE — EE — UNDERGROUND DIRECT BURY RE: 1/01E-501 (TRENCHED ALIGNMENT. RE: CIVIL DWGS)

HH — HAND HOLE

GENERAL NOTES:

1. THIS IS A STANDARD ELECTRICAL SYMBOLOGY SHEET.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: K. LE
DRAWN BY: D. DOSHI
CHECKED BY: P. DAVILA
DESIGN FILE LOCATION: 10374683

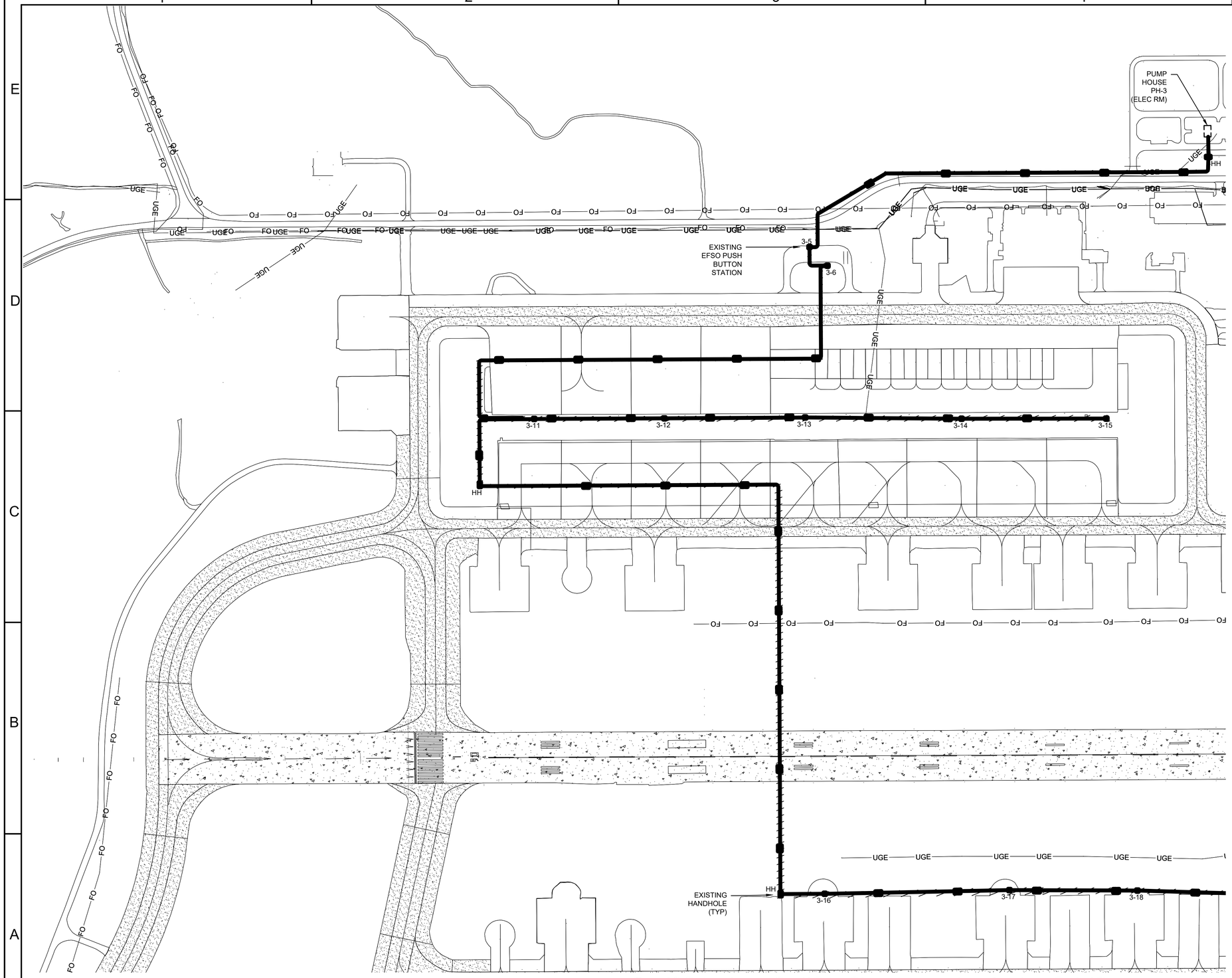
SHEET TITLE

LEGENDS SYMBOLS AND ABBREVIATIONS

SHEET NUMBER

03E-001

SHEET - OF -



1 I&C AND ELECTRICAL SITE PLAN AREA 3 - DEMOLITION

SCALE : 1" = 200'

NORTH

0 200' 400' 800'

SCALE: 1" = 200'

GENERAL ELECTRICAL NOTES:

1. PRIOR TO DEMOLITION, VERIFY/UNDERTAKE AN AUDIT OF EXISTING SERVICES AND PROVIDE A WRITTEN REPORT TO THE CONTRACTING OFFICER FOR APPROVAL.
2. ELECTRICAL SERVICES MUST BE MADE SAFE TO COMPLY WITH THE NATIONAL ELECTRICAL CODE (NFPA 70) AND THE NATIONAL ELECTRICAL SAFETY CODE (IEEE C2) AND LEFT IN A SAFE CONDITION.
3. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY OF THE AS BUILT DRAWINGS AND/OR MANUALS OF EXISTING SERVICES. THE CONTRACTOR MUST FULLY VALIDATE THE EXISTING INSTALLATION PRIOR TO UNDERTAKING WORK.
4. IDENTIFY SERVICES WHICH ARE MUST BE DEMOLISHED, AND OBTAIN THE CONTRACTING OFFICERS APPROVAL. UNDERTAKE SURVEYS OF THE EXISTING SYSTEMS AND VALIDATE / ENHANCE THE INFORMATION PROVIDED.
5. SUBMIT DOCUMENTATION OF EQUIPMENT / MATERIAL DISPOSAL TO THE CONTRACTING OFFICER FOR REVIEW. SUBMIT THE EVIDENCE OF COMPLIANCE WITH THE RELEVANT AUTHORITY FOR THE DISPOSAL OF MATERIAL REQUIRED BEING REMOVED FROM THE SITE.
6. THE GOVERNMENT HAS THE RIGHT TO SALVAGE EQUIPMENT, COMPONENTS AND OTHER ITEMS WHICH ARE NOT INTENDED BEING REUSED. PROVIDE THE CONTRACTING OFFICER WITH A MINIMUM OF FIVE (5) DAYS' NOTICE TO INSPECT AND REMOVE THE SALVAGED ITEMS AND COMPONENTS. THE NOTICE MUST BE PROVIDED IN WRITING IDENTIFYING THE AFFECTED AREAS, THE COMPONENTS, EQUIPMENT AND SUPPLEMENTARY INFORMATION AS DEEMED NECESSARY BY THE CONTRACTING OFFICER. AT THE END OF THIS PERIOD ITEMS, EQUIPMENT, COMPONENTS. REMAINING MUST BE SAFELY REMOVED FROM SITE AND DISPOSED.
7. REMOVE EXISTING EFSO PUSH-BUTTON STATIONS AS INDICATED, INCLUDING STRUCTURAL FRAME, SIGNAGE, CONCRETE BASES, CAN BASES, AND ASSOCIATED ELECTRICAL DEVICES.
8. REMOVE EXISTING CONDUCTORS/GROUNDING CABLES BACK TO PANEL SOURCE. ABANDON UNDERGROUND CONDUITS. CAP THE ABANDONED CONDUITS IN PLACE.

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ANDERSEN AIR FORCE BASE, GUAM

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MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: K. LE
DRAWN BY: D. DOSHI
CHECKED BY: P. K. DAVILA
DESIGN FILE LOCATION: 10374683

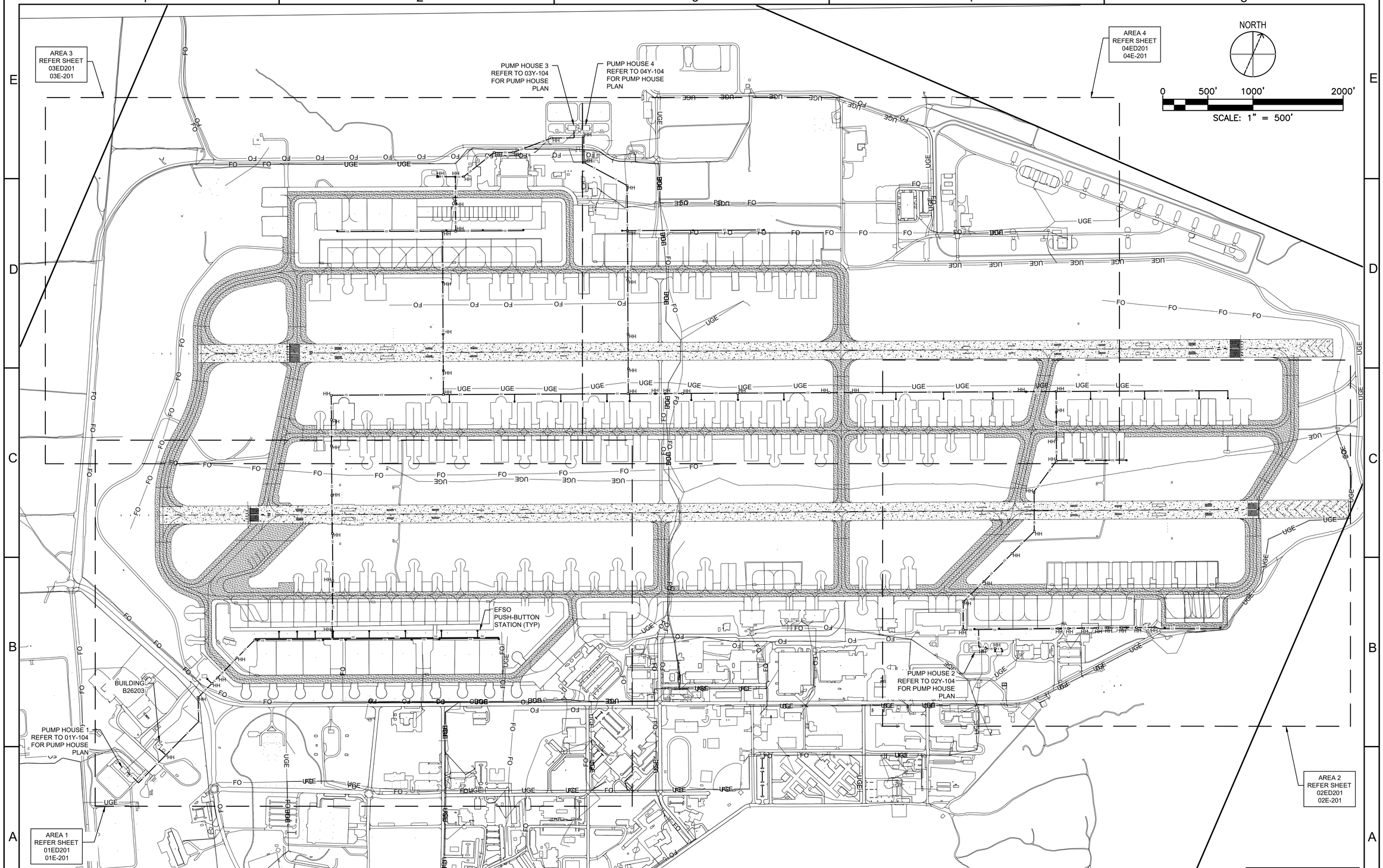
SHEET TITLE

I&C AND ELECTRICAL SITE PLAN AREA 3 - DEMOLITION

SHEET NUMBER

03ED-201

SHEET - OF -



1 OVERALL I&C AND ELECTRICAL SITE PLAN

SCALE : 1" = 500'

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DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

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ISSUE DATE: 11/06/2023
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DRAWN BY: D. DOSHI
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DESIGN FILE LOCATION: 10374683

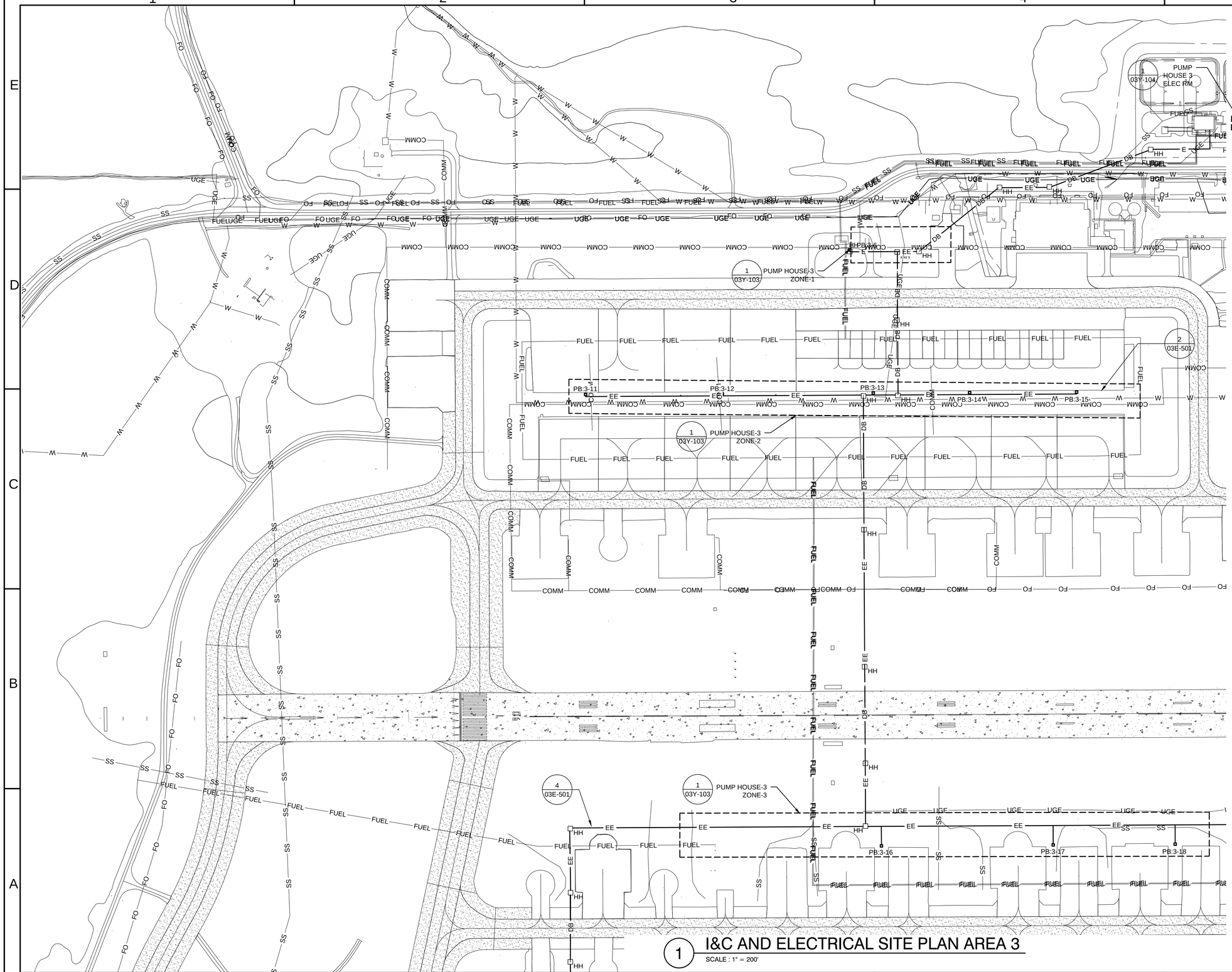
SHEET TITLE

OVERALL I&C AND ELECTRICAL SITE PLAN

SHEET NUMBER

03E-101

SHEET - OF -



GENERAL ELECTRICAL NOTES:

1. THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTIONS ISSUED DURING THE COURSE OF THE CONTRACT.
2. THE CONSTRUCTION WORKS MUST BE UNDERTAKEN IN ACCORDANCE WITH FEDERAL CODES, CURRENT STANDARDS REGULATIONS AND CODES.
3. VERIFY AND CHECK DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. DISCREPANCIES MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CLARIFICATION.
4. IF THE DISCREPANCY OCCURS ON THE DRAWINGS OR BETWEEN DRAWINGS AND THE SPECIFICATION, THE CONTRACTOR MUST DURING THE BID PERIOD ASSUME THE LARGER/GREATER SCOPE. DISCREPANCY MUST BE REFERRED TO THE CONTRACTING OFFICER BEFORE PROCEEDING WITH THE WORK.
5. THE SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO THE SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF MATERIALS, LABOR AND EQUIPMENT FOR THE COMPLETE ELECTRICAL SERVICES INSTALLATION AND ASSOCIATED CONSTRUCTION/BUILDING WORK AS SHOWN ON THE DRAWINGS AND SPECIFICATION.
6. COORDINATE THE LOCATION OF THE ELECTRICAL SERVICES UNDER THE CONTRACTOR'S SCOPE OF WORK WITH OTHER TRADES AND TO SUIT BUILDING ELEMENTS.
7. COORDINATE AT MOST TIMES WITH THE CONTRACTING OFFICER.
8. PROVIDE FIRE AND SMOKE SEALS, ENSURE COMPLIANCE WITH THE APPLICABLE CODE IS ACHIEVED.
9. EXCAVATION MUST NOT REDUCE LATERAL SUPPORT FROM FOUNDATION OR ADJACENT FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST DETRIMENTAL LATERAL OR VERTICAL MOVEMENT OR BOTH.
10. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION, SUCH AS EFSO PUSH-BUTTON LOCATIONS, ALIGNMENT, TRENCH VS. TRENCHLESS ROUTES.
11. REFER TO P&ID FOR PHASE AND ZONE SEQUENTIALS.

1 I&C AND ELECTRICAL SITE PLAN AREA 3

SCALE : 1" = 200'

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REVISIONS

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MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
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DRAWN BY: D.DOSHI
CHECKED BY: P. DAVILA
DESIGN FILE LOCATION: 10374683

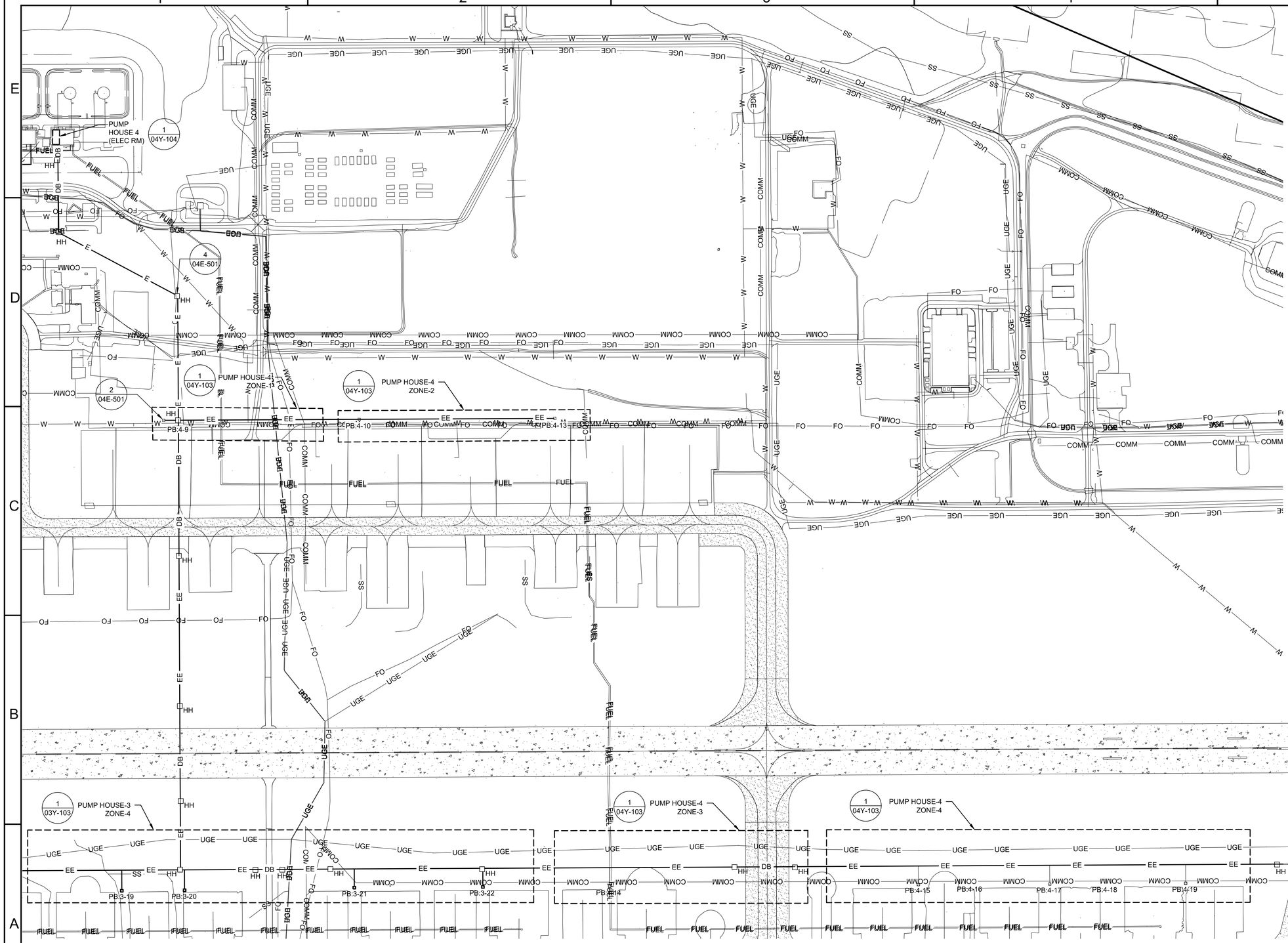
SHEET TITLE

I&C AND ELECTRICAL SITE PLAN AREA 3

SHEET NUMBER

03E-201

SHEET - OF -



NORTH

0 200' 400' 800'

SCALE: 1" = 200'

GENERAL ELECTRICAL NOTES:

1. THESE DRAWINGS MUST BE READ IN CONJUNCTION WITH THE SPECIFICATION AND WITH SUCH OTHER WRITTEN INSTRUCTIONS ISSUED DURING THE COURSE OF THE CONTRACT.
2. THE CONSTRUCTION WORKS MUST BE UNDERTAKEN IN ACCORDANCE WITH FEDERAL CODES, CURRENT STANDARDS REGULATIONS AND CODES.
3. VERIFY AND CHECK DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS PRIOR TO THE START OF CONSTRUCTION. DISCREPANCIES MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CLARIFICATION.
4. IF THE DISCREPANCY OCCURS ON THE DRAWINGS OR BETWEEN DRAWINGS AND THE SPECIFICATION, THE CONTRACTOR MUST DURING THE BID PERIOD ASSUME THE LARGER/GREATER SCOPE. DISCREPANCY MUST BE REFERRED TO THE CONTRACTING OFFICER BEFORE PROCEEDING WITH THE WORK.
5. THE SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO THE SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF MATERIALS, LABOR AND EQUIPMENT FOR THE COMPLETE ELECTRICAL SERVICES INSTALLATION AND ASSOCIATED CONSTRUCTION/BUILDING WORK AS SHOWN ON THE DRAWINGS AND SPECIFICATION.
6. COORDINATE THE LOCATION OF THE ELECTRICAL SERVICES UNDER THE CONTRACTOR'S SCOPE OF WORK WITH OTHER TRADES AND TO SUIT BUILDING ELEMENTS.
7. COORDINATE AT MOST TIMES WITH THE CONTRACTING OFFICER.
8. PROVIDE FIRE AND SMOKE SEALS, ENSURE COMPLIANCE WITH THE APPLICABLE CODE IS ACHIEVED.
9. EXCAVATION MUST NOT REDUCE LATERAL SUPPORT FROM FOUNDATION OR ADJACENT FOUNDATION WITHOUT FIRST UNDERPINNING OR PROTECTING THE FOUNDATION AGAINST DETRIMENTAL LATERAL OR VERTICAL MOVEMENT OR BOTH.
10. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION, SUCH AS EFSO PUSH-BUTTON LOCATIONS, ALIGNMENT, TRENCH VS. TRENCHLESS ROUTES.
11. REFER TO P&ID FOR PHASE AND ZONE SEQUENTIALS.
12. GRAY EFSO LOCATIONS ARE NOT INCLUDED IN THIS PACKAGE

1 I&C AND ELECTRICAL SITE PLAN AREA 4

SCALE : 1" = 200'

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35% DESIGN

NOT FOR CONSTRUCTION

PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-4 (Hydrant System #4)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: K. LE
DRAWN BY: D. DOSHI
CHECKED BY: P. DAVILA
DESIGN FILE LOCATION: 10374683

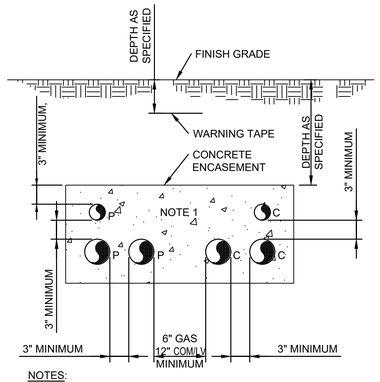
SHEET TITLE

I&C AND ELECTRICAL SITE PLAN AREA 4

SHEET NUMBER

03E-202

SHEET - OF -

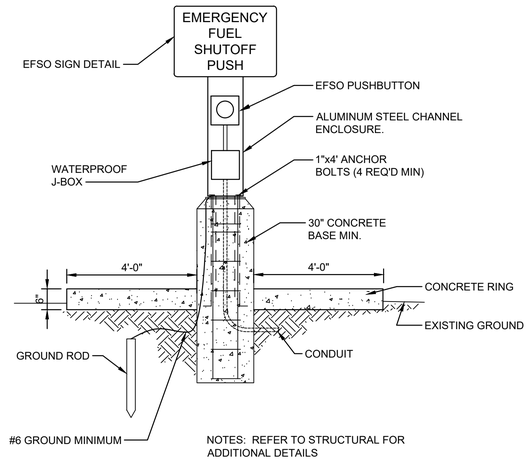


NOTES:

1. REFER TO CIVIL AND SITE DRAWINGS FOR ADDITIONAL INFORMATION.
2. 'P' SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.
4. VEHICLE AREA, EXCEPT AIRFIELD AREA.

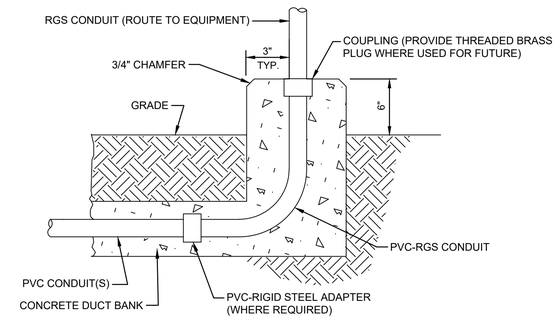
1 TYPICAL CONCRETE - ENCASED DUCT BANK SECTION

NOT TO SCALE



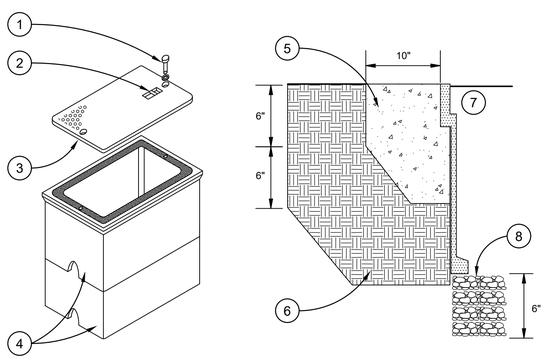
2 EFSO STATION DETAIL

NOT TO SCALE



3 CONDUIT STUB-UP CURB (EXT.AREA)

NOT TO SCALE



KEYED NOTES:

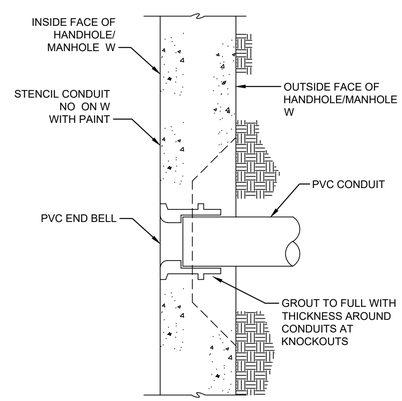
1. STAINLESS STEEL HEX BOLT AND WASHER
2. PULL SLOT
3. SKID RESISTENT SURFACE
4. SECTIONAL BOX WHEN REQUIRED
5. CONCRETE RING AROUND BOX
6. COMPACTED EARTH
7. BOX AND COVER
8. CRUSHED ROCK

NOTES:

A. HOUSING MUST BE A POLYMER CONCRETE REINFORCED WITH A HEAVY WEAVE.
B. FIBERGLASS REINFORCING WITH COMPRESSIVE STRENGTH OF NO LESS THAN 10,000 psi.
C. COVER AND BOX MUST WITHSTAND A SERVICE LOAD OF NO LESS THAN 15,000 LBS.
D. HANDHOLE LIDS IN AREA IN ROADWAYS OR WITHIN 10 FEET OF ROADWAYS MUST BE DESIGNED TO WITHSTAND H-20 LOADING.
E. PROVIDE STAINLESS STEEL BOLTS AND INSERTS.
F. PROVIDE WITH (2) 2 1/2" MOUSEHOLES.
G. PROVIDE LABEL "ELECTRICAL" ON COVER.
H. PROVIDE ADDITIONAL SPACE TO PROVIDE SEPARATION BETWEEN POWER AND COMMUNICATION WIRING.

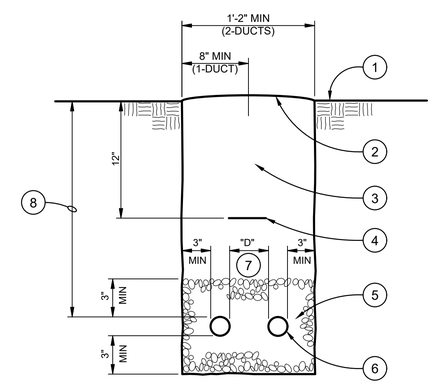
4 HAND HOLE DETAIL

NOT TO SCALE



5 CONDUIT HAND HOLE / MANHOLE ENTRANCE

NOT TO SCALE



KEYED NOTES:

1. FINISH GRADE
2. SEE TRENCH TOPPING PER SITE PLAN.
3. COMPACTED EARTH BACKFILL
4. PLASTIC, MAGNETIC 3" WIDE DETECTABLE TAPE
5. COMPACTED BEDDING AND PIPE ZONE MATERIAL
6. PVC CONDUIT. NUMBER OF CONDUITS VARY, SEE SITE PLANS
7. D = 3" MIN FOR 2" AND LARGER CONDUIT
8. 2'-6" MINIMUM, SEE NOTE A

NOTES:

A. INSTATION OF DIRECT BURIED DUCT BANK MUST BE SCHEDULE PVC-80 CONDUIT AT 2'-6" MINIMUM BELOW GRADE.

6 UNDERGROUND DIRECT BURY DUCT BANK DETAIL (NON-VEHICLE AREAS)

NOT TO SCALE

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PROJECT INFORMATION

DESIGN EFSO REPAIRS AT VARIOUS FUELS FACILITIES - DESIGN EFSO REPAIRS TO HS-3 (Hydrant System #3)

ANDERSEN AIR FORCE BASE, GUAM

REVISIONS

MARK	DATE	DESCRIPTION

MANAGEMENT INFORMATION

ISSUE DATE: 11/06/2023
DESIGN GROUP: HDR
DESIGNED BY: K. LE
DRAWN BY: D. DOSHI
CHECKED BY: P. DAVILA
DESIGN FILE LOCATION: 10374683

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

03E-501

SHEET - OF -