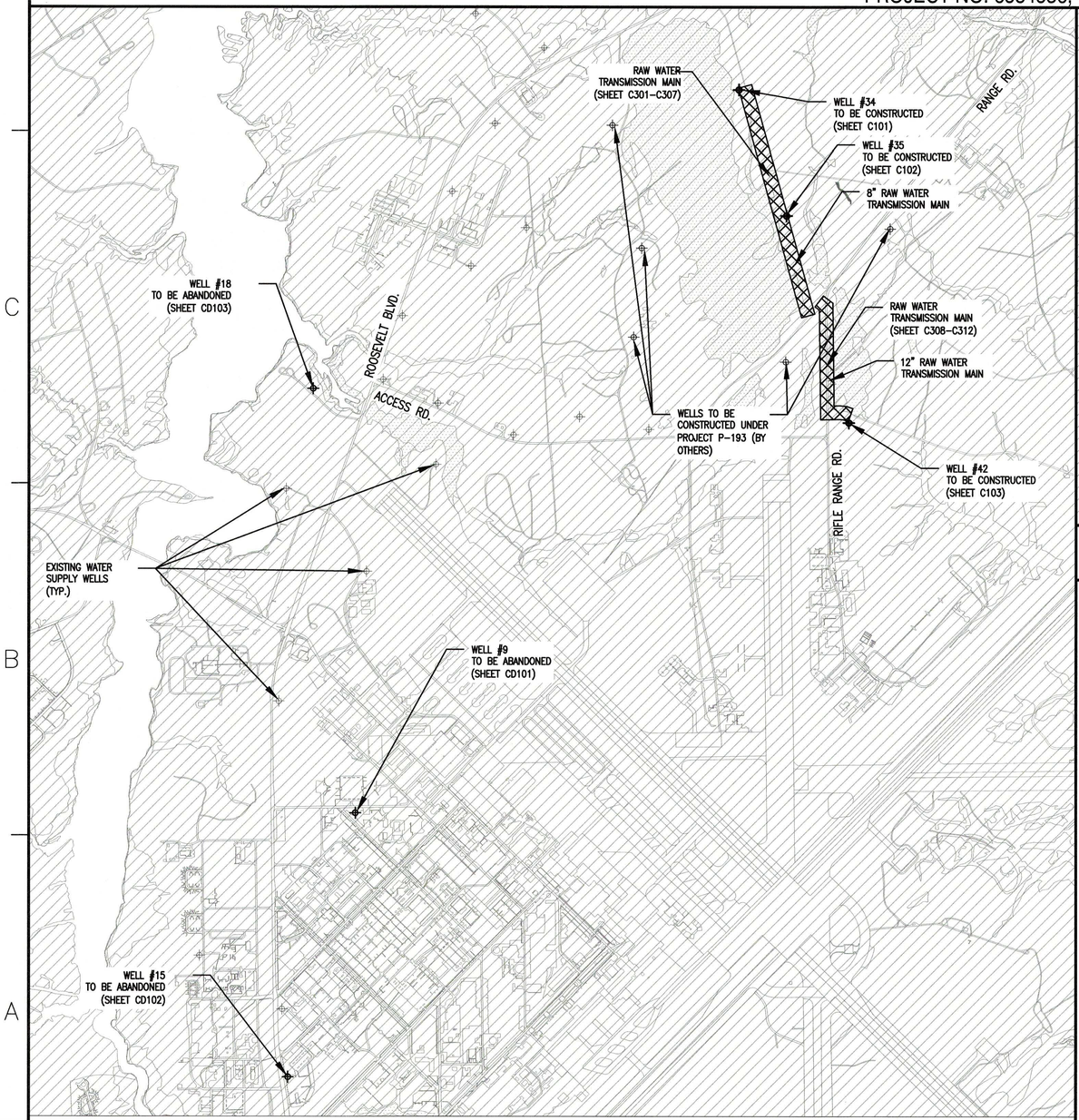
REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

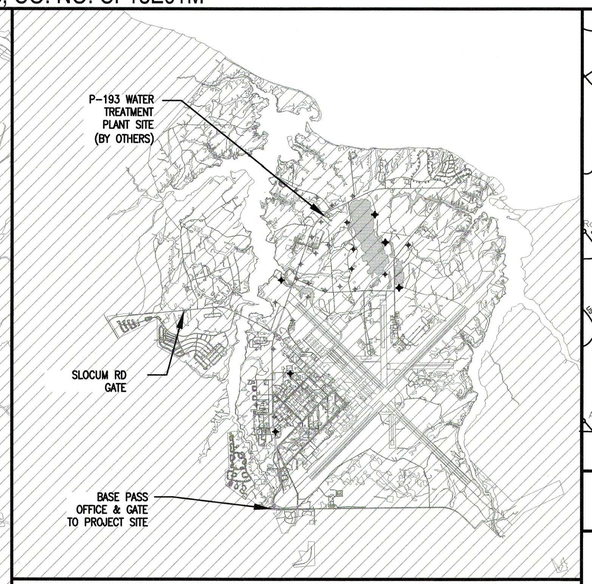
MARINE CORPS AIR STATION - CHERRY POINT, NC

PROJECT NO. 6584536, CO. NO. CP18E01M



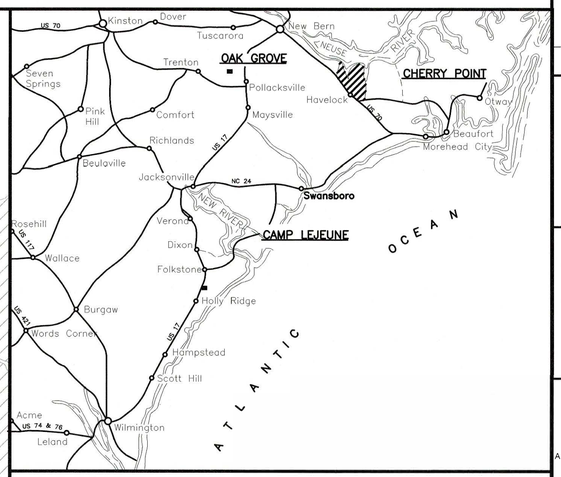
LOCATION MAP

1"=1,000'



AREA MAP

1"=5,000'



VICINITY MAP

NOT TO SCALE

NAVFAC COMMAND

COMMANDER NAVFAC / B.L.T.L.

DESIGN ARCHITECT

DESIGN CIVIL

DESIGN STRUCTURAL

DESIGN FIRE PROTECTION

DESIGN MECHANICAL

INTERIOR DESIGN

DESIGN ELECTRICAL

GEOTECHNICAL

5000' 2500' 0 5000' 10000'
1"=5000'

1000' 500' 0 1000' 2000'
1"=1000'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 019334 ENGINEER REED A. CAMPBELL

SEAL

AECOM

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A/E INFO

APPROVED

ACTIVITY

FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW MLJ CHK MTB

PROJECT NO. 60537017

W.O. NO 6584536

CP NO CP18E01M

CONTR. NO N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA, DPT
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

COVER SHEET

SCALE: AS NOTED

DATE: JUNE 2018

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757438

SHEET 1 OF 59

GI001

FILE NAME: O:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-GI001.dwg LAYOUT NAME: GI001 PLOTTED: Monday, June 18, 2018 - 1:27pm USER: megan.jones

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		CIVIL	
4	C001	RAW WATER MAIN KEY MAP	12757441
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LEGEND

- FM — PROPOSED FORCE MAIN
- FENCE LINE
- NCDOT R/W LINE
- CSXT R/W LINE
- EDGE OF PAVEMENT
- EXISTING DITCH BOTTOM
- EXISTING RAILROAD TRACKS
- TCE — TEMP CONSTRUCTION EASEMENT
- S — EXISTING SANITARY SEWER (SS)
- EXISTING POTABLE WATER LINE
- EXISTING RAW WATER LINE
- PROPOSED RAW WATER LINE (BY THIS PROJECT)
- PROPOSED RAW WATER LINE (BY P-193 PROJECT)
- OHE — EXISTING OVERHEAD ELECTRIC
- UE — PROPOSED UNDERGROUND ELECTRIC LINE
- FO — EXISTING FIBER OPTIC LINE
- FO — PROPOSED FIBER OPTIC LINE
- FM — EXISTING FORCE MAIN
- SD — EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- G — EXISTING GAS MAIN
- POWER POLE (PP)
- LIGHT POLE (LP)
- POLE GUY WIRE
- MANHOLE (MH)
- EXISTING VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- T — EXISTING TEL PEDESTAL
- S — EXISTING SIGNAL BOX
- E — EXISTING ELEC BOX
- JB — PROPOSED JUNCTION BOX
- XFMR — PROPOSED TRANSFORMER
- HH — PROPOSED FIBER OPTICS HANDHOLE
- R/W MONUMENT
- CB — CATCH BASIN (CB)
- TREE
- WETLANDS
- EXISTING GRAVEL ROAD
- PROPOSED GRAVEL DRIVE

DEMOLITION LEGEND:

- CONCRETE DEMOLITION
- PAVEMENT DEMOLITION
- TERMINATE DEMOLITION
- W — CAPPED UTILITY
- W — UTILITY REMOVAL
- W — UTILITY TO BE ABANDONED
- W — EXISTING ABANDONED UTILITY
- ITEM DEMOLITION

SEDIMENTATION & EROSION CONTROL

- BG — BLOCK AND GRAVEL PROTECTED DROP INLET
- JM — JUTE MATTING
- CIP — CULVERT INLET PROTECTION
- OUTLET STABILIZATION (OS)
- ARC FILTER ROCK PIPE INLET PROTECTION
- TEMPORARY CONSTRUCTION ENTRANCE
- SFO — SILT FENCE OUTLET
- SF — SILT FENCE
- LIMITS OF DISTURBANCE

ABBREVIATIONS

BI	–	BID ITEM
CB	–	CATCH BASIN
CONC	–	CONCRETE
DI	–	DUCTILE IRON
DIA	–	DIAMETER
DPS	–	DIVERSION PUMP STATION
EA	–	EACH
EL	–	ELEVATION
EQ	–	EQUALIZATION BASIN
EX	–	EXISTING
FF	–	FINISHED FLOOR
FH	–	FIRE HYDRANT
FLG	–	FLANGED
FM	–	FORCE MAIN
INV	–	INVERT
ME	–	MATCH EXISTING
MH	–	MANHOLE
MJ	–	MECHANICAL JOINT
PE	–	PLAIN END
PP	–	POWER POLE
RJ	–	RESTRAINED JOINT
RAS	–	RETURNED ACTIVATED SLUDGE
REQ'D	–	REQUIRED
SS	–	STAINLESS STEEL
TOC	–	TOP OF CURB
TOD	–	TOP OF DRIVE
TOF	–	TOP OF FOOTING
TOW	–	TOP OF WEIR
TYP	–	TYPICAL

STM	DESCRIPTION	DATE	APPR
1	ADDED SHEET	1/7/19	KKPT

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 019334 ENGINEER LARRY A. CAMPBELL

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A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES XXX DRW XXX CHK XXX

PROJECT NO. 60537017
W.O. NO 6584536
CP NO. CP18E01M
CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CAROLINA 8PT

NAVAL FACILITIES ENGINEERING COMMAND – NAVFAC MIDLANT
MARINE CORPS BASE – CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

INDEX OF DRAWINGS, LEGEND, & NOTES

SCALE: AS NOTED
DATE: JANUARY 2019
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12757439
SHEET 2 OF 59

GI002

FILE NAME: Q:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD 005\910 CAD\20-Sheets\CP\PDTWELLS-6584536-GI002.dwg LAYOUT NAME: GI002 PLOTTED: Tuesday, January 08, 2019 - 10:54am USER: megan.jones

AMEC E&I, Inc.
5710 OLEANDER DR
WILMINGTON, NC
(910) 452-1185

amec

TEMPORARY TEST WELL BORING LOG

JOB NAME	Potable Water Well Study	LOCATION	MCAS Cherry Point
JOB NUMBER	6550-13-0008	GROUND ELEVATION	TBD
BORING NUMBER	TW-4	REFERENCE ELEVATION	TBD
BORING DATE	1-Oct-13	AMEC REPRESENTATIVE	Bill Mable
BOREHOLE DIA	4.0"	DRILLING METHOD	Mud Rotary

SAMPLE DEPTH (Feet)	SOIL DESCRIPTION	USCS SYMBOL
0 - 10	Orange and gray clayey fine SAND with trace organics	SC
10 - 20	gray clay with fine SAND and shell hash	CL
20 - 30	S.A.A.	CL
30 - 40	S.A.A.	CL
40 - 50	Greenish gray clay with fine SAND and some shells	CL
50 - 60	Greenish gray CLAY with shell hash	CL
60 - 70	S.A.A.	CL
70 - 80	S.A.A.	CL
80 - 90	S.A.A.	CL
90 - 100	S.A.A.	CL
100 - 110	S.A.A.	CL
110 - 120	Gray shell mold LIMESTONE and friable sandstone with shells	LS-SS
120 - 130	S.A.A.	LS-SS
130 - 140	S.A.A.	LS-SS
140 - 150	S.A.A.	LS-SS
150 - 160	S.A.A.	LS-SS
160 - 170	Gray shell mold LIMESTONE with shells	LS
170 - 180	S.A.A.	LS
180 - 190	S.A.A.	LS
190 - 200	S.A.A.	LS
200 - 210	S.A.A.	LS
210 - 220	S.A.A.	LS
220 - 230	S.A.A.	LS
230 - 240	S.A.A.	LS
240 - 250	S.A.A.	LS
250 - 260	S.A.A.	LS
260 - 270	Gray shell mold LIMESTONE with shells and fine sand	LS
270 - 280	Gray shell mold LIMESTONE with shells and little fine sand	LS
280 - 290	Boring terminated at 285 feet	
290 - 300		

NOTES: **Mud loss between 255-260 feet**
S.A.A.: Same as above
LS: Limestone
SS: Sandstone
Samples were collected using a mesh basket to catch cuttings from drilling mud return.
Following borehole advancement, TW-4 was logged using a geophysical gamma logger.
Soil descriptions based on interpretation of cuttings recovered from drilling mud return.
Depth intervals determined by the amount of rod length (in feet) in the ground and are approximate.

Prepared by: DLM 10/28/13
Checked by: BW Jones 12/2/13

WELL #34 BORING LOG

AMEC E&I, Inc.
5710 OLEANDER DR
WILMINGTON, NC
(910) 452-1185

amec

TEMPORARY TEST WELL BORING LOG

JOB NAME	Potable Water Well Study	LOCATION	MCAS Cherry Point
JOB NUMBER	6550-13-0008	GROUND ELEVATION	TBD
BORING NUMBER	TW-5	REFERENCE ELEVATION	TBD
BORING DATE	7-Oct-13	AMEC REPRESENTATIVE	Davis McIver
BOREHOLE DIA	4.0"	DRILLING METHOD	Mud Rotary

SAMPLE DEPTH (Feet)	SOIL DESCRIPTION	USCS SYMBOL
0 - 10	Topsoil, some fine sand, gray CLAY	SC
10 - 20	Gray CLAY with white shell hash	CL-shell hash
20 - 30	Gray fine SAND with shell hash and clay	SC
30 - 40	Gray CLAY with shell hash. Fine sand in upper	CL-shell hash
40 - 50	Gray/green CLAY with small amount of shell hash	CL
50 - 60	Gray/green CLAY, shell hash, sandy CLAY with well-rounded coarse sand	CL-SC
60 - 70	Gray/green sandy CLAY with well-rounded coarse sand, some shell hash	SC
70 - 80	S.A.A.	SC
80 - 90	Green/gray sandy CLAY with gravel and well-rounded quartz nodes ≤5mm	SC
90 - 100	Green/gray CLAY with sand	CL
100 - 110	Green/gray CLAY	CL
110 - 120	S.A.A.	CL
120 - 130	Rig chatter at 120 feet. Gray shell mold LIMESTONE and SANDSTONE	LS-SS
130 - 140	Gray SANDSTONE, LIMESTONE, quartz nodes ≤2mm present as coarse sand	SS-LS
140 - 150	Gray shell mold LIMESTONE, coarse sand	LS-SP
150 - 160	White/gray shell mold LIMESTONE, coarse sand and shell frags	LS-SP
160 - 170	White/gray shell frags, clayey SAND, shell mold LIMESTONE	SC-LS
170 - 180	White/gray coarse sand-sized shell mold LIMESTONE with some shell frags	LS
180 - 190	White/gray medium to coarse shell mold LIMESTONE	LS
190 - 200	White/gray, fine to coarse shell mold LIMESTONE, shell frags	LS
200 - 210	White/gray, fine to coarse shell mold LIMESTONE with shell frags and clay	LS
210 - 220	Gray/white fine to medium shell mold LIMESTONE	LS
220 - 230	S.A.A., small amount of sand	LS
230 - 240	S.A.A.	LS
240 - 250	S.A.A.	LS
250 - 260	S.A.A.	LS
260 - 270	S.A.A.	LS
270 - 280	Boring terminated at 275 feet	LS
280 - 290		
290 - 300		

NOTES: **Loss of water at 265-270 feet**
S.A.A.: Same as above
LS: Limestone
SS: Sandstone
Samples were collected using a mesh basket to catch cuttings from drilling mud return.
Following borehole advancement, TW-5 was logged using a geophysical gamma logger.
Soil descriptions based on interpretation of cuttings recovered from drilling mud return.
Depth intervals determined by the amount of rod length (in feet) in the ground and are approximate.

Prepared by: DLM 10/28/13
Checked by: BW Jones 12/2/13

WELL #35 BORING LOG

AMEC E&I, Inc.
5710 OLEANDER DR
WILMINGTON, NC
(910) 452-1185

amec

TEMPORARY TEST WELL BORING LOG

JOB NAME	Potable Water Well Study	LOCATION	MCAS Cherry Point
JOB NUMBER	6550-13-0008	GROUND ELEVATION	TBD
BORING NUMBER	TW-8	REFERENCE ELEVATION	TBD
BORING DATE	14-Oct-13	AMEC REPRESENTATIVE	Davis McIver
BOREHOLE DIA	4.0"	DRILLING METHOD	Mud Rotary

SAMPLE DEPTH (Feet)	SOIL DESCRIPTION	USCS SYMBOL
0 - 10	Orange, gray sandy CLAY	CL
10 - 20	Gray sandy CLAY	CL
20 - 30	Gray CLAY with shell hash	CL-shell hash
30 - 40	Gray clayey SAND with shell hash	CL-shell hash
40 - 50	Green/gray CLAY with shell hash	CL-shell hash
50 - 60	Dark green CLAY with shell hash	CL-shell hash
60 - 70	S.A.A.	CL-shell hash
70 - 80	Rig chatter at 75 feet. Gray fine to medium shell mold LIMESTONE with shell hash; green clay in lower	LS-shell hash
80 - 90	Dark green CLAY with shell hash; some well rounded quartz nodes ≤1mm	CL
90 - 100	Dark green CLAY with shell hash; medium shell mold limestone in lower	CL
100 - 110	Gray/white, fine to medium shell mold LIMESTONE and shell hash	LS
110 - 120	Gray/white/black, fine to medium shell mold LIMESTONE and shell hash with clay; fine sand in lower	LS-shell hash
120 - 130	Gray fine SAND with clay and shell hash	SP-SC
130 - 140	Gray/white, fine to medium shell mold LIMESTONE with shell frags and fine sand, some clay	LS
140 - 150	S.A.A. with fine to coarse sandstone pieces	LS
150 - 160	S.A.A. with fine to medium sandstone pieces; white, gravel-sized shell frags in lower	LS
160 - 170	White, coarse shell frags with medium to coarse sandstone pieces	shell
170 - 180	White, fine to coarse shell frags.	shell
180 - 190	Gray/white, fine to medium shell mold LIMESTONE, shell frags, sandstone pieces	LS
190 - 200	S.A.A. Light gray CLAY present in lower	LS
200 - 210	Light gray, fine to medium shell mold LIMESTONE	LS
210 - 220	Light gray, fine to coarse shell mold LIMESTONE	LS
220 - 230	Light gray, fine to medium shell mold LIMESTONE, some shell frags	LS
230 - 240	S.A.A.	LS
240 - 250	Light gray, fine to coarse shell mold LIMESTONE with shell frags	LS
250 - 260	Light gray, fine to coarse shell mold LIMESTONE with shell frags and light gray clay. Fine sand in lower	LS
260 - 270	Light gray fine SAND with some medium LIMESTONE pieces present	SP-LS
270 - 280	Light gray fine SAND with fine to medium LIMESTONE, some shell frags	SP-LS
280 - 290	S.A.A. Gray/black fine SANDSTONE pieces ≤2mm. Boring terminated at 290 feet	SP-LS
290 - 300		

NOTES:
S.A.A.: Same as above
LS: Limestone
SS: Sandstone
Samples were collected using a mesh basket to catch cuttings from drilling mud return.
Following borehole advancement, TW-8 was logged using a geophysical gamma logger.
Soil descriptions based on interpretation of cuttings recovered from drilling mud return.
Depth intervals determined by the amount of rod length (in feet) in the ground and are approximate.

Prepared by: DLM 10/28/13
Checked by: BW Jones 12/2/13

WELL #42 BORING LOG

FINAL
GEOLOGICAL REPORT
POTABLE WATER WELLS STUDY

MARINE CORPS AIR STATION CHERRY POINT

Contract No. N40085-10-D-3560
Deliver Order 0029
Security Classification: Unclassified
AMEC Project 6550130008

Prepared for:
Eric J. Frank, PE
NAVFAC Mid Atlantic
ROICC Cherry Point
163 Curtis Road
PSC Box 8006
Cherry Point, NC 28533-0006

24 February 2014

Submitted by:
AMEC Environment & Infrastructure, Inc.
5710 Oleander Drive, Suite 110
Wilmington, NC 28403
(910) 452-1185

This Final Geological Report for the above subject delivery order was produced under the direction of the assigned Project Manager and reviewed by a Senior Hydrogeologist.

B. Walker Jones, RSM — Date — J. Chris Pruneau, L.G. — Date
Project Manager — Senior Hydrogeologist

NOTE:

THE GEOPHYSICAL INFORMATION PROVIDED HERE IS FOR REFERENCE ONLY. THIS INFORMATION WAS PROVIDED IN THE REPORT "FINAL GEOLOGIC REPORT POTABLE WATER WELLS STUDY," PREPARED BY AMEC AND DATED FEBRUARY 24, 2014. THE REPORT COMPRISES RESULTS AND RECOMMENDATIONS FROM A TEST WELL PROGRAM WHICH PRECEDED THE CURRENT PRODUCTION WELL PROJECT.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

AECOM
AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
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MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

APPROVED

ACTIVITY
FINAL DRAWINGS

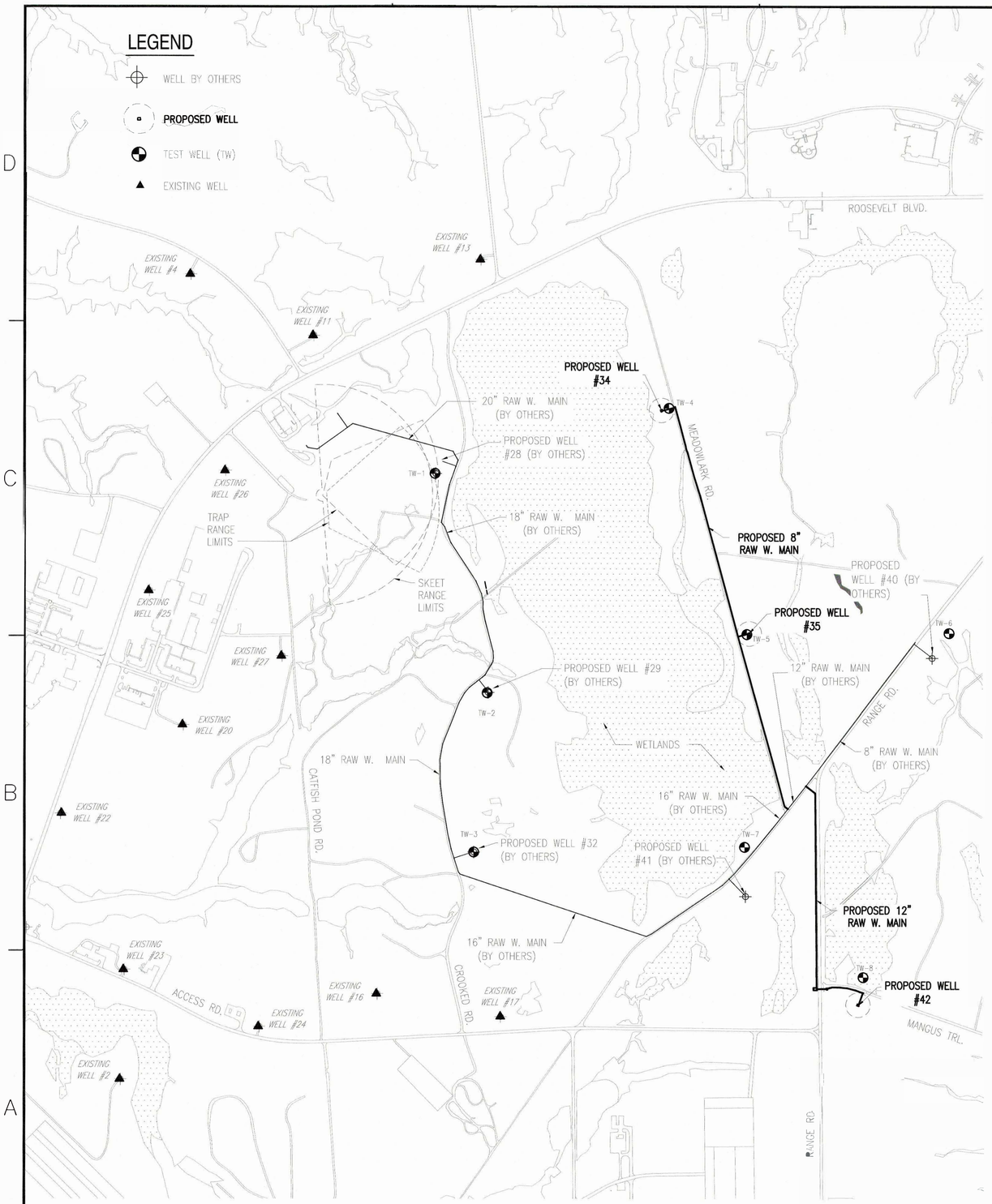
SATISFACTORY TO DATE

DES. XXX DRW. XXX CHK. XXX
PROJECT NO. 60537017
WO. NO 6584536
CP NO. CP18E01M
CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CAROLINA, PT
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN
BORING LOGS

SCALE: AS NOTED
DATE: JUNE 2018
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12757440
SHEET 3 OF 59
B101

FILE NAME: O:\CS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-B101.dwg LAYOUT NAME: B101 PLOTTED: Monday, June 18, 2018 - 1:28pm USER: megan.jones



LOCATION MAP
1"=500'

JOINT RESTRAINTS:

ALL FITTINGS SHALL HAVE RESTRAINED TYPE JOINTS.

IN ADDITION TO RESTRAINED JOINTS AT FITTINGS, THE FOLLOWING MINIMUM LENGTHS OF PIPE SHALL BE PROVIDED WITH RESTRAINED JOINTS ON EACH SIDE OF THE FITTING, UNLESS OTHERWISE SPECIFIED. RESTRAINED JOINT LENGTH CALCULATED FOR PVC PIPE.

HORIZONTAL FITTINGS (DUCTILE IRON):

ALL TEES (EACH DIRECTION)	20 FEET
12" 90 DEGREE BEND:	55 FEET
8" 90 DEGREE BEND:	40 FEET
6" 90 DEGREE BEND:	31 FEET
12" 45 DEGREE BEND:	23 FEET
8" 45 DEGREE BEND:	17 FEET
6" 45 DEGREE BEND:	13 FEET
8" 22.5 DEGREE BEND:	20 FEET

NEW WORK NOTES:

1. INSTALL PROPOSED WELL NOS. 34, 35, AND 42 WITH RAW WATER TRANSMISSION MAINS INDICATED. CONNECT TO THE RAW WATER TRANSMISSION MAINS BEING INSTALLED BY OTHERS AS PART OF THE P-193 PROJECT AS SHOWN ON SHEETS C301 AND C308. SEE WELL DETAILS ON SHEETS C502 AND C503 AS WELL AS STRUCTURAL, ARCHITECTURAL, MECHANICAL AND ELECTRICAL SHEETS.
2. SEE PIPE TRENCH DETAIL ON C504 FOR PIPE BEDDING FOR RAW WATER TRANSMISSION LINES.
3. SEE SPECIFICATION SECTION "WORK RESTRICTIONS" FOR SPECIAL SCHEDULING / WORK REQUIREMENTS FOR WORK IN THIS AREA.
4. FOR ALL GRAVEL ROADS DISTURBED BY CONSTRUTION:
   - 4.1. RESTORE TO EXISTING OR BETTER CONDITION AFTER CONSTRUCTION.
   - 4.2. FINISHED GRADES SHALL MATCH EXISTING, UNLESS INDICATED OTHERWISE.
   - 4.3. PROVIDE 8 INCHES MINIMUM OF GRAVEL SURFACE MATERIAL (NCDOT SIZE NO. CABC STONE) TO 12 INCHES BEYOND THE LIMITS OF EXCAVATION (TRENCH WIDTH). COMPACT STONE TO 100 PERCENT OF ASTM D1557 MAXIMUM DENSITY OVER A SUBGRADE COMPACTED TO 95 PERCENT OF ASTM D1557 MAXIMUM DENSITY.
5. FOR ALL BITUMINOUS SURFACED ROADS DISTURBED BY EXCAVATION:
   - 5.1. FINISHED GRADES SHALL MATCH EXISTING, UNLESS INDICATED OTHERWISE.
   - 5.2. PROVIDE PATCHING OF PAVEMENT IN ACCORDANCE WITH BITUMINOUS PAVEMENT PATCH DETAIL ON SHEET C504.
6. PROVIDE A METAL SWING GATE AT EACH NEW WELL HOUSE ACCESS ROAD, SEE DETAIL ON SHEET C503.
7. PROVIDE UTILITY MARKERS PER DETAIL B2/C504 FOR ALL RAW WATER MAINS.
8. ALL ROAD CLOSURES ARE CONSIDERED OUTAGES AND SHALL REQUIRE CONTRACTOR NOTIFICATION TO THE BASE FIFTEEN (15) DAYS PRIOR TO THE PLANNED OUTAGE.

CONSTRUCTION SEQUENCE

GENERAL

1. OBTAIN ANY OUTSTANDING PERMITS AND PLAN APPROVALS.
2. CONTACT NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) PRIOR TO CONSTRUCTION.
3. HOLD PRE-CONSTRUCTION CONFERENCE WITH ENVIRONMENTAL AFFAIRS OFFICER AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION. CONTACT THE ENVIRONMENTAL AFFAIRS DIVISION (EAD) AT 252-466-5151.
4. MINIMIZE THE AMOUNT OF DISTURBED LAND DURING CONSTRUCTION. PROVIDE GROUNDCOVER (TEMPORARY OR PERMANENT) TO DISTURBED AREAS WITHIN 7 CALENDAR DAYS FOR SLOPES 3:1 OR GREATER. PROVIDE GROUNDCOVER WITHIN 14 CALENDAR DAYS ON DISTURBED AREAS WITH SLOPES LESS THAN 3:1. THESE TIME RESTRICTIONS FOR GROUNDCOVER ARE APPLICABLE TO ALL PHASES OF CONSTRUCTION. MAXIMUM AREA OF DISTURBED LAND AT ANY TIME DURING CONSTRUCTION SHALL BE LIMITED TO 10.0 ACRES OR LESS.
5. PROVIDE PERMANENT GROUND COVER (SEEDING/MULCHING) WITHIN 15 CALENDAR DAYS ON ALL AREAS THAT HAVE BEEN FINAL GRADED.
6. PROVIDE TEMPORARY SEEDING AND MULCHING ON ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES NOT COVERED BY PAVEMENT OR OTHER PERMANENT STABILIZATION.
7. COORDINATE INSTALLATION OF TEMPORARY EROSION MEASURES WITH THE CONSTRUCTION OF PERMANENT EROSION AND SEDIMENT DEPOSITION MEASURES. INSPECT MEASURES PER THE EROSION AND SEDIMENT CONTROL NOTES.
8. REMOVE TEMPORARY EROSION CONTROL MEASURES PER THE EROSION AND SEDIMENT CONTROL NOTES.

WELL CONSTRUCTION SEQUENCE

1. GENERAL CONTRACTOR (GC) SHALL SUBMIT THE WELL CONTRACTOR'S INFORMATION TO RANDY SIPE WITH THE WASHINGTON REGIONAL OFFICE OF THE DIVISION OF WATER RESOURCES, BY EMAIL TO RANDY.SIPE@NCDENR.GOV. CONTACT PHONE NUMBER IS 252-948-3849.
2. WELL CONTRACTOR SHALL DRILL TEST WELLS, CONDUCT ALL REQUIRED TESTS, AND PROVIDE THE RESULTS OF THE FOLLOWING ITEMS TO AECOM.
   - a. BACTERIAL ANALYSIS
   - b. NEW WELL INORGANIC CHEMICAL ANALYSIS
   - c. RADIOLOGICAL ANALYSIS
   - d. VOLATILE ORGANIC COMPOUND ANALYSIS
   - e. SYNTHETIC ORGANIC COMPOUND ANALYSIS
   - f. FORM GW-1, WELL CONSTRUCTION RECORD
   - g. 24 HOUR WELL YIELD AND DRAWDOWN REPORT
3. WELL DRILLER SHALL SUBMIT A COPY OF THE WELL CONSTRUCTION RECORD (GW-1) DIRECTLY TO NCDEQ WITHIN 30 DAYS OF COMPLETION OF CONSTRUCTION BY MAILING TO:

   ENVIRONMENT & NATURAL RESOURCES
   ATTN: INFORMATION MANAGEMENT
   1617 MAIL SERVICE CENTER
   RALEIGH, NC 27699-1636
4. AECOM SHALL EVALUATE THE PUMP REQUIREMENTS AGAINST PROVIDED DATA FROM THE WELL CONTRACTOR AND PROVIDE THE GC WITH REVISED PUMP REQUIREMENTS IF NEEDED.
5. GC SHALL SUBMIT THE PUMP AND MOTOR SHOP DRAWINGS FROM REVIEW TO AECOM.
6. UPON SHOP DRAWINGS APPROVAL, THE WELL CONTRACTOR MAY CONVERT THE TEST WELL INTO A FINAL WELL, AND THEN CAP THE WELL. THE CONSTRUCTION OF THE FINAL WELL MUST BE DONE UNDER THE OBSERVATION OF THE AECOM ENGINEER.
7. AECOM SHALL PREPARE THE ENGINEER'S CERTIFICATION OF WELL CONSTRUCTION.
8. ALL DOCUMENTS LISTED IN THE TENTATIVE NCDEQ PUBLIC WATER SUPPLY SECTION (PWSS) APPROVAL SHALL BE PROVIDED TO THE CONTRACTING OFFICER FOR REVIEW AND SUBMITTAL TO PWSS.
9. UPON ISSUANCE OF THE AUTHORIZATION TO CONSTRUCT (ATC) FROM PWSS, THE WELL PUMPS AND REMAINDER OF THE SYSTEM MAY BE CONSTRUCTED.

SITE CONSTRUCTION

1. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AND NEW CULVERTS. PROVIDE INLET PROTECTION.
2. CLEAR AND GRUB AS NEEDED TO ACCESS PROPOSED WELL LOCATIONS AND INSTALL EROSION AND SEDIMENT CONTROL (E&SC) MEASURES, OR GRAVEL CONSTRUCTION ENTRANCES.
3. INSTALL SILT FENCE AND REMAINING E&SC MEASURES.
4. DRILL TEST WELLS AND FOLLOW SEQUENCE AS OUTLINED IN WELL CONSTRUCTION SEQUENCE.
5. IF WELL SITE IS SATISFACTORY, CLEAR REMAINDER OF SITE AS NEEDED, AND PERFORM ROUGH GRADING.
6. COORDINATE CONSTRUCTION OF RAW WATER MAINS WITHIN WELL SITE.
7. PREPARE WELL HOUSE AND GENERATOR SUBGRADE IN PREPARATION FOR WELL HOUSE CONSTRUCTION.
8. CONSTRUCT WELL HOUSE AND INSTALL GENERATOR.
9. PERFORM FINAL GRADING AND CONSTRUCT FINAL GRAVEL DRIVEWAY.
10. INSTALL METAL SWING GATE.
11. STABALIZE ALL DISTURBED AREAS AND REMOVE E&SC MEASURES ONCE A GOOD STAND OF GRASS IS PRESENT AND APPROVED BY CONTRACTING OFFICER.

RAW WATER MAIN CONSTRUCTION

1. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AND NEW CULVERTS. PROVIDE INLET PROTECTION.
2. CLEAR AND GRUB RAW WATER MAIN CORRIDOR.
3. INSTALL SILT FENCE AND OTHER E&SC MEASURES.
4. CONSTRUCT AND TEST RAW WATER MAIN IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND COORDINATE WITH WORK AT WELL SITES.
5. STABALIZE ALL DISTURBED AREAS AND REMOVE E&SC MEASURES ONCE A GOOD STAND OF GRASS IS PRESENT.

WELL ABANDONMENT SEQUENCE

1. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCES AND E&SC MEASURES.
2. COORDINATE WITH CONTRACTING OFFICE ON ITEMS TO BE RELOCATED OR PRESERVED.
3. PERFORM WELL ABANDONMENT IN ACCORDANCE WITH SPECIFICATIONS AND STATE REGULATORY REQUIREMENTS.
4. DEMOLISH WELL HOUSES AND ANY INDICATED APPURETENANCES AS SHOWN ON PLANS.
5. STABALIZE ALL DISTURBED AREAS AND REMOVED E&SC MEASURES.

1"=500' 500' 250' 0 500' 1000'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 KRISTIN K. PAREDES-OLEDO

AECOM

AECOM TECHNICAL SERVICES INC
1600 PERIMIETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

APPROVED

FINAL DRAWINGS

SAVED BY DATE

DR. KKP1 CHK. MLJ CHK. MTB

PROJECT NO. 60537017

WO. NO. 6584536

CP NO. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA IPT
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

RAW WATER MAIN KEY MAP & CONTROL POINTS

SCALE AS NOTED

DATE JUNE 2018

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757441

SHEET 4 OF 59

C001

WORK NOTES:

1. CLEAR AND GRUB WITHIN LIMITS OF CLEARING
2. WELL BUILDING, SEE SHEET C501
3. PREPARE GENERATOR PAD, SEE SHEETS C503 & S102
4. GRAVEL DRIVE (10' WIDE), SEE C503/A1. MAINTAIN 15" COVER OVER 15" RCP.
5. TOPSOIL & SEED ALL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE NOT OCCUPIED BY BUILDING OR PAVEMENT, SEE C701
6. METAL GATE, SEE A3/C503
7. CLASS V RCP STORM DRAIN. SEE NOTE BELOW.

EROSION & SEDIMENT CONTROL MEASURES:

- SF TEMPORARY SEDIMENT FENCE (SEE SHEET C702/C1)
- CE TEMPORARY CONSTRUCTION ENTRANCE (SEE SHEET C702/C2)
- TP TREE PROTECTION FENCE (SEE SHEET C702/A1)
- OSS OUTLET STABILIZATION STRUCTURE (SEE SHEET C703/C4)
- CIP CULVERT INLET PROTECTION (SEE SHEET C702/A4)

SITE PREPARATION NOTE:

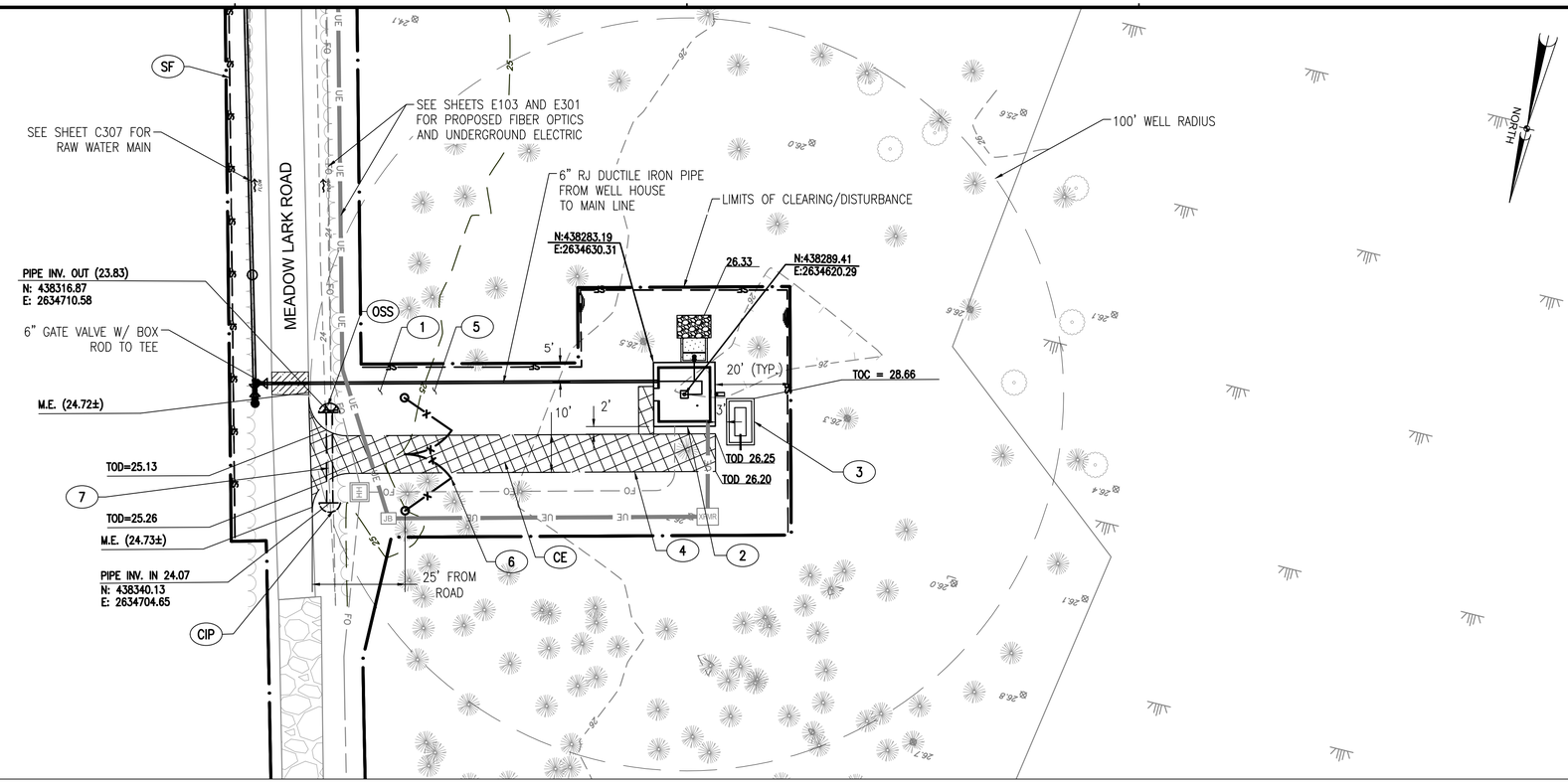
SEE WELL HOUSE AND GENERATOR PAD SITE PREPARATION DETAIL AND SITE PREPARATION NOTES ON C503.

STORM DRAIN NOTE:

INSTALL 24 LF OF 15" CLASS V RCP. SLOPE @ 1.0%.

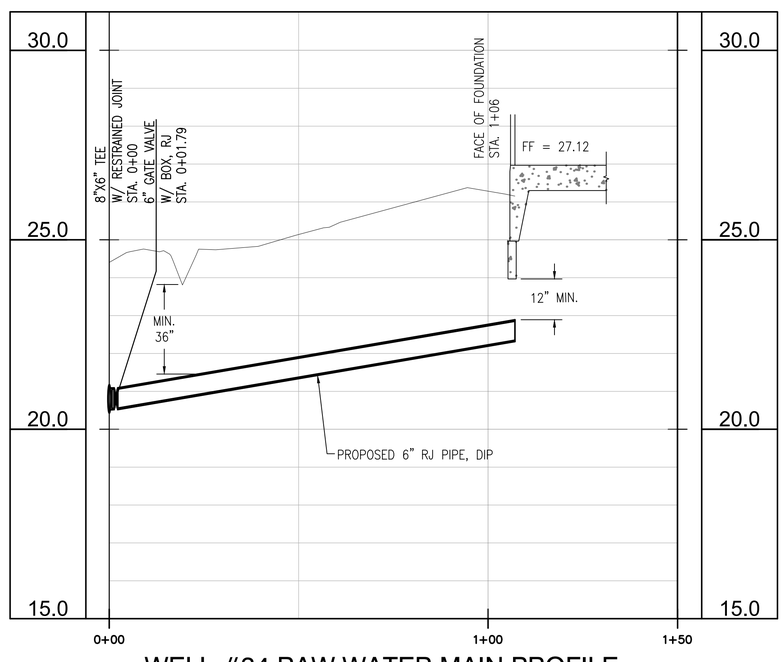
NOTE:

NO CHEMICAL TREATMENT OF WELL HOUSE FOUNDATIONS WILL BE ALLOWED.



WELL #34 SITE PLAN

SCALE: 1" = 20'



WELL #34 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 CONTINENTAL PAREDES

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW KKPT CHK XXX

PROJECT NO. 60537017
WO. NO 6584536
CP NO. CP18E01M
CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CAROLINA IPT
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE ~ CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

WELL #34 PLAN AND PROFILE

SCALE: AS NOTED
DATE: JANUARY 2019
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12757442
SHEET 5 OF 59

C101

FILE NAME: G:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-C101.dwg LAYOUT NAME: C101 PLOTTED: Tuesday, January 08, 2019 - 2:34pm USER: megan.jones

WORK NOTES:

1. CLEAR AND GRUB WITHIN LIMITS OF CLEARING
2. WELL BUILDING, SEE SHEET C501
3. PREPARE GENERATOR PAD, SEE SHEETS C503 & S102
4. GRAVEL DRIVE (10' WIDE), SEE C503/A1
5. TOPSOIL & SEED ALL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE NOT OCCUPIED BY BUILDING OR PAVEMENT, SEE C701
6. METAL GATE, SEE A3/C503

EROSION & SEDIMENT CONTROL MEASURES:

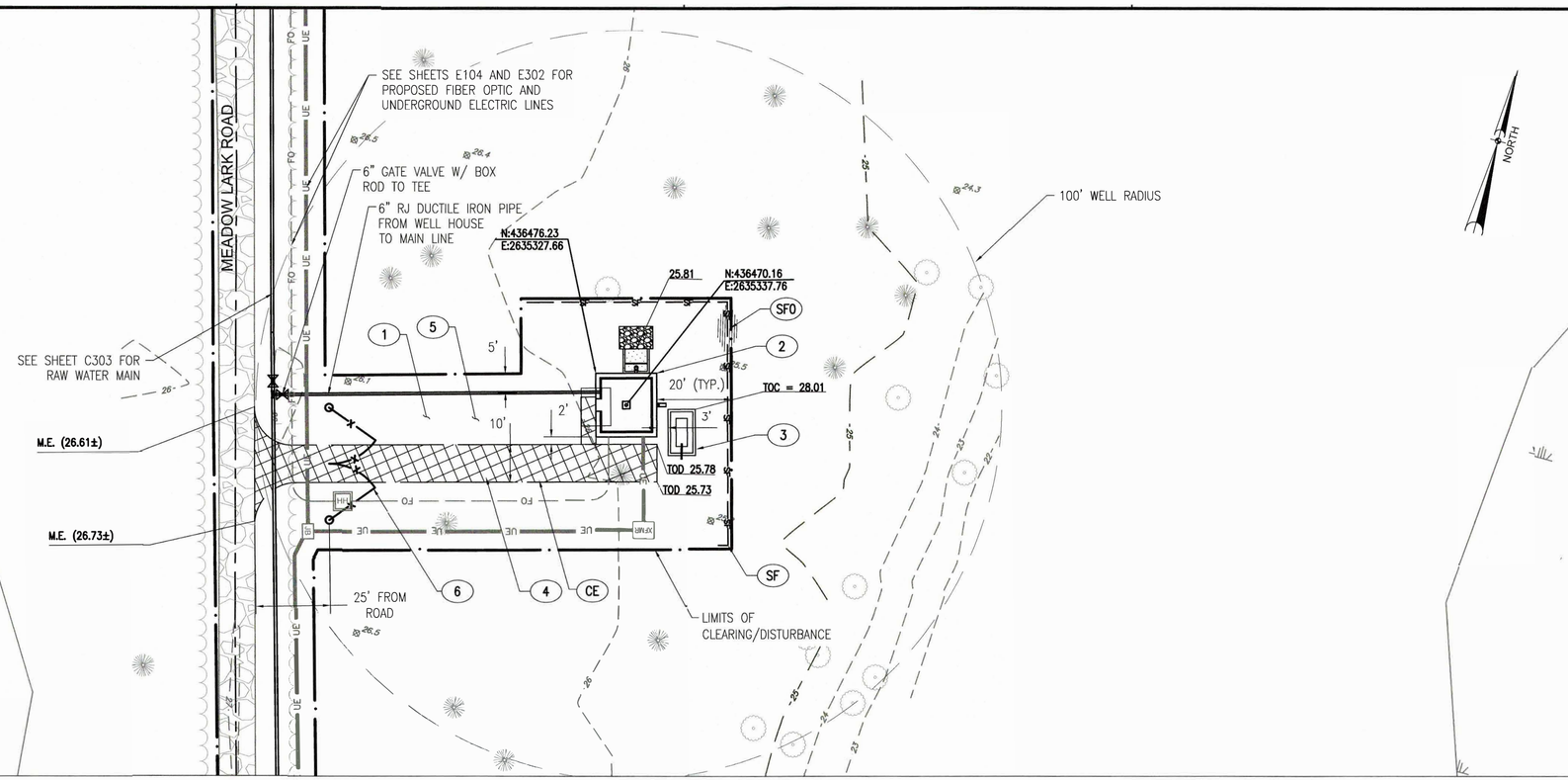
- SF — TEMPORARY SEDIMENT FENCE (SEE SHEET C702/C1)
- SFO — SILT FENCE OUTLET
- CE — TEMPORARY CONSTRUCTION ENTRANCE (SEE SHEET C702/C2)
- TP — TREE PROTECTION FENCE (SEE SHEET C702/A1)
- OSS — OUTLET STABILIZATION STRUCTURE (SEE SHEET C703/C4)
- CIP — CULVERT INLET PROTECTION (SEE SHEET C702/A4)

SITE PREPARATION NOTE:

SEE WELL HOUSE AND GENERATOR PAD SITE PREPARATION DETAIL AND SITE PREPARATION NOTES ON C503.

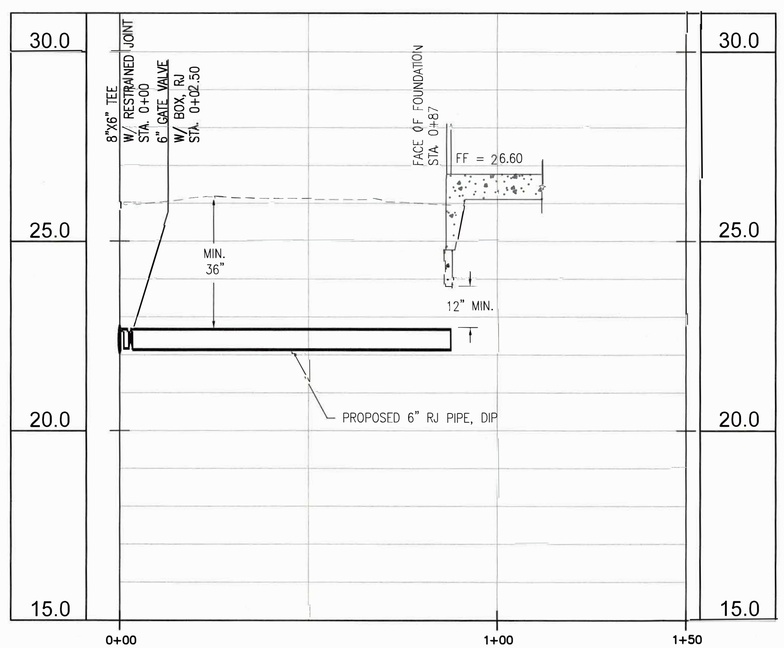
NOTE:

NO CHEMICAL TREATMENT OF WELL HOUSE FOUNDATIONS WILL BE ALLOWED.



WELL #35 SITE PLAN

SCALE: 1" = 20'



WELL #35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' (2' 1' 0 2' 4')

HORIZONTAL SCALE 1"=20' (20' 10' 0 20' 40')

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 PAREDES-TOLEDO

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERMIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

ACTIVITY: FINAL DRAWINGS

DES: KKPT | DRWN: KKPT | CHK: XXX

PROJECT NO: 60537017

WO NO: 6584536

CP NO: CP18E01M

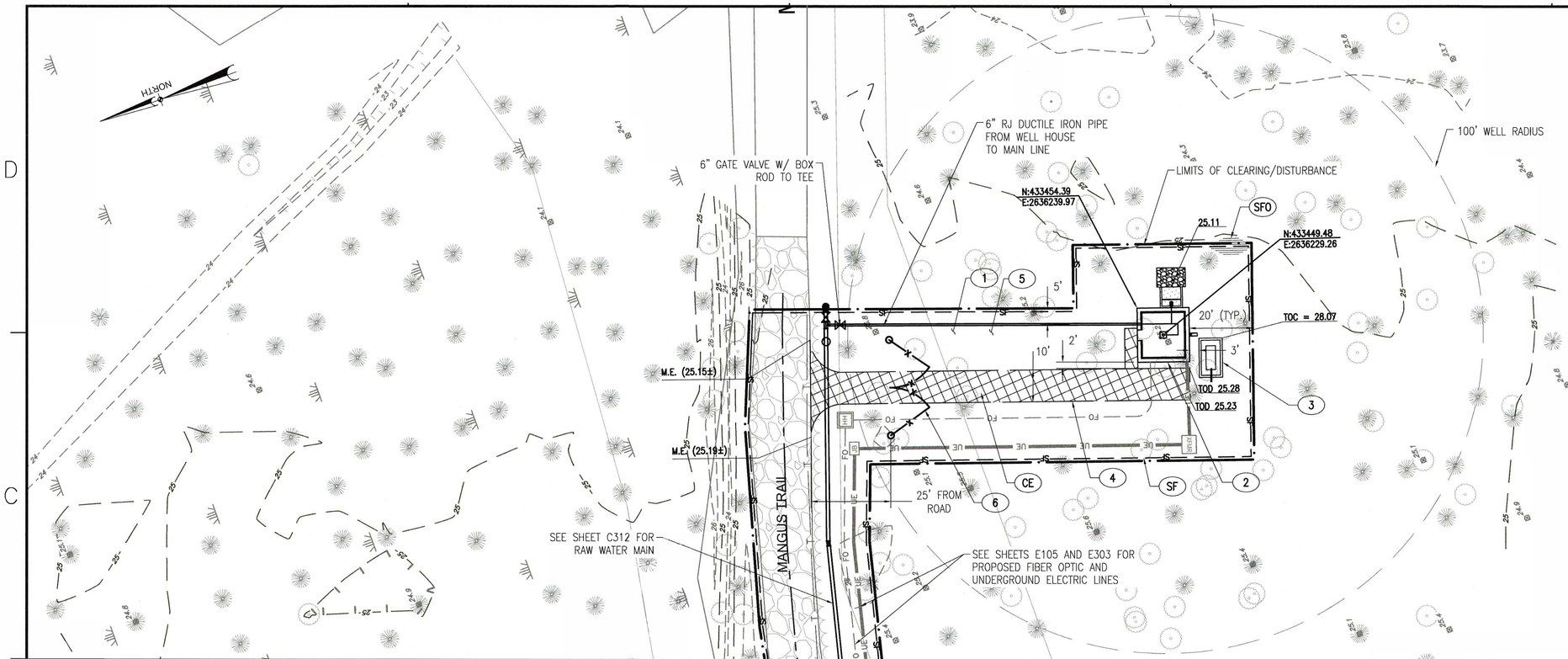
CONTR. NO.: N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE ~ CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
NORTH CAROLINA 27
REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN
WELL #35 PLAN AND PROFILE

SCALE: AS NOTED
DATE: JUNE 2018
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.: 12757443
SHEET 6 OF 59

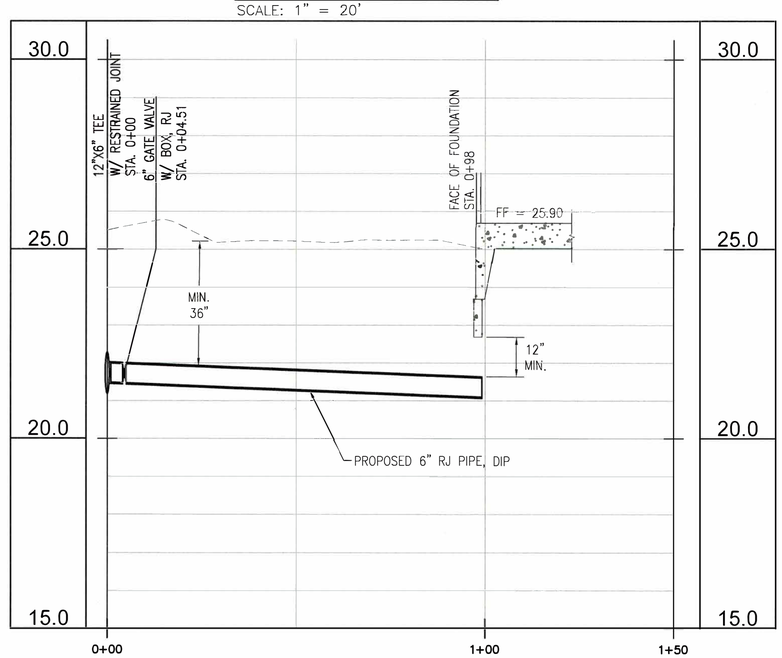
C102

FILE NAME: Q:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\300-CAD GCS\310 CAD\20-Sheets\C102.dwg LAYOUT NAME: C102 PLOTTED: Monday, June 18, 2018 - 1:23pm USER: megan.jones



WELL #42 SITE PLAN

SCALE: 1" = 20'



WELL #42 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

WORK NOTES:

1. CLEAR AND GRUB WITHIN LIMITS OF CLEARING
2. WELL BUILDING, SEE SHEET C501
3. PREPARE GENERATOR PAD, SEE SHEETS C503 & S102
4. GRAVEL DRIVE (10' WIDE), SEE C503/A1
5. TOPSOIL & SEED ALL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE NOT OCCUPIED BY BUILDING OR PAVEMENT, SEE C701
6. METAL GATE, SEE A3/C503

EROSION & SEDIMENT CONTROL MEASURES:

- SF TEMPORARY SEDIMENT FENCE (SEE SHEET C702/C1)
- SFO SILT FENCE OUTLET
- CE TEMPORARY CONSTRUCTION ENTRANCE (SEE SHEET C702/C2)
- TP TREE PROTECTION FENCE (SEE SHEET C702/A1)
- OSS OUTLET STABILIZATION STRUCTURE (SEE SHEET C703/C4)
- CIP CULVERT INLET PROTECTION (SEE SHEET C702/A4)

SITE PREPARATION NOTE:

SEE WELL HOUSE AND GENERATOR PAD SITE PREPARATION DETAIL AND SITE PREPARATION NOTES ON C503.

NOTE:

NO CHEMICAL TREATMENT OF WELL HOUSE FOUNDATIONS WILL BE ALLOWED.

VERTICAL SCALE 1"=2' (2' 1' 0 2' 4')

HORIZONTAL SCALE 1"=20' (20' 10' 0 20' 40')

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTA PAREDES-COLEDO

SEAL

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERMIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT | DRW KKPT | CHK XXX

PROJECT NO. 60537017
WO. NO 6584536
CP NO. CP18E01M
CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CAROLINA IPT
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE ~ CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

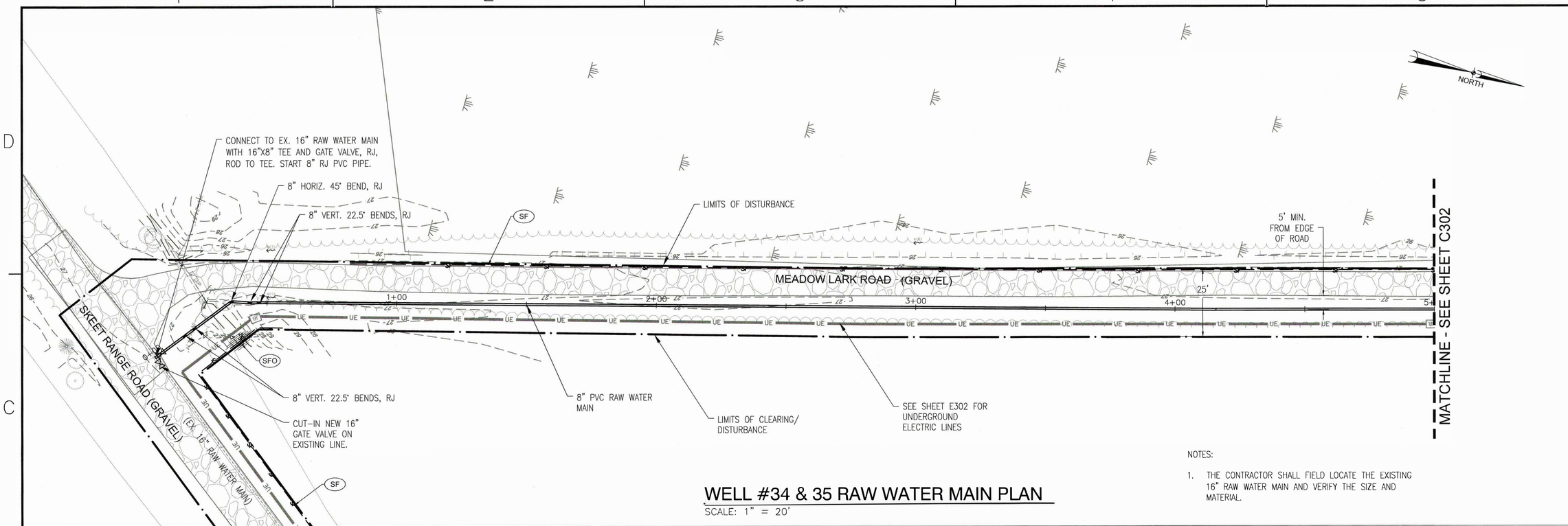
REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

WELL #42 PLAN AND PROFILE

SCALE: AS NOTED
DATE: JUNE 2018
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12757444
SHEET 7 OF 59

C103

FILE NAME: G:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-C103.dwg LAYOUT NAME: C103 PLOTTED: Monday, June 18, 2018 - 1:30pm USER: megan.jones

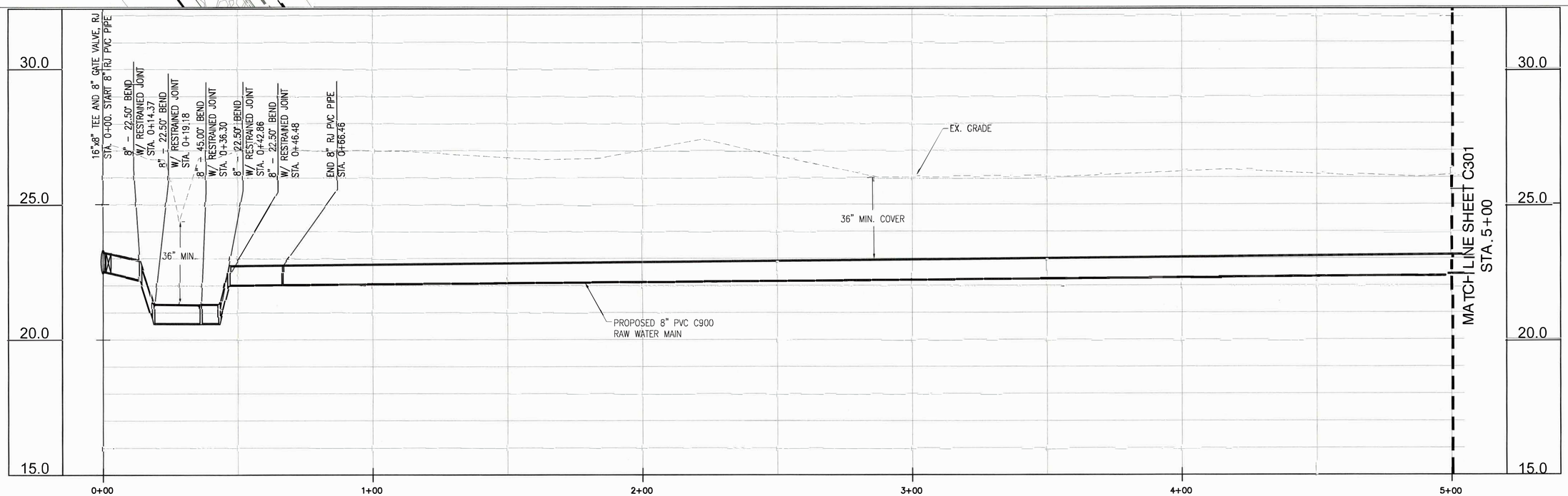


NOTES:

1. THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING 16" RAW WATER MAIN AND VERIFY THE SIZE AND MATERIAL.

WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' (2' 1' 0 2' 4')

HORIZONTAL SCALE 1"=20' (20' 10' 0 20' 40')

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTY K. PAREDES TOLEDO

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INIT.

APPROVED

ACTIVITY: FINAL DRAWINGS

ASSIGNED TO: DATE:

DES: KKPT DWN: KKPT CHK: RAB

PROJECT NO: 60537017

INS. NO: 6584536

CP NO: CP18E01M

CONTR. NO: N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA IPT
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN
PLAN AND PROFILE (STA 0+00 TO 5+00)

SCALE: AS NOTED

DATE: JUNE 2018

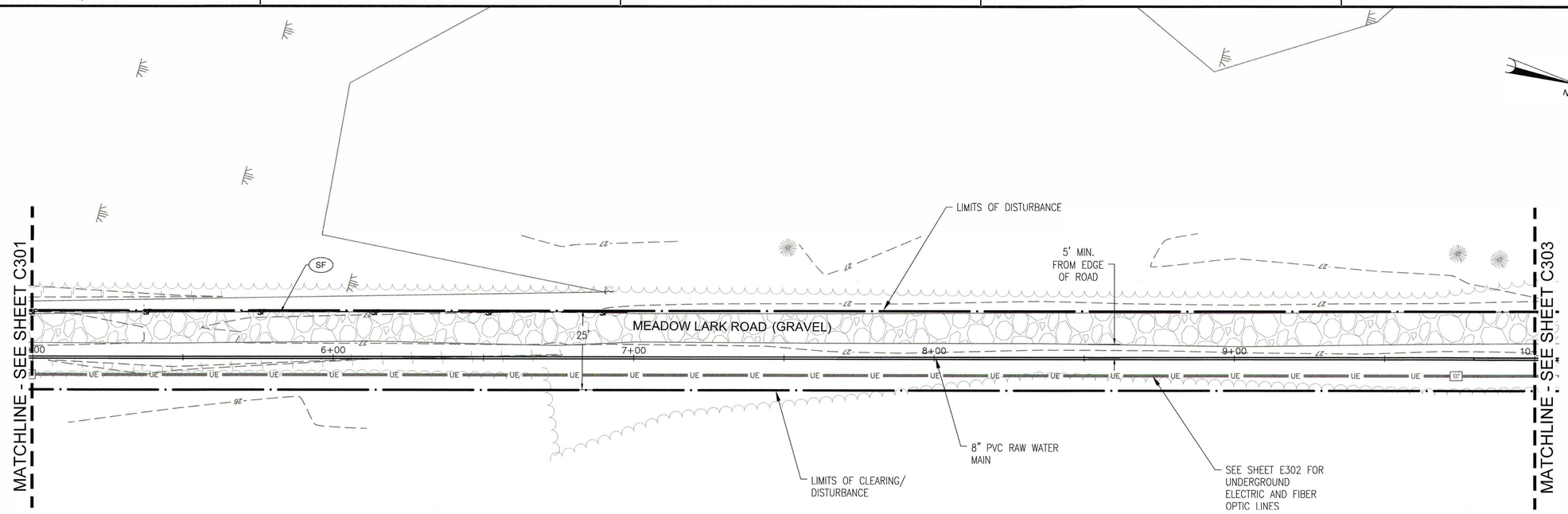
CONSTR. CONTR. NO:

NAVFAC DRAWING NO: 12757445

SHEET 8 OF 59

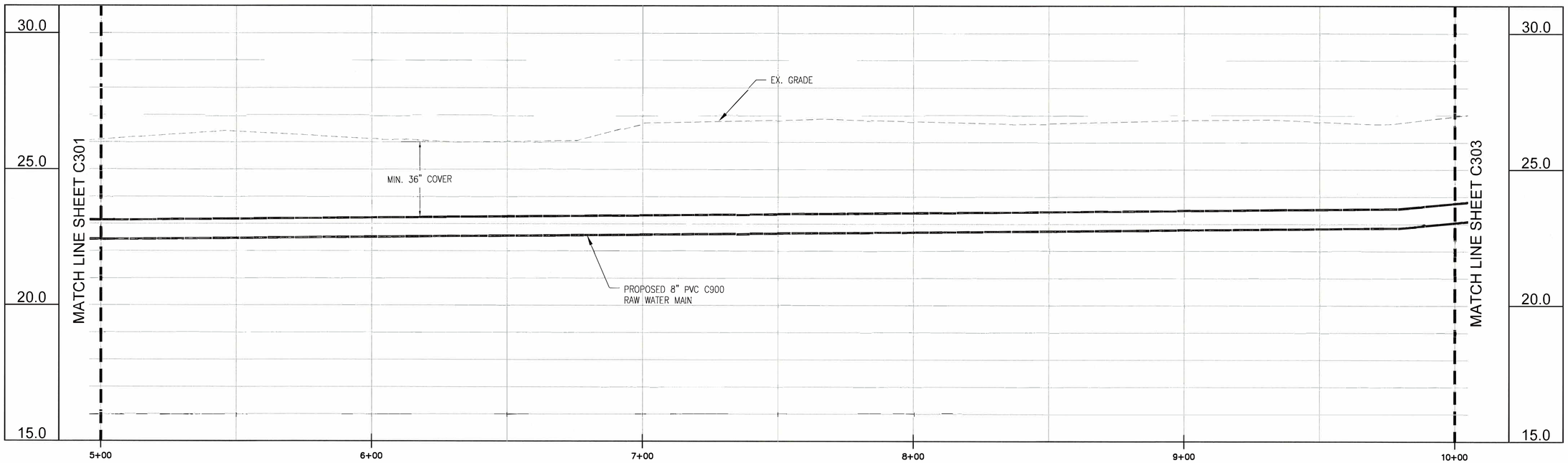
C301

FILE NAME: Q:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\90-CAD (GIS)\910 CAD\30-Sheets\C**WELLS-6584536-C301-307.dwg LAYOUT NAME: C301 PLOTTED: Monday, June 18, 201 - 1:0pm USER: megan.jones



WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTA T. PAREDES-TOLEDO 6/18/18

SEAL

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERMIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW KKPT CHK RAB

PROJECT NO. 60537017

WO. NO. 6584536

CP NO. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – NAVFAC MIDLANT
MARINE CORPS BASE – CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
NORTH CAROLINA, 1PT

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN PLAN AND PROFILE (STA 5+00 TO 10+00)

SCALE: AS NOTED

DATE: JUNE 2018

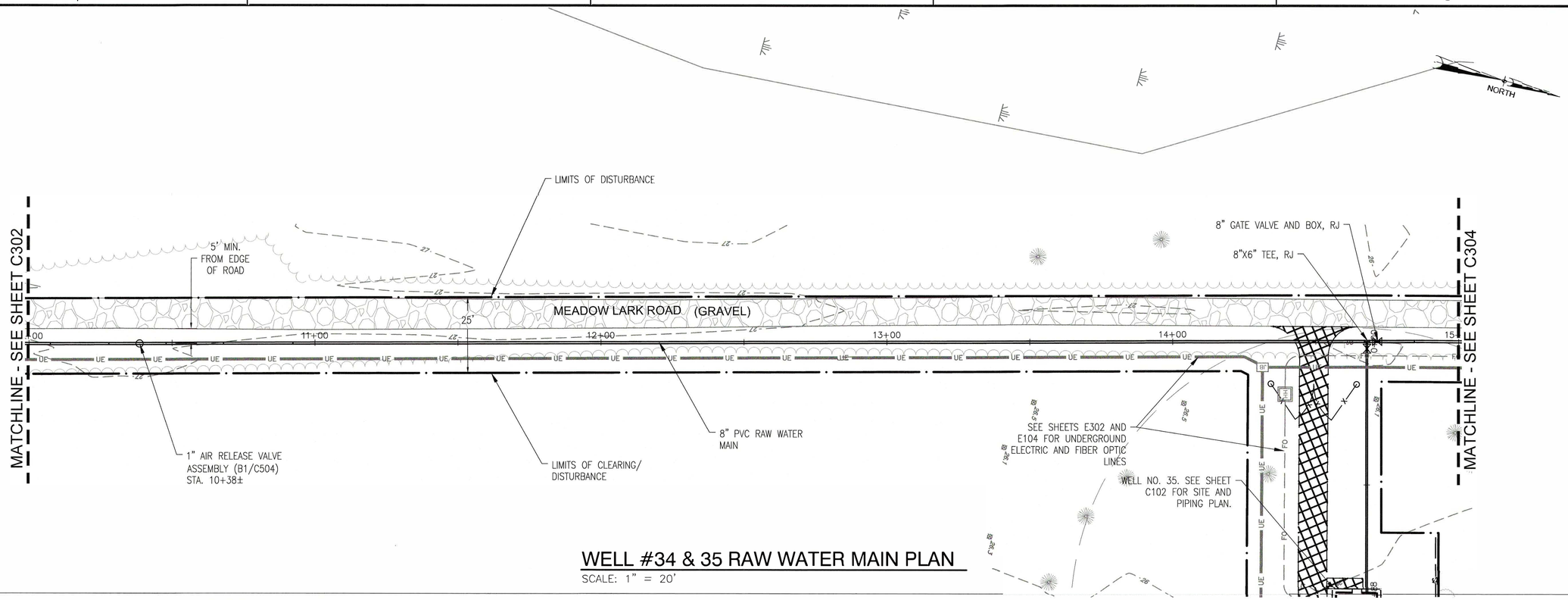
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757446

SHEET 9 OF 59

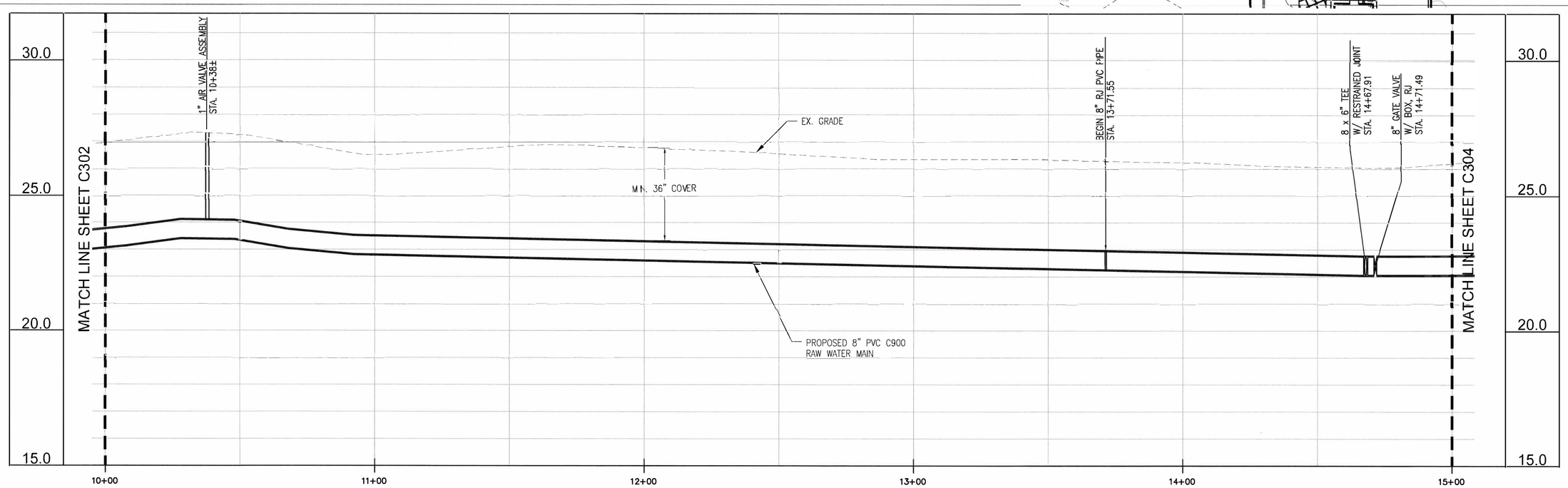
C302

FILE NAME: O:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD (GIS)\910 CAD\20-Sheets\CPPOTWELLS-6584536-C301-30.dwg LAYOUT NAME: C302 PLOTTED: Monday, June 18, 2018 - 1:32pm USER: megan.jones



WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 KRISTA PAREDES-TOLEDO 6/15/18

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED 12729092

ACTIVITY FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW KKPT CHK RAB

PROJECT NO. 60537017

WO. NO. 6584536

CP NO. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
NORTH CAROLINA IPT

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN PLAN AND PROFILE (STA 10+00 TO 15+00)

SCALE: AS NOTED

DATE: JUNE 2018

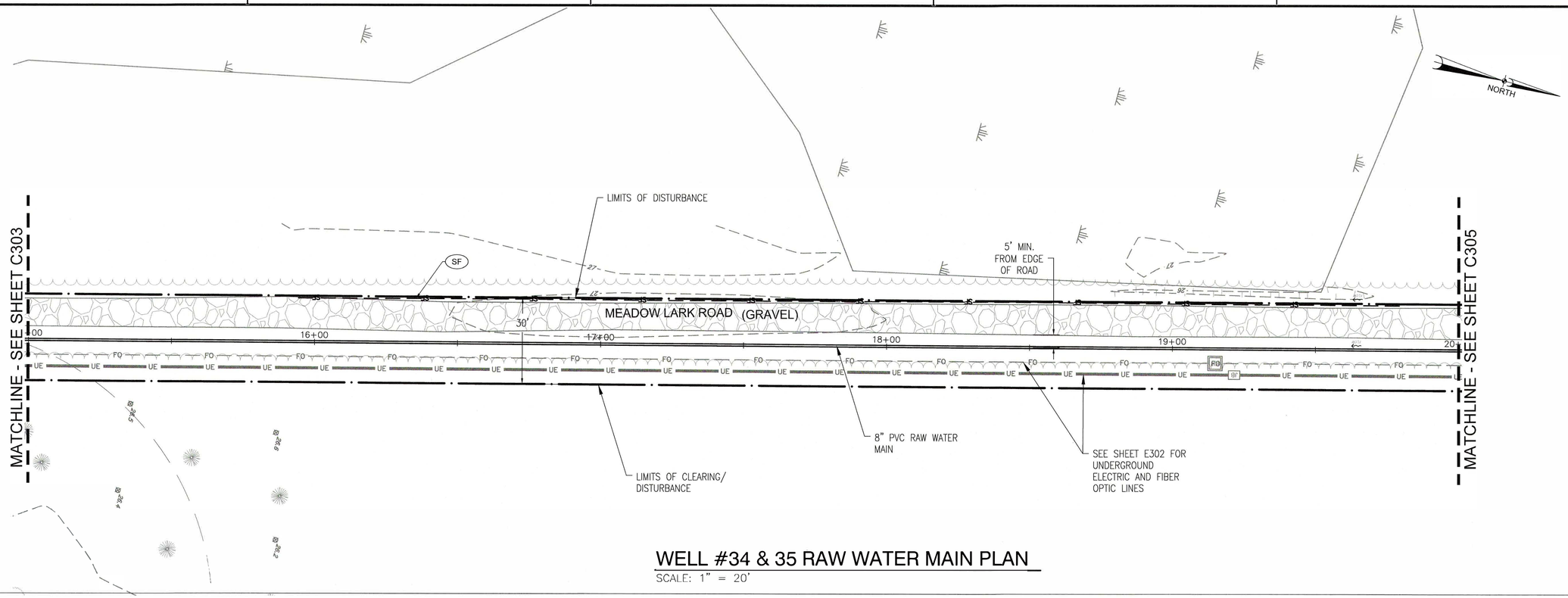
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757447

SHEET 10 OF 59

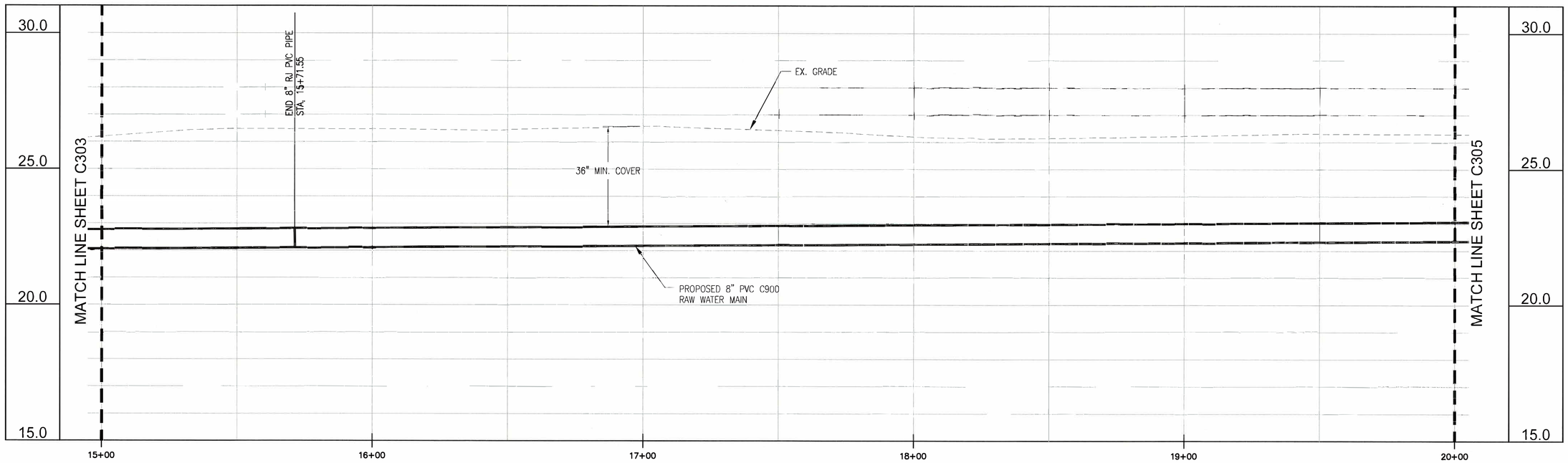
C303

FILE NAME: J:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD (GS\9.10 CAD\20-Sheets\PROTWELLS-6584536-C301-307.dwg LAYOUT NAME: C303 PLOTTED: Monday, June 18, 2018 - 1:34pm USER: megan.jones



WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 KRISTA K. PAREDES-TOLEDO

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW KKPT CHK RAB

PROJECT NO. 60537017

WO. NO 6584536

CP NO. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND – NAVFAC M DLANT
MARINE CORPS BASE – CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA IPT
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN PLAN AND PROFILE (STA 15+00 TO 20+00)

SCALE: AS NOTED

DATE: JUNE 2018

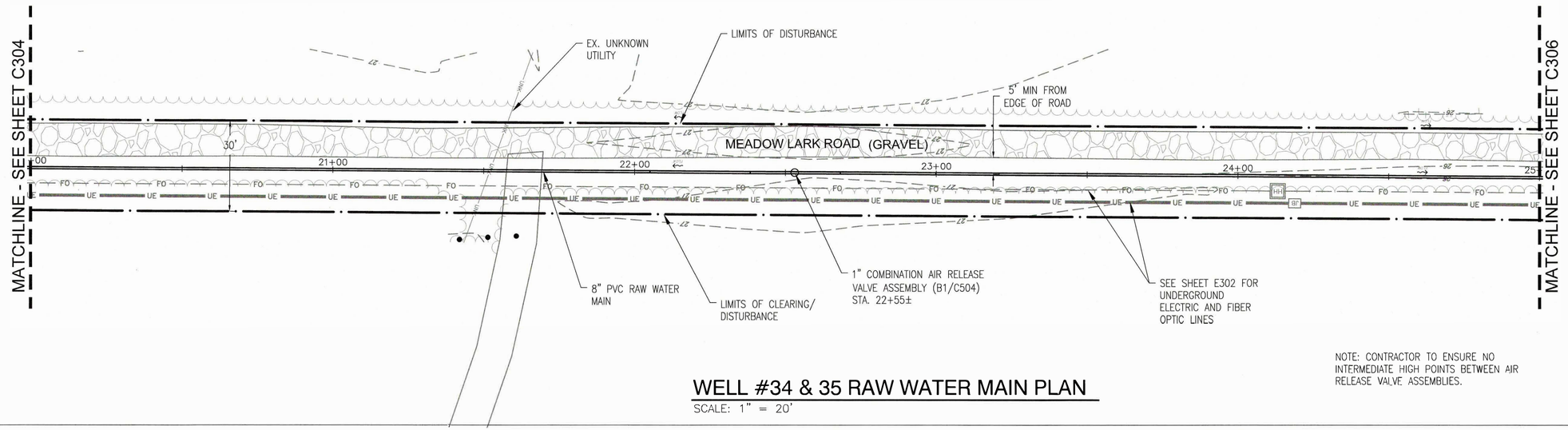
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757448

SHEET 11 OF 59

C304

FILE NAME: Q:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\30-Sheet\CPPROTWELLS-6584536-C301-307.dwg LAYOUT NAME: C304 PLOTTED: Monday, June 18, 2018 – 1:35pm USER: megan.jones

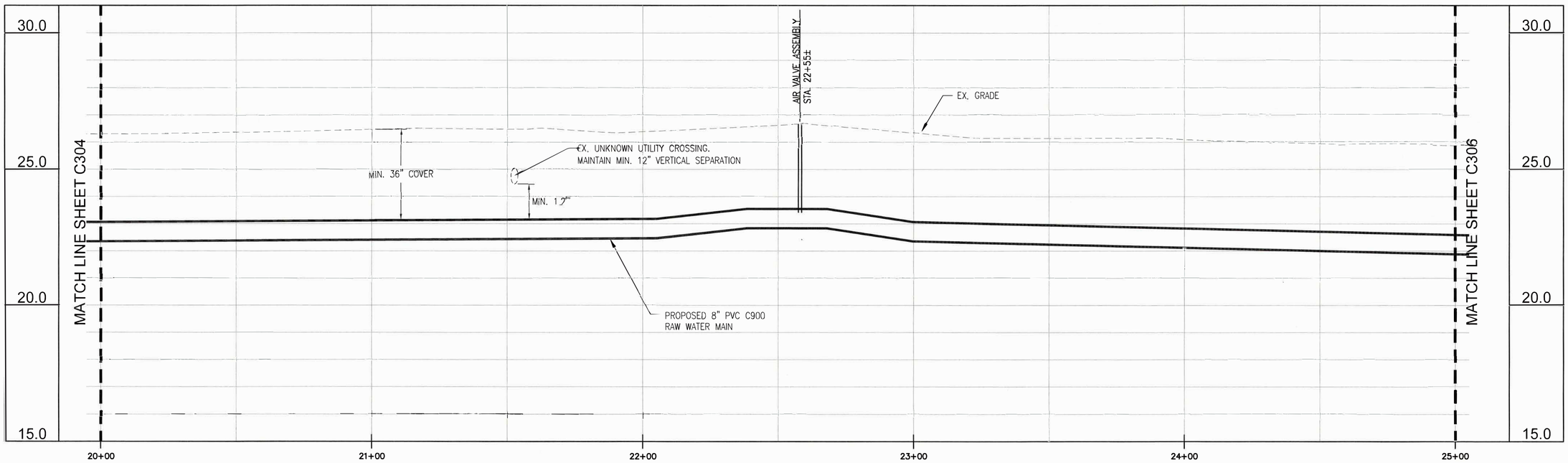


NORTH

NOTE: CONTRACTOR TO ENSURE NO INTERMEDIATE HIGH POINTS BETWEEN AIR RELEASE VALVE ASSEMBLIES.

WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 KRISTA V. PAREDES-OLEDO 6/18/18

SEAL

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERMIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES. KKPT DRW. KKPT CHK. RAB

PROJECT NO. 60537017

WO. NO. 6584536

OP. NO. CP18E01M

CONT#. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA
NORTH CAROLINA IPT

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN PLAN AND PROFILE (STA 20+00 TO 25+00)

SCALE: AS NOTED

DATE: JUNE 2018

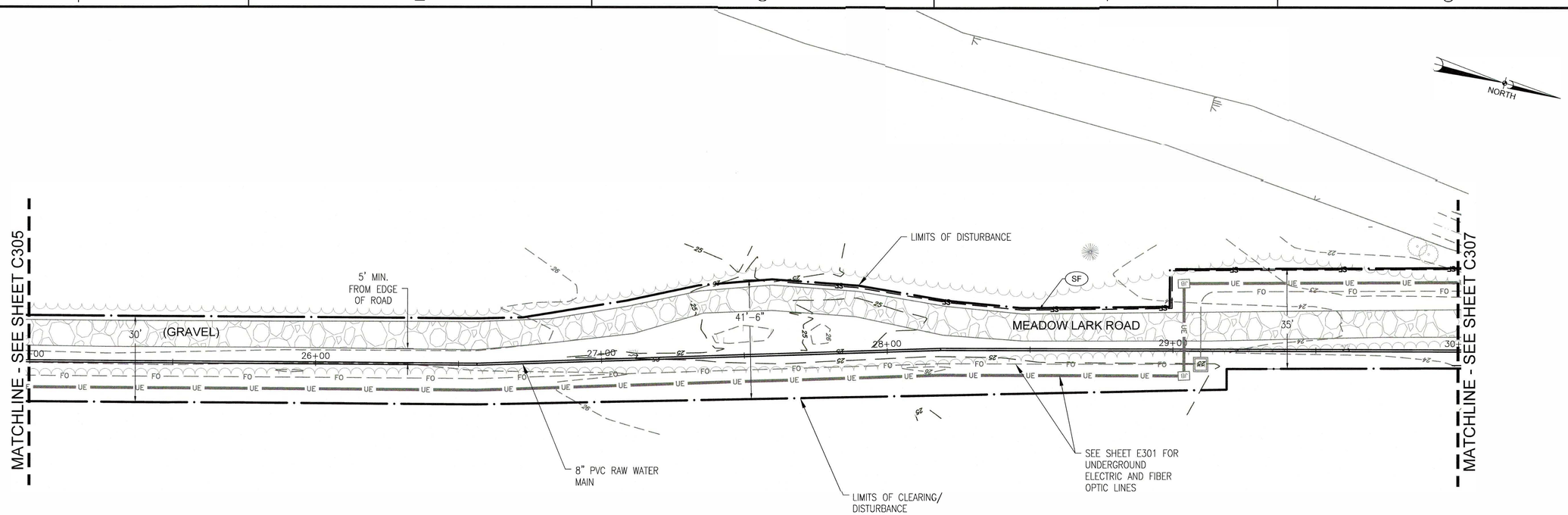
CONST#. CONTR. NO.

NAVFAC DRAWING NO. 12757449

SHEET 12 OF 59

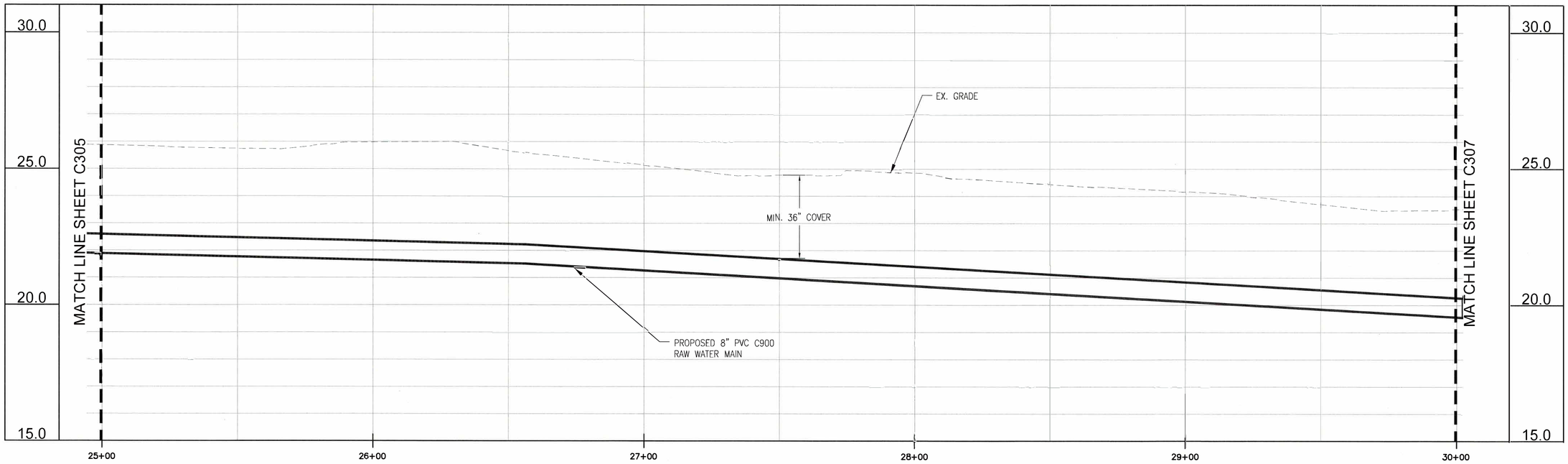
C305

FILE NAME: G:\DGS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD (GS)\910 CAD\Vp-Sheets\PPO\TWELLS-C301-307.dwg LAYOUT NAME: C305 PLOTTED: Monday, June 18, 2018 - 1:35pm USER: megan.jones



WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

MJS	STM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 KRISTA L. PAREDES-TOLEDO

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E NPO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW KKPT CHK RAB

PROJECT NO. 60537017

NAVFAC NO. 6584536

CP NO. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA PT
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN
PLAN AND PROFILE (STA 25+00 TO 30+00)

SCALE: AS NOTED

DATE: JUNE 2018

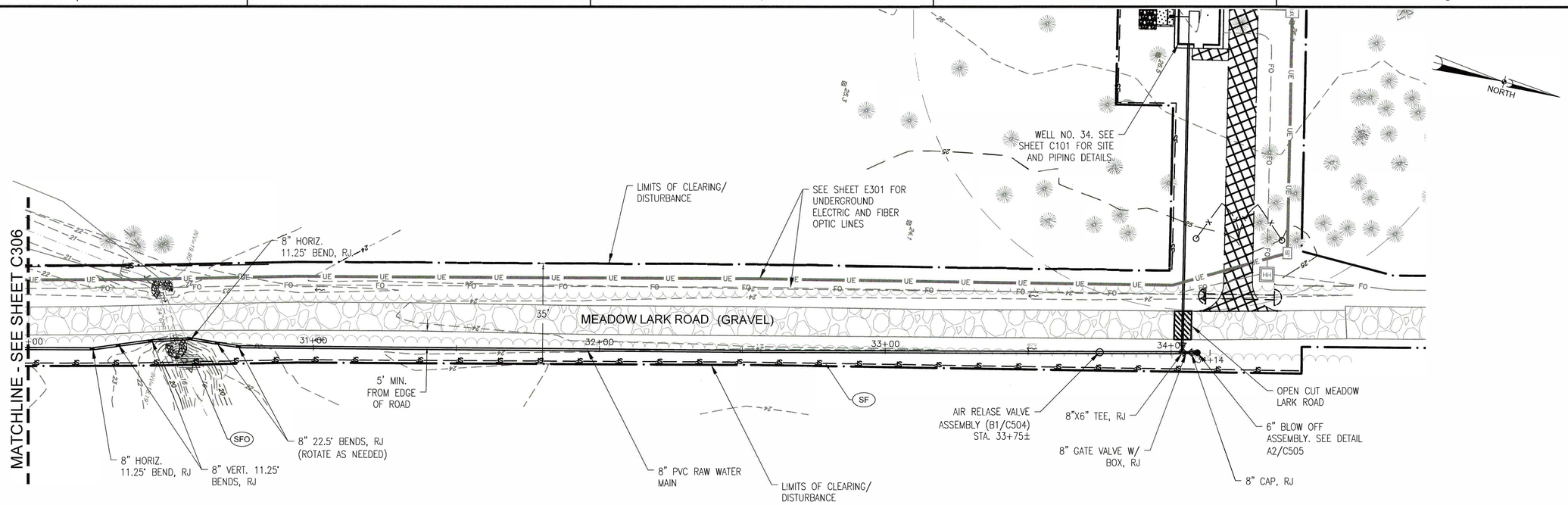
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757450

SHEET 13 OF 59

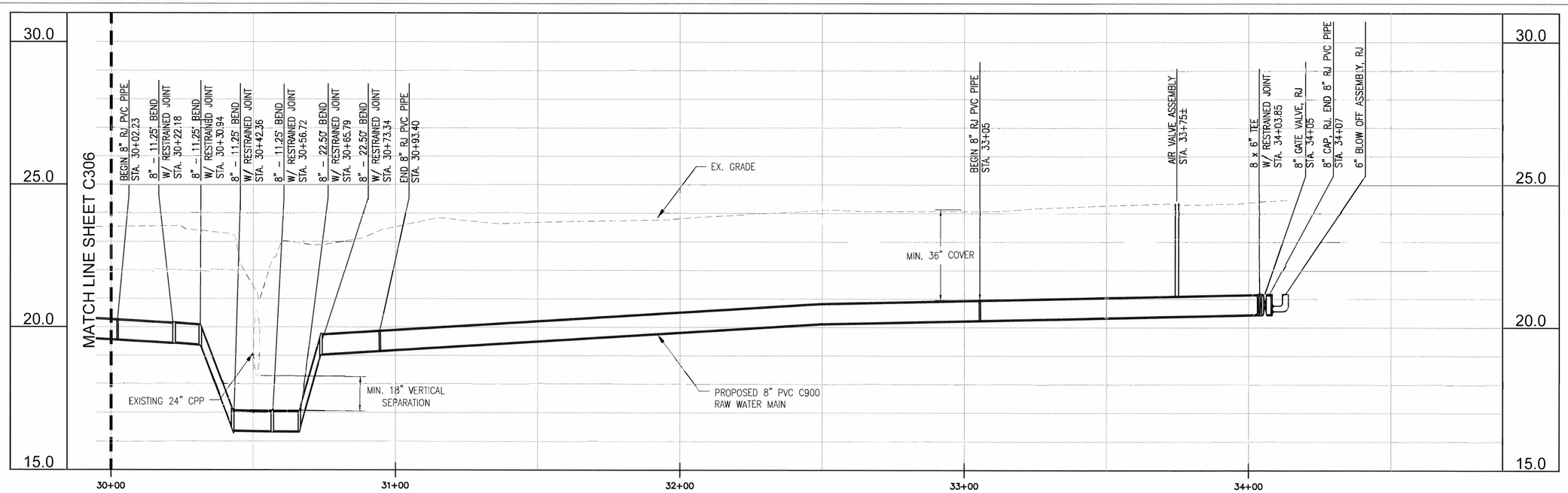
C306

FILE NAME: G:\MCS\Projects\Cherry_Pt\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPROTWELLS-6584536-C301-307.dwg LAYOUT NAME: C306 PLOTTED: Monday, June 18, 2018 - 1:35pm USER: megan.jones



WELL #34 & 35 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #34 & 35 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

				APPR
				DATE
				DESCRIPTION
				SYM

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTA T. PAREDES-OLEDO 6/15/18

SEAL

AECOM

AECOM TECHNICAL SERVICES, INC
1600 PERMIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY FINAL DRAWINGS

SATISFACTORY TO DATE

DES. KKPT DRW KKPT CHK RAB

PROJECT NO. 6 0537017

WO NO. 6 584536

CP NO. CP 18E01M

CONTR. NO. N6 2470-14-D-9 01

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
NORTH CAROLINA IPT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

MEADOW LARK ROAD RAW WATER MAIN
PLAN AND PROFILE (STA 30+00 TO 34+08)

SCALE: AS NOTED

DATE: JUNE 2018

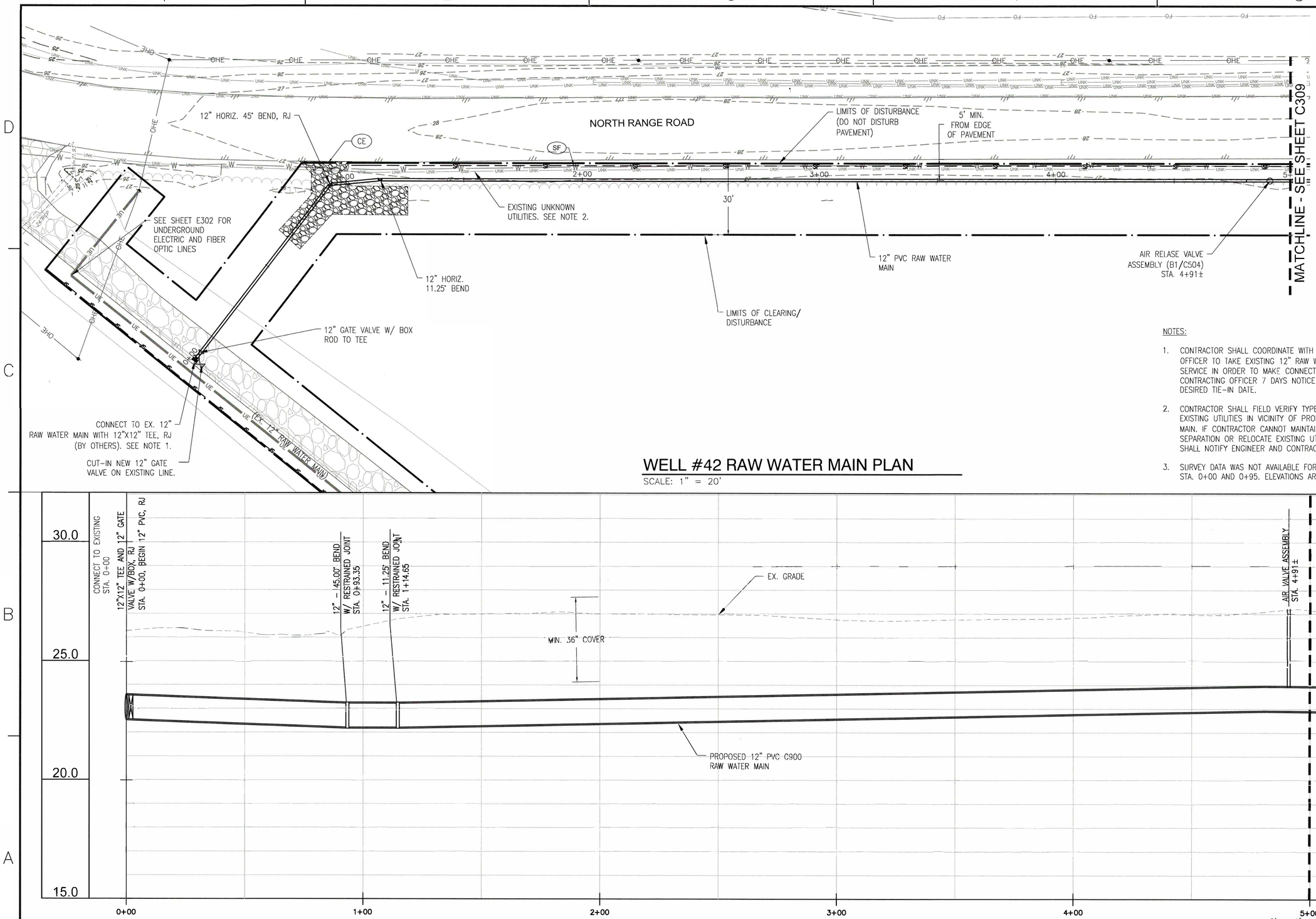
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757451

SHEET 14 OF 59

C307

FILE NAME: Q:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-C301-307.dwg LAYOUT NAME: C307 PLOTTED: Monday, June 18, 2018 - 1:36pm USER: megan.jones



WELL #42 RAW WATER MAIN PLAN

SCALE: 1" = 20'

NOTES:

1. CONTRACTOR SHALL COORDINATE WITH CONTRACTING OFFICER TO TAKE EXISTING 12" RAW WATER MAIN OUT OF SERVICE IN ORDER TO MAKE CONNECTION. PROVIDE CONTRACTING OFFICER 7 DAYS NOTICE AHEAD OF DESIRED TIE-IN DATE.
2. CONTRACTOR SHALL FIELD VERIFY TYPE AND LOCATION OF EXISTING UTILITIES IN VICINITY OF PROPOSED RAW WATER MAIN. IF CONTRACTOR CANNOT MAINTAIN 5' HORIZONTAL SEPARATION OR RELOCATE EXISTING UTILITIES, THEY SHALL NOTIFY ENGINEER AND CONTRACTING OFFICER.
3. SURVEY DATA WAS NOT AVAILABLE FOR AREA BETWEEN STA. 0+00 AND 0+95. ELEVATIONS ARE APPROXIMATE.

WELL #42 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

MAS	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTA PAREDES-OLEDO

SEAL

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRN KKPT CHK RAB

PROJECT No 60537017

WO. NO 6584536

CP No CP18E01M

CONTR. NO N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA IPT
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

NORTH RANGE ROAD RAW WATER MAIN
PLAN AND PROFILE (STA 0+00 TO 5+00)

SCALE: AS NOTED

DATE: JUNE 2018

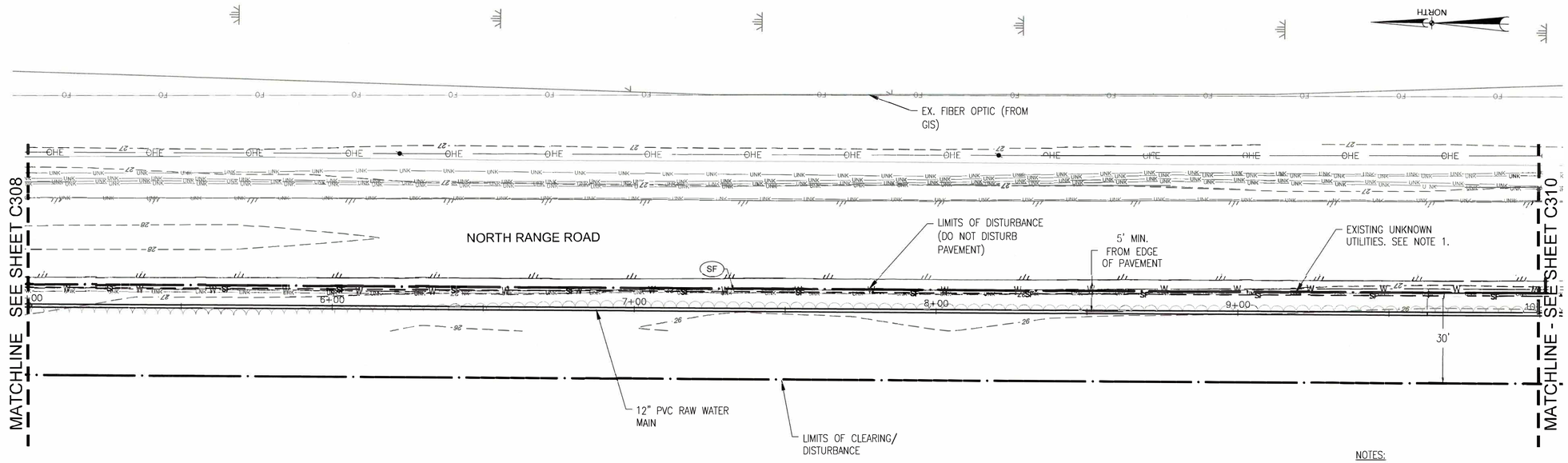
CONSTR. CONTR. NO.

NAVFAC DRAWING No. 12757452

SHEET 15 OF 59

C308

FILE NAME: Q:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-C308-312.dwg LAYOUT NAME: C308 PLOTTED: Monday, June 18, 2018 - 1:36pm USER: megan.jones

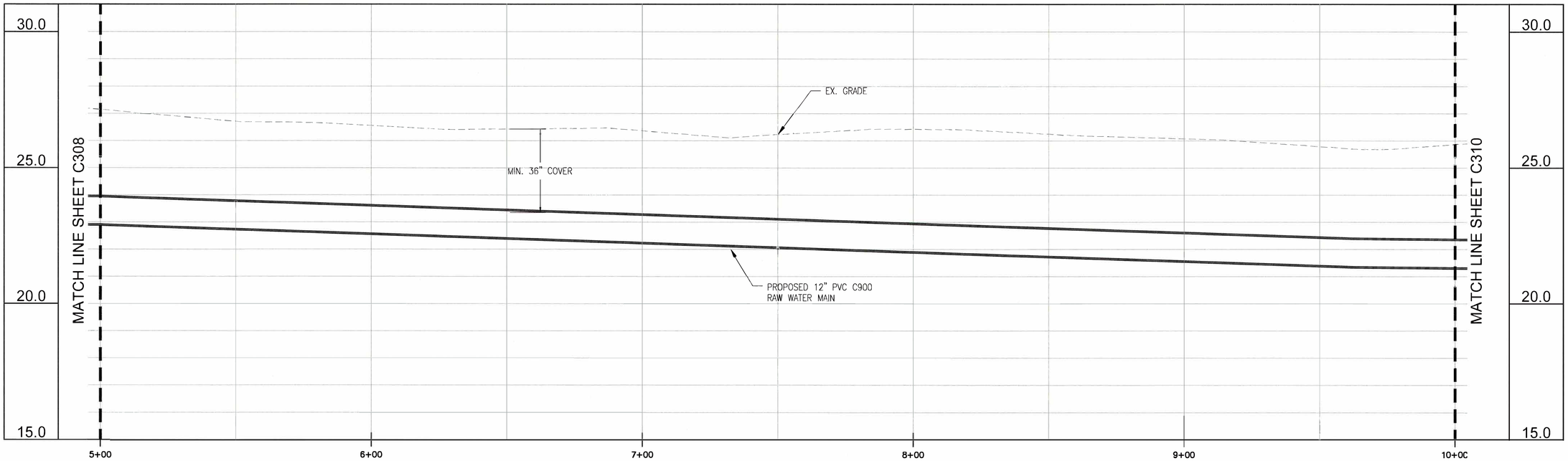


NOTES:

1. CONTRACTOR SHALL FIELD VERIFY TYPE AND LOCATION OF EXISTING UTILITIES IN VICINITY OF PROPOSED RAW WATER MAIN. IF CONTRACTOR CANNOT MAINTAIN 5' HORIZONTAL SEPARATION OR RELOCATE EXISTING UTILITIES, THEY SHALL NOTIFY ENGINEER AND CONTRACTING OFFICER.

WELL #42 RAW WATER MAIN PLAN

SCALE: 1" = 20'



WELL #42 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTA K. PAREDES-OLEDO

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO: DATE:

DES: KKPT DRW: KKPT CHK: RAB

PROJECT NO. 60537017

WO. NO. 6584536

CP IN. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA, PT
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

NORTH RANGE ROAD RAW WATER MAIN PLAN AND PROFILE (STA 5+00 TO 10+00)

SCALE: AS NOTED

DATE: JUNE 2018

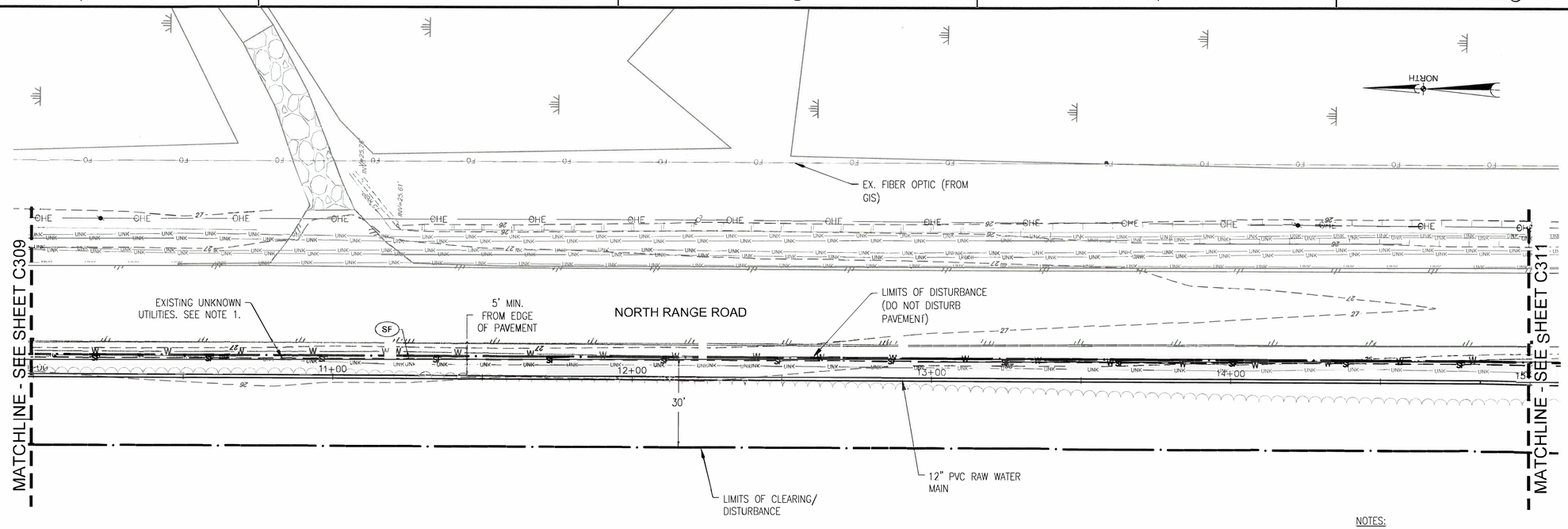
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757453

SHEET 16 OF 59

C309

FILE NAME: O:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CP-POTWELLS-6584536-C309-312.dwg LAYOUT NAME: C309 PLOTTED: Monday, June 18, 2018 - 1:39pm USER: megan.jones

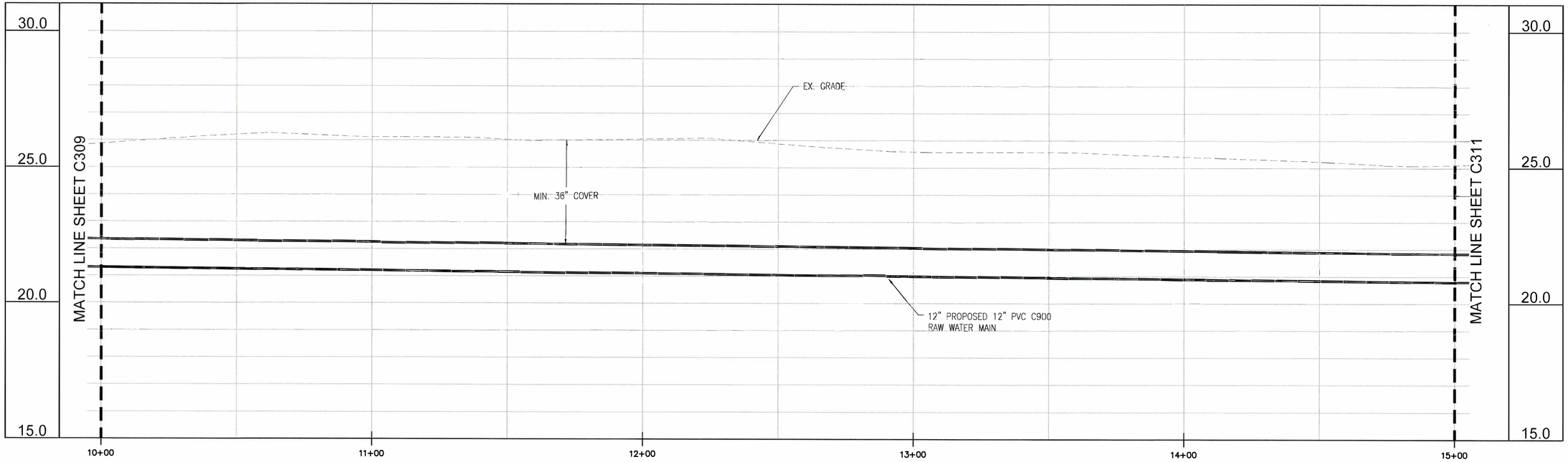


WELL #42 RAW WATER MAIN PLAN

SCALE: 1" = 20'

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY TYPE AND LOCATION OF EXISTING UTILITIES IN VICINITY OF PROPOSED RAW WATER MAIN. IF CONTRACTOR CANNOT MAINTAIN 5' HORIZONTAL SEPARATION OR RELOCATE EXISTING UTILITIES, THEY SHALL NOTIFY ENGINEER AND CONTRACTING OFFICER.



WELL #42 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR

NAVFAC

NORTH CAROLINA PROFESSIONAL SEAL 044627 ENGINEER KRISTA PAREDES-TOLEDO 10/15/18

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO: DATE

DES. KKPT DRW KKPT CHK RAB
PROJECT NO. 60537017
WO. NO. 6584536
CP NO. CP18E01M
CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
MARINE CORPS BASE - CAMP LEJEUNE, NORTH CAROLINA
NORTH CAROLINA IPT
MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

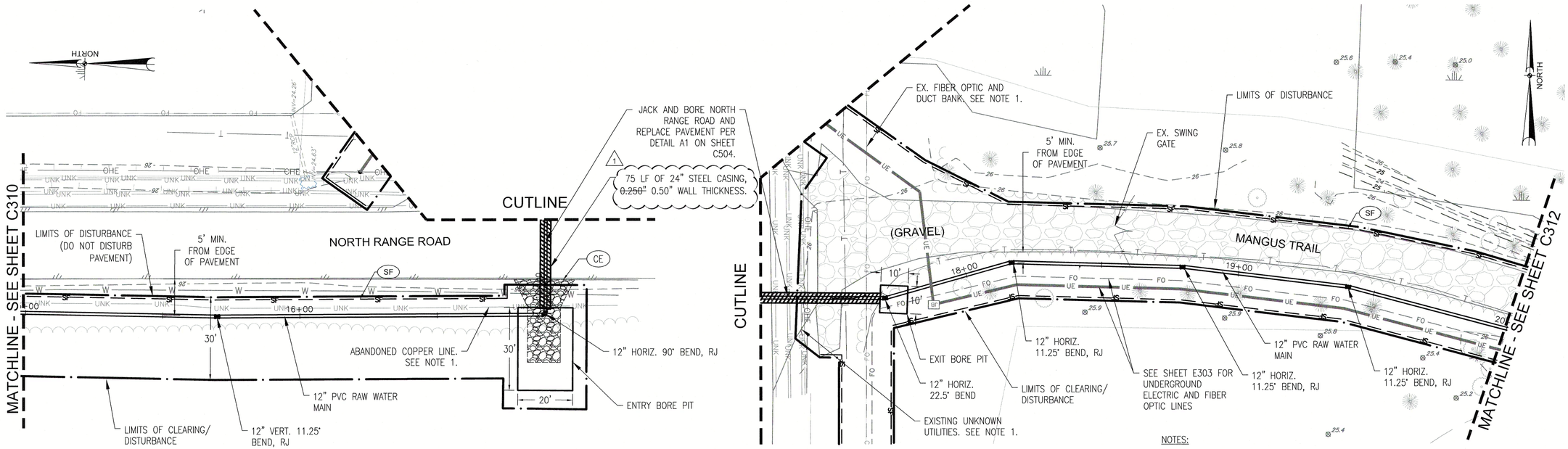
REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

NORTH RANGE ROAD RAW WATER MAIN PLAN AND PROFILE (STA 10+00 TO 15+00)

SCALE: AS NOTED
DATE: JUNE 2018
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12757454
SHEET 17 OF 59

C310

FILE NAME: G:\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900-CAD GIS\910 CAD\20-Sheets\CPPOTWELLS-6584536-C308-312.dwg LAYOUT NAME: C310 PLOTTED: Monday, June 18, 2018 - 1:39pm USER: meyon.jones

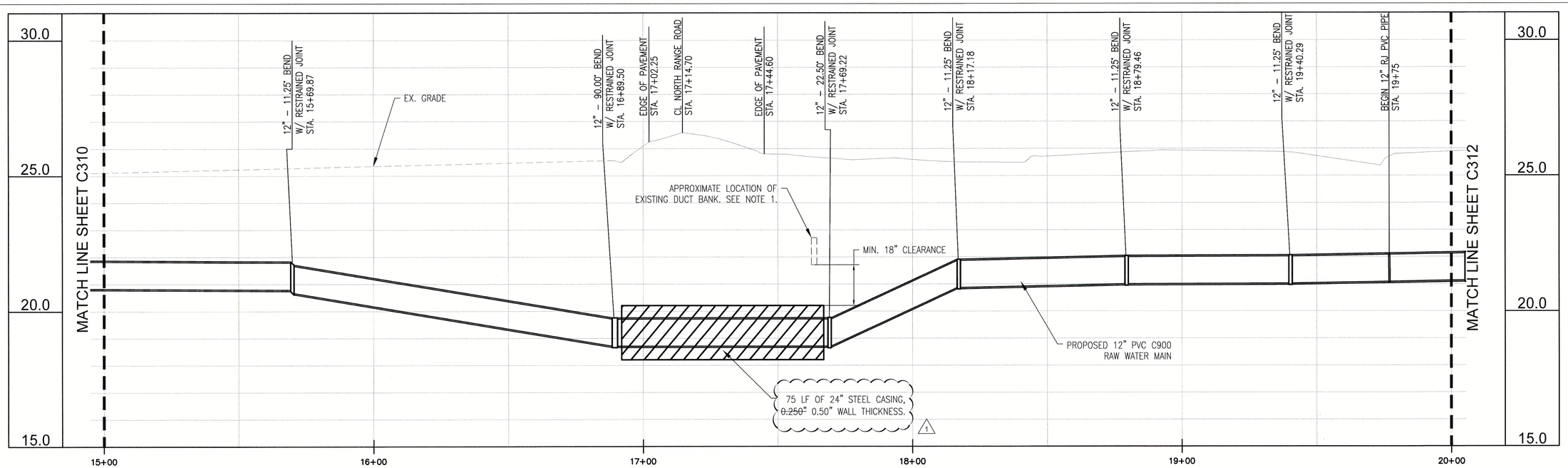


WELL #42 RAW WATER MAIN PLAN

SCALE: 1" = 20'

NOTES:

1. CONTRACTOR SHALL FIELD VERIFY TYPE AND LOCATION OF EXISTING UTILITIES IN VICINITY OF PROPOSED RAW WATER MAIN. IF CONTRACTOR CANNOT MAINTAIN 5' HORIZONTAL SEPARATION OR RELOCATE EXISTING UTILITIES, THEY SHALL NOTIFY ENGINEER AND CONTRACTING OFFICER.



WELL #42 RAW WATER MAIN PROFILE

HORZ. SCALE: 1" = 20' VERT. SCALE: 1" = 2'

VERTICAL SCALE 1"=2' 2' 1' 0 2' 4'

HORIZONTAL SCALE 1"=20' 20' 10' 0 20' 40'

GRAPHIC SCALES

SYM	DESCRIPTION	DATE	APPR
1	REVISED STEEL CASING WALL THICKNESS	12/28/18	KKPT

NAVFAC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044627 KRISTA K. PAREDES-OLDS 1/3/19

SEAL

AECOM

AECOM TECHNICAL SERVICES, INC.
1600 PERIMETER PARK DRIVE
SUITE 400
MORRISVILLE, NC 27560
(919) 461-1100 www.aecom.com

A/E INFO

APPROVED

ACTIVITY: FINAL DRAWINGS

SATISFACTORY TO DATE

DES KKPT DRW KKPT CHK RAB

PROJECT NO. 60537017

WO. NO. 6584536

CP NO. CP18E01M

CONTR. NO. N62470-14-D-9016

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ NAVFAC MIDLANT
NORTH CAROLINA IPT
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS BASE – CAMP LEJEUNE, NORTH CAROLINA
MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE POTABLE WATER WELLS AND INSTALL RAW WATER MAIN

NORTH RANGE ROAD RAW WATER MAIN PLAN AND PROFILE (STA 15+00 TO 20+00)

SCALE: AS NOTED

DATE: JANUARY 2019

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12757455

SHEET 18 OF 59

C311

FILE NAME: \\Morrisville.na.aecomnet.com\Morrisville\DCS\Projects\Secure\Cherry_Point\2017 Potable Wells Design\900- CAD 02\910 CAD\20-Sheets\CPROTWELLS-6584536-C308-312.dwg LAYOUT NAME: C311 PLOTTED: Monday, January 07, 2019 - 5:18pm USER: megan.jones