APPENDIX A

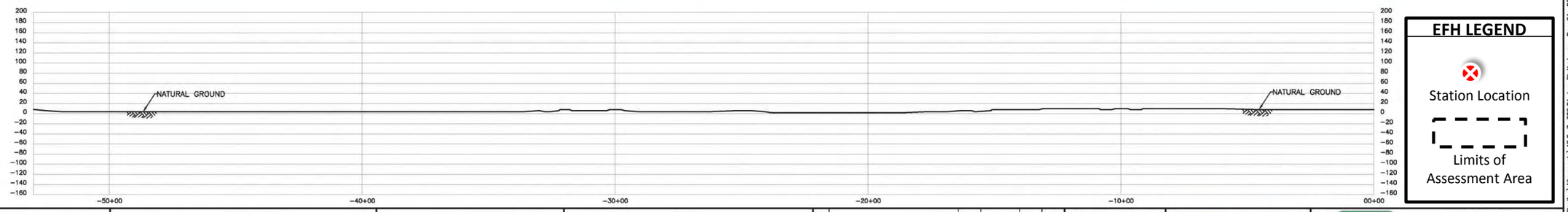
Via Verde Construction Alignment and Proposed HDD Sheets w/EFH Stations

10 Sheets

PARCEL	
PIPE STATIONING	EE −52+99 PROPOSED ECOELECTRICA TIE−IN EE −53+09 UNNAMED ROAD, GRAVEL EE −51+20 P.I. ∠ 89°58'38" LT. EE −26+82 P.I. ∠ 34°11'26" LT. EE −01+92 P.I. ∠ 68°14'52" RT. EE 00+00 FENCE AT PROPOSED ECOELECTRICA METER STATION
MATERIALS	−52+99 (6) 89' · −52+10 (15) · −51+30 · −51+20 P.I. 89°58'38" · −51+10 (7) 80' · (13) 20' · −50+66 (17) 44' (6) · BORE · 2440' (8) · −28+82 · −28+82 (6) 80' · −25+46 (17) · 2320' (8) · −02+26 (6) 26' · −02+00 · −01+92 P.I. 68°14'52" RT. (10) 17' · −01+83 (6) 183' · 00+00
HYDROTEST	
CLASS LOCATION	CLASS 3

ENV.	
MIN. COV.	3' COVER
REF. DWG.	

PIPELINE PROFILE
HORIZ: 1"=200' VERT: 1"=100'



EFH LEGEND

Station Location

Limits of Assessment Area

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.
1	PIPE, 24" O.D. x 0.375" W.T., API−5L−X70 W/14 MILS FBE	0
2	PIPE, 24" O.D. x 0.375" W.T., API−5L−X70, W/14 MILS FBE W/ 4" CONC. COAT.	0
3	PIPE, 24" O.D. x 0.438" W.T., API−5L−X70, W/14 MILS FBE	0
4	PIPE, 24" O.D. x 0.438" W.T., API−5L−X70, W/14 MILS FBE & 40 MILS ARO	0
5	PIPE, 24" O.D. x 0.438" W.T., API−5L−X70, 14 MILS FBE W/ 3.5" CONC. COAT.	0
6	PIPE, 24" O.D. x 0.500" W.T., API−5L−X70, W/14 MILS FBE	422'
7	PIPE, 24" O.D. x 0.500" W.T., API−5L−X70, W/14 MILS FBE & 40 MILS ARO	80'
8	PIPE, 24" O.D. x 0.500" W.T., API−5L−X70, 14 mils FBE W/ 3.25" CONC. COAT.	4760'
10	BEND − 5D, 24" O.D. x 0.625" W.T., API−5L−X70, TAPER BORED TO 0.500" W/ 14 MILS FBE	2

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.
15	TEST LEAD, CPA − TYPICAL	1
17	LINE MARKER	4

REFERENCE DRAWINGS

REF. DWG.	DESCRIPTION
48.0−Z−303.20	PRPOSED ECOELECTRICA METER STATION
48.0−Z−321.01	PROPOSED VIA VERDE PIPELINE

LEGEND

- ℄ Road
- ℄ Creek
- Fence
- O.H. Pwr. Ln.
- U.G. Cable
- Sewer Line
- Water Line
- Foreign Pipeline
- Property Line
- Municipality Line
- Survey/Section Ln.
- Karst Boundary
- Top Valve
- Main Line Valve
- Induction Bend
- Warning Sign
- Cont. Conc. Coating
- Set−On Weights
- Pipeline P.I.
- Extra workspace
- Parcel Number
- Transmission Tower
- Power Pole
- Mile Post
- Cathodic Test Sta.
- Equation
- Wetlands
- HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
1	ISSUED FOR BID		11−30−2010		

0 100' 200' 300'

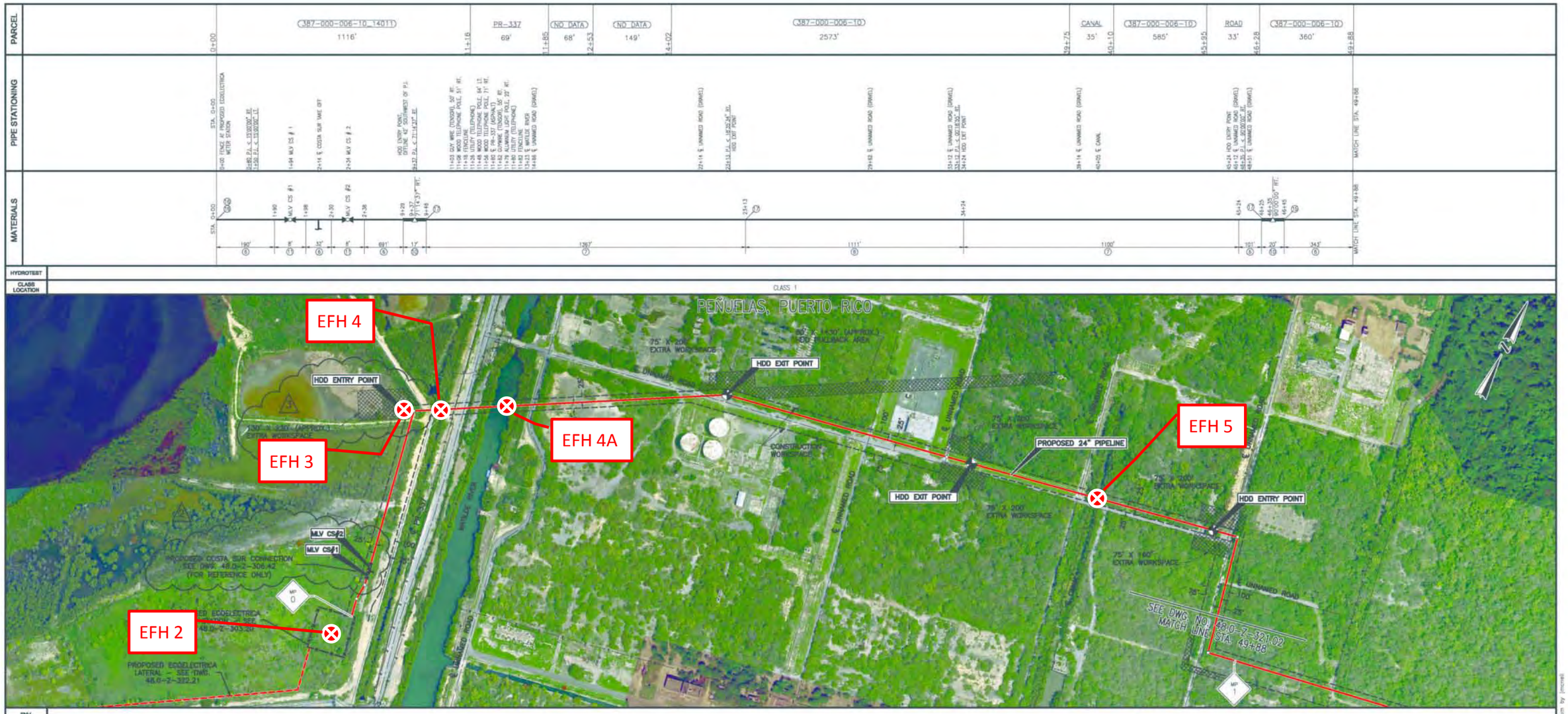
DWN. BY: APB	DATE: 09−03−2010
CHKD BY:	DATE:
PROJ. ENGR.:	DATE:
PROJ. MGR.:	DATE:
CLIENT APP.:	DATE:
SCALE: 1"=200'	

VIA VERDE PIPELINE PROJECT

CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
ECOELECTRICA LATERAL
STA. 0+00 TO STA. −52+99
PEÑUELAS, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0−Z−322.21	1 OF 1	1

H:\...\dm\1446\600 − Pipeline\3_Pipeline\Alignments\48.0−Z−322.21.dwg Plotted on: Dec 01, 2010 − 9:44am by jmcneil


PARCEL
PIPE STATIONING
MATERIALS
HYDROTEST
CLASS LOCATION
CLASS 1
387-000-006-10_14011
1116'
PR-337
69'
NO DATA
68'
NO DATA
149'
387-000-006-10
2573'
CANAL
35'
387-000-006-10
585'
ROAD
33'
387-000-006-10
360'
MATCH LINE STA. 49+88
PEÑUELAS, PUERTO RICO
EFH 4
EFH 4A
EFH 3
EFH 2
EFH 5
HDD ENTRY POINT
HDD EXIT POINT
PROPOSED 24" PIPELINE
MLV CS#2
MLV CS#1
PROPOSED COSTA SUR CONNECTION
SEE DWG. 48.0-Z-306.42
(FOR REFERENCE ONLY)
PROPOSED ECOELECTRICA
LATERAL - SEE DWG.
48.0-Z-322.21
SEE DWG. NO.
MATCH LINE
48.0-Z-321.02
STA. 49+88
ENV.
MIN. COV.
REF. DWG.
3' COVER
MLV CS #1 - MLV CS #2
3' COVER
HDD - MATILDE RIVER
3' COVER
HDD - CANAL
3' COVER
48.0-Z-326.42 (REF. ONLY)
48.0-Z-325.00
48.0-Z-325.18
PIPELINE PROFILE
HORIZ. 1"=200'
VERT. 1"=100'
NATURAL GROUND
EFH LEGEND
Station Location
Limits of Assessment Area
NOT FOR CONSTRUCTION
MATERIAL SUMMARY
REFERENCE DRAWINGS
LEGEND
VIA VERDE
PIPELINE PROJECT
CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
ECOELECTRICA TO SAN JUAN
STA. 0+00 TO STA. 49+88
PEÑUELAS, PUERTO RICO
DWG. NO. 48.0-Z-321.01
SHT. NO. 01 OF 96
REV. 3

PENUELAS, PUERTO RICO

EFH 4

EFH 3

EFH 4A

DRILL ENTRY
X=546804.16
Y=715244.77

DRILL EXIT
X=548039.81
Y=715938.35

℄ PROPOSED 24" PIPELINE

UNNAMED ROAD

PR-337

MATILDE RIVER

1430'

200'

75'

DESIGN DATA DRILL

CROSSING HORIZONTAL LENGTH: 1,417'
DIRECTIONAL BORE LENGTH: 1,426'
DESIGN RADIUS: 2400'

CARRIER PIPE

24" O.D. X 0.500" W.T.
API-5L-X70 14 MILS MIN. FBE
COATED WITH 40MILS ABRASION RESISTANT OVERCOAT

HYDROSTATIC TEST

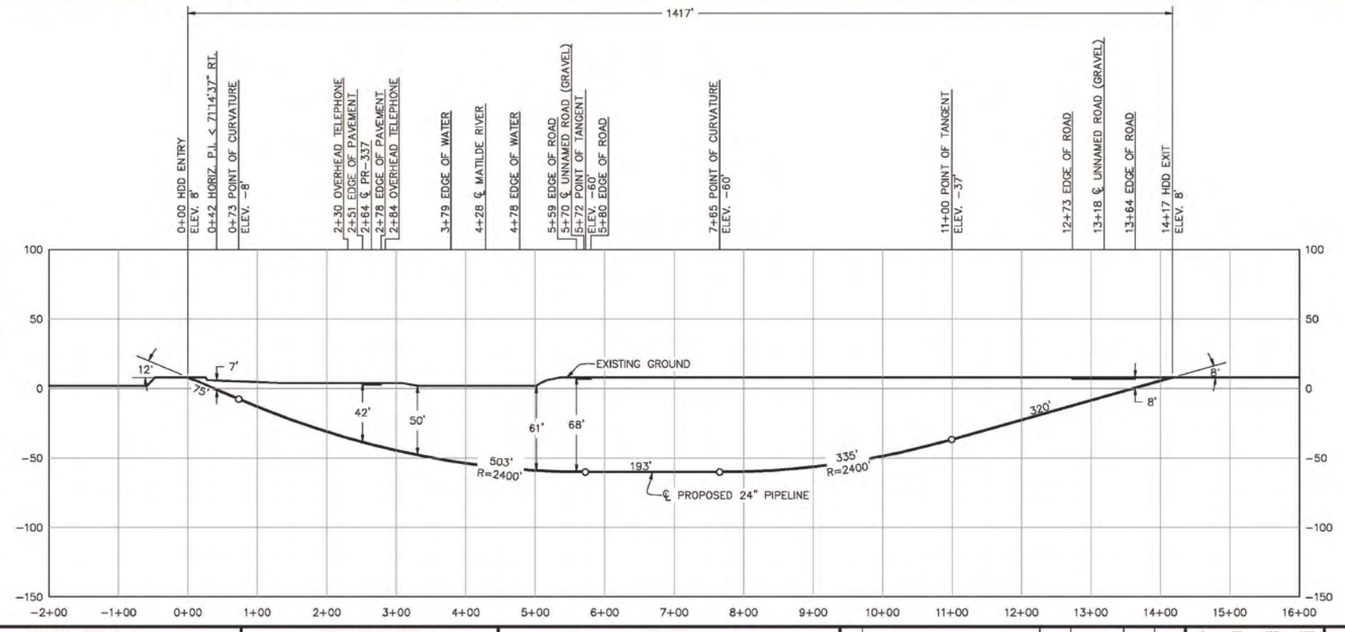
PRIOR TO INSTALLATION CARRIER PIPE SHALL BE HYDROSTATICALLY TESTED FOR 4 HOURS. MINIMUM TEST PRESSURE SHALL BE 2625 PSI. MAXIMUM TEST PRESSURE SHALL BE 2800 PSI.

DIRECTIONAL DRILL NOTES

1. CONTRACTOR TO SUPPLY AND INSTALL A CONDUIT IN THE HDD CROSSING. CONDUIT SHALL BE BUNDLED WITH THE PIPELINE AND INSTALLED IN A COMMON BORE. THE HDD BORE DIAMETER SHALL BE 40" – 42". ALTERNATIVELY THE CONDUIT MAY BE INSTALLED IN A SEPARATE HDD BORE. IN THIS CASE THE BORE FOR THE PIPELINE SHALL BE 34"–36". THE CONDUIT MUST BE INSTALLED WITHIN THE PERMANENT EASEMENT. CONDUIT SHALL BE INSTALLED NO LESS THAN 1' FROM EDGE OF PERMANENT EASEMENT AT A DEPTH NO SHALLOWER THAN THE PIPELINE. THE CONDUIT SHALL CONSIST OF 4-1/2"OD X 0.337"WT WELDED STEEL PIPE.
2. MINIMUM ALLOWABLE 3 JOINT RADIUS 2000'.
3. HORIZONTAL POSITION OF BOREHOLE SHALL BE NO LESS THAN 1' FROM EDGE OF PERMANENT R.O.W.
4. DRILLED ENTRY POINT SHALL BE EXACTLY AT LOCATION SHOWN.
5. DRILLED EXIT POINT SHALL NOT BE MORE THAN 10' FROM DESIGNED CENTERLINE. (ALSO SEE NOTE 3)
6. HDD BORE WILL NOT BE INSTALLED AT A DEPTH SHALLOWER THAN SHOWN.
7. AFTER INSTALLATION IS COMPLETE A GAUGING PLATE SHALL BE RUN THROUGH CARRIER PIPE. GAUGING PLATE SHALL HAVE A DIAMETER OF 22.5". PLATE MATERIAL SHALL BE ¾" ALUMINUM PLATE.
8. GEOTECHNICAL DATA SHOWN IS CURRENT AS OF 11/30/10. GEOTECHNICAL INVESTIGATION IS ONGOING.
9. DRILL FLUID AND DRILL SPOILS SHALL BE DISPOSED OF EITHER AT AN APPROVED LANDFILL OR BY MIXING WITH TOPSOIL AT AN APPROVED SITE.
10. DISPOSAL SITES TO BE DETERMINED BY CONTRACTOR AND SUBMITTED TO "PREPA" FOR APPROVAL PRIOR TO USE.
11. THERE SHALL BE NO CLEARING OF TREES BETWEEN THE ENTRY SIDE WORKSPACE AND THE EXIT SIDE WORKSPACE. MINOR BRUSH CLEARING, USING HAND TOOLS IS PERMITTED FOR INSTALLING OF SURFACE COIL FOR DOWNHOLE SURVEY SYSTEM.
12. CONTRACTOR SHALL IDENTIFY WATER SOURCE FOR DRILL FLUID MAKEUP. SOURCES MUST BE APPROVED BY PREPA PRIOR TO STARTING WORK.
13. WATER SOURCE AND DISCHARGE POINT FOR HYDROSTATIC TEST OF PIPE PRIOR TO PULLBACK SHALL BE AS PER HYDROSTATIC TEST PLAN AND APPLICABLE PERMITS.
14. ELEVATIONS SHOWN ARE BASED ON SURVEY DATA PROVIDED BY OTHERS. ELEVATIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED BY CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
15. PHOTOGRAPHY SHOWN IS OF UNKNOWN VINTAGE AND MAY NOT DEPICT CURRENT CONDITIONS.
16. COORDINATES PROVIDED ARE BASE UPON NAD 83 PUERTO RICO AND VIRGIN ISLANDS, US FOOT.

NOTES:

1. WATERBODY CROSSING CONSTRUCTION, RESTORATION AND MITIGATION WILL BE PERFORMED IN ACCORDANCE WITH TERMS & CONDITIONS OF APPLICABLE PERMITS AND PREPA'S EROSION PREVENTION AND SEDIMENT CONTROL AND WETLAND & WATERSBODY CONSTRUCTION GUIDANCE MANUAL.
2. SEDIMENT BARRIERS SHALL BE INSTALLED AND MAINTAINED AS PER ALL APPLICABLE STORMWATER CONTROL REQUIREMENTS.
3. THE LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. THIS INCLUDES CONTACTING THE PRT EXCAVATION CENTER 72 HOURS PRIOR TO BEGINNING WORK. (787) 792-7478.
4. WORKMATS OR OTHER APPROVED PROTECTION TO BE INSTALLED OVER FOREIGN LINES. OWNERS OF FOREIGN PIPELINES TO BE NOTIFIED 48 HOURS PRIOR TO BEGINNING WORK.



EFH LEGEND

Station Location

Limits of Assessment Area

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.

REFERENCE DRAWINGS

REF. DWG.	DESCRIPTION
DWG. 48.0-Z-321.01	ALIGNMENT SHEET

LEGEND

- ℄ Road
- ℄ Creek
- Fence
- O.H. Pwr. Ln.
- U.G. Cable
- Sewer Line
- Water Line
- Foreign Pipeline
- Property Line
- Municipality Line
- Survey/Section Ln.
- Karst Boundary
- Top Valve
- Main Line Valve
- Induction Bend
- Warning Sign
- Cont. Conc. Coating
- Set-On Weights
- Pipeline P.I.
- Extra workspace
- Parcel Number
- Transmission Tower
- Power Pole
- Mile Post
- Cathodic Test Sta.
- Equation
- Wetlands
- HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
1	ISSUED FOR BID	CEL	11/30/10	MB	

0 50' 100' 150'

DWN. BY:	CEL	DATE:	09-03-2010
CHKD BY:	MB	DATE:	–
PROJ. ENGR.:	–	DATE:	–
PROJ. MGR.:	–	DATE:	–
CLIENT APP.:	–	DATE:	–

SCALE: H: 1"=100' V: 1"=50'

VIA VERDE PIPELINE PROJECT

HORIZONTAL DIRECTIONAL DRILL
PROPOSED VIA VERDE PIPELINE
MATILDE RIVER
MP 0.28
PENUELAS, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-325.00	1 OF 1	1

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DESIGN DATA DRILL

CROSSING HORIZONTAL LENGTH: 1,298'
DIRECTIONAL BORE LENGTH: 1,337'
DESIGN RADIUS: 2400'

CARRIER PIPE

24" O.D. X 0.500" W.T.
API-5L-X70 14 MILS MIN. FBE
COATED WITH 40MILS ABRASION RESISTANT OVERCOAT

HYDROSTATIC TEST

PRIOR TO INSTALLATION CARRIER PIPE SHALL BE HYDROSTATICALLY TESTED FOR 4 HOURS. MINIMUM TEST PRESSURE SHALL BE 2825 PSI. MAXIMUM TEST PRESSURE SHALL BE 2800 PSI.

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2. MINIMUM ALLOWABLE 3 JOINT RADIUS 2000'.
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15. PHOTOGRAPHY SHOWN IS OF UNKNOWN VINTAGE AND MAY NOT DEPICT CURRENT CONDITIONS.
16. COORDINATES PROVIDED ARE BASE UPON NAD 83 PUERTO RICO AND VIRGIN ISLANDS, US FOOT.

NOTES:

1. WATERBODY CROSSING CONSTRUCTION, RESTORATION AND MITIGATION WILL BE PERFORMED IN ACCORDANCE WITH TERMS & CONDITIONS OF APPLICABLE PERMITS AND PREPA'S EROSION PREVENTION AND SEDIMENT CONTROL AND WETLAND & WATERBODY CONSTRUCTION GUIDANCE MANUAL.
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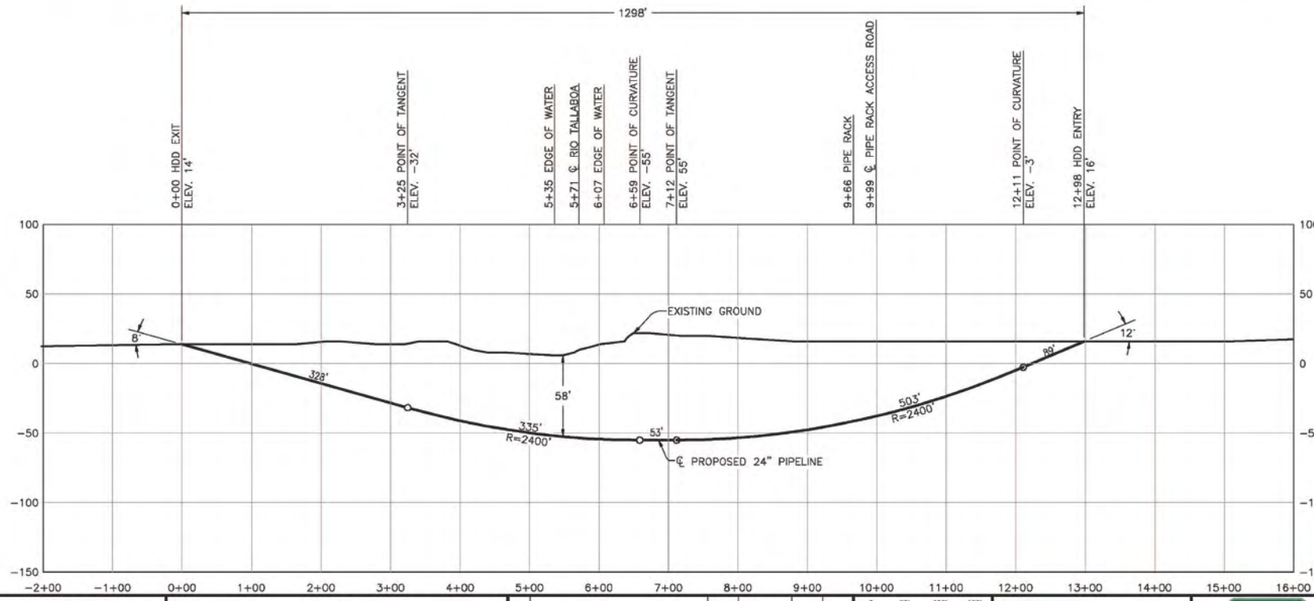

EFH LEGEND

Station Location

Limits of Assessment Area

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.

REFERENCE DRAWINGS

REF. DWG.	DESCRIPTION
DWG. 48.0-Z-321.02	ALIGNMENT SHEET

LEGEND

℄ Road, ℄ Creek, Fence, O.H. Pwr. Ln., U.G. Cable, Sewer Line, Water Line, Foreign Pipeline, Property Line, Municipality Line, Survey/Section Ln., Karst Boundary
Top Valve, Main Line Valve, Induction Bend, Warning Sign, Cont. Conc. Coating, Set-On Weights, Pipeline P.I., Extra workspace
Parcel Number, Transmission Tower, Power Pole, Mile Post, Cathodic Test Sta., Equation, Wetlands, HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
1	ISSUED FOR BID	CEL	11/30/10	MB	

0 50' 100' 150'

DWN. BY:	CEL	DATE:	09-03-2010
CHKD BY:	MB	DATE:	–
PROJ. ENGR.:	–	DATE:	–
PROJ. MGR.:	–	DATE:	–
CLIENT APP.:	–	DATE:	–

SCALE: H: 1"=100' V: 1"=50'

VIA VERDE PIPELINE PROJECT

HORIZONTAL DIRECTIONAL DRILL
PROPOSED VIA VERDE PIPELINE
RIO TALLABOA
MP 1.48
PENUELAS, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-325.01	1 OF 1	1

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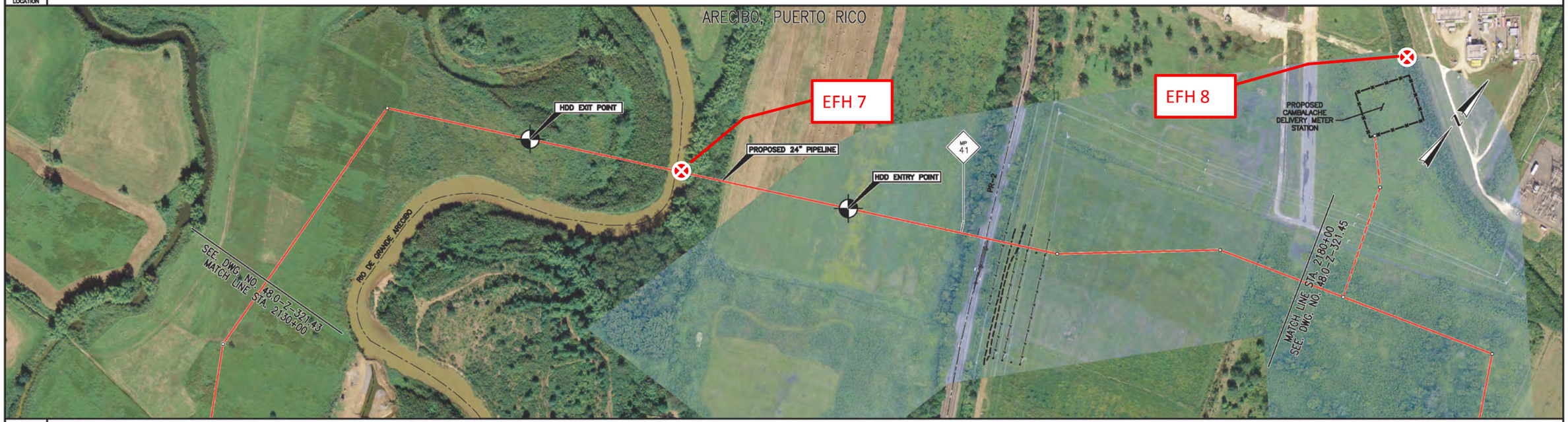
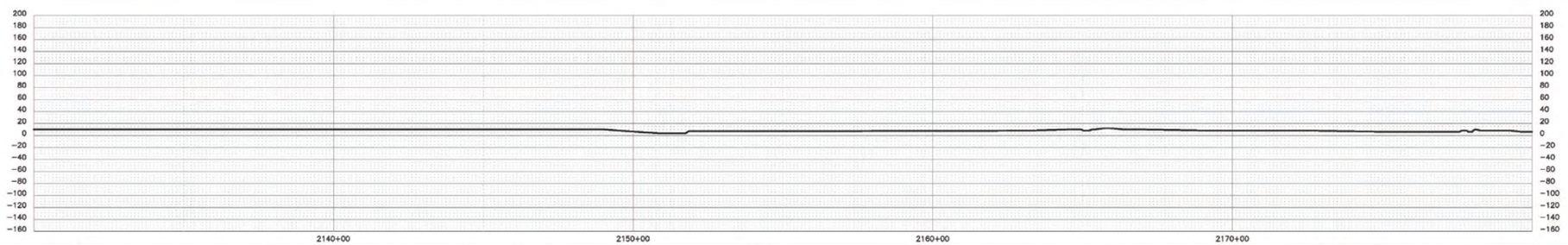
PARCEL	
PIPE STATIONING	2130+19 P.I. < 67°21'05" RT 2145+56 HDD EXIT POINT 2153+07 RIO DE GRANDE ARECIBO 2159+78 HDD ENTRY POINT 2165+91 PR- 2, ASPHALT 2165+98 EXISTING PIPELINE 2166+03 EXISTING PIPELINE 2166+10 OVERHEAD POWERLINE 2167+39 OVERHEAD POWERLINE 2167+79 OVERHEAD POWERLINE 2168+58 OVERHEAD POWERLINE 2180+05 P.I. < 13°40'15" LT 2176+20 P.I. < 22°17'26" RT
MATERIALS	
HYDROTEST	
CLASS LOCATION	



ENV.	
MIN. COV.	HDD

PIPELINE PROFILE
HORIZ: 1"=200' VERT: 1"=100'



EFH LEGEND

Station Location

Limits of Assessment Area

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.

REFERENCE DRAWINGS

LEGEND

- ℄ Road
- ℄ Creek
- Fence
- O.H. Pwr. Ln.
- U.G. Cable
- Sewer Line
- Water Line
- Foreign Pipeline
- Property Line
- Municipality Line
- Survey/Section Ln.
- Temporary Work Space
- Tap Valve
- Main Line Valve
- Induction Bend
- Warning Sign
- Cont. Conc. Coating
- Sat-On Weights
- Pipeline P.I.
- Additional Temporary Work Space
- Parcel Number
- Transmission Tower
- Power Pole
- Mile Post
- Cathodic Test Sta.
- Equation
- Wetlands

NO.	REVISION	BY	DATE	CHKD	APP.
0	PRELIMINARY ISSUE FOR COST ESTIMATE		09-24-2010		

0 100' 200' 300'

DWN. BY:	DRS	DATE: 09-03-2010
CHKD BY:		DATE:
PROJ. ENGR.:		DATE:
PROJ. MGR.:		DATE:
CLIENT APP.:		DATE:

SCALE: 1"=200'

VIA VERDE PIPELINE PROJECT

CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
ECOELECTRICA TO SAN JUAN
STA. 2130+00 TO STA. 2180+00
ARECIBO, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-321.44	44 OF 96	0

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PARCEL							
Parcel	(394-00) U.S. NAVY 1900' 115 RODS	(NO DATA) 453'	RIO COCAL 444'	(444-00) 53'	(397-00) 261'	PR-165 82'	(397-00) 1807'
Stations	4257+04 – 4276+04	4276+04 – 4280+57	4280+57 – 4285+01	4285+01 – 4285+54	4285+54 – 4288+15	4288+15 – 4288+97	4288+97 – 4307+05

PIPE STATIONING

MATCH LINE STA. 4257+04
4281+19 ℄ RIO COCAL
4287+47 WOOD POWER POLE, 43' LT.
4287+57 GUYWIRE (TENSOR), 54' LT.
4287+91 UTILITY (O.H. POWERLINE)
4288+09 UTILITY (TELEPHONE)
4288+28 UTILITY (O.H. POWERLINE)
4288+33 UNKNOWN U.G. FEATURE
4288+51 GUYWIRE (TENSOR), 41' RT.
4288+52 UTILITY (O.H. POWERLINE)
4288+57 ℄ PR-165 (ASPHALT)
4288+63 WOOD TELEPHONE POLE, 54' RT.
4288+67 UTILITY (O.H. POWERLINE)
4288+92 UTILITY (O.H. POWERLINE)
4289+08 FENCELINE
4290+94 HDD ENTRY POINT
4292+61 P.I. < 12°10'24" RT.
4300+75 HDD ENTRY POINT
MATCH LINE STA. 4307+05

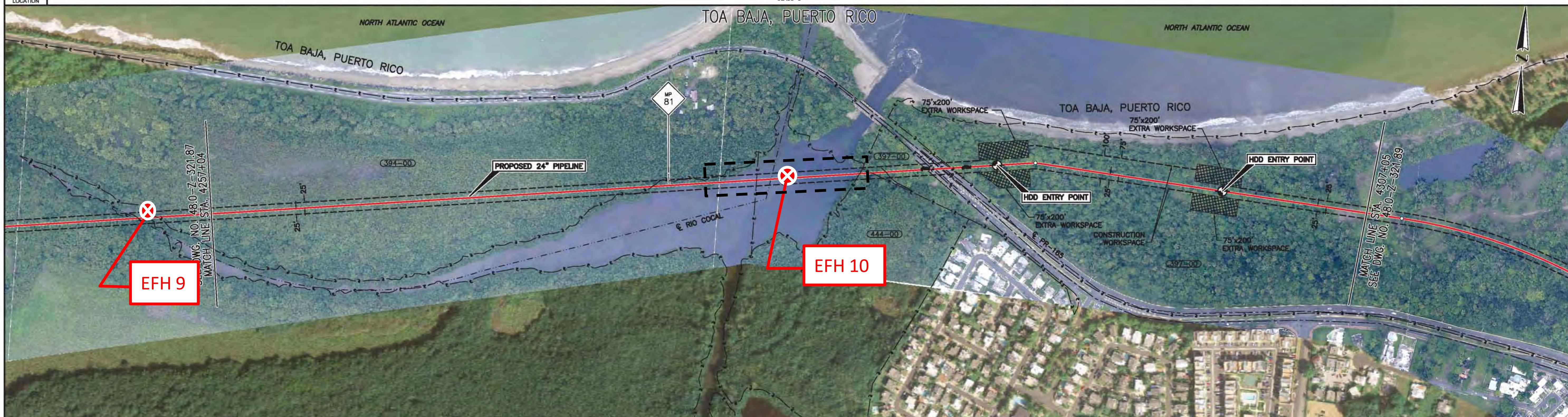
MATERIALS

MATCH LINE STA. 4257+04
(19) 4276+80
(17) 4288+07
4289+07 (17)
4290+94 (15)
4291+21
4292+41
4292+81
4300+41
4300+75
MATCH LINE STA. 4307+05

3390' (7) | 27' (6) | 120' (8) | 40' (6) | 760' (8) | 34' (6) | 630' (7)

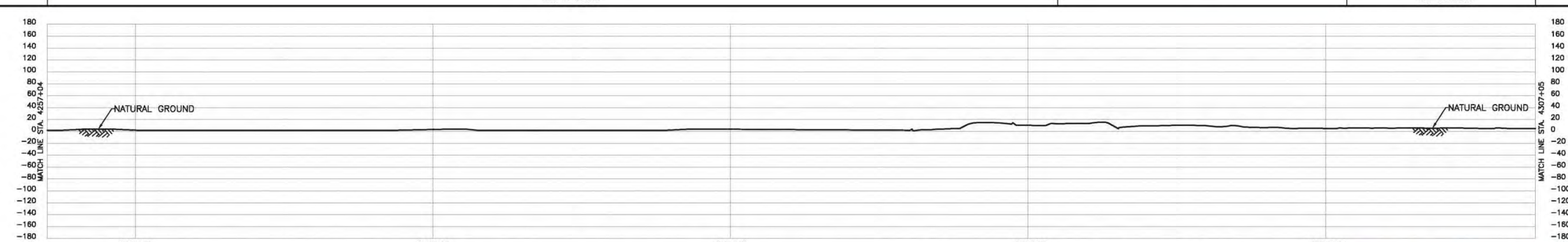
HYDROTEST

CLASS LOCATION: CLASS 3



ENV.				
MIN. COV.		HDD – RIO COCAL / PR-165	3' COVER	HDD – PUNTA SALINAS
REF. DWG.		48.0-Z-325.12		48.0-Z-325.19

PIPELINE PROFILE
HORIZ: 1"=200' VERT: 1"=100'



EFH LEGEND

Station Location

Limits of Assessment Area

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.
1	PIPE, 24" O.D. X 0.375" W.T., API-5L-X70 W/14 MILS FBE	0
2	PIPE, 24" O.D. X 0.375" W.T., API-5L-X70, W/14 MILS FBE W/ 4" CONC. COAT.	0
3	PIPE, 24" O.D. X 0.438" W.T., API-5L-X70, W/14 MILS FBE	0
4	PIPE, 24" O.D. X 0.438" W.T., API-5L-X70, W/14 MILS FBE & 40 MILS ARO	0
5	PIPE, 24" O.D. X 0.438" W.T., API-5L-X70, 14 MILS FBE W/ 3.5" CONC. COAT.	0
6	PIPE, 24" O.D. X 0.500" W.T., API-5L-X70, W/14 MILS FBE	101'
7	PIPE, 24" O.D. X 0.500" W.T., API-5L-X70, W/14 MILS FBE & 40 MILS ARO	4020'
8	PIPE, 24" O.D. X 0.500" W.T., API-5L-X70, 14 MILS FBE W/ 3.25" CONC. COAT.	880'
15	TEST LEAD, CPA – TYPICAL	1
17	LINE MARKER	2

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.
19	AERIAL MARKER	1

REFERENCE DRAWINGS

REF. DWG.	DESCRIPTION
48.0-Z-325.12	HDD – RIO COCAL
48.0-Z-325.19	HDD – PUNTA SALINAS

LEGEND

℄ Road; ℄ Creek; Fence; O.H. Pwr. Ln.; U.G. Cable; Sewer Line; Water Line; Foreign Pipeline; Property Line; Municipality Line; Survey/Section Ln.; Karst Boundary; Tap Valve; Main Line Valve; Induction Bend; Warning Sign; Cont. Conc. Coating; Set-On Weights; Pipeline P.I.; Extra workspace; Parcel Number; Transmission Tower; Power Pole; Mile Post; Cathodic Test Sta.; Equation; Wetlands; HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
1	ISSUED FOR BID		11-30-2010		

0 100' 200' 300'

AEE | RAY ARCHITECTS ENGINEERS

DWN. BY: APB	DATE: 09-03-2010
CHKD BY:	DATE:
PROJ. ENGR.:	DATE:
PROJ. MGR.:	DATE:
CLIENT APP.:	DATE:
SCALE: 1"=200'	

VIA VERDE PIPELINE PROJECT

CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
ECOELECTRICA TO SAN JUAN
STA. 4257+04 TO STA. 4307+05
TOA BAJA, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-321.88	88 OF 96	1

H:_tdm\1446\600 – Pipeline\3 Pipeline\Alignments\48.0-Z-321.88.dwg Plotted on: Dec 01, 2010 – 1:07pm by acase

PARCEL	(398-00) 4935' — 4350+70 — 4400+05
PIPE STATIONING	MATCH LINE STA. 4350+70; 4376+12 P.I. < 11°47'36" LT.; 4382+88 HDD EXIT POINT; 4382+88 P.I. < 23°20'20" LT.; 4384+28 P.I. < 23°28'38" LT.; 4384+28 HDD EXIT POINT; 4390+51 P.C. < 13°31'02" LT.; 4399+30 STORM SEWER; 4399+35 STORM SEWER; MATCH LINE STA. 4400+05
MATERIALS	MATCH LINE STA. 4350+70; 3216' (7); 4382+88; 4382+98; 4384+18; 4384+28 (17); 10' (6); 120' (8); 10' (6); 1577' (7); MATCH LINE STA. 4400+05
HYDROTEST	
CLASS LOCATION	CLASS 3

ENV.	
MIN. COV.	HDD-LEVITTOWN BEACH — 5' COVER — HDD-LEVITTOWN BEACH
REF. DWG.	48.0-Z-325.20 — 48.0-Z-325.21

PIPELINE PROFILE HORIZ: 1"=200' VERT: 1"=100'

EFH LEGEND

Station Location

Limits of Assessment Area

PRELIMINARY
NOT FOR CONSTRUCTION

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.
1	PIPE, 24" O.D. X 0.375" W.T., API-5L-X70 W/14 MILS FBE	0
2	PIPE, 24" O.D. X 0.375" W.T., API-5L-X70, W/14 MILS FBE W/ 4" CONC. COAT	0
3	PIPE, 24" O.D. X 0.438" W.T., API-5L-X70, W/14 MILS FBE	0
4	PIPE, 24" O.D. X 0.438" W.T., API-5L-X70, W/14 MILS FBE & 40 MILS ARO	0
5	PIPE, 24" O.D. X 0.438" W.T., API-5L-X70, 14 MILS FBE W/ 3.5" CONC. COAT.	0
6	PIPE, 24" O.D. X 0.500" W.T., API-5L-X70, W/14 MILS FBE	20'
7	PIPE, 24" O.D. X 0.500" W.T., API-5L-X70, W/14 MILS FBE & 40 MILS ARO	4795'
8	PIPE, 24" O.D. X 0.500" W.T., API-5L-X70, 14 MILS FBE W/ 3.25" CONC. COAT.	120'
17	LINE MARKER	1
-	-	-

MATERIAL SUMMARY

ITEM NO.	DESCRIPTION	QTY.
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

REFERENCE DRAWINGS

REF. DWG.	DESCRIPTION
48.0-Z-325.20	HDD-LEVITTOWN BEACH
48.0-Z-325.21	HDD-LEVITTOWN BEACH
_	_
_	_
_	_
_	_
_	_
_	_
_	_

LEGEND

℄ Road; ℄ Creek; Fence; O.H. Pwr. Ln.; U.G. Cable; Sewer Line; Water Line; Foreign Pipeline; Property Line; Municipality Line; Survey/Section Ln.; Karst Boundary; Tap Valve; Main Line Valve; Induction Bend; Warning Sign; Cont. Conc. Coating; Set-On Weights; Pipeline P.I.; Extra workspace; Parcel Number; Transmission Tower; Power Pole; Mile Post; Cathodic Test Sta.; Equation; Wetlands; HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
2	RE-ISSUED FOR BID		03-07-2011		
1	ISSUED FOR BID		11-30-2010		

0 100' 200' 300'

AEE — RAY

DWN. BY: APB	DATE: 09-03-2010
CHKD BY:	DATE:
PROJ. ENGR.:	DATE:
PROJ. MGR.:	DATE:
CLIENT APP.:	DATE:
	SCALE: 1"=200'

VIA VERDE PIPELINE PROJECT

CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
ECOELECTRICA TO SAN JUAN
STA. 4350+70 TO STA. 4400+05
TOA BAJA, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-321.90	90 OF 96	2

H:_tdm\1448\600 - Pipeline\3 Pipeline\Alignments\48.0-Z-321.90.DWG Plotted on: Mar 09, 2011 - 1:03pm by jmcneil


EFH 13
EFH 14
EFH 15
EFH LEGEND
Station Location
Limits of Assessment Area
VIA VERDE
PIPELINE PROJECT
CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
TOA BAJA, PUERTO RICO
48.0-Z-321.91
91 OF 98

PARCEL

PIPE STATIONING

0+00 PROPOSED PALO SECO DELIVERY METER STATION FENCE
0+20 P.I. < 29°48'47" LT.
2+30 FENCE
2+44 STORM SEWER
3+35 P.I. < 90°00'00" LT.
6+45 GUY WIRE (TENSOR), 36' LT.
15+10 P.I. < 30°57'12" LT.
15+21 UTILITY (O.H. POWERLINE)
15+25 UTILITY (O.H. POWERLINE)
15+31 WOOD POWER POLE, 20' RT.
16+03 P.I. < 14°43'34" LT.
16+08 WOOD LIGHT POLE, 2' RT.
16+11 FENCE
16+52 GATE, 48' LT.
16+72 GATE, 42' LT.
17+17 WOOD TELEPHONE POLE, 15' LT.
17+19 WOOD LIGHT POLE, 25' LT.
17+28 GATE, 25' LT.
17+52 GATE, 15' LT.
17+57 GUY WIRE (TENSOR), 22' RT.
17+59 GUY WIRE (TENSOR), 4' RT.
17+77 WOOD POWER POLE, 43' RT.
17+77 FIRE HYDRANT, 32' RT.
17+79 ALUMINUM POWER POLE, 19' RT.
17+81 WOOD TELEPHONE POLE, 16' RT.
17+81 GUY WIRE (TENSOR), 45' RT.
17+86 GUY WIRE (TENSOR), 1' RT.
18+01 WATER METER, 3' LT.
18+02 GUY WIRE (TENSOR), 33' RT.
18+04 WOOD TELEPHONE POLE, 13' RT.
18+05 WATER METER, 1' RT.
18+06 WATER METER, 1' LT.
18+08 FENCE CORNER, 3' RT.
18+11 ALUMINUM LIGHT POLE, 4' RT.
18+11 STORM SEWER
18+18 DRAIN, 35' RT.
18+58 CATCH BASIN, 17' LT.
18+59 DRAIN, 3' RT.
18+59 ℄ PR-165 (ASPHALT)
18+59 DRAIN, 7' LT.
18+60 CATCH BASIN, 19' LT.
18+97 ALUMINUM LIGHT POLE, 14' RT.
19+05 UTILITY (UNDERGROUND)
19+35 UTILITY (TELEPHONE)
19+43 DRAIN, 5' RT.
19+45 DRAIN, 4' LT.
19+46 CATCH BASIN, 15' LT.
19+47 DRAIN, 14' LT.
19+48 CATCH BASIN, 15' LT.
19+48 EXISTING PALO SECO POWER STATION FENCE

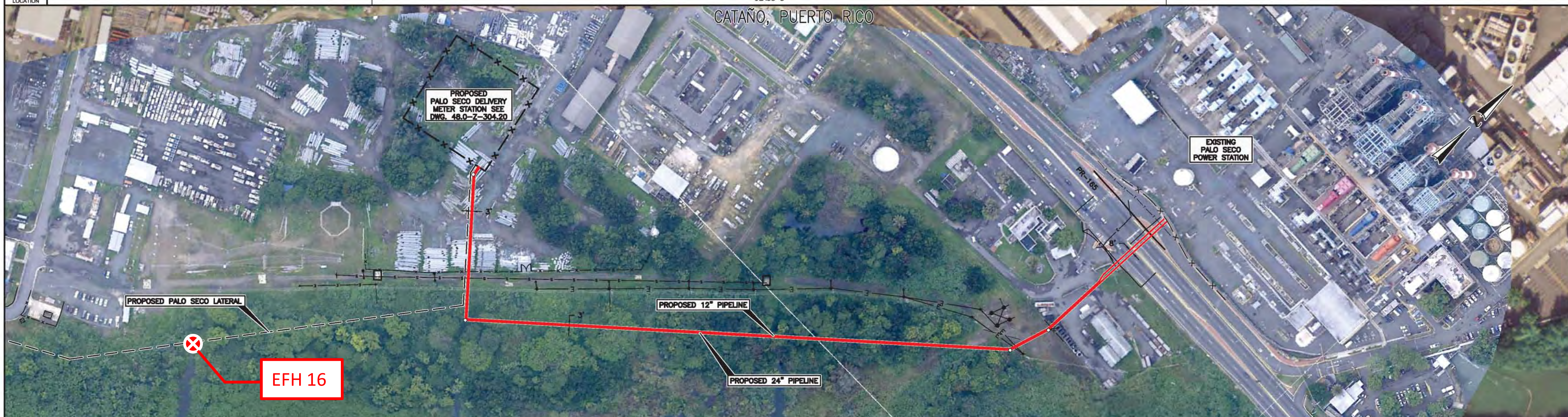
MATERIALS

12": 0+00, 0+17, 0+20 (P.I. 29°48'47"), 0+24 (17), 3+29, 3+35 (P.I. 90°00'00"), 3+41 (17), 15+10 (17), 16+03 (17), 17+68, 19+48 (15)(17)
17' (32), 7' (35), 305' (32), 12' (35), 1427' (32), 180' (33)

24": 0+00, 0+15, 0+20 (P.I. 29°48'47"), 0+25, 0+35 (17), 3+15, 3+25, 3+35 (P.I. 90°00'00"), 3+45 (17), 14+65, 15+10 (17), 16+03 (17), 16+25, 17+45, 17+68, 19+48 (15)(17)
15' (24), 10' (27), 10' (24), 280' (26), 10' (24), 10' (27), 1120' (26), 160' (24), 120' (26), 23' (24), 180' (25)

HYDROTEST

CLASS LOCATION: CLASS 3



ENV.

MIN. COV.: 3' COVER | PR-165

REF. DWG.: 48.0-Z-323.28

PIPELINE PROFILE
HORIZ: 1"=200' VERT: 1"=100'

EFH LEGEND

Station Location

Limits of Assessment Area

MATERIAL SUMMARY		
ITEM NO.	DESCRIPTION	QTY.
15	TEST LEAD, CPA – TYPICAL	2
17	LINE MARKER	10
24	PIPE, 24" O.D. x 0.375" W.T., GR. B, W/14 MILS FBE	218'
25	PIPE, 24" O.D. x 0.375" W.T., GR. B, W/14 MILS FBE & 40 MILS ARO	180'
26	PIPE, 24" O.D. x 0.375" W.T., GR. B, 14 MILS FBE W/ 4" CONC. COAT.	1520'
27	BEND – 5D, 24" O.D. x 0.500" W.T., GR. B, TAPER BORED TO 0.375" W/ 14 MILS FBE	2
32	PIPE, 12" O.D. x 0.500" W.T., GR. B, W/14 MILS FBE	1749'
33	PIPE, 12" O.D. x 0.500" W.T., GR. B, W/14 MILS FBE & 40 MILS ARO	180'
35	BEND – 5D, 12" O.D. x 0.500" W.T., GR. B, W/ 14 MILS FBE	2

MATERIAL SUMMARY		
ITEM NO.	DESCRIPTION	QTY.

REFERENCE DRAWINGS	
REF. DWG.	DESCRIPTION
48.0-Z-304.20	PROPOSED PALO SECO METER STATION
48.0-Z-322.41	PROPOSED PALO SECO LATERAL
48.0-Z-323.28	ROAD CROSSING PR-165

LEGEND

℄ Road; ℄ Creek; Fence; O.H. Pwr. Ln.; U.G. Cable; Sewer Line; Water Line; Foreign Pipeline; Property Line; Municipality Line; Survey/Section Ln.; Karst Boundary; Tap Valve; Main Line Valve; Induction Bend; Warning Sign; Cont. Conc. Coating; Set-On Weights; Pipeline P.I.; Extra workspace; Parcel Number; Transmission Tower; Power Pole; Mile Post; Cathodic Test Sta.; Equation; Wetlands; HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
1	ISSUED FOR BID		11-30-2010		

0 50' 100' 150'

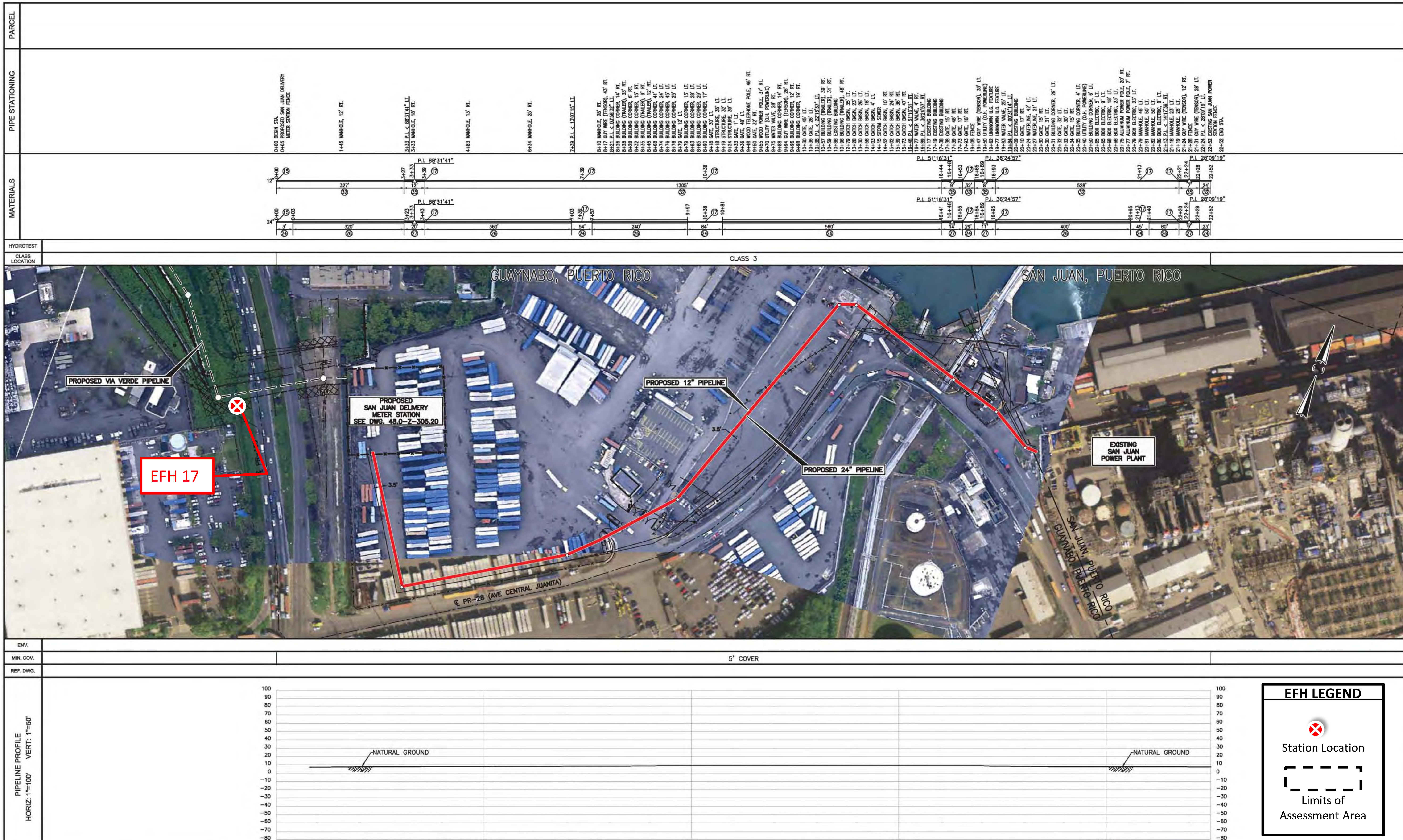
DWN. BY: APB	DATE: 09-03-2010
CHKD BY:	DATE:
PROJ. ENGR.:	DATE:
PROJ. MGR.:	DATE:
CLIENT APP.:	DATE:
SCALE: 1"=200'	

VIA VERDE PIPELINE PROJECT

CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
PALO SECO POWER STATION FEED LINES
STA. 0+00 TO STA. 19+48
CATAÑO, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-322.45	1 OF 1	1

H:_tdm\1446\600 – Pipeline\3 Pipeline\Alignments\48.0-Z-322.45.dwg Plotted on: Dec 01, 2010 – 10:02am by jmcneil



MATERIAL SUMMARY		
ITEM NO.	DESCRIPTION	QTY.
15	TEST LEAD, CPA – TYPICAL	2
17	LINE MARKER	14
24	PIPE, 24" O.D. x 0.375" W.T., GR. B, W/14 MILS FBE	238'
26	PIPE, 24" O.D. x 0.375" W.T., GR. B, 14 MILS FBE W/ 4" CONC. COAT.	1960'
27	BEND – 5D, 24" O.D. x 0.500" W.T., GR. B, TAPER BORED TO 0.375" W/ 14 MILS FBE	4
32	PIPE, 12" O.D. x 0.500" W.T., GR. B, W/14 MILS FBE	2216'
35	BEND – 5D, 12" O.D. x 0.500" W.T., GR. B W/14 MILS FBE	4

MATERIAL SUMMARY		
ITEM NO.	DESCRIPTION	QTY.

REFERENCE DRAWINGS	
REF. DWG.	DESCRIPTION
48.0-Z-305.20	PROPOSED SAN JUAN METER STATION
48.0-Z-321.96	PROPOSED VIA VERDE PIPELINE

LEGEND

℄ Road, ℄ Creek, Fence, O.H. Pwr. Ln., U.G. Cable, Sewer Line, Water Line, Foreign Pipeline, Property Line, Municipality Line, Survey/Section Ln., Karst Boundary, Top Valve, Main Line Valve, Induction Bend, Warning Sign, Cont. Conc. Coating, Set-On Weights, Pipeline P.I., Extra workspace, Parcel Number, Transmission Tower, Power Pole, Mile Post, Cathodic Test Sta., Equation, Wetlands, HDD Entry/Exit

NO.	REVISION	BY	DATE	CHKD	APP.
1	ISSUED FOR BID		11-30-2010		

DWN. BY: APB	DATE: 09-03-2010
CHKD BY:	DATE:
PROJ. ENGR.:	DATE:
PROJ. MGR.:	DATE:
CLIENT APP.:	DATE:
SCALE: 1"=100'	

VIA VERDE PIPELINE PROJECT

CONSTRUCTION ALIGNMENT SHEET
PROPOSED VIA VERDE PIPELINE
SAN JUAN POWER STATION FEED LINES
STA. 0+00 TO STA. 22+52
GUAYNABO & SAN JUAN, PUERTO RICO

DWG. NO.	SHT. NO.	REV.
48.0-Z-322.50	1 OF 1	1

H:_tdm\1446\600 – Pipeline\3 Pipeline\Alignments\48.0-Z-322.50.dwg Plotted on: Dec 01, 2010 – 10:20am by jmcnail