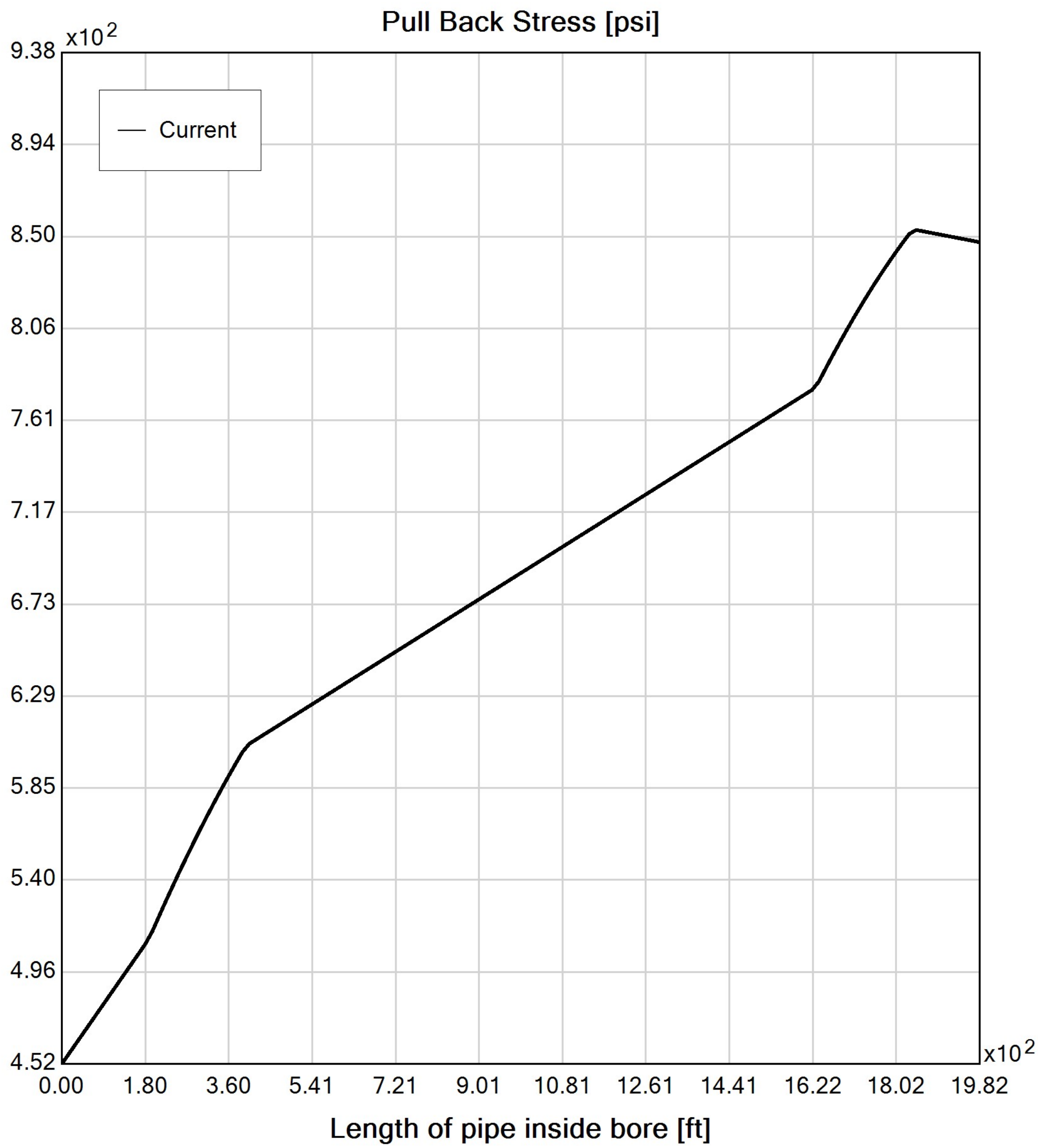
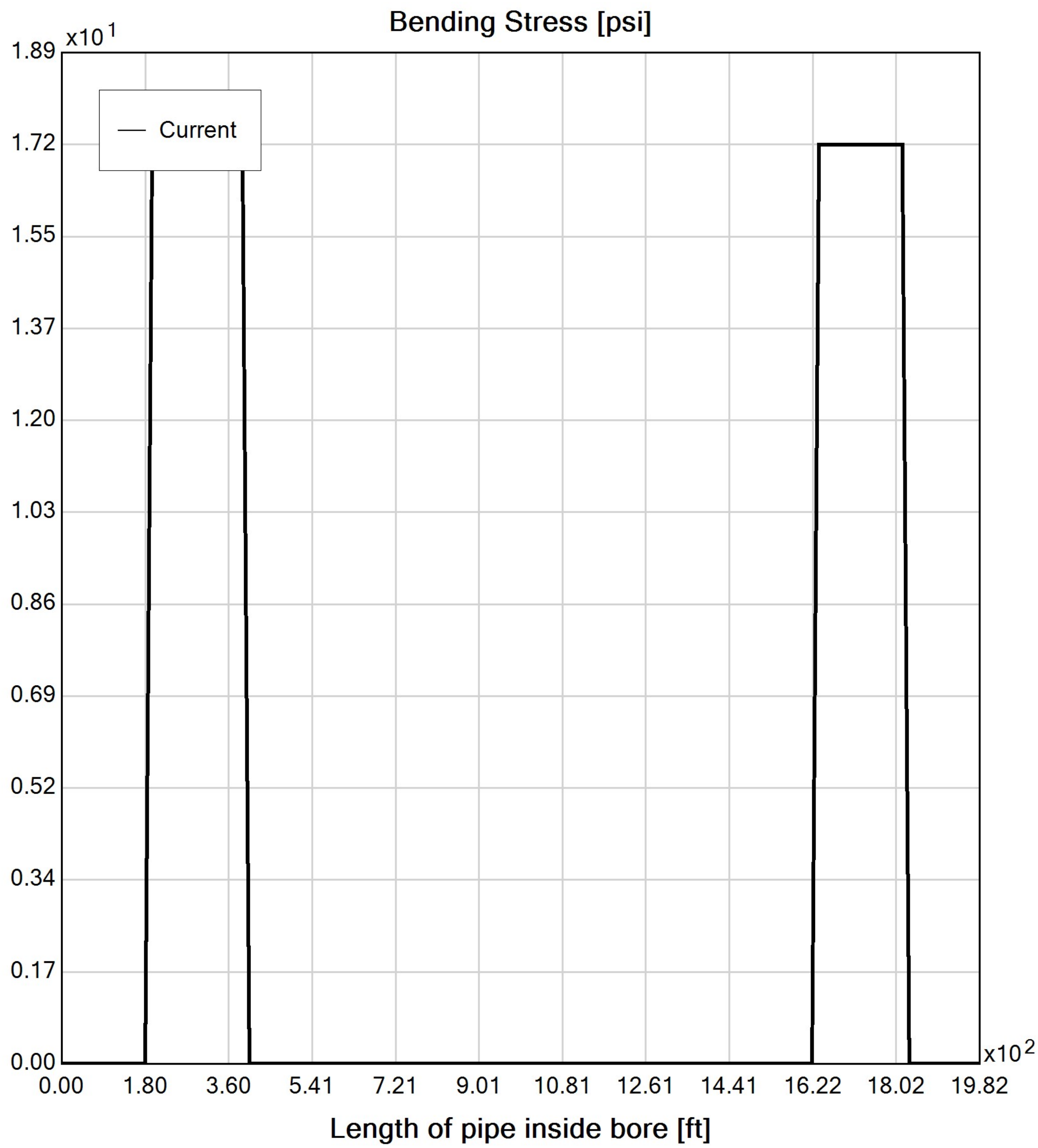
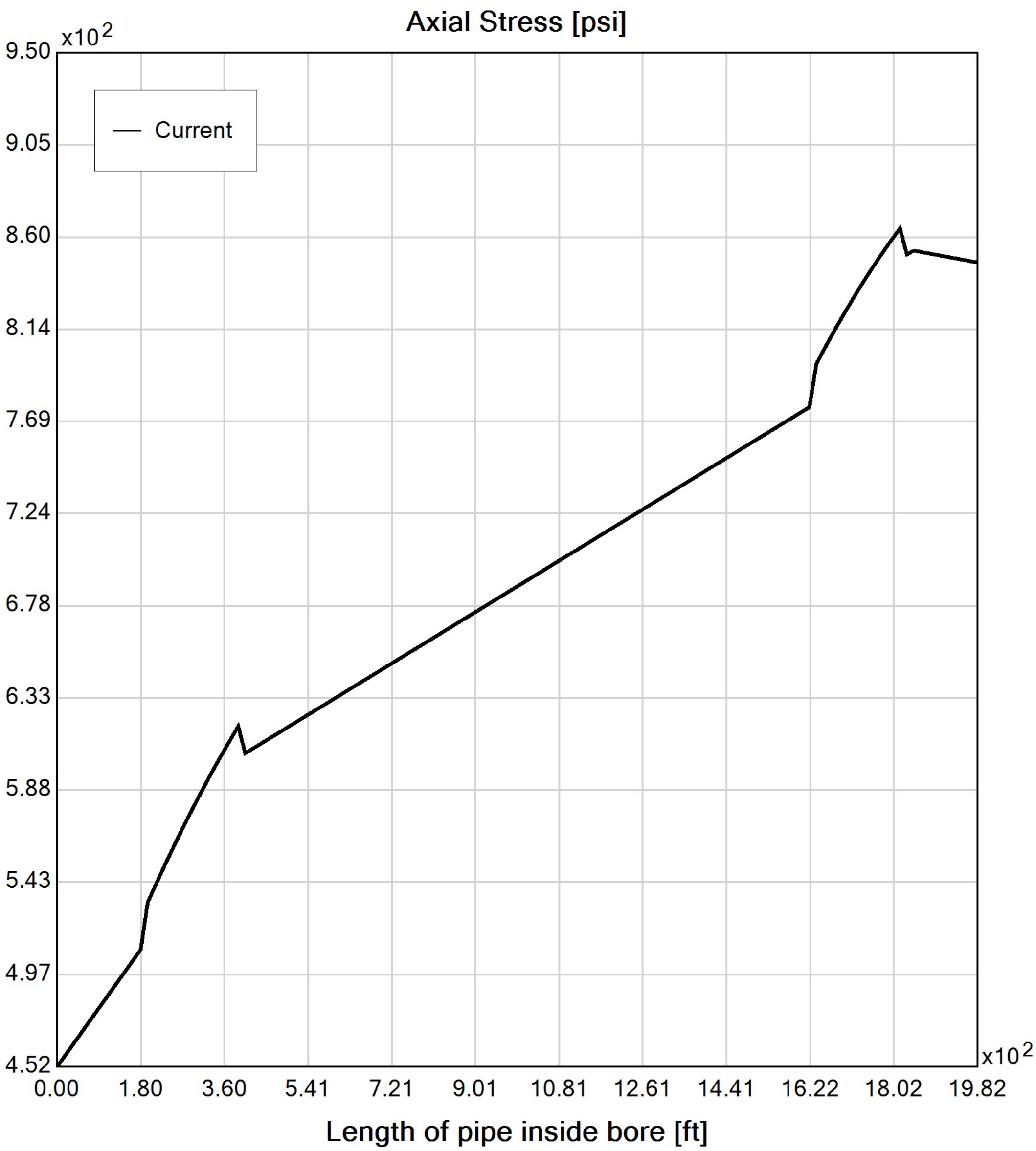
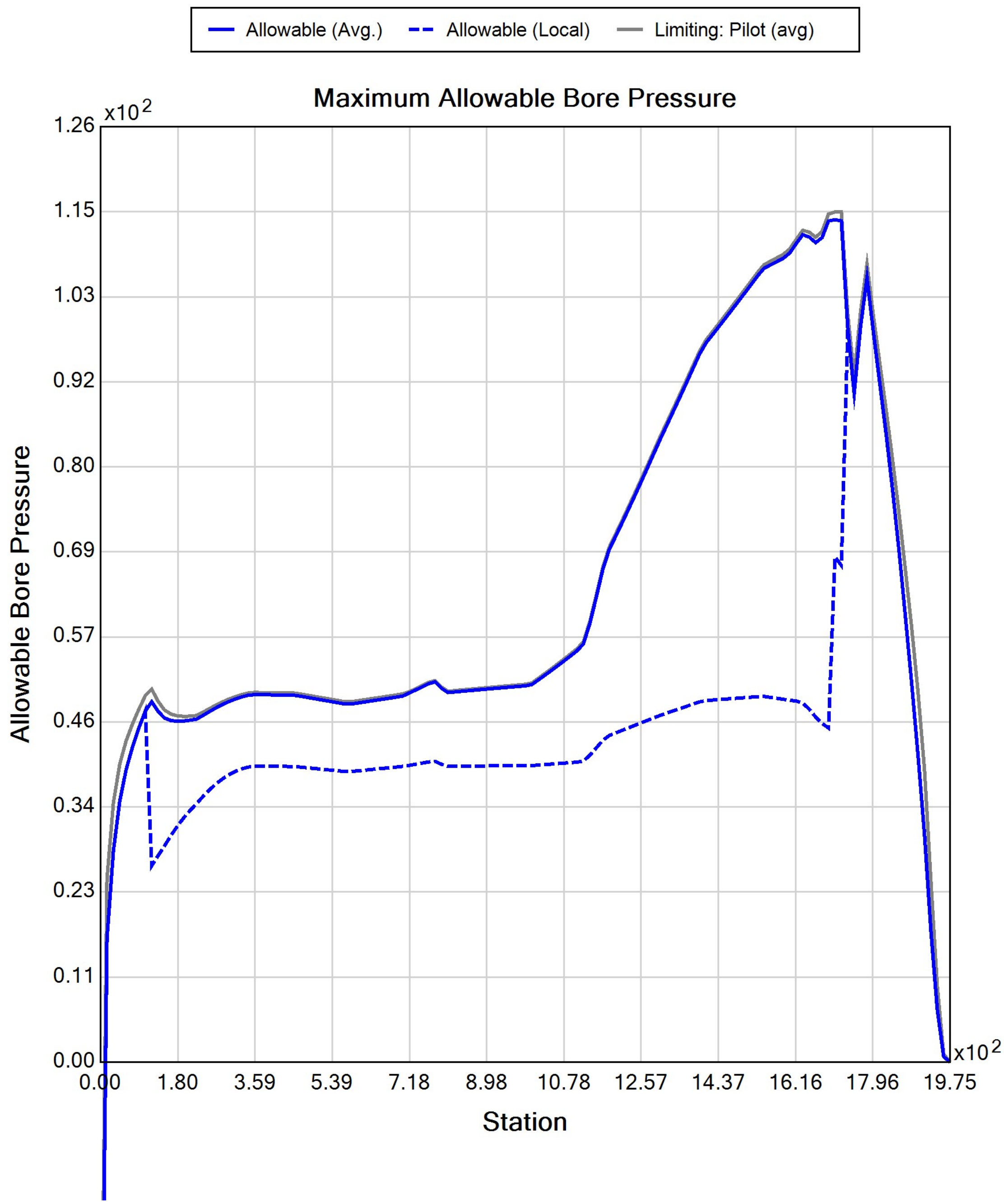

Pull Back Stress [psi]
x10^2
9.38
8.94
8.50
8.06
7.61
7.17
6.73
6.29
5.85
5.40
4.96
4.52
Current
x10^2
0.00
1.80
3.60
5.41
7.21
9.01
10.81
12.61
14.41
16.22
18.02
19.82
Length of pipe inside bore [ft]

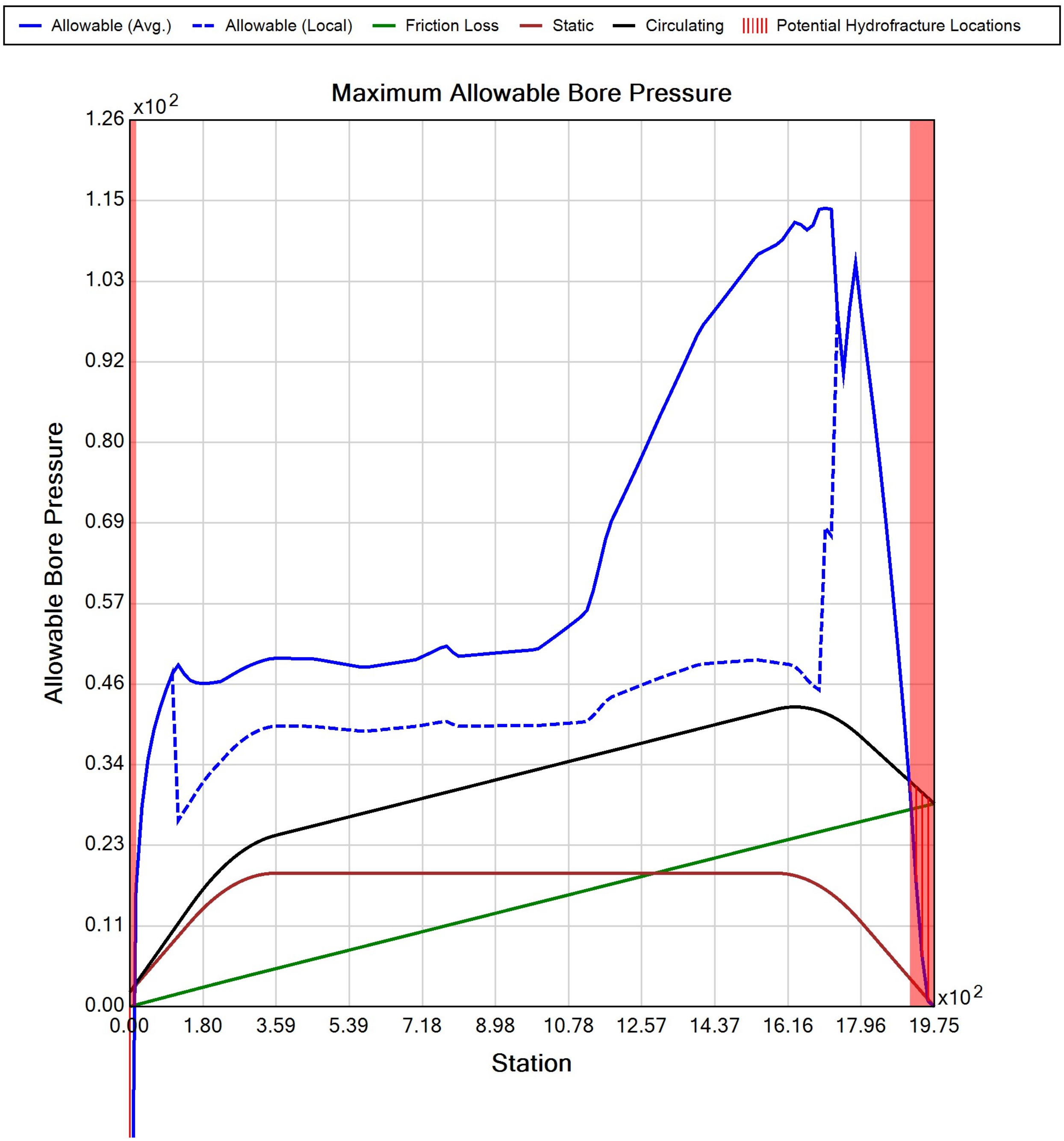

Bending Stress [psi]
x10 1
1.89
1.72
1.55
1.37
1.20
1.03
0.86
0.69
0.52
0.34
0.17
0.00
Current
x10 2
0.00
1.80
3.60
5.41
7.21
9.01
10.81
12.61
14.41
16.22
18.02
19.82
Length of pipe inside bore [ft]



Axial Stress [psi]
x10 2
9.50
9.05
8.60
8.14
7.69
7.24
6.78
6.33
5.88
5.43
4.97
4.52
Current
x10 2
0.00
1.80
3.60
5.41
7.21
9.01
10.81
12.61
14.41
16.22
18.02
19.82
Length of pipe inside bore [ft]



Powered by BoreAid



Powered by Vermeer | BoreAid

Vermeer | BoreAid®

Generated Output

WARNING: The accuracy of the data obtained by the BoreAid® system is highly dependent upon accurate data gathering, data input and proper use of the software. Vermeer is not responsible for that information. BoreAid® data is not intended to replace the need for future on-site utility locating, measuring and verification procedures, which are essential for accurate placement of new underground installations and avoidance of existing utilities.

CALL YOUR ONE-CALL SYSTEM FIRST

WARNING: Always contact your local One-Call system before the start of your digging project. The BoreAid® system is intended to be used with other utility locating methods, such as the use of the One-Call system and the exposing of existing utilities by potholing.

Locate utilities before drilling. Call 811 (U.S. only) or 1-888-258-0808 (U.S. or Canada) or local utility companies or national regulating authority.

Before you start any digging project, do not forget to call the local One-Call system in your area and any utility company that does not subscribe to the One-Call system. For areas not represented by One-Call Systems International, contact the appropriate utility companies or national regulating authority to locate and mark the underground installations. If you do not call, you may have an accident or suffer injuries; cause interruption of services; damage the environment; or experience job delays.

OSHA CFR 29 1926.651 requires that the estimated location of underground utilities be determined before beginning the excavation or underground drilling operation. When the actual excavation or bore approaches an estimated utility location, the exact location of the underground installation must be determined by a safe, acceptable and dependable method. If the utility cannot be precisely located, it must be shut off by the utility company.

Input Summary

Start Coordinate	(0.00, 0.00, 136.00) ft
End Coordinate	(1965.00, 0.00, 139.00) ft
Project Length	1965.00 ft
Pipe Type	HDPE
OD Classification	IPS
Pipe OD	2.375 in
Pipe DR	9.0
Pipe Thickness	0.26 in
Rod Length	15.00 ft
Rod Diameter	3.5 in
Drill Rig Location	(0.00, 0.00, 0.00) ft

Load Verifier Input Summary:

Pipe Application: Gas

Pipe Type: HDPE

Classification: IPS

Pipe OD: 2" (2.375")

Pipe DR: 9

Pipe Length: 1980.00 ft

Internal Pressure: 0 psi

Borehole Diameter: 0.531000018119812 ft

Silo Width: 0.531000018119812 ft

Surface Surcharge: 0 psi

Short Term Modulus: 57500 psi

Long Term Modulus: 28200 psi

Short Term Poisson Ratio: 0.35

Long Term Poisson Ratio: 0.45

Pipe Unit Weight: 59.30500 lb/ft3

Allowable Tensile Stress (Short Term): 1200 psi

Allowable Tensile Stress (Long Term): 1100 psi

Allowable Compressive Stress (Short Term): 1150 psi

Allowable Compressive Stress (Long Term): 1150 psi

Surface-pipe friction coefficient at entrance: 0.5

Surface-pipe friction coefficient in borehole: 0.3

Pipe-soil friction angle: 30

Slurry Unit Weight: 93.64118 lb/ft3

Hydrokinetic Pressure: 10 psi

Ballast Unit Weight: 62.42746 lb/ft3

In-service Load Summary:

Pressure [psi]	Deformed	Collapsed
Earth Pressure	10.8	19.9
Water Pressure	13.4	13.5
Surface Surcharge	0.0	0.0
Internal Pressure	0.0	0.0
Net Pressure	24.1	33.4
Deflection		
Earth Load Deflection	2.944	5.418
Buoyant Deflection	0.029	0.029
Reissner Effect	0	0
Net Deflection	2.973	5.448
Compressive Stress [psi]		
Compressive Wall Stress	108.5	150.5

Installation Load Summary:

Forces/Stresses	@Maximum Force	Absolute Maximum
Pullback Force [lb]	1602.5	1602.5
Pullback Stress [psi]	915.6	915.6
Pullback Strain	1.592E-2	1.592E-2
Bending Stress [psi]	0.0	3.8
Bending Strain	0	6.597E-5
Tensile Stress [psi]	915.6	915.6
Tensile Strain	1.592E-2	1.595E-2

Net External Pressure = 25.0 [psi]

Buoyant Deflection = 0.0

Hydrokinetic Force = 137.3 lb

In-service Analysis

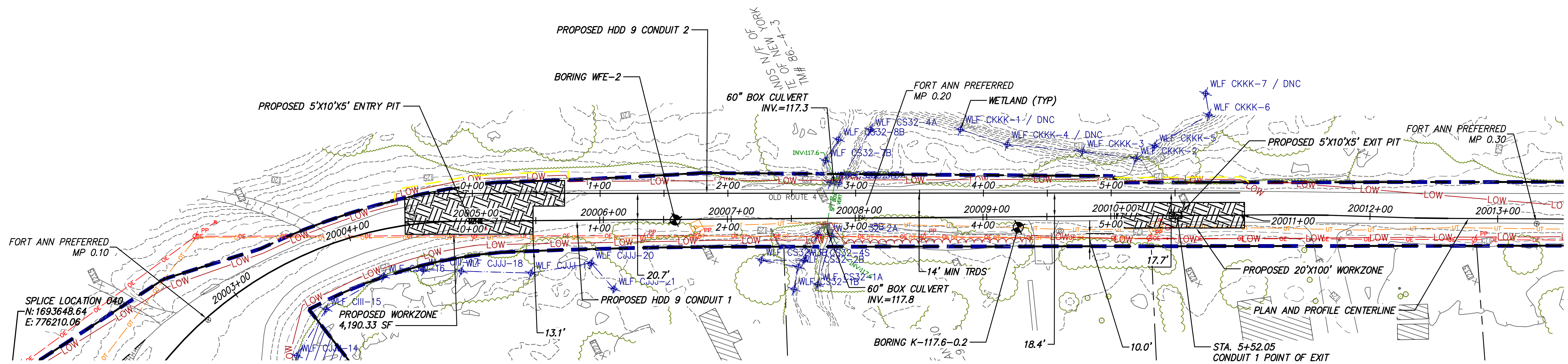
	Calculated	Allowable	Factor of Safety	Check
Deflection [%]	2.973	7.5	2.5	OK
Unconstrained Collapse [psi]	25.9	105.8	4.1	OK
Compressive Wall Stress [psi]	108.5	1150.0	10.6	OK

Installation Analysis

	Calculated	Allowable	Factor of Safety	Check
Deflection [%]	0.014	7.5	524.3	OK
Unconstrained Collapse [psi]	35.8	198.8	5.5	OK
Tensile Stress [psi]	915.6	1200.0	1.3	OK

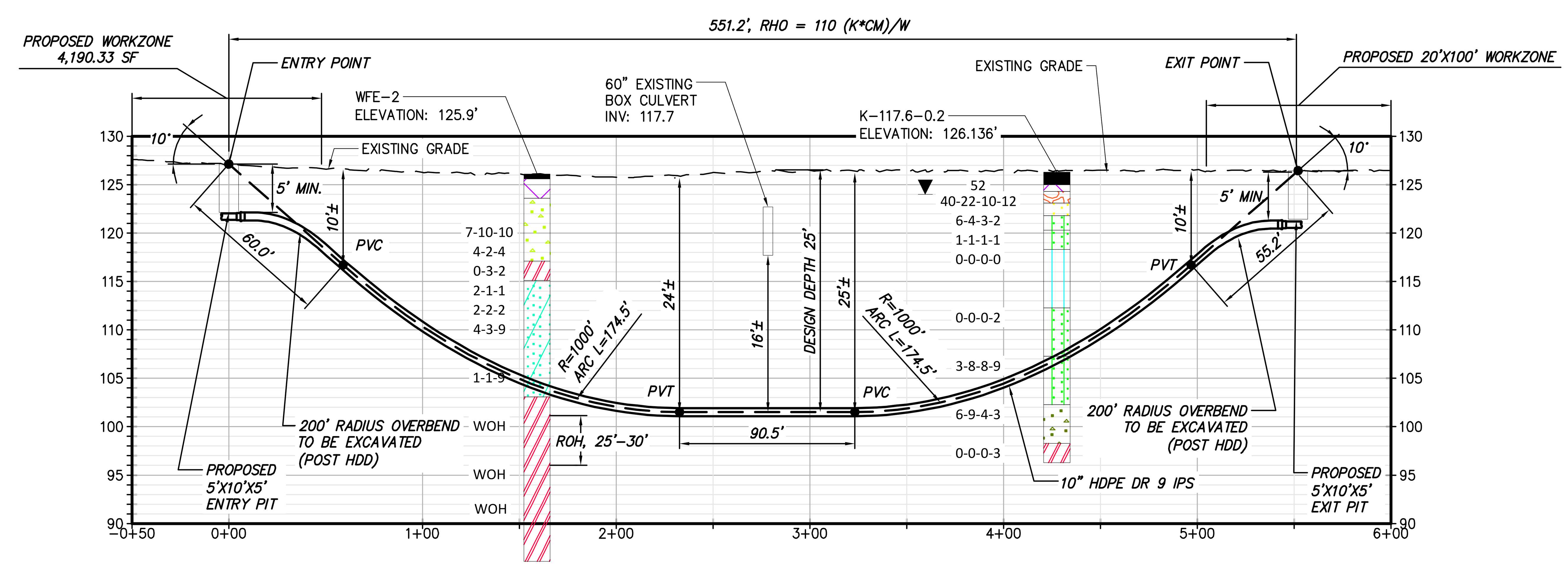
Appendix B

HDD Design Drawing



PROPOSED HDD 9 PLAN VIEW

CONDUIT 1



PROPOSED HDD 9 PROFILE

CONDUIT 1

NOTE:
1) DRIVEWAY ACCESS MUST BE MAINTAINED DURING CONSTRUCTION FOR HOMES ON ROUTE 4 PER THE MPT PLAN AND NOTES, C-500 SERIES.

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend	
ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
GP-GM	Poorly Graded GRAVEL with SILT
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GW-GC	Well Graded GRAVEL with CLAY
GW-GM	Well Graded GRAVEL with SILT
Limestone	Limestone
MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 9, CONDUIT 1

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-301

DRAWN BY: SK DESIGNED BY: SK APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

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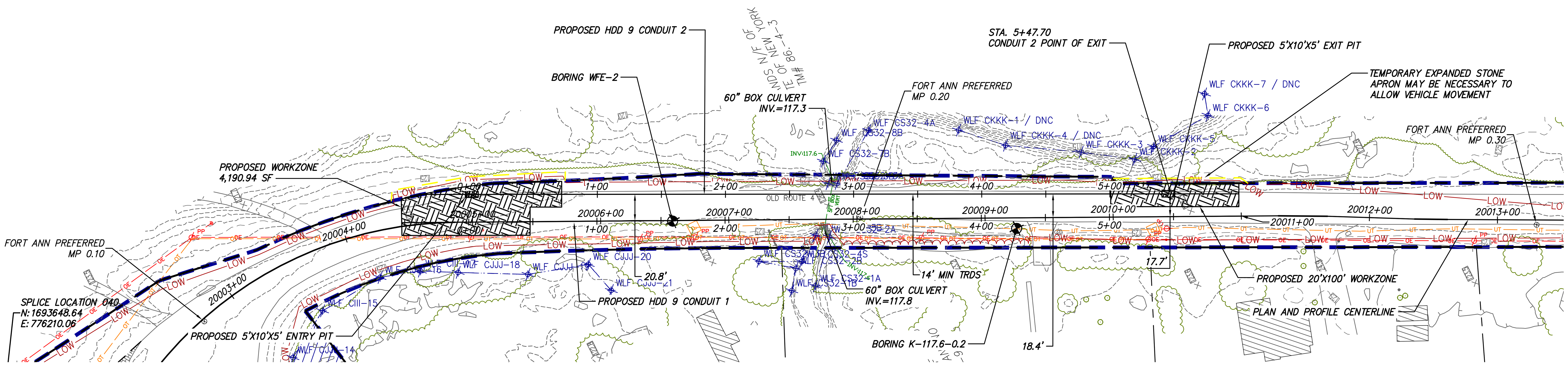
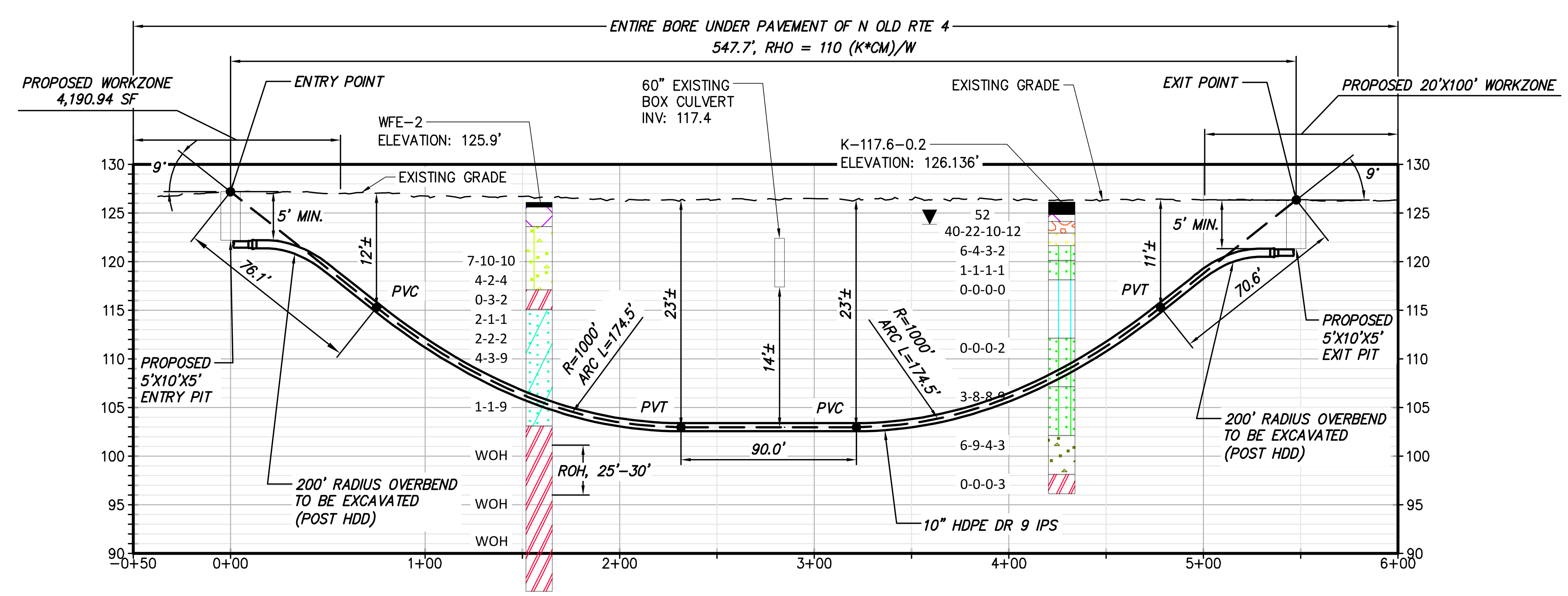


0 50 100
Scale in feet

PROPOSED HDD 9 PLAN VIEW

CONDUIT 2

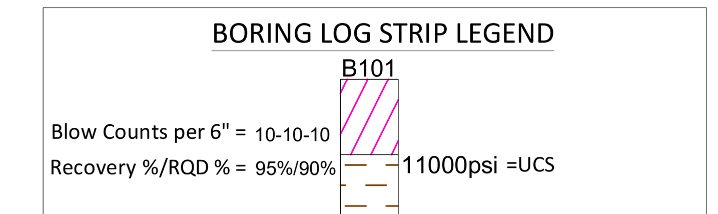


20 10 0
0 50 100
Scale in feet

PROPOSED HDD 9 PROFILE

CONDUIT 2

NOTE:
1) DRIVEWAY ACCESS MUST BE MAINTAINED DURING CONSTRUCTION FOR HOMES ON ROUTE 4 PER THE MPT PLAN AND NOTES, C-500 SERIES.



Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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0	12/16/2022	FINAL EM&CP SUBMISSION	MCS	JEO

CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

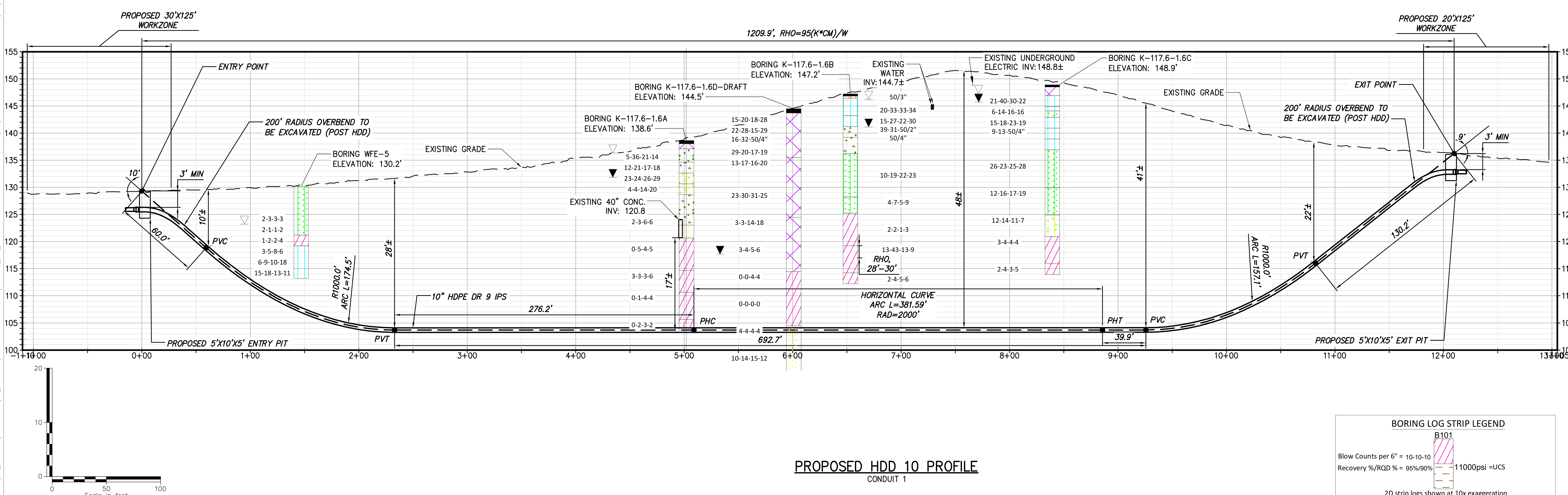
PLAN AND PROFILE - HDD 9, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-301A

DRAWN BY: SK | DESIGNED BY: SK | APPROVED BY: JEO | SCALE AS NOTED | DATE 12/16/2022 | REV. NO. X

PROPOSED HDD 10 PLAN VIEW

CONDUIT 1



PROPOSED HDD 10 PROFILE

CONDUIT 1

Legend	
ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
GP-GM	Poorly Graded GRAVEL with SILT
GW	Well Graded GRAVEL
GW-GC	Well Graded GRAVEL with CLAY
GW-GM	Well Graded GRAVEL with SILT
Limestone	Limestone
MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

PLAN AND PROFILE - HDD 10, CONDUIT 1

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-302

DRAWN BY: MCS DESIGNED BY: MCS APPROVED BY: JEO

SCALE AS NOTED DATE 12/16/2022

REV. NO. X

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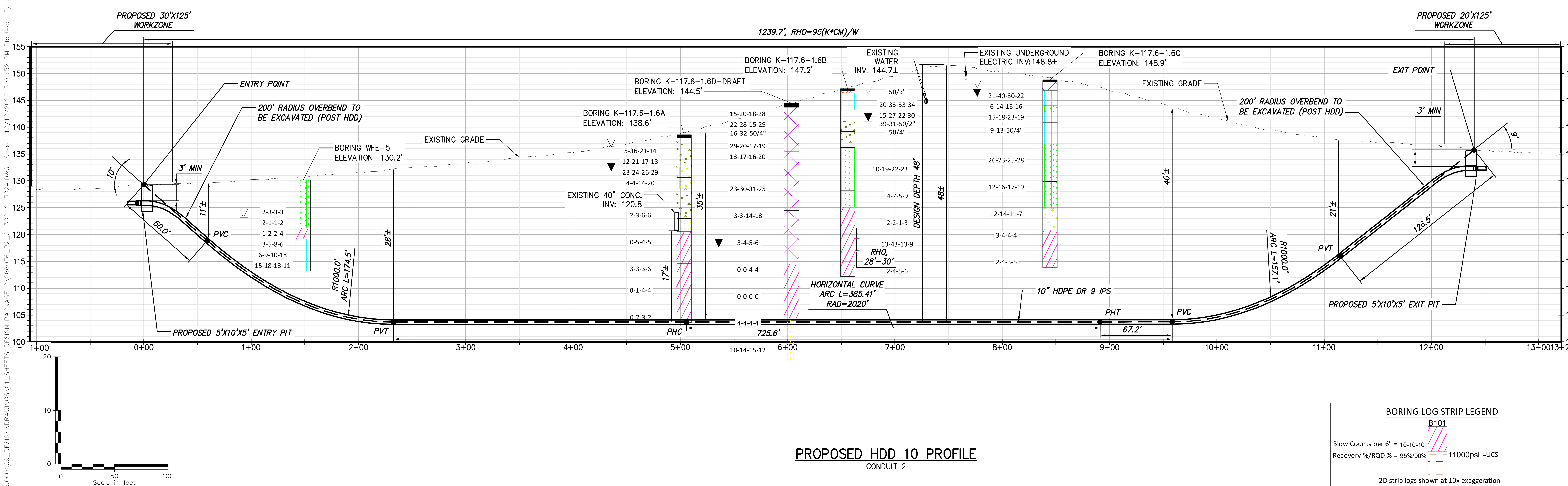
PROPOSED HDD 10 PLAN VIEW

CONDUIT 2



PROPOSED HDD 10 PROFILE

CONDUIT 2

Legend	
ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
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USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
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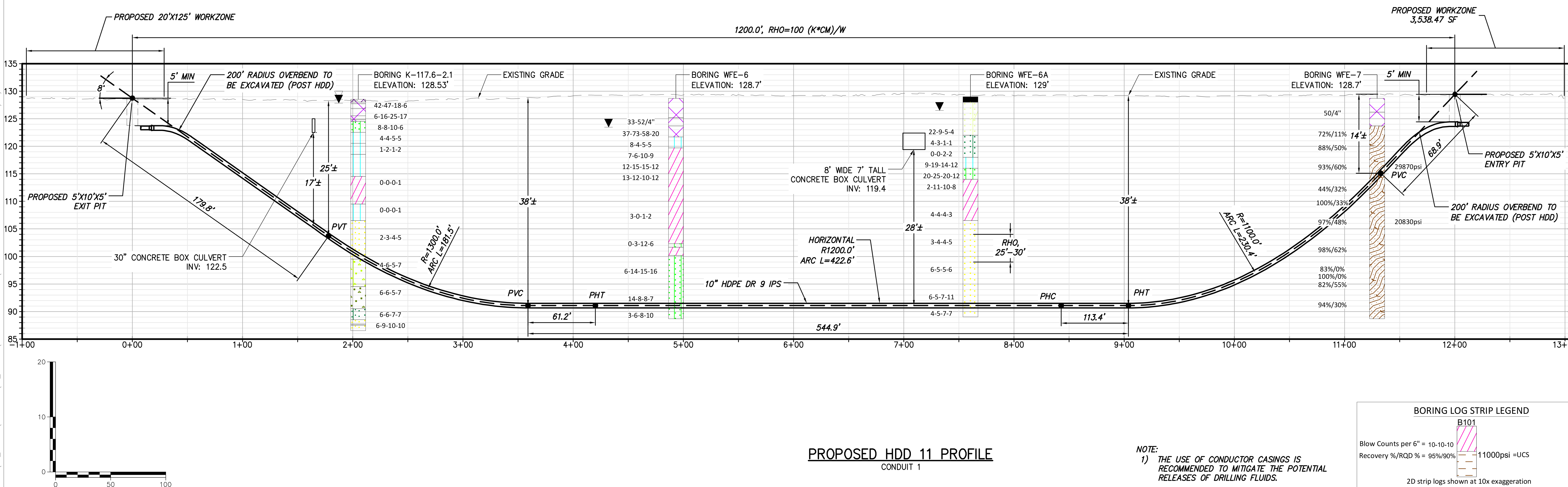
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 10, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO.
C-302A

DRAWN BY: MCS DESIGNED BY: MCS APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

PROPOSED HDD 11 PLAN VIEW

CONDUIT 1



PROPOSED HDD 11 PROFILE

CONDUIT 1

NOTE:
1) THE USE OF CONDUCTOR CASINGS IS RECOMMENDED TO MITIGATE THE POTENTIAL RELEASES OF DRILLING FLUIDS.

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%
11000psi =UCS
2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
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CL-ML	SILTY CLAY
CONCRETE	Concrete
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GC-GM	SILTY CLAYEY GRAVEL
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MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
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USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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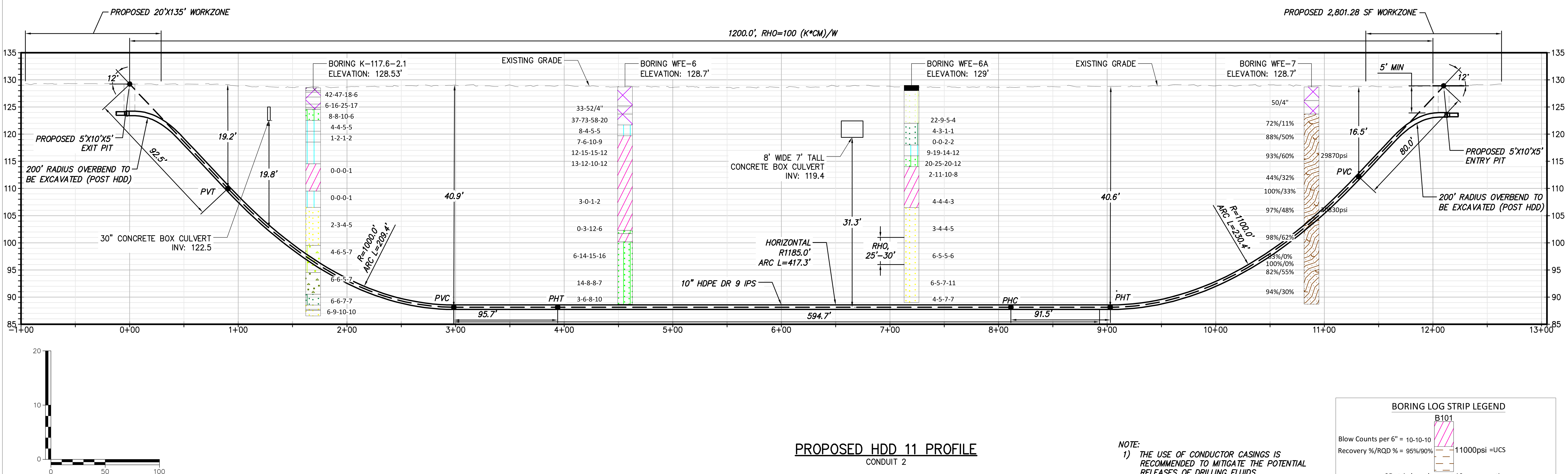
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 11, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-303

DRAWN BY: JAS DESIGNED BY: MB APPROVED BY: JEO SCALE AS NOTED REV. NO. X DATE 12/16/2022

PROPOSED HDD 11 PLAN VIEW

CONDUIT 2



PROPOSED HDD 11 PROFILE

CONDUIT 2

NOTE:
1) THE USE OF CONDUCTOR CASINGS IS RECOMMENDED TO MITIGATE THE POTENTIAL RELEASES OF DRILLING FLUIDS.

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
GP-GM	Poorly Graded GRAVEL with SILT
GW	Well Graded GRAVEL
GW-GC	Well Graded GRAVEL with CLAY
GW-GM	Well Graded GRAVEL with SILT
Limestone	Limestone
MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	MCS	JEO

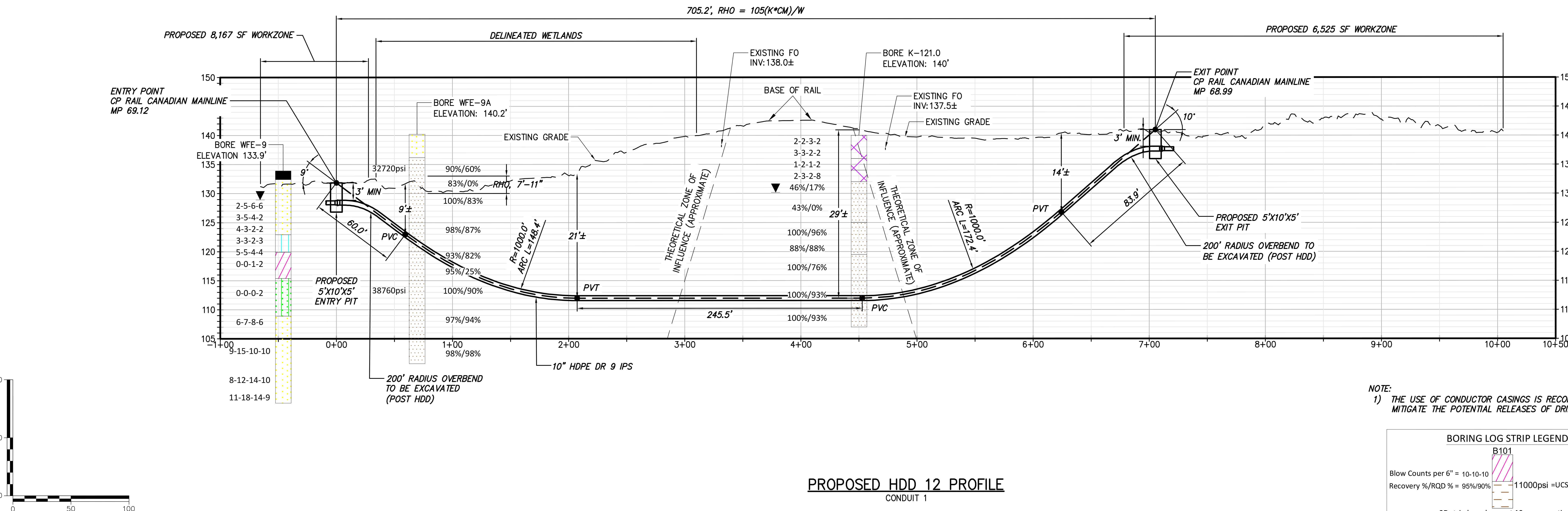
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 11, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-303A

DRAWN BY: JAS | DESIGNED BY: MB | APPROVED BY: JEO | SCALE: AS NOTED | DATE: 12/16/2022 | REV. NO. X

PROPOSED HDD 12 PLAN VIEW

CONDUIT 1



PROPOSED HDD 12 PROFILE

CONDUIT 1

NOTE:
1) THE USE OF CONDUCTOR CASINGS IS RECOMMENDED TO MITIGATE THE POTENTIAL RELEASES OF DRILLING FLUIDS.

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%
11000psi =UCS

2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend

	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
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	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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0	12/16/2022	FINAL EM&CP SUBMISSION	MCS	JEO

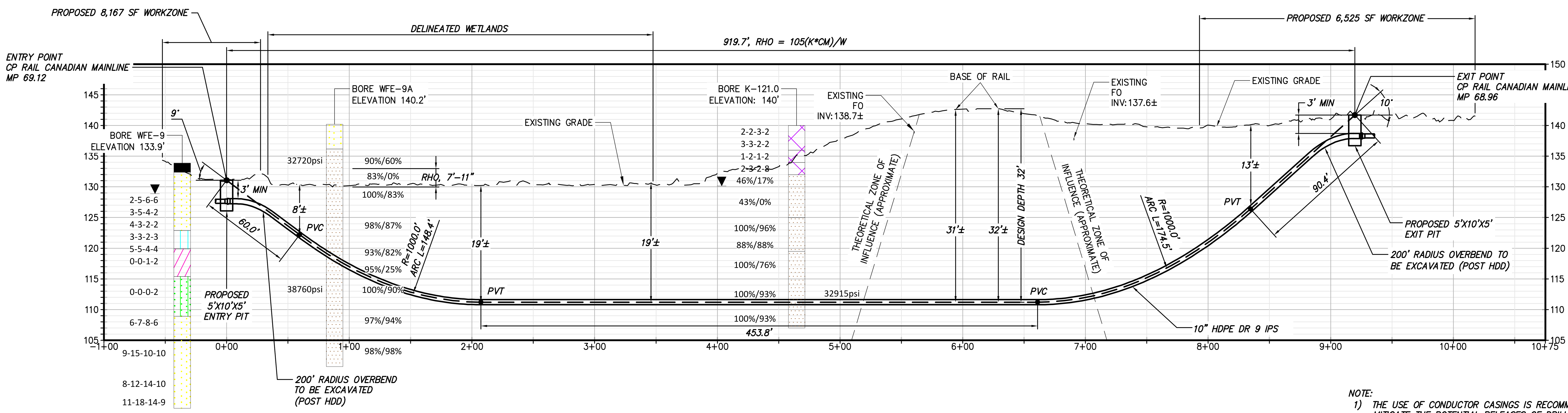
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 12, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-304

DRAWN BY: SK DESIGNED BY: SK APPROVED BY: JEO
SCALE AS NOTED DATE 12/16/2022
REV. NO. X

PROPOSED HDD 12 PLAN VIEW

CONDUIT 2



PROPOSED HDD 12 PROFILE

CONDUIT 2

NOTE:
1) THE USE OF CONDUCTOR CASINGS IS RECOMMENDED TO MITIGATE THE POTENTIAL RELEASES OF DRILLING FLUIDS.

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

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11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

LANDS N/F OF GEORGE W. SHERWOOD

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
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MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

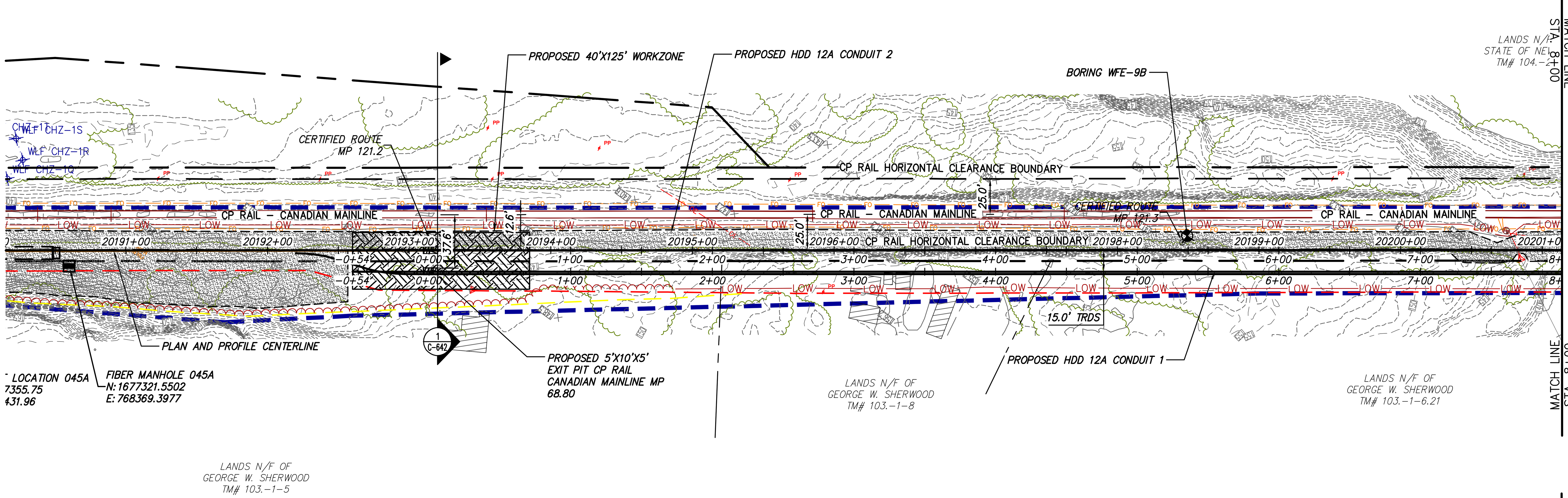
PLAN AND PROFILE - HDD 12, CONDUIT 2

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

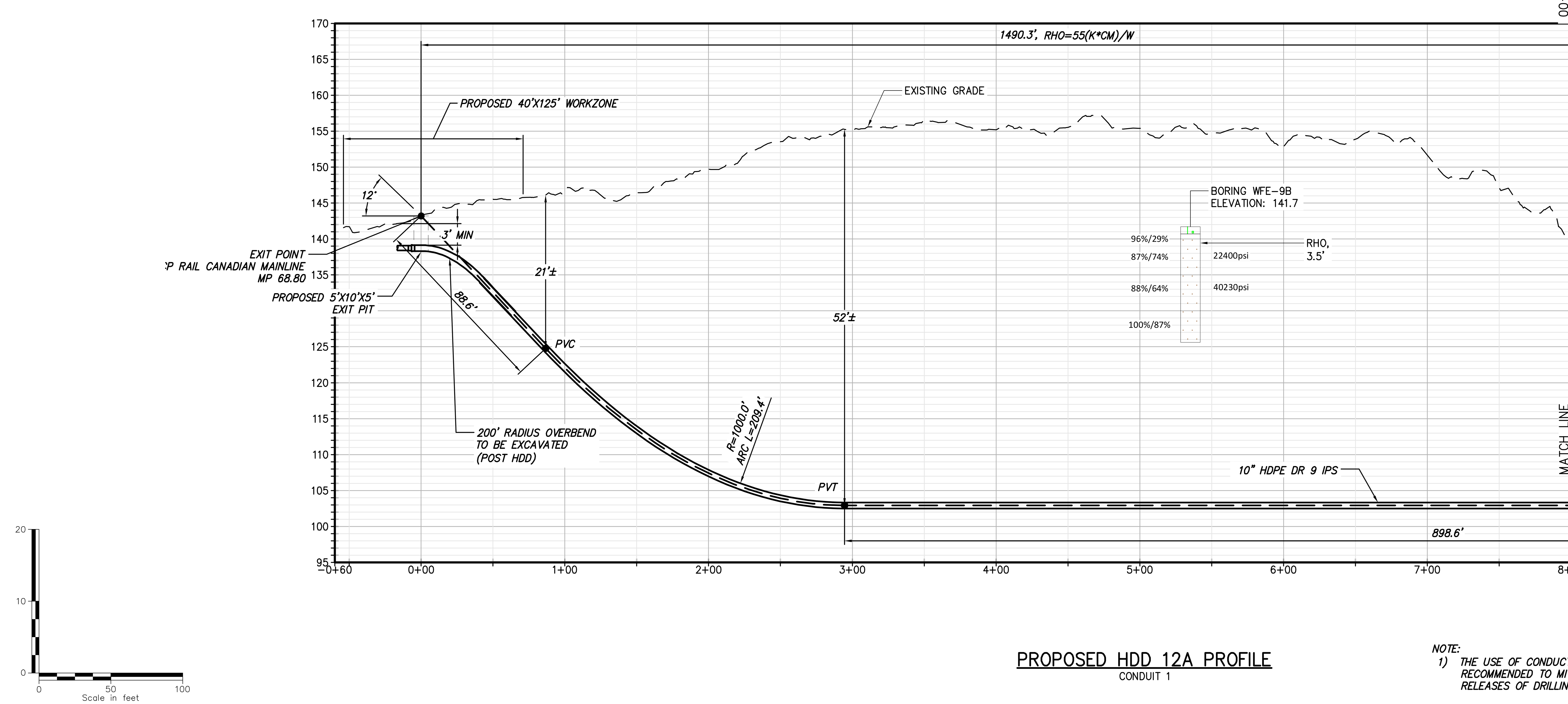
DRAWING NO. C-304A

DRAWN BY: SK DESIGNED BY: SK APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X



PROPOSED HDD 12A PLAN VIEW

CONDUIT 1



PROPOSED HDD 12A PROFILE

CONDUIT 1

NOTE:
1) THE USE OF CONDUCTOR CASINGS IS RECOMMENDED TO MITIGATE THE POTENTIAL RELEASES OF DRILLING FLUIDS.

BORING LOG STRIP LEGEND

B101

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Recovery %/RQD % = 95%/90%
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2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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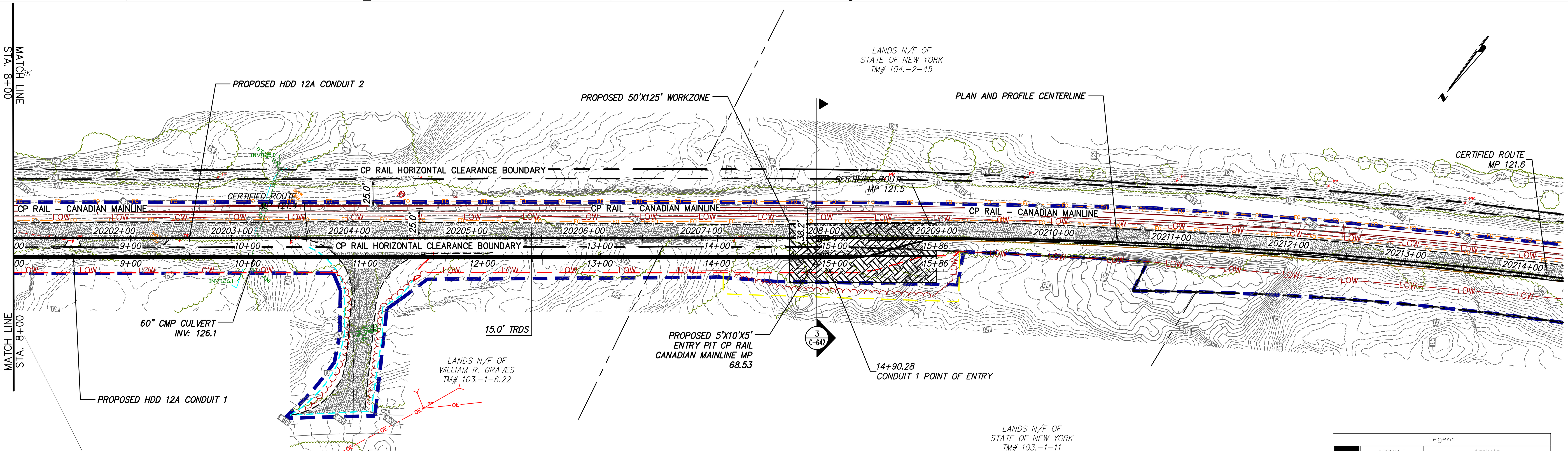
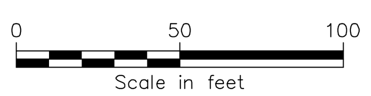
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 12A, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-305**

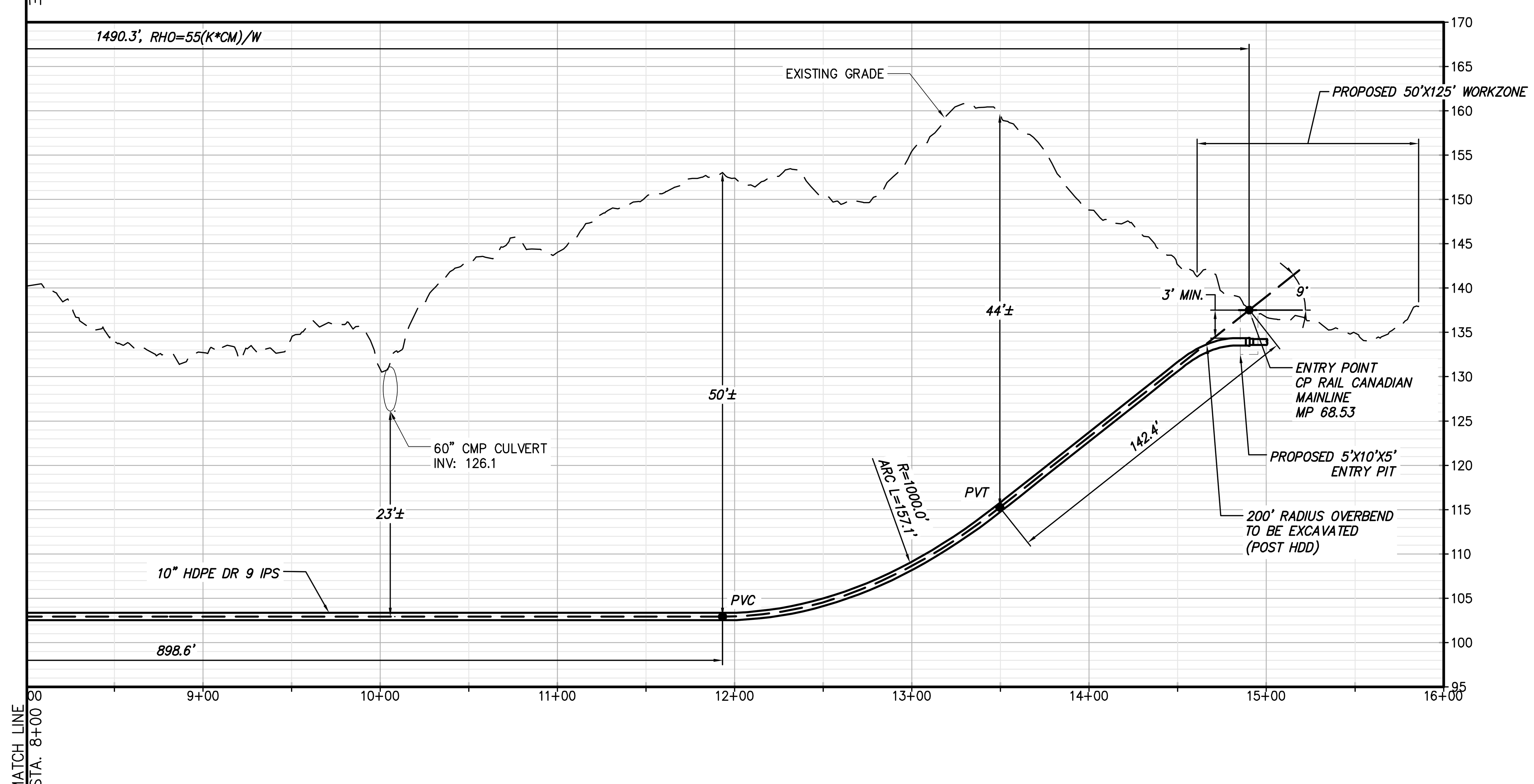
DRAWN BY: JAS | DESIGNED BY: JAS | APPROVED BY: JEO | SCALE AS NOTED | DATE 12/16/2022 | REV. NO. X

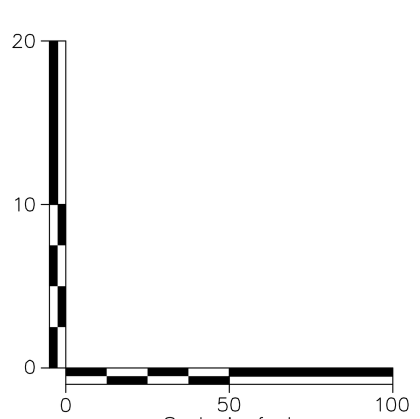




PROPOSED HDD 12A PLAN VIEW

CONDUIT 1





PROPOSED HDD 12A PROFILE

CONDUIT 1

NOTE:
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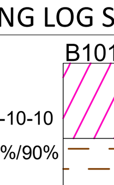
BORING LOG STRIP LEGEND



2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend

	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
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	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
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	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
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	Void	Void
	Water	Water
	Weathered Rock	Undefined
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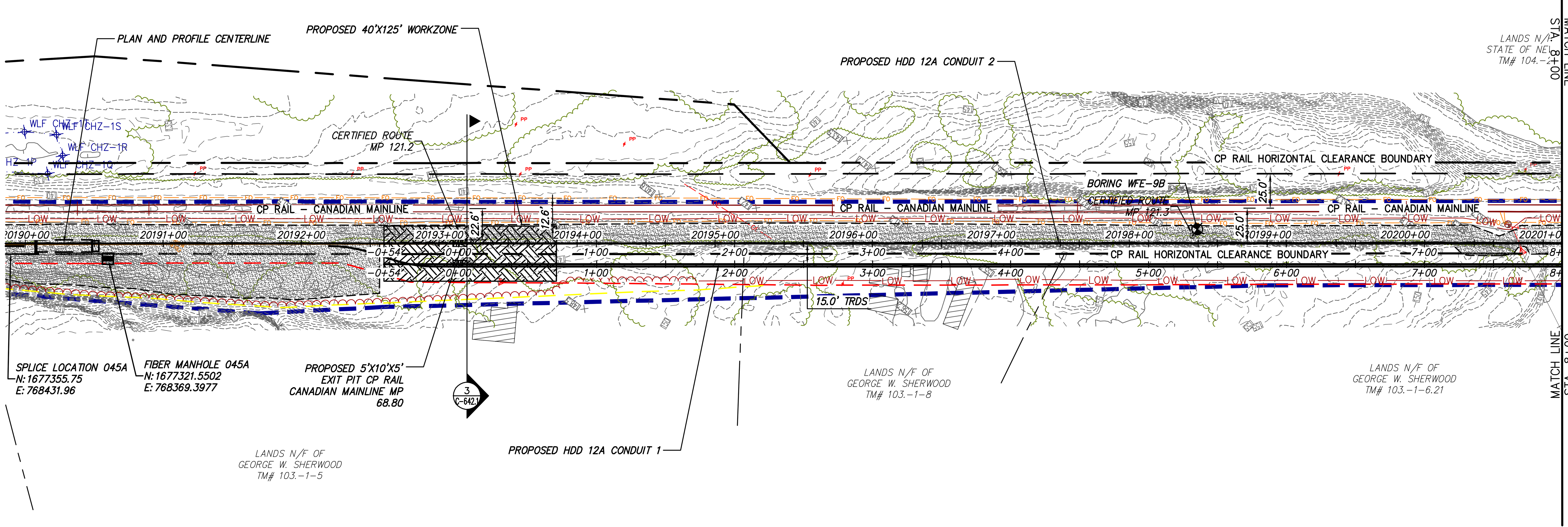
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 12A, CONDUIT 1

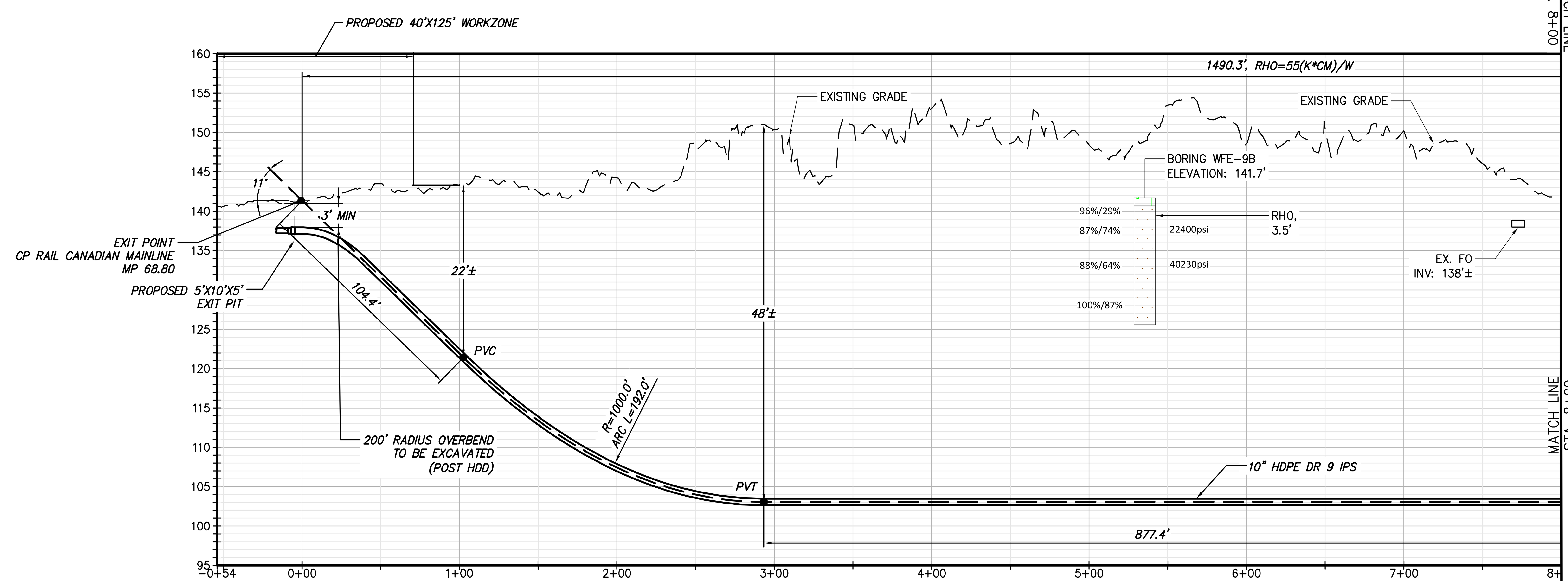
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-305.1

DRAWN BY: JAS | DESIGNED BY: JAS | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022



PROPOSED HDD 12A PLAN VIEW

CONDUIT 2



PROPOSED HDD 12A PROFILE

CONDUIT 2

NOTE:
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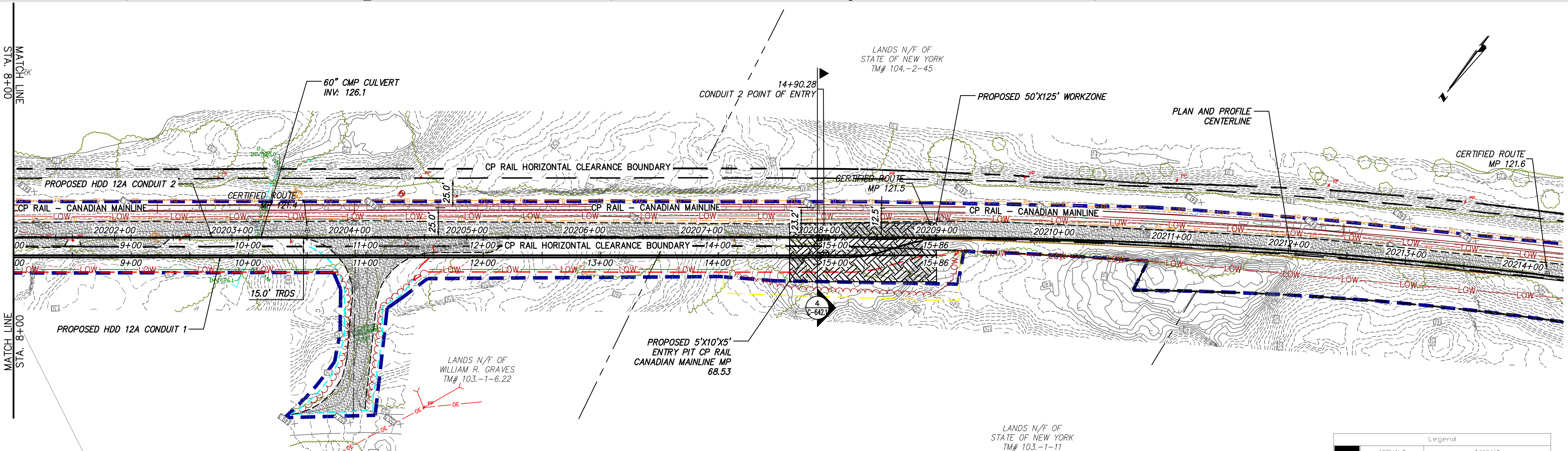
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 12A, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-305A

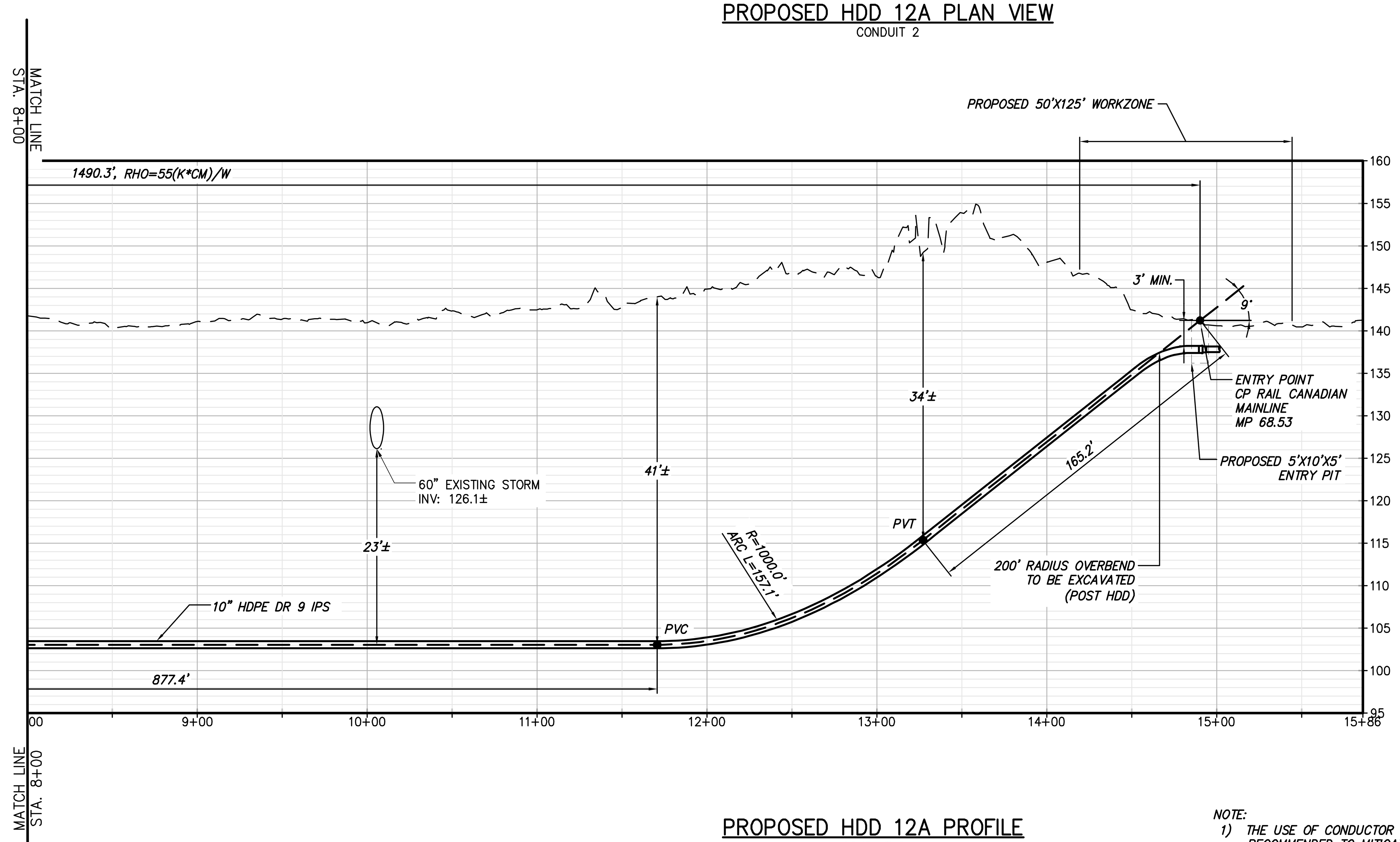
DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

1 2 3 4



0 50 100
Scale in feet

PROPOSED HDD 12A PLAN VIEW
CONDUIT 2



20 10 0
0 50 100
Scale in feet

PROPOSED HDD 12A PROFILE
CONDUIT 2

NOTE:
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BORING LOG STRIP LEGEND

B101
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	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

A
B

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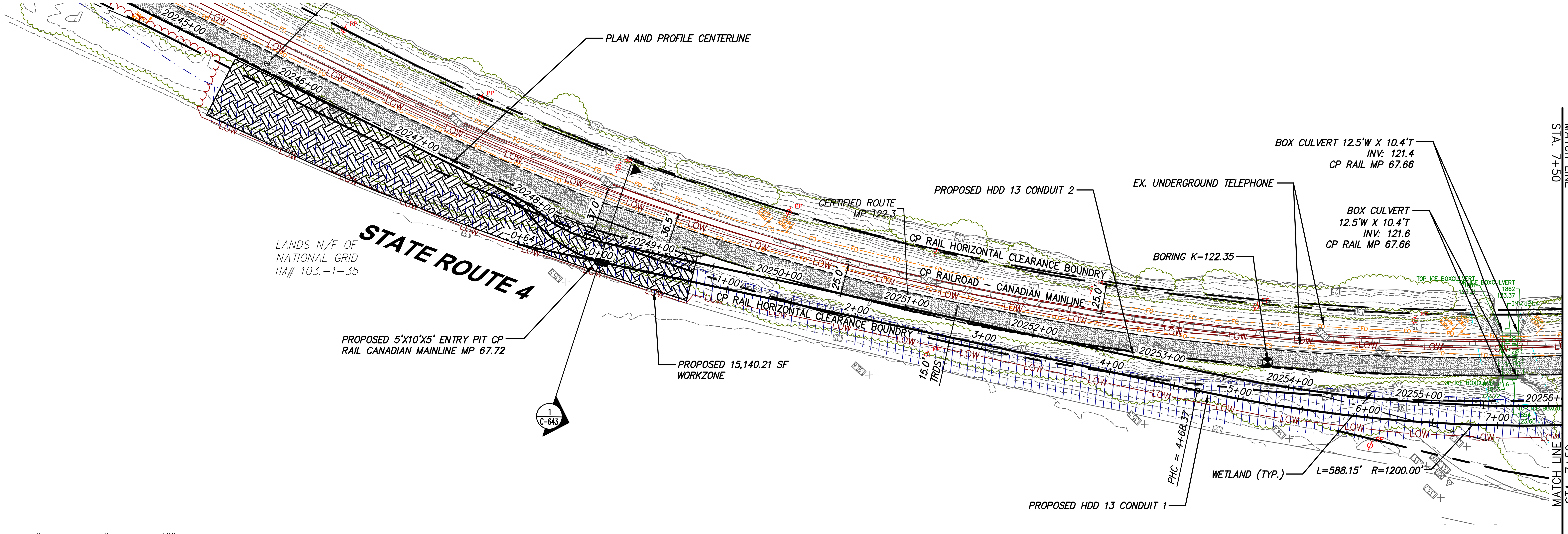
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	MCS	JEO

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 12A, CONDUIT 2

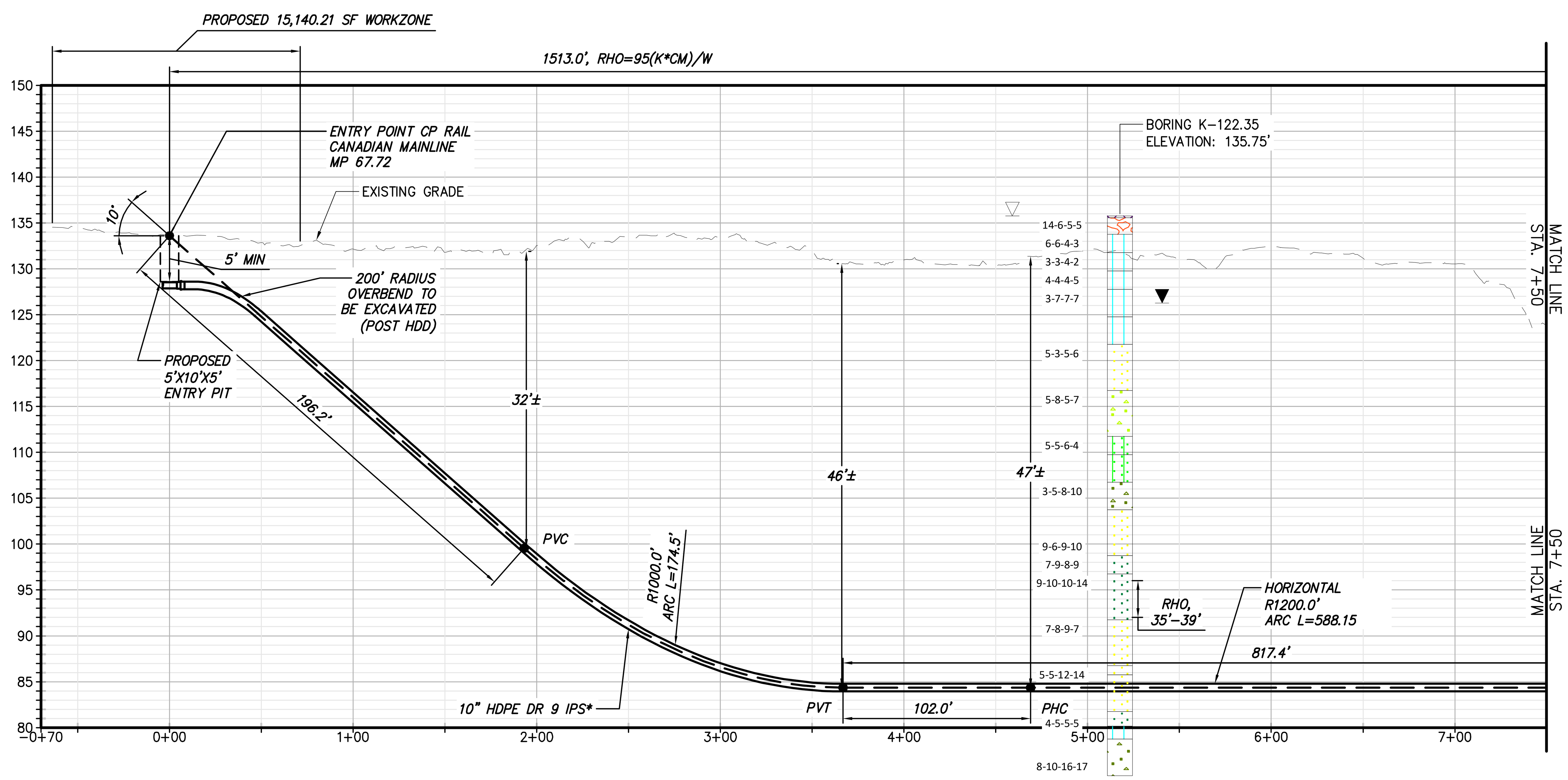
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-305A.1

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X



PROPOSED HDD 13 PLAN VIEW

CONDUIT 1



PROPOSED HDD 13 PROFILE

CONDUIT 1

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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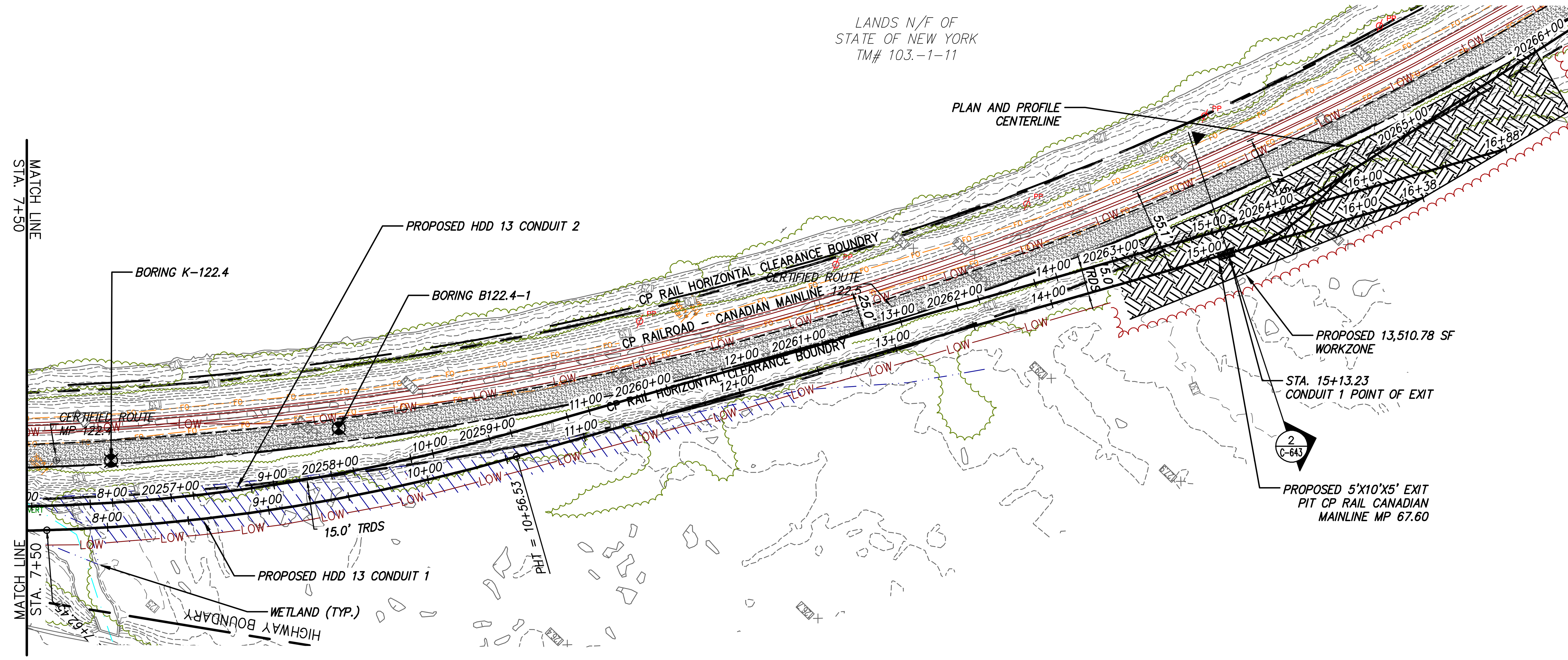
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 13, CONDUIT 1

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

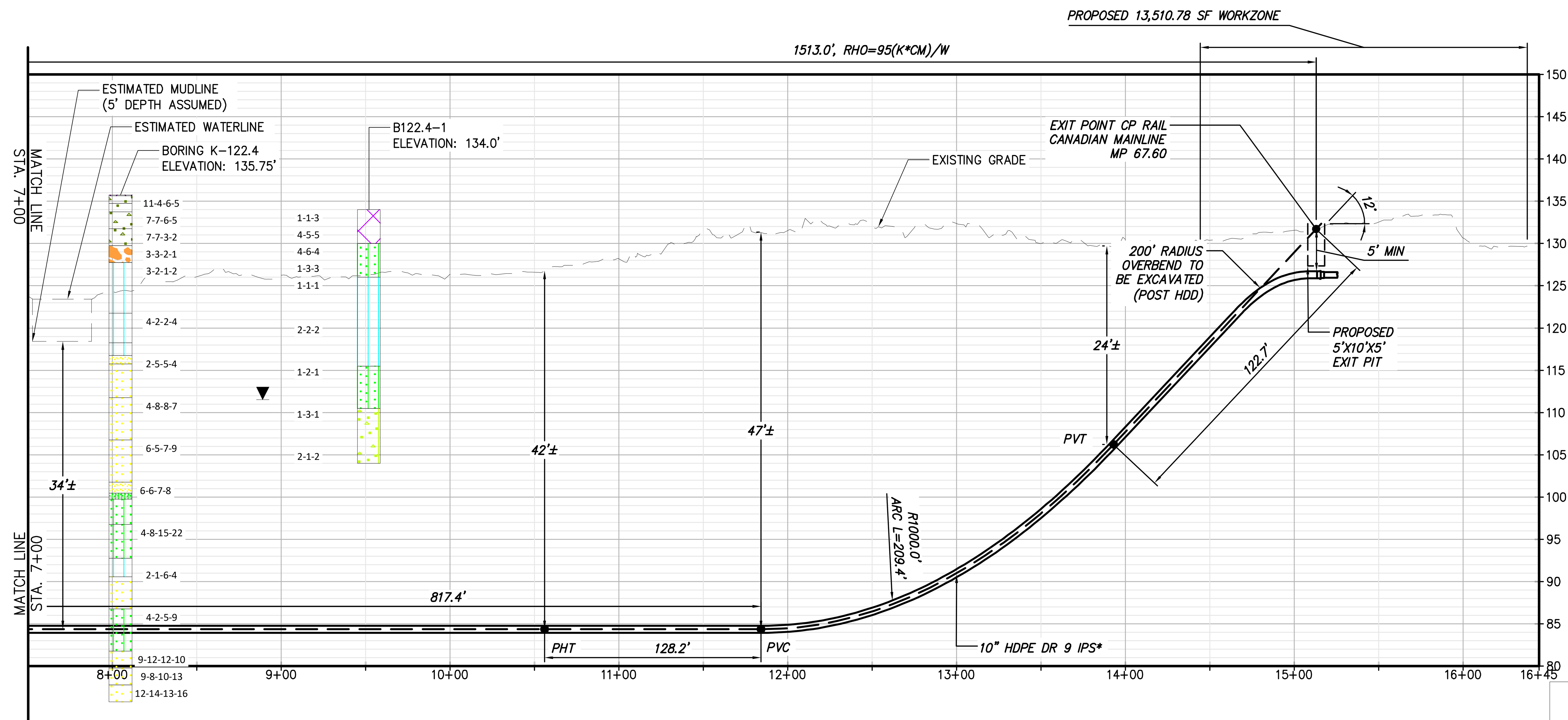
DRAWING NO. C-306

DRAWN BY: MAR | DESIGNED BY: MAR | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022



PROPOSED HDD 13 PLAN VIEW

CONDUIT 1



PROPOSED HDD 13 PROFILE

CONDUIT 1

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
GP-GM	Poorly Graded GRAVEL with SILT
GW	Well Graded GRAVEL
GW-GC	Well Graded GRAVEL with CLAY
GW-GM	Well Graded GRAVEL with SILT
Limestone	Limestone
MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

PLAN AND PROFILE - HDD 13, CONDUIT 1

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. **C-306.1**

DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

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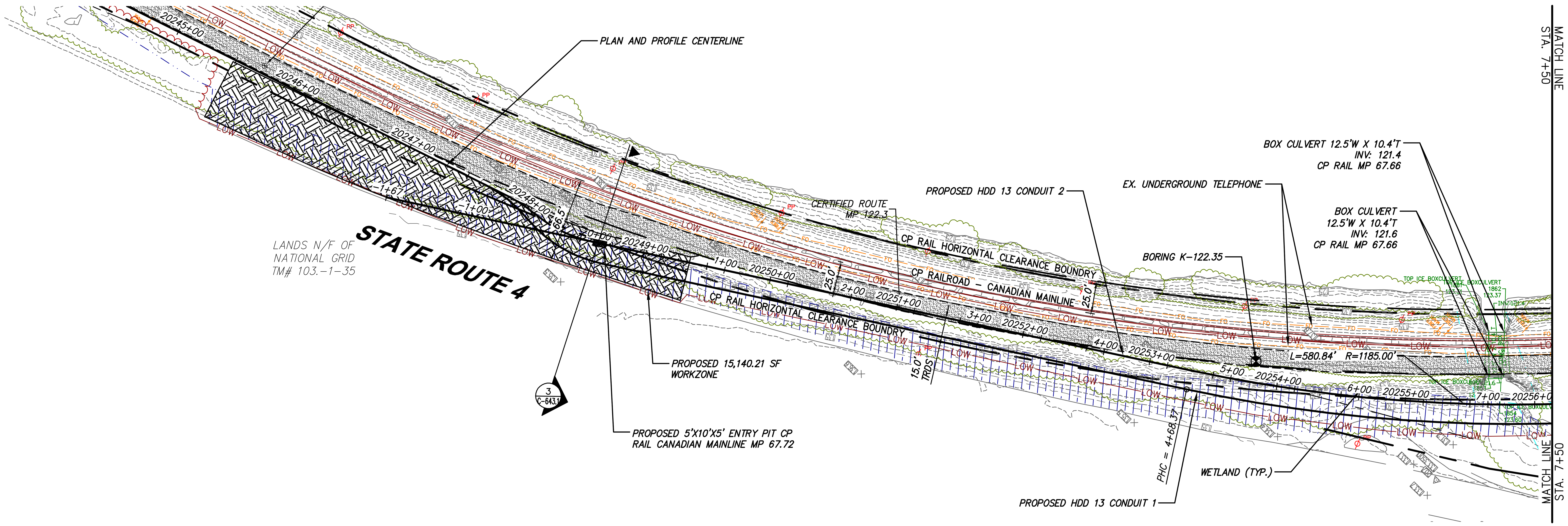

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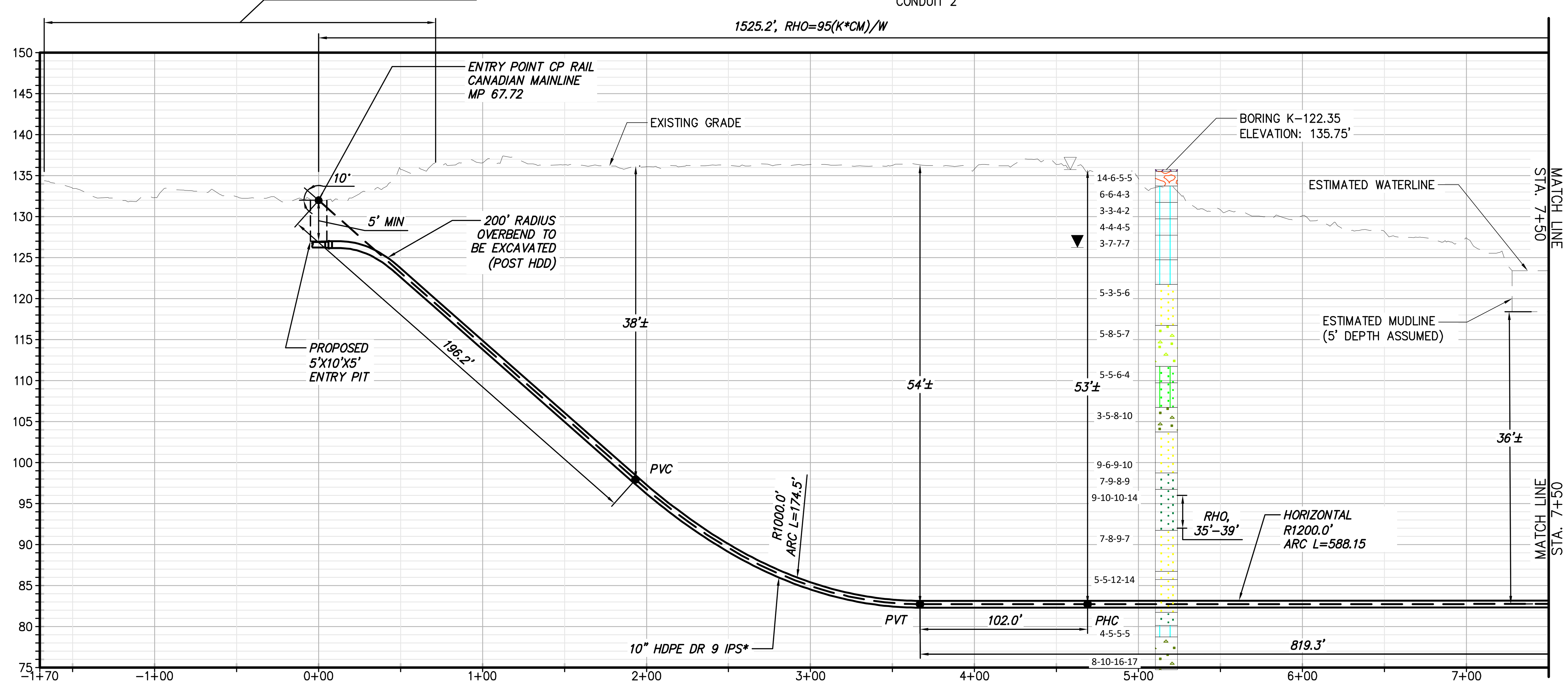
Scale in feet

PROPOSED HDD 13 PLAN VIEW

CONDUIT 2



0 50 100
Scale in feet

PROPOSED HDD 13 PROFILE

CONDUIT 2

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 13, CONDUIT 2

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. **C-306A**

DRAWN BY: MAR | DESIGNED BY: MAR | APPROVED BY: JEO | SCALE AS NOTED | DATE 12/16/2022 | REV. NO. X

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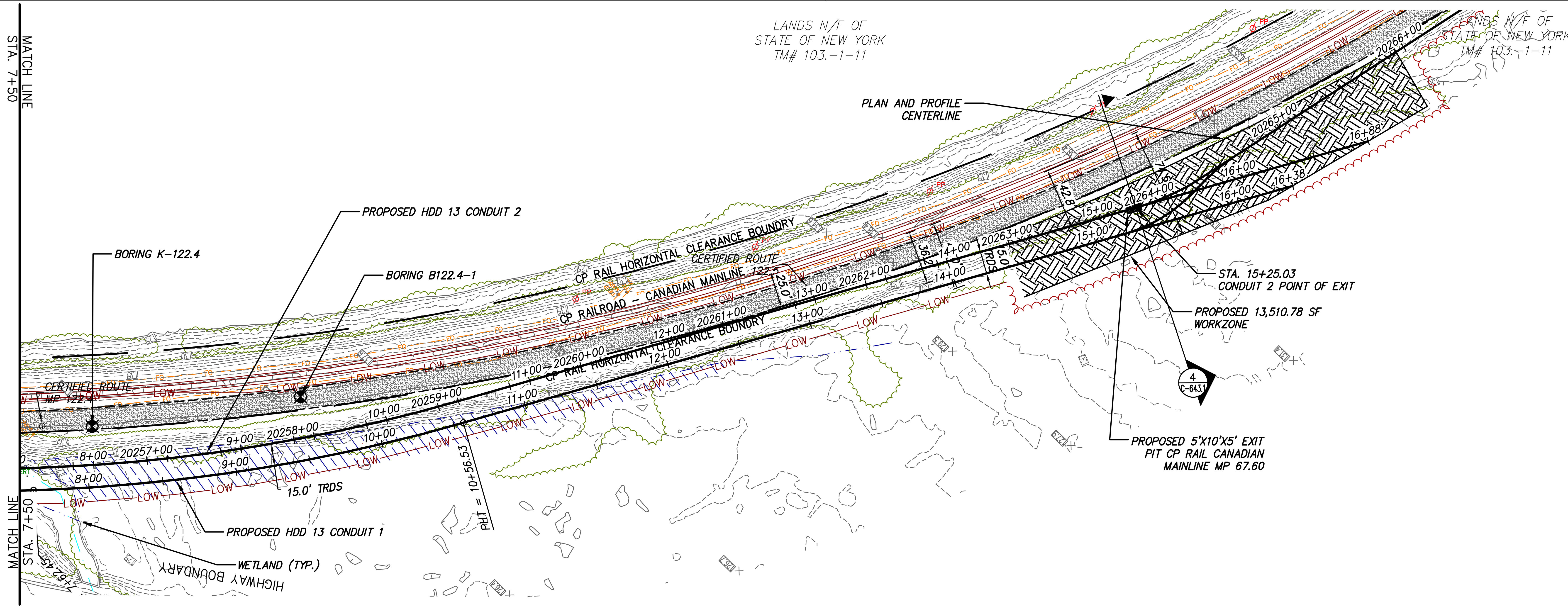
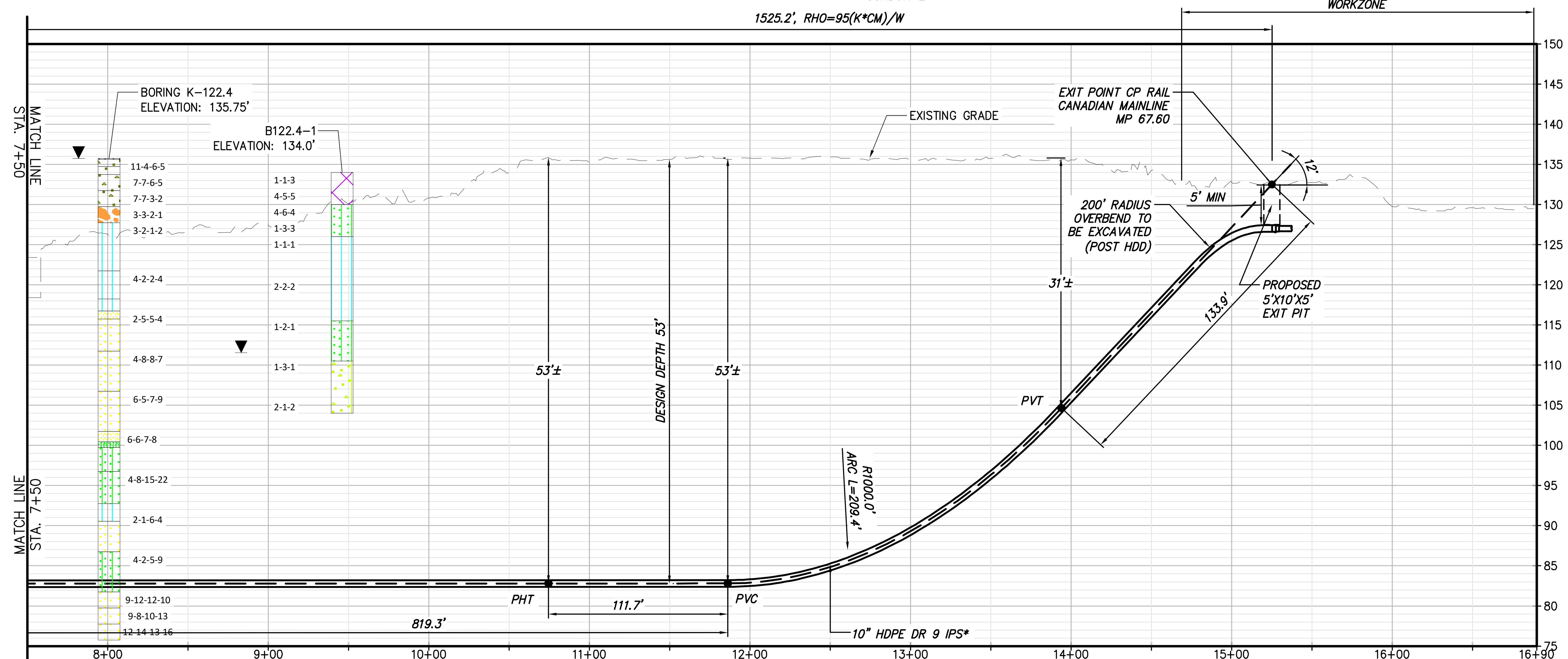


Scale in feet

PROPOSED HDD 13 PLAN VIEW

CONDUIT 2

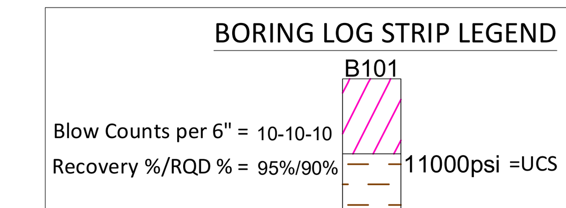


PROPOSED HDD 13 PROFILE

CONDUIT 2

Scale in feet

BORING LOG STRIP LEGEND



2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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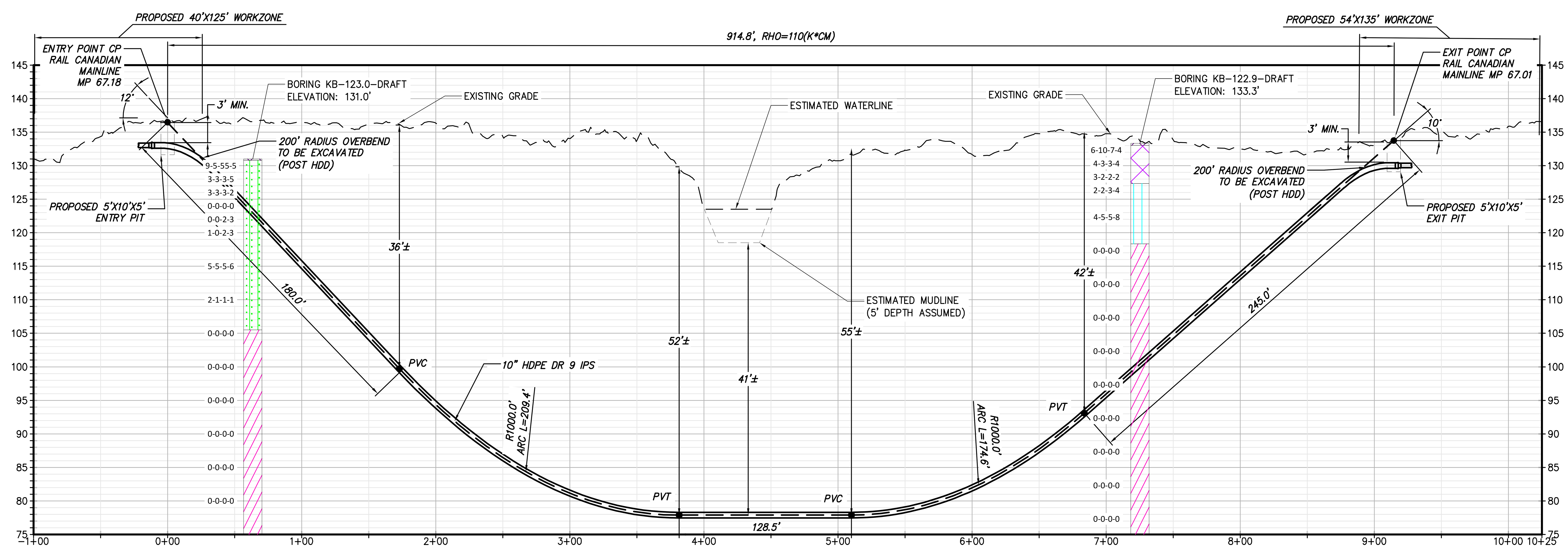
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 13, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-306A.1

DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO
SCALE AS NOTED DATE 12/16/2022
REV. NO. X

PROPOSED HDD 13A PLAN VIEW

CONDUIT 1



PROPOSED HDD 13A PROFILE

CONDUIT 1

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
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GW	Well Graded GRAVEL
GW-GC	Well Graded GRAVEL with CLAY
GW-GM	Well Graded GRAVEL with SILT
Limestone	Limestone
MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
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SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
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USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

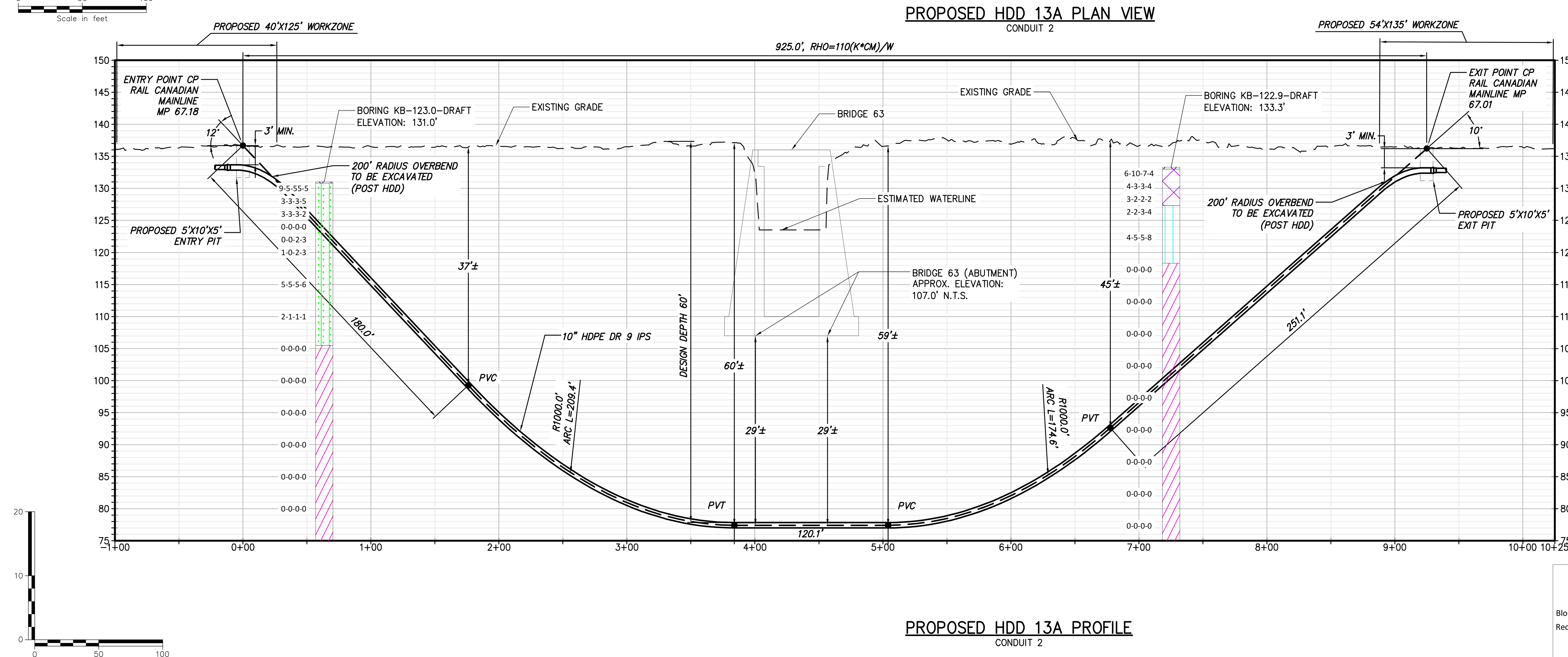
PLAN AND PROFILE - HDD 13A, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-307

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

PROPOSED HDD 13A PLAN VIEW

CONDUIT 2



PROPOSED HDD 13A PROFILE

CONDUIT 2

BORING LOG STRIP LEGEND
B101
Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%
11000psi =UCS
2D strip logs shown at 10x exaggeration
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Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
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	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
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	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
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	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
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	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
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	Water	Water
	Weathered Rock	Undefined
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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 13A, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-307A

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

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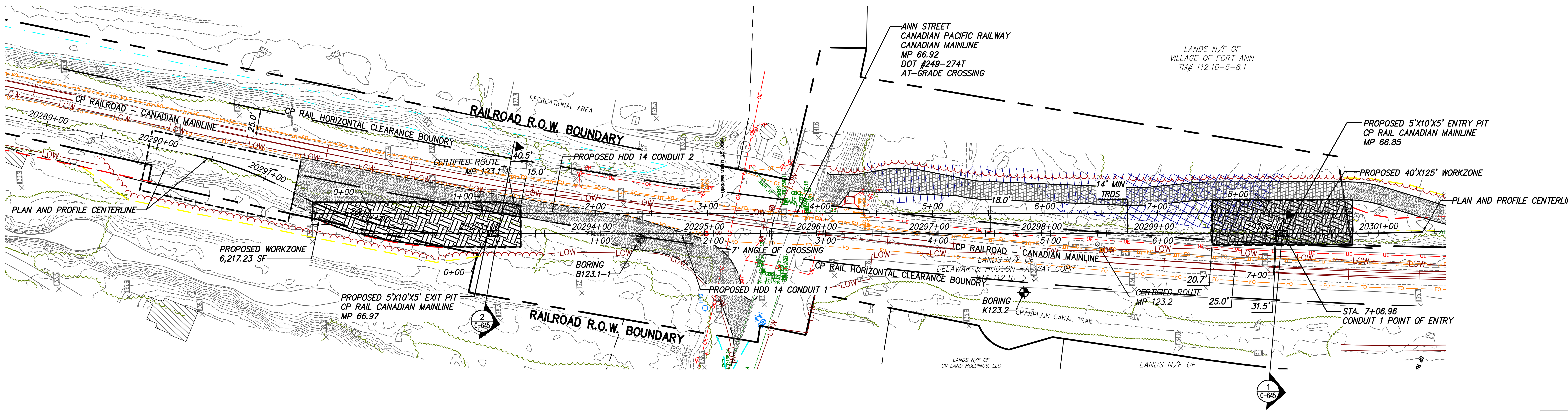

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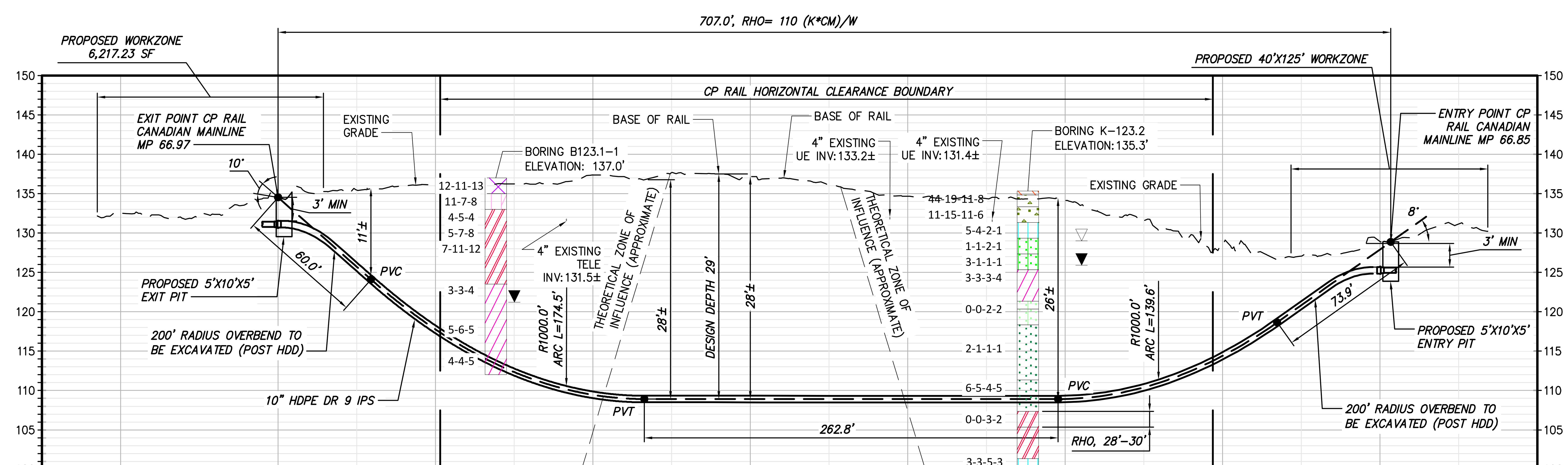
Scale in feet

PROPOSED HDD 14 PLAN VIEW
CONDUIT 1



0 10 20
0 50 100
Scale in feet

PROPOSED HDD 14 PROFILE
CONDUIT 1

BORING LOG STRIP LEGEND

B101
Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%
11000psi =UCS

2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
GP-GM	Poorly Graded GRAVEL with SILT
GW	Well Graded GRAVEL
GW-GC	Well Graded GRAVEL with CLAY
GW-GM	Well Graded GRAVEL with SILT
Limestone	Limestone
MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
SC	CLAYEY SAND
SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
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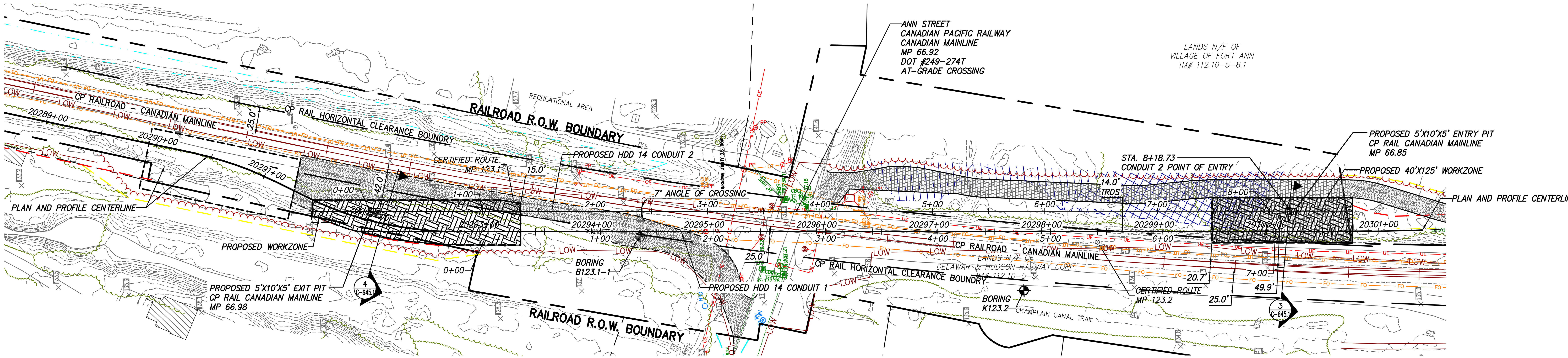
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 14, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-308**

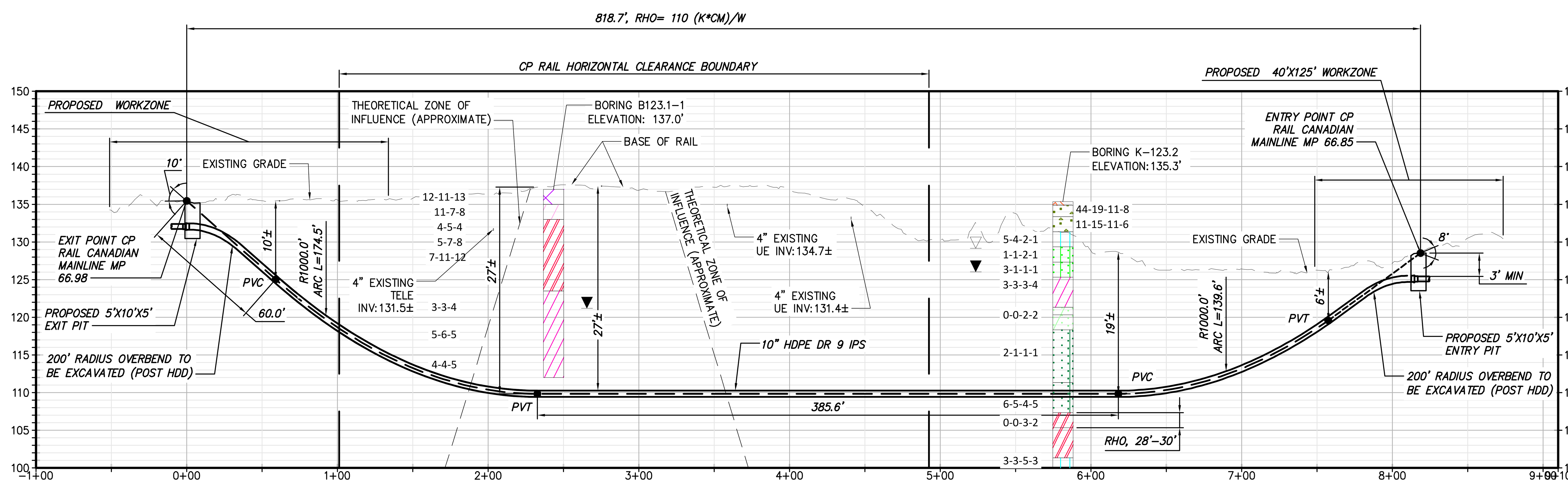
DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X



Scale in feet

PROPOSED HDD 14 PLAN VIEW

CONDUIT 2



Scale in feet

PROPOSED HDD 14 PROFILE

CONDUIT 2

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

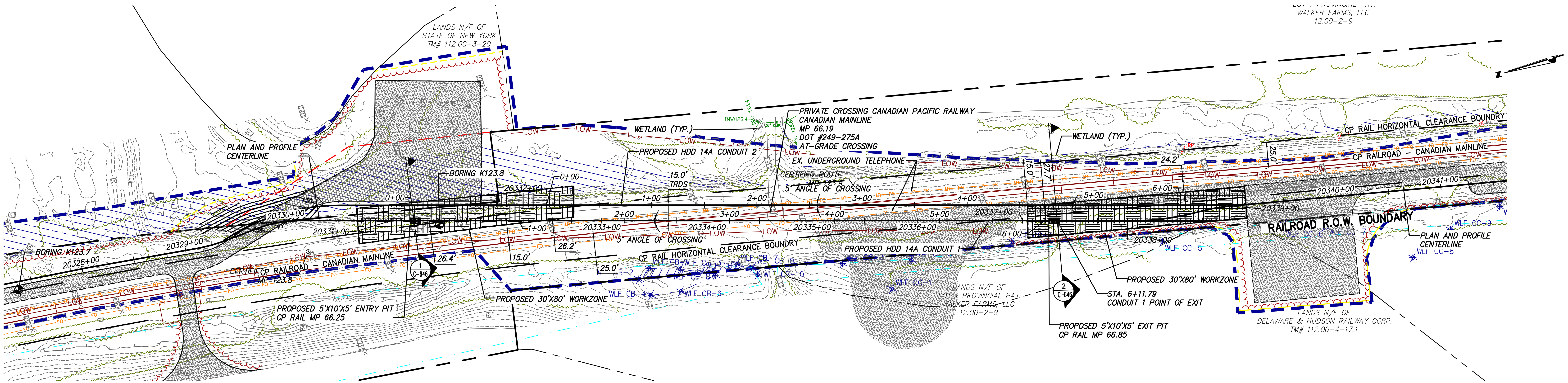
PLAN AND PROFILE - HDD 14, CONDUIT 2

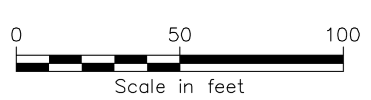
KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. **C-308A**

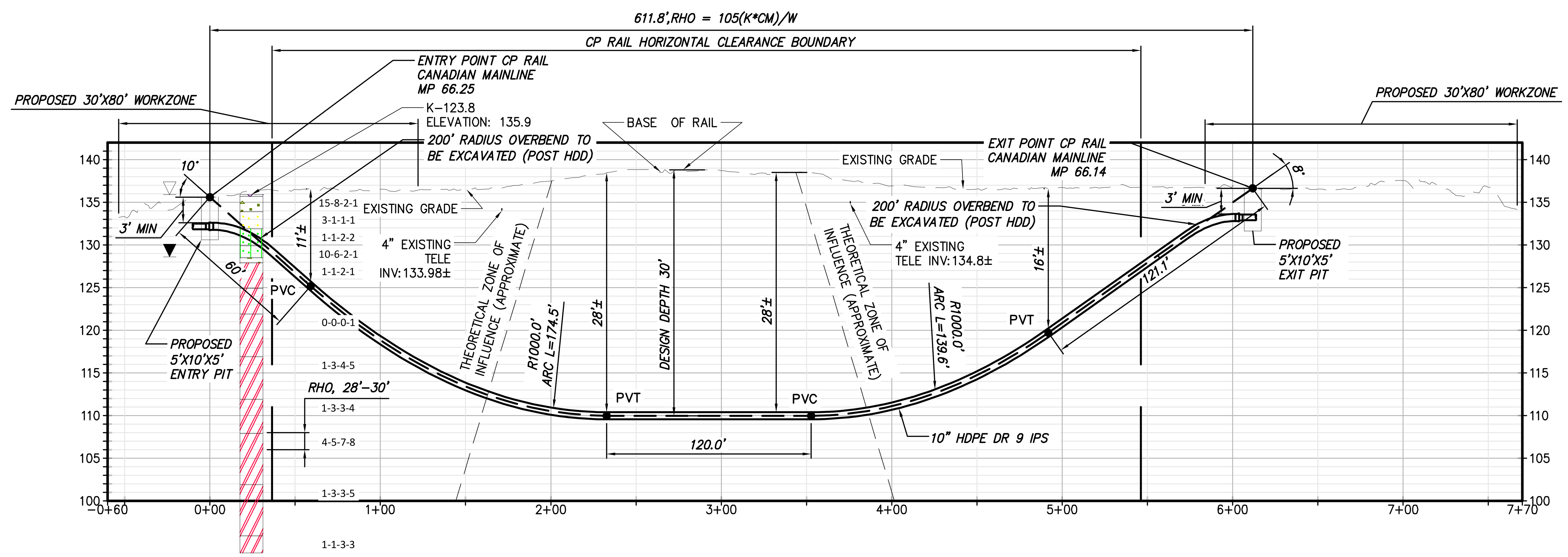
DRAWN BY: MAR | DESIGNED BY: MAR | APPROVED BY: JEO | SCALE: AS NOTED | DATE: 12/16/2022 | REV. NO. X

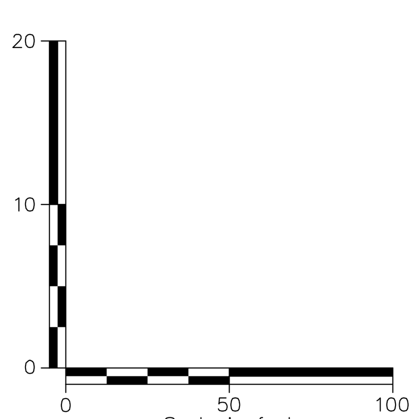




PROPOSED HDD 14A PLAN VIEW

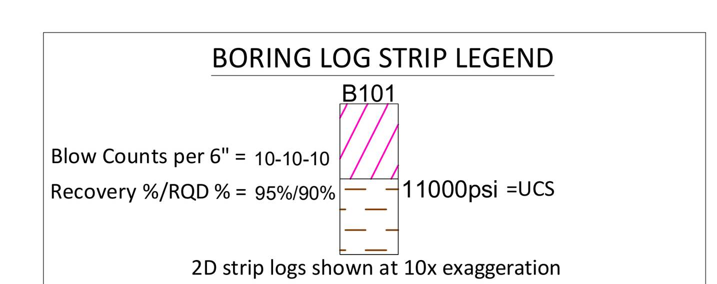
CONDUIT 1





PROPOSED HDD 14A PROFILE

CONDUIT 1



Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
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	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
∇	Delayed Water Table	Water Table after drilling

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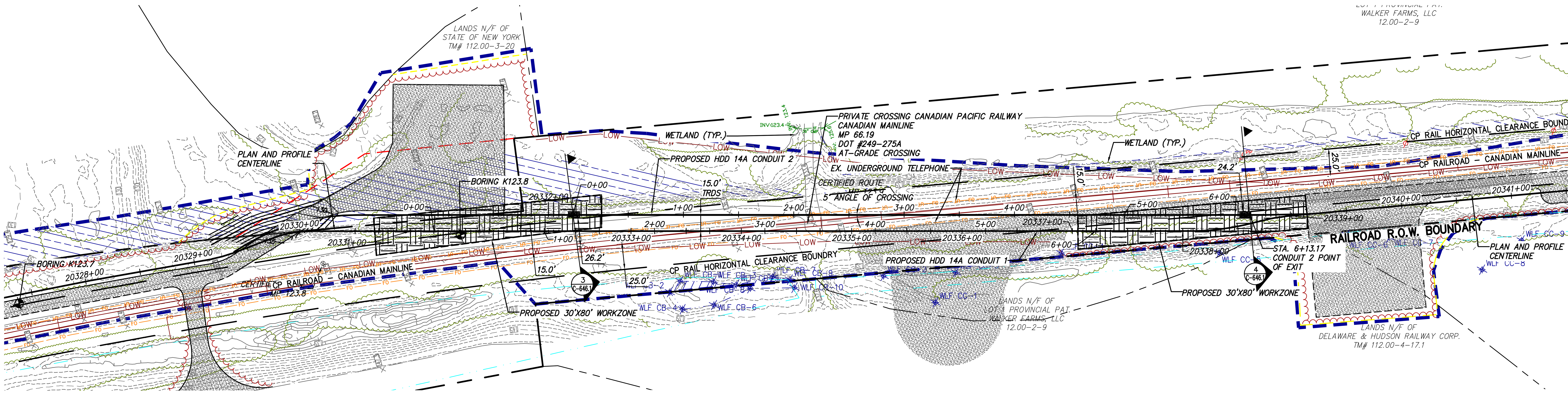
CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

PLAN AND PROFILE - HDD 14A, CONDUIT 1

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-309

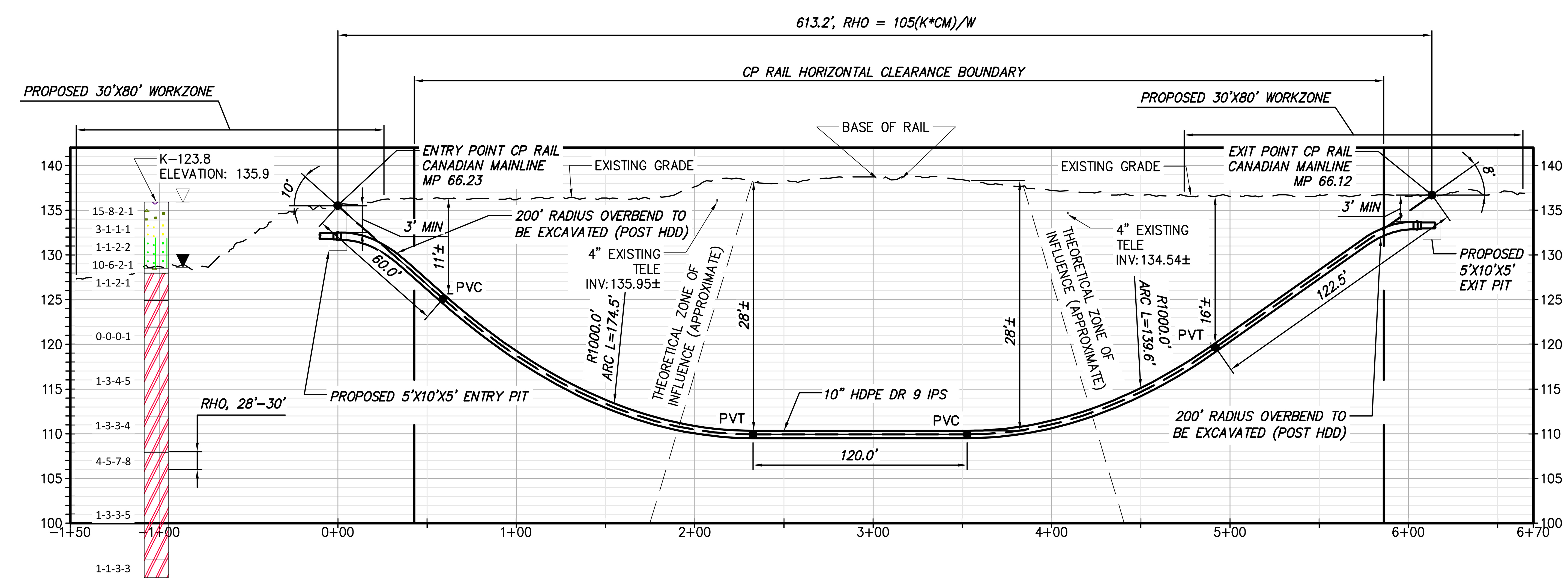
DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X



Scale in feet (0, 50, 100)

PROPOSED HDD 14A PLAN VIEW

CONDUIT 2



Scale in feet (0, 50, 100; 0, 10, 20)

PROPOSED HDD 14A PROFILE

CONDUIT 2

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
GM	SILTY GRAVEL
GP	Poorly Graded GRAVEL
GP-GC	Poorly Graded Gravel with CLAY
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MH	Elastic SILT
ML	SILT
OH	ORGANIC Fat CLAY
OL	ORGANIC Lean CLAY
OL/OH	ORGANIC SOIL
PT	PEAT
Rock	Rock
Sandstone	Sandstone
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SC-SM	SILT, CLAYEY SAND
SHALE	Shale
SILTSTONE	Siltstone
SM	SILTY SAND
SP	Poorly Graded SAND
SP-SC	Poorly Graded SAND with CLAY
SP-SM	Poorly Graded SAND with SILT
SW	Well graded SAND
SW-SC	Well Graded SAND with CLAY
SW-SM	Well Graded SAND with SILT
Topsoil	Topsoil
USGS 601	Gravel or Conglomerate 1
USGS 654	Subgraywacke
USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

PLAN AND PROFILE - HDD 14A, CONDUIT 2

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

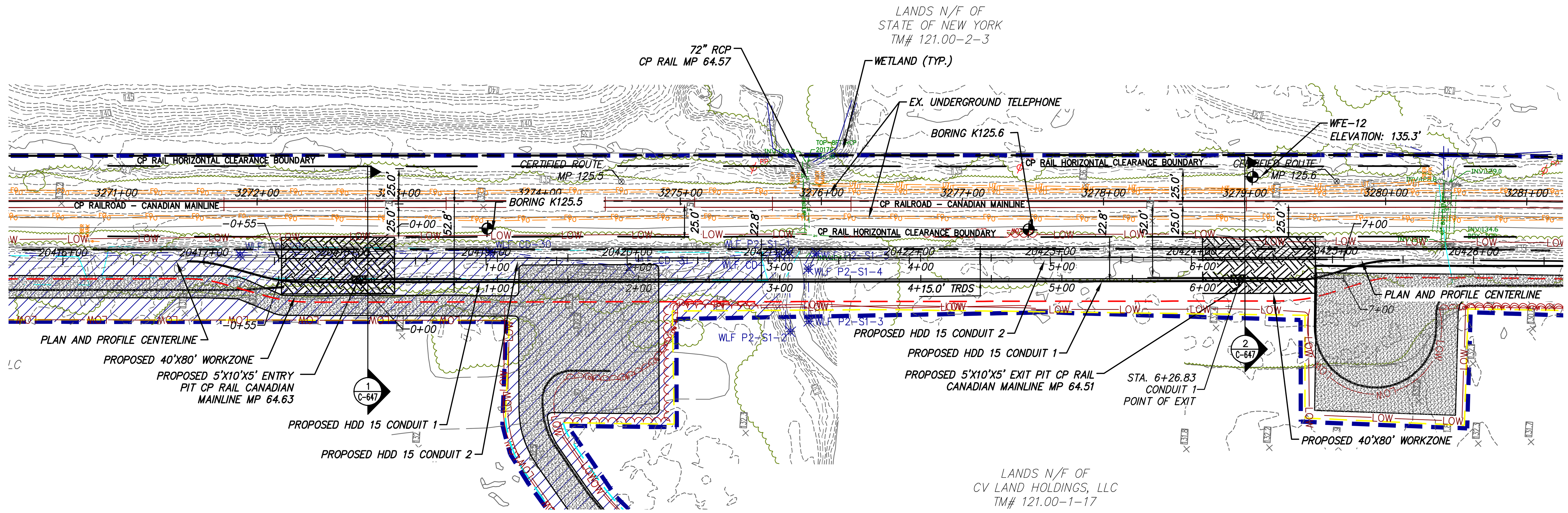
DRAWING NO. C-309A

DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO

SCALE AS NOTED

DATE 12/16/2022

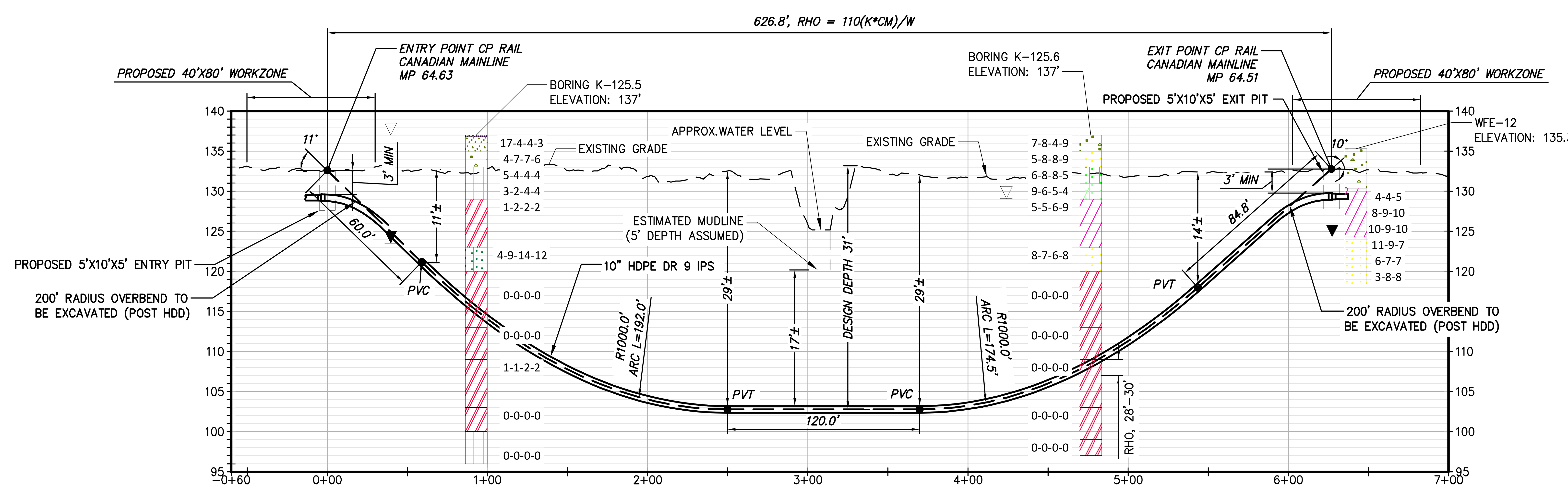
REV. NO. X



0 50 100
Scale in feet

PROPOSED HDD 15 PLAN VIEW

CONDUIT 1



20 10 0
0 50 100
Scale in feet

PROPOSED HDD 15 PROFILE

CONDUIT 1

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%
11000psi =UCS

2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
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	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
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	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
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	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
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	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

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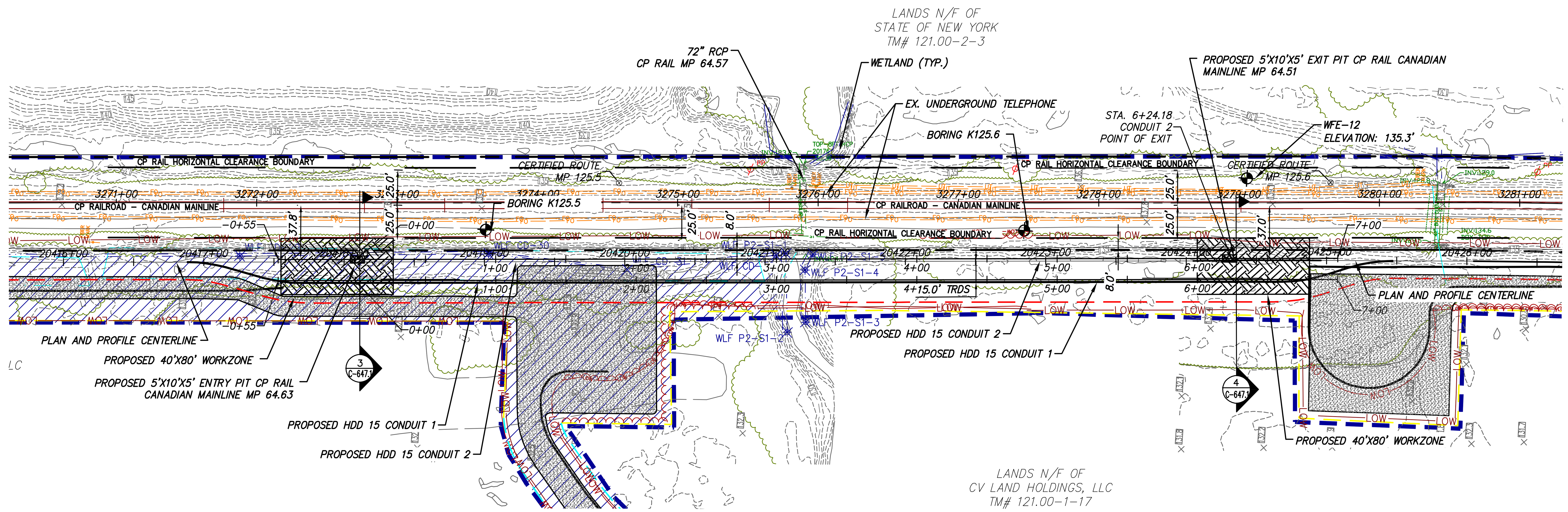
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 15, CONDUIT 1

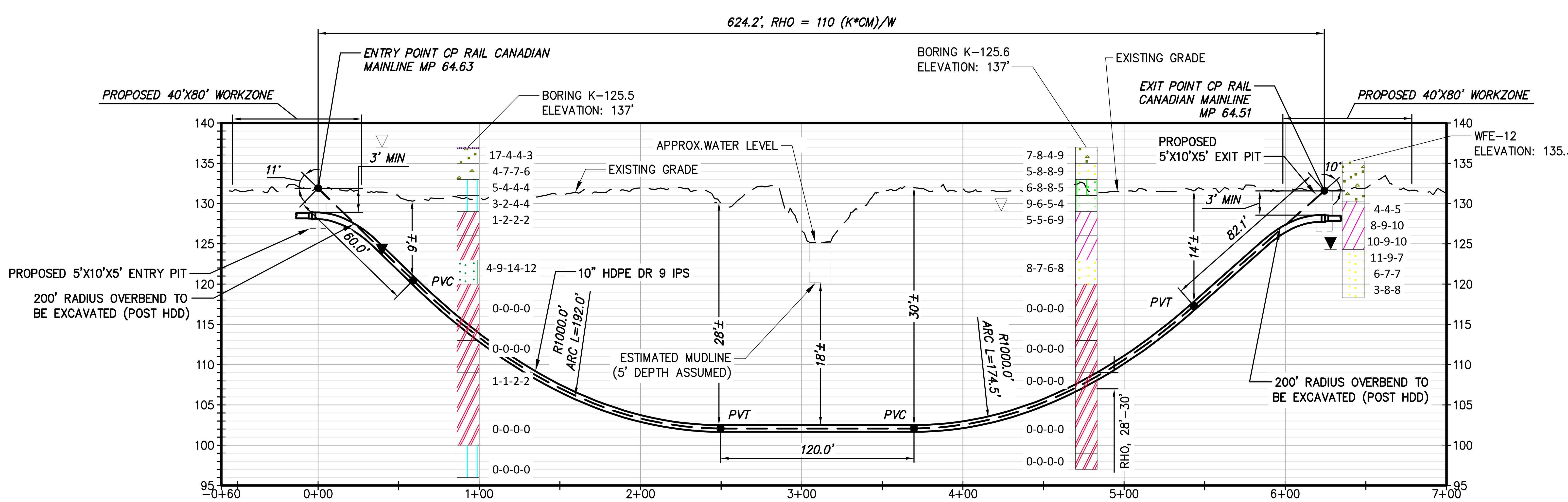
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-310

DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X



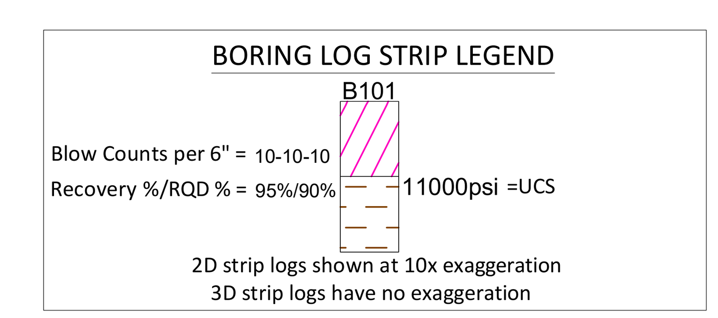
PROPOSED HDD 15 PLAN VIEW

CONDUIT 2



PROPOSED HDD 15 PROFILE

CONDUIT 2



Legend	
ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
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USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
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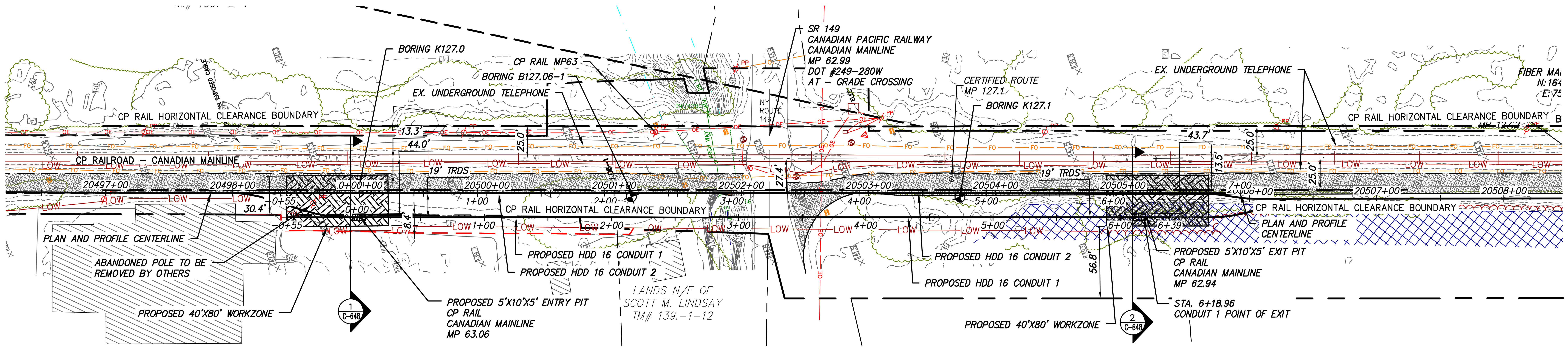
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 15, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-310A

DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO
SCALE AS NOTED DATE 12/16/2022
REV. NO. X

1 2 3 4

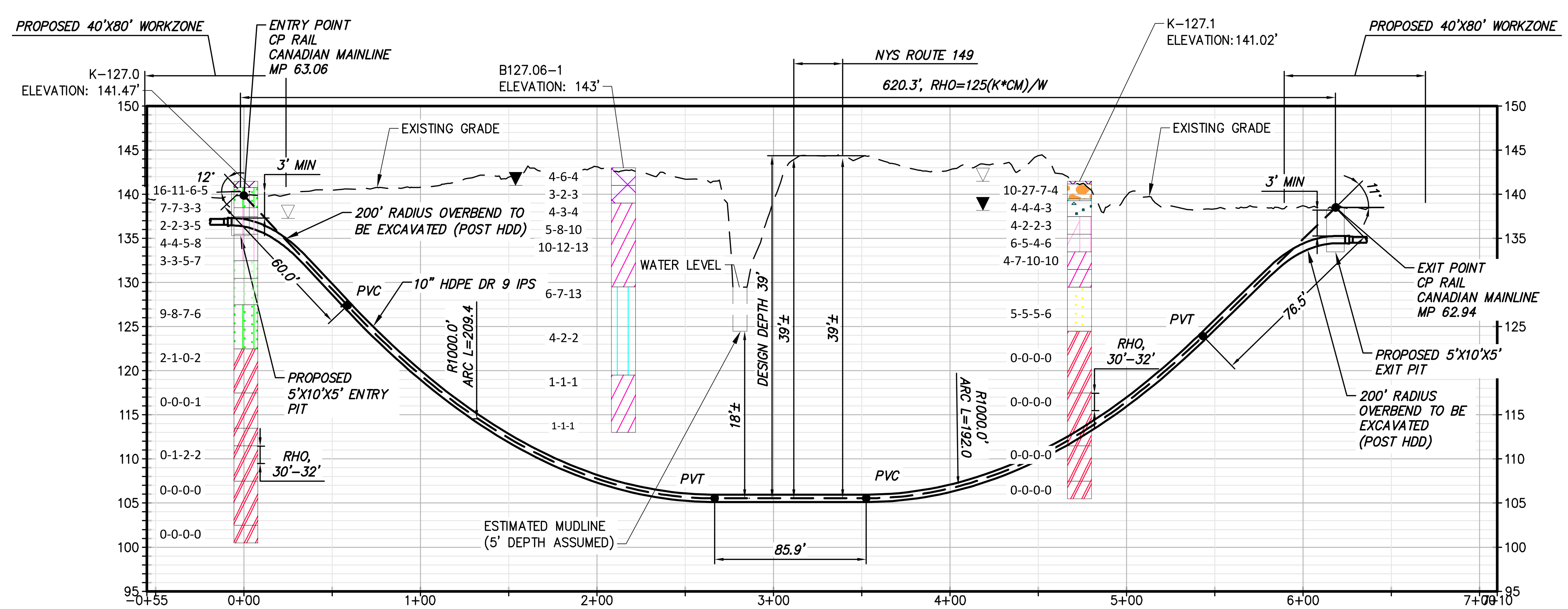
A



0 50 100
Scale in feet

PROPOSED HDD 16 PLAN VIEW

CONDUIT 1



B

0 50 100
Scale in feet

PROPOSED HDD 16 PROFILE

CONDUIT 1

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

11000psi =UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend

ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CONCRETE	Concrete
Fill	Fill
GC	CLAYEY GRAVEL
GC-GM	SILTY CLAYEY GRAVEL
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USGS 670	Interbedded Sandstone and Shale
USGS 702	Quartzite
USGS 705	Schist
USGS 705	Schist
USGS 708	Gneiss
USGS 708	Gneiss
USGS 718	Granite 1
Void	Void
Water	Water
Weathered Rock	Undefined
Water Table	Water Table during drilling
Delayed Water Table	Water Table after drilling

CHPE Champlain Hudson Power Express

Kiewit

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III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 . www.chacompanies.com

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	MCS	JEO

CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

PLAN AND PROFILE - HDD 16, CONDUIT 1

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-311

DRAWN BY: ES DESIGNED BY: ES APPROVED BY: JEO SCALE AS NOTED REV. NO. X DATE 12/16/2022

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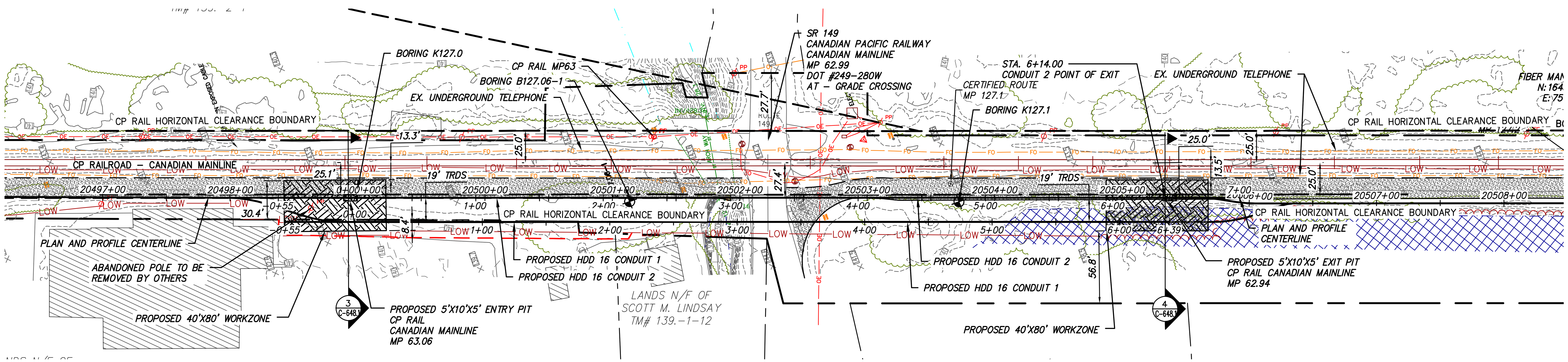

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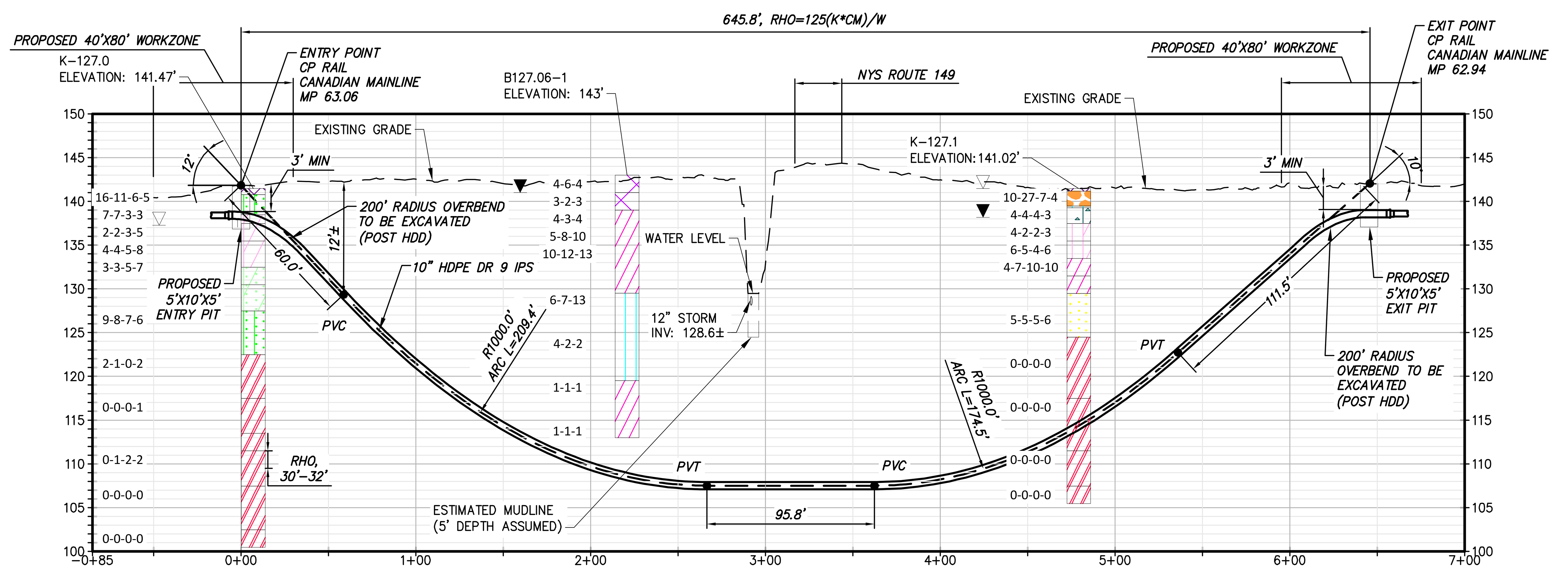
Scale in feet

PROPOSED HDD 16 PLAN VIEW
CONDUIT 2



20 10 0
0 50 100
Scale in feet

PROPOSED HDD 16 PROFILE
CONDUIT 2

B

Legend

	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
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	GW-GC	Well Graded GRAVEL with CLAY
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	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
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	USGS 601	Gravel or Conglomerate 1
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	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
▼	Water Table	Water Table during drilling
▽	Delayed Water Table	Water Table after drilling

BORING LOG STRIP LEGEND

B101
Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%
11000psi =UCS
2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

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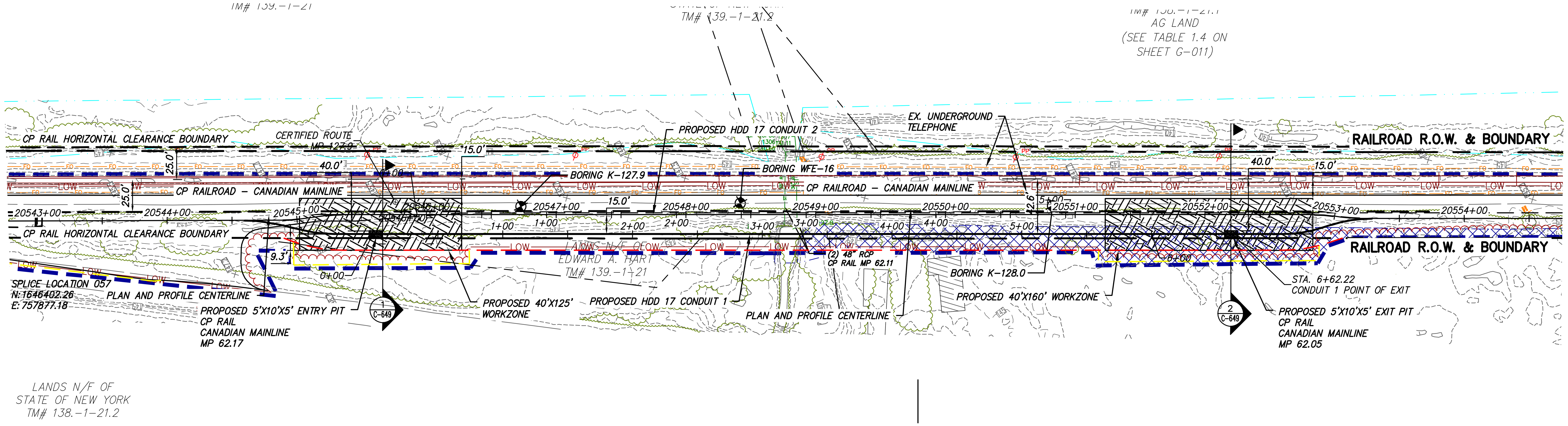
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 16, CONDUIT 2

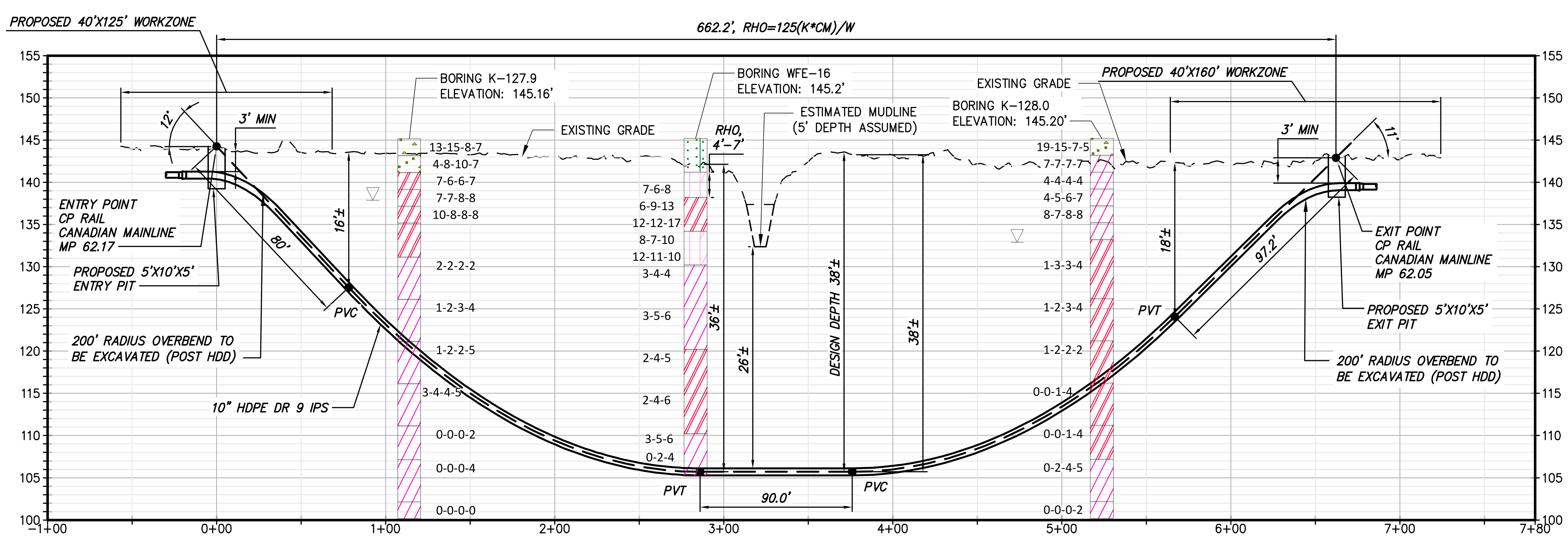
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-311A

DRAWN BY: ES | DESIGNED BY: ES | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 12/16/2022



PROPOSED HDD 17 PLAN VIEW

CONDUIT 1



PROPOSED HDD 17 PROFILE

CONDUIT 1

Legend		
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	Boulder	Boulder
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CHAMPLAIN HUDSON POWER EXPRESS

SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY

PLAN AND PROFILE - HDD 17, CONDUIT 1

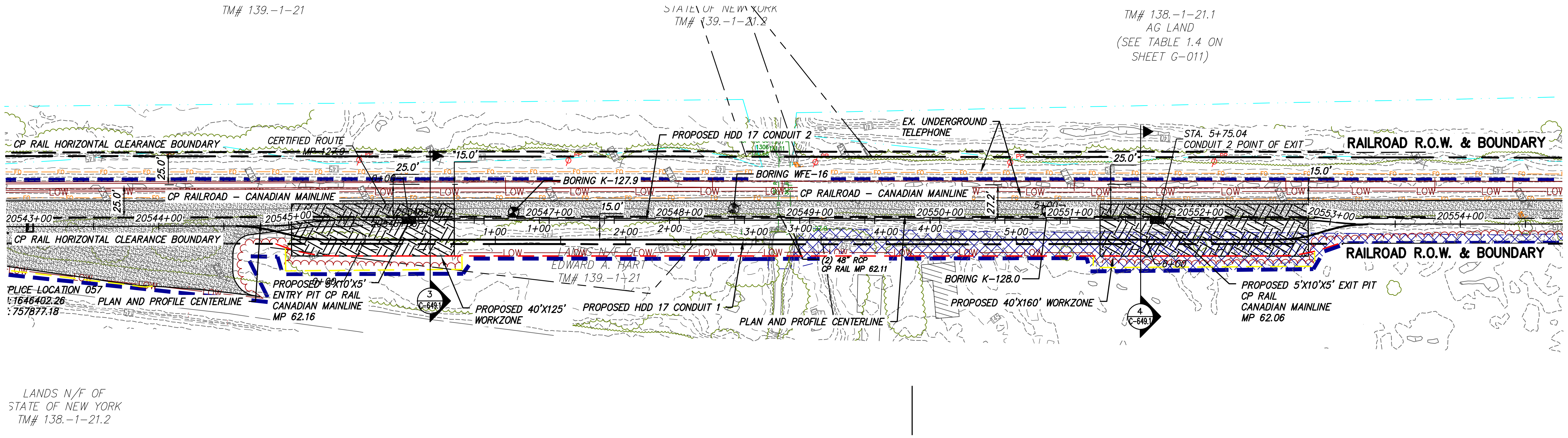
KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. **C-312**

DRAWN BY: ES | DESIGNED BY: ES | APPROVED BY: JEO | SCALE AS NOTED | DATE 12/16/2022 | REV. NO. X

File: V:\PROJECTS\ANY\K6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 2\066076_P2_C-310-C-310A.DWG Saved: 12/13/2022 11:37:35 AM Plotted: 12/15/2022 5:27:29 PM Current User: Snyder, Morgan LastSavedBy: 7787



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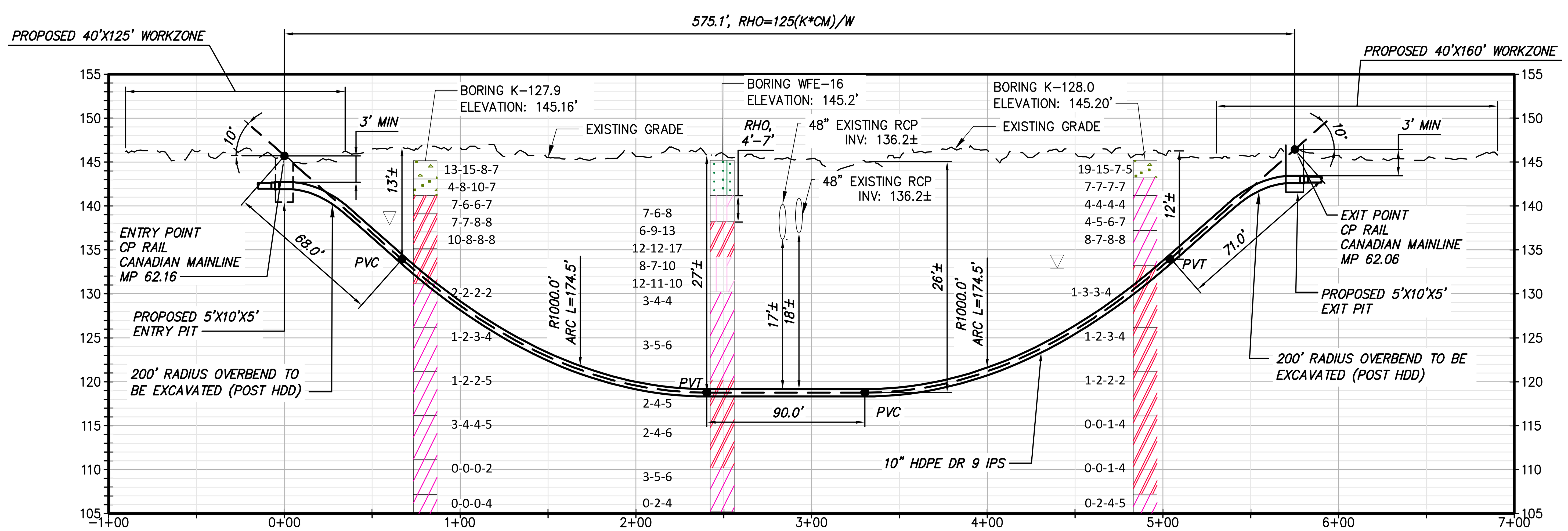
Scale in feet

PROPOSED HDD 17 PLAN VIEW
CONDUIT 2



PROPOSED HDD 17 PROFILE
CONDUIT 2

20 10 0
0 50 100
Scale in feet

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	CONCRETE	Concrete
	Fill	Fill
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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 17, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-312A**

DRAWN BY: ES | DESIGNED BY: ES | APPROVED BY: JEO | SCALE: AS NOTED | REV. NO. X | DATE 12/16/2022

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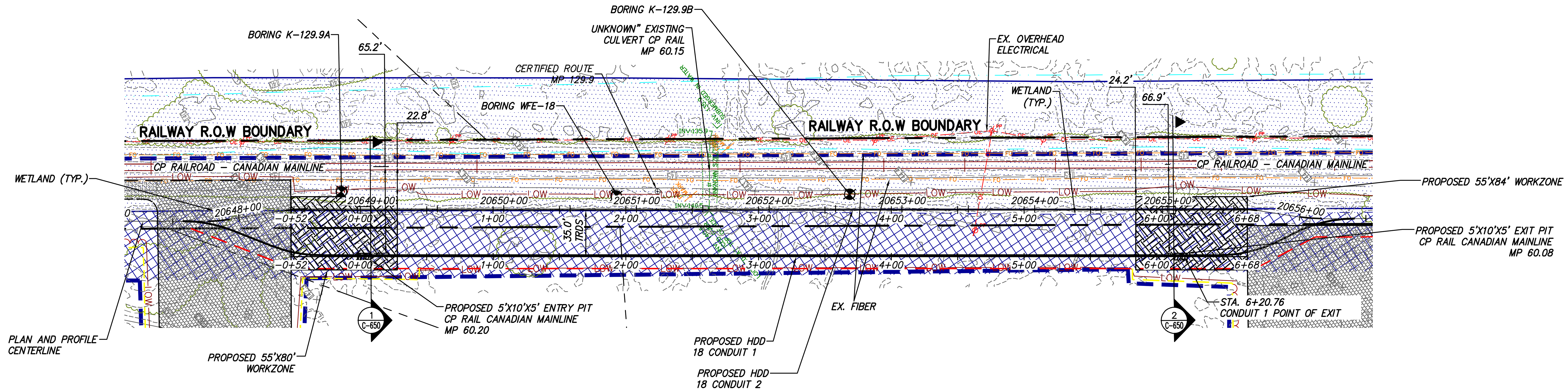

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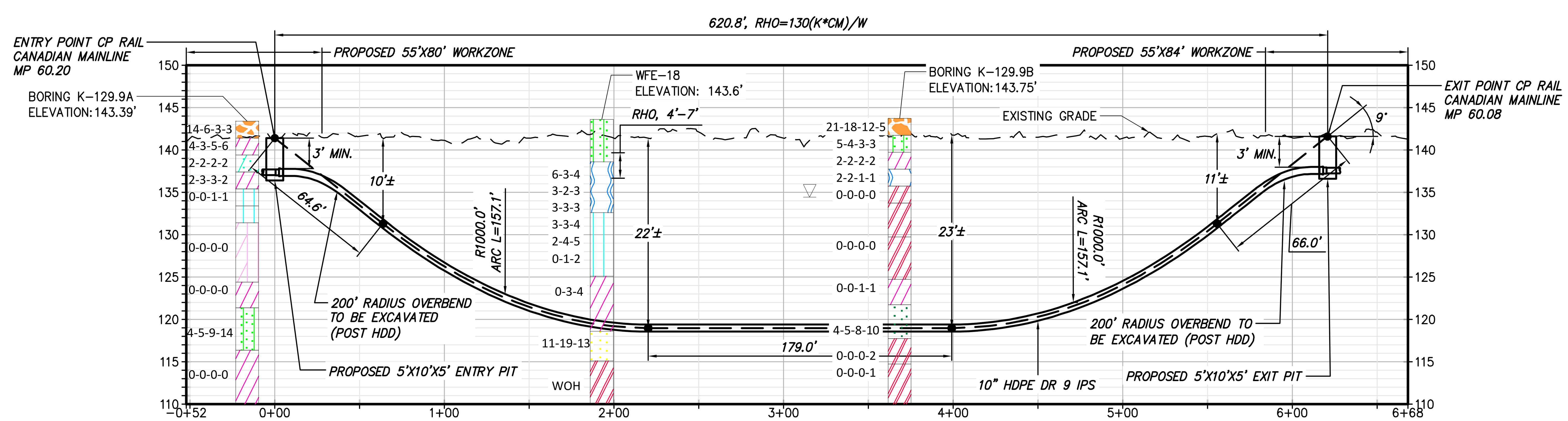
Scale in feet

PROPOSED HDD 18 PLAN VIEW
CONDUIT 1



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PROPOSED HDD 18 PROFILE
CONDUIT 1

B

BORING LOG STRIP LEGEND
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SEGMENT 3 - PACKAGE 2 - FORT ANN TO KINGSBURY
PLAN AND PROFILE - HDD 18, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-313

DRAWN BY: MAR DESIGNED BY: MAR APPROVED BY: JEO SCALE AS NOTED DATE 12/16/2022 REV. NO. X

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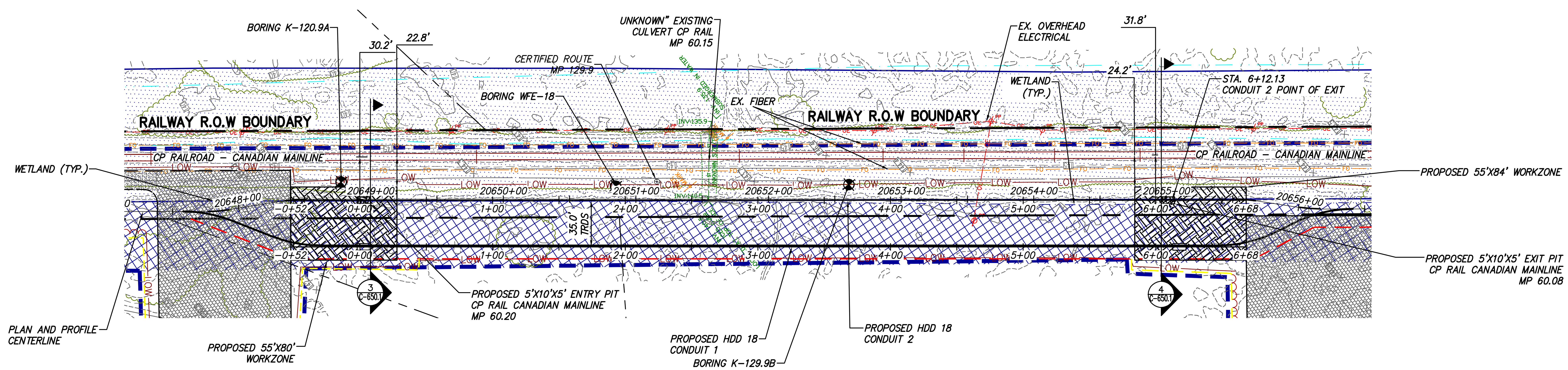
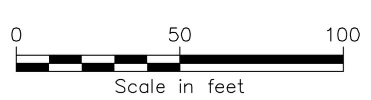
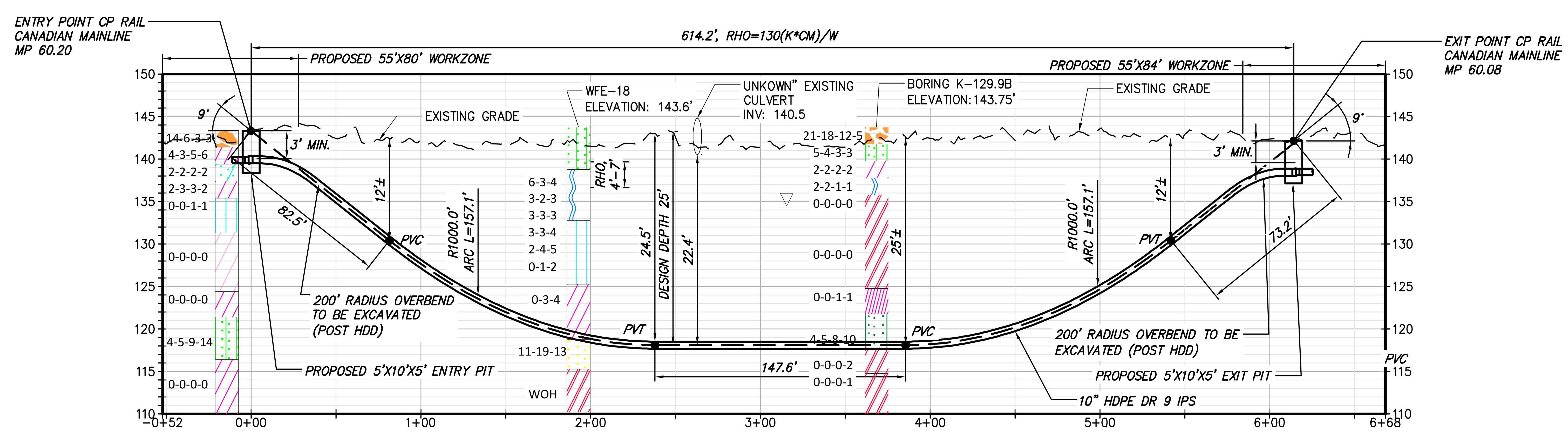
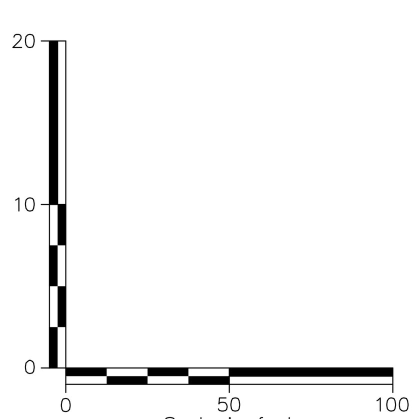




PROPOSED HDD 18 PLAN VIEW

CONDUIT 2





PROPOSED HDD 18 PROFILE

CONDUIT 2

B

BORING LOG STRIP LEGEND

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DRAWING NO. C-313A

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