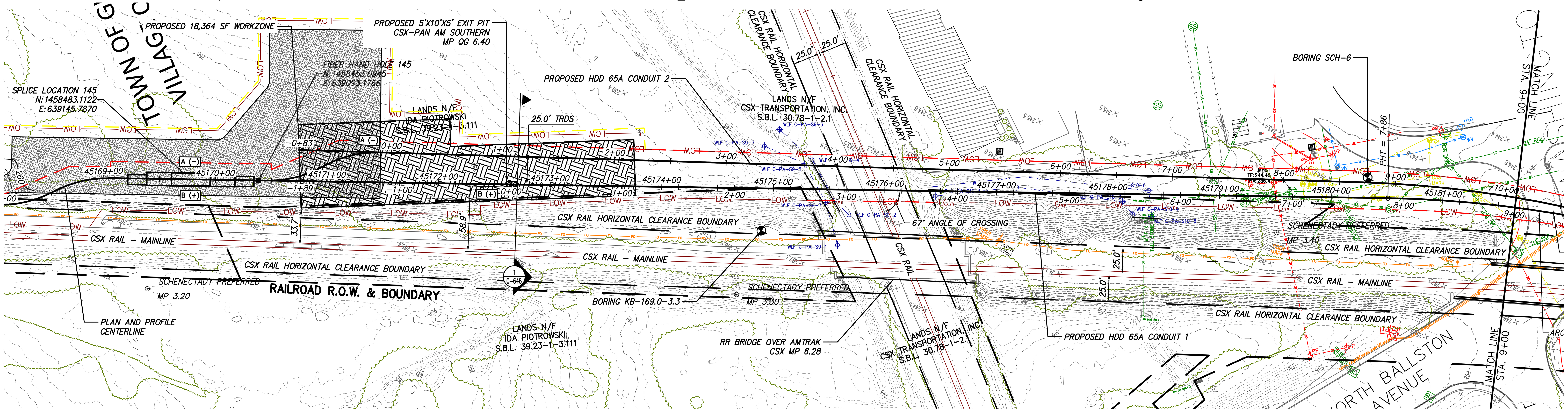
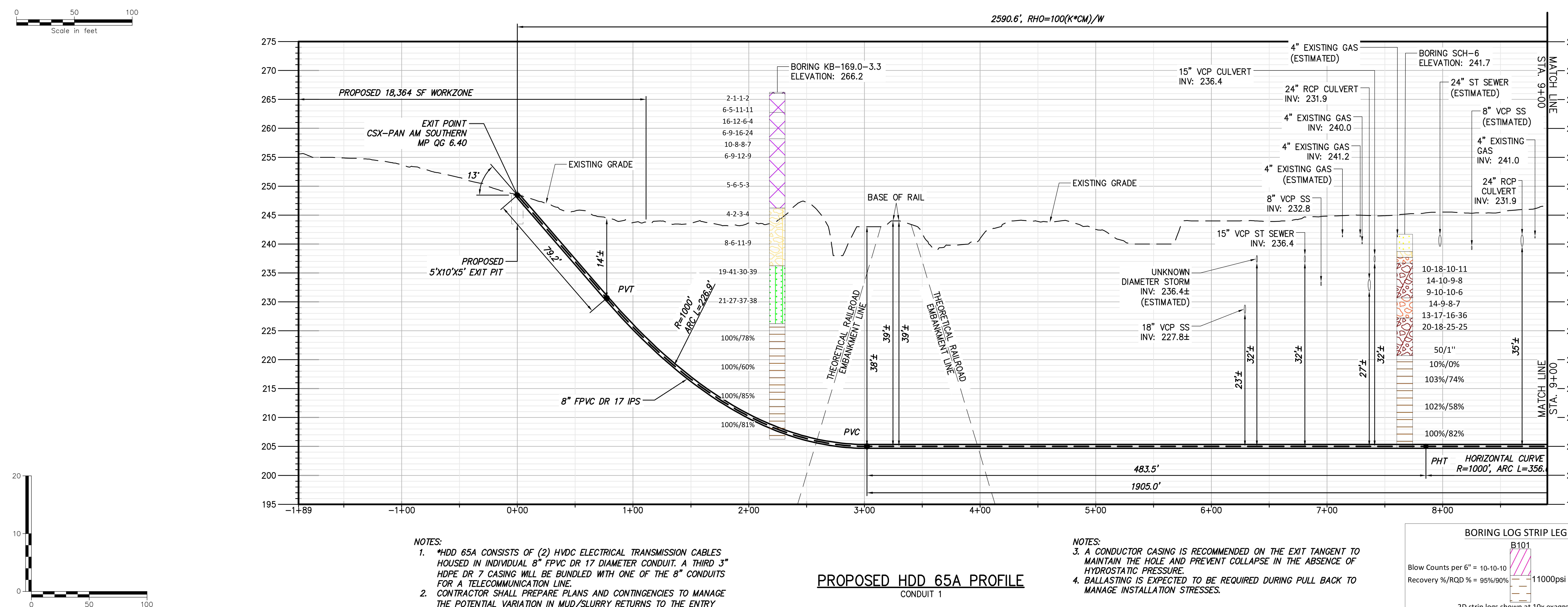



PROPOSED HDD 65A PLAN VIEW

CONDUIT 1




PROPOSED HDD 65A PROFILE

CONDUIT 1

NOTES:

1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. CONTRACTOR SHALL PREPARE PLANS AND CONTINGENCIES TO MANAGE THE POTENTIAL VARIATION IN MUD/SLURRY RETURNS TO THE ENTRY DUE TO THE ELEVATION GAIN ENTRY TO EXIT.

NOTES:

3. A CONDUCTOR CASING IS RECOMMENDED ON THE EXIT TANGENT TO MAINTAIN THE HOLE AND PREVENT COLLAPSE IN THE ABSENCE OF HYDROSTATIC PRESSURE.
4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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

CHPE Champlain Hudson Power Express

Kiewit

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518.453.4500 . www.chacompanies.com

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| No. | DATE | SUBMITTAL / REVISION DESCRIPTION | DB | APP |
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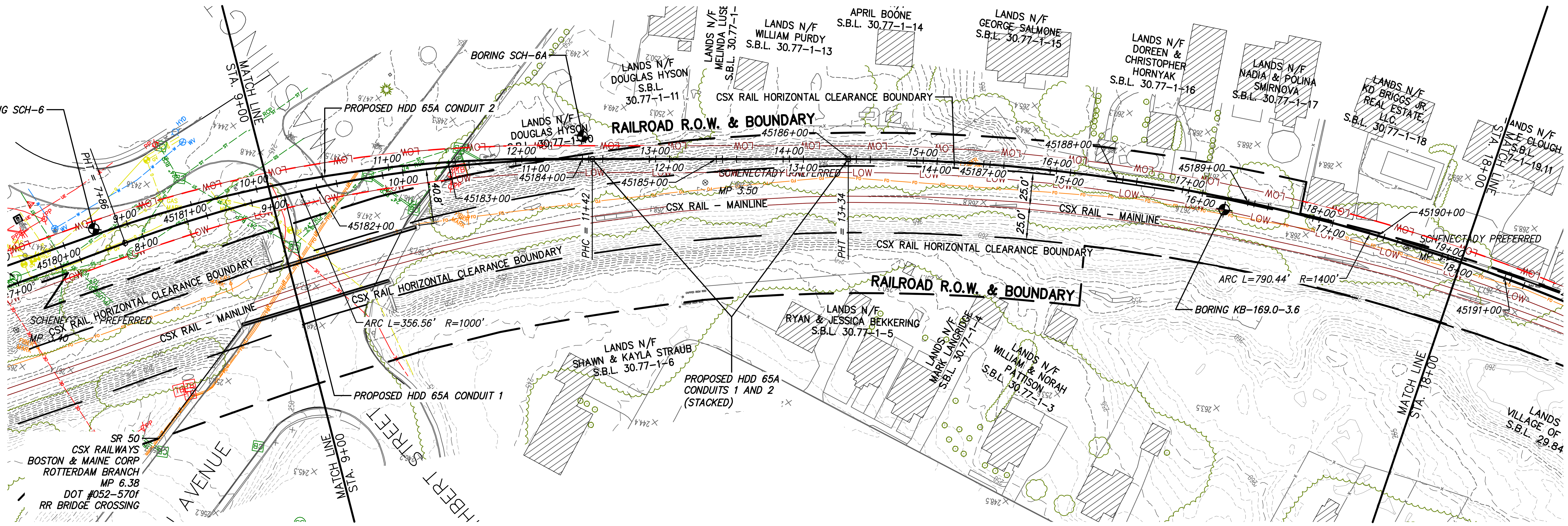
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN AND PROFILE - HDD 65A, CONDUIT 1

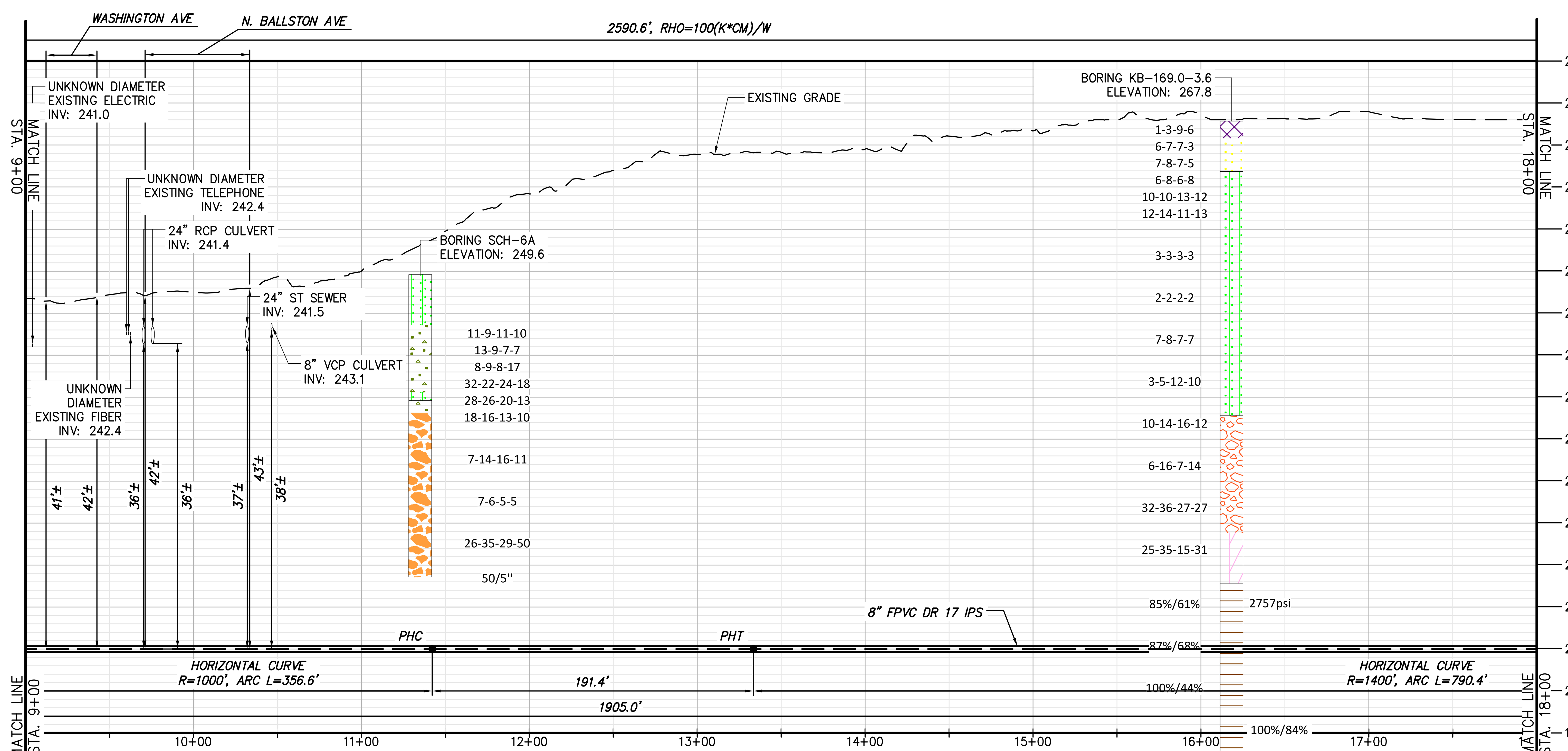
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-306

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED REV. NO. 1 DATE 07/28/2023 SH.NO.

1 2 3 4




## PROPOSED HDD 65A PLAN VIEW
CONDUIT 1



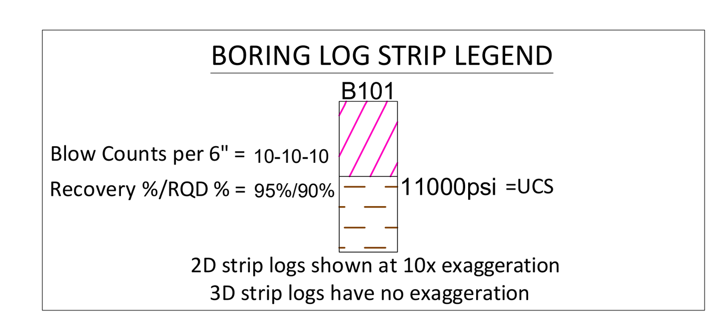

## PROPOSED HDD 65A PROFILE
CONDUIT 1

NOTES:

1. "HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. CONTRACTOR SHALL PREPARE PLANS AND CONTINGENCIES TO MANAGE THE POTENTIAL VARIATION IN MUD/SLURRY RETURNS TO THE ENTRY DUE TO THE ELEVATION GAIN ENTRY TO EXIT.

NOTES:

3. A CONDUCTOR CASING IS RECOMMENDED ON THE EXIT TANGENT TO MAINTAIN THE HOLE AND PREVENT COLLAPSE IN THE ABSENCE OF HYDROSTATIC PRESSURE.
4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.




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 |
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| 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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JEFFREY E. O'DONNELL
087450
LICENSED PROFESSIONAL ENGINEER

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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
PLAN AND PROFILE - HDD 65A, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-306.1

DRAWN BY: JAS | DESIGNED BY: JAS | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. 1 | DATE 07/28/2023 | SH.NO.

A

B

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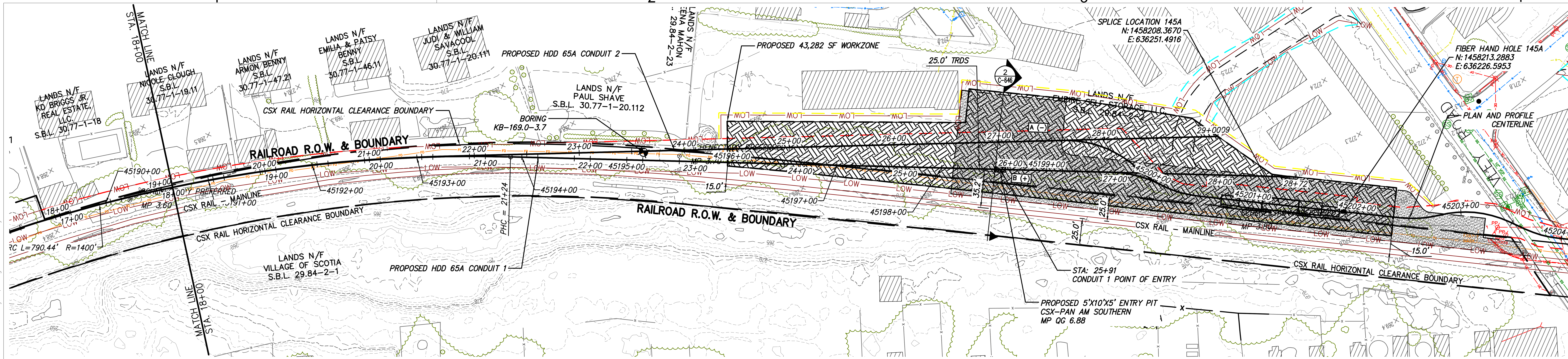
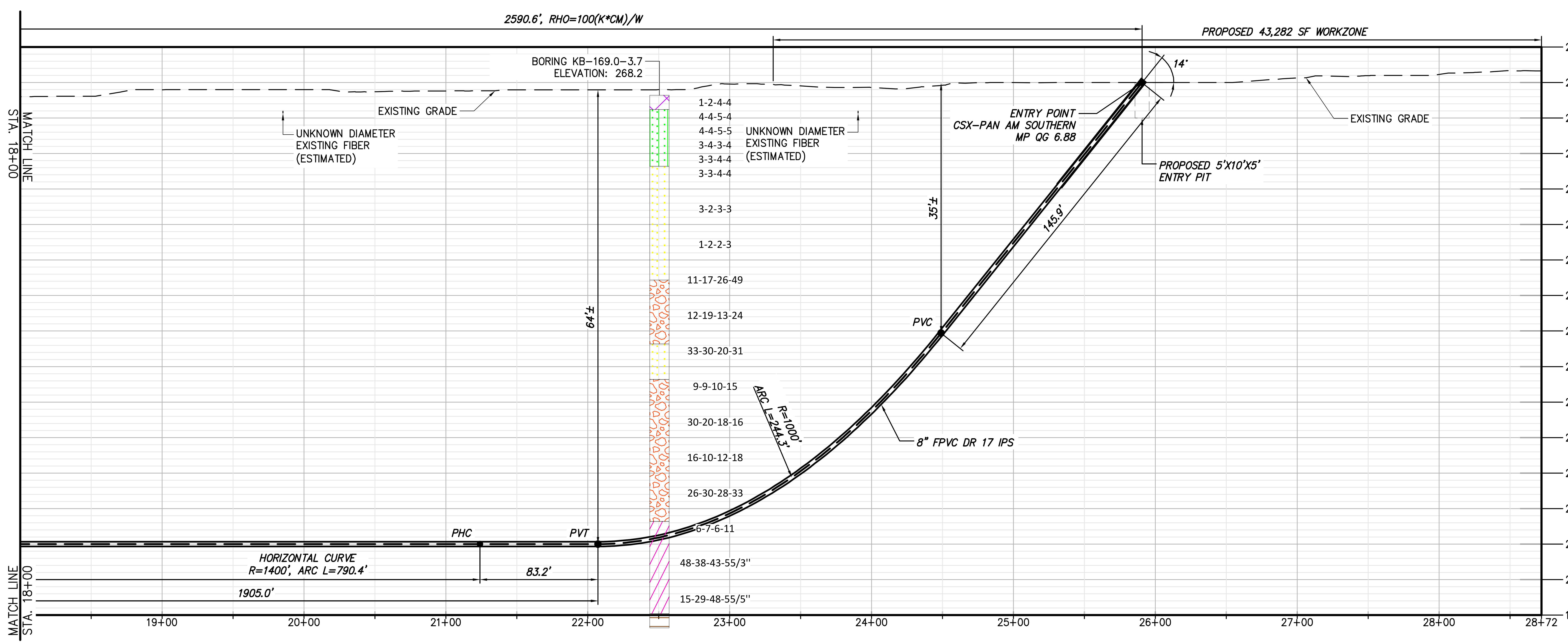



## PROPOSED HDD 65A PLAN VIEW

CONDUIT 1

0 50 100
Scale in feet




| 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 |

20
10
0
0 50 100
Scale in feet

NOTES:
1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. CONTRACTOR SHALL PREPARE PLANS AND CONTINGENCIES TO MANAGE THE POTENTIAL VARIATION IN MUD/SLURRY RETURNS TO THE ENTRY DUE TO THE ELEVATION GAIN ENTRY TO EXIT.

## PROPOSED HDD 65A PROFILE

CONDUIT 1

NOTES:
3. A CONDUCTOR CASING IS RECOMMENDED ON THE EXIT TANGENT TO MAINTAIN THE HOLE AND PREVENT COLLAPSE IN THE ABSENCE OF HYDROSTATIC PRESSURE.
4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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

A
B

CHPE Champlain Hudson Power Express

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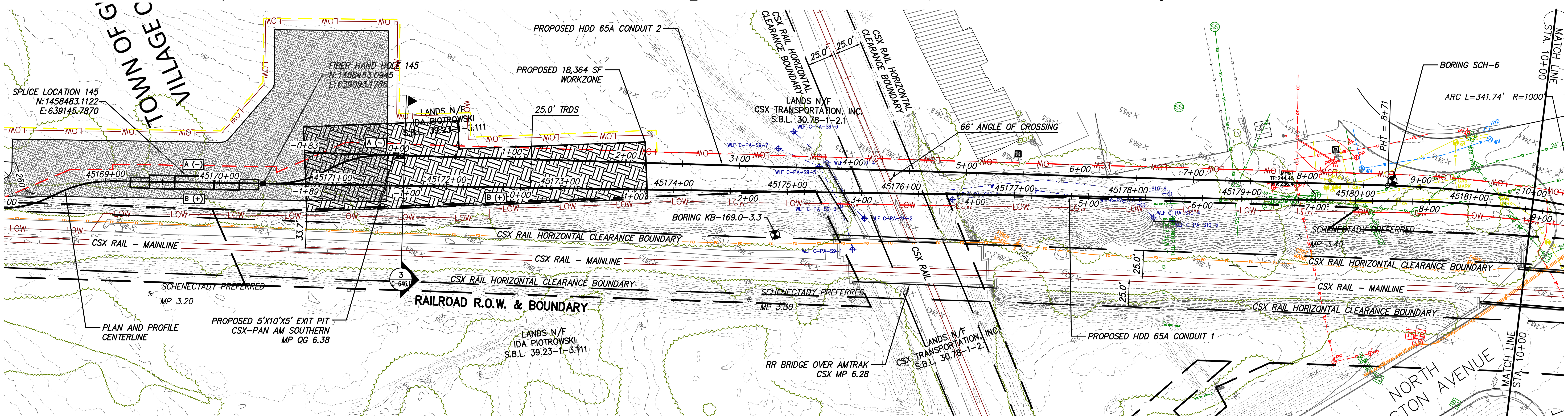
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PLAN AND PROFILE - HDD 65A, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-306.2

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO
SCALE AS NOTED DATE 07/28/2023
REV. NO. 1 SH.NO.




## PROPOSED HDD 65A PLAN VIEW

CONDUIT 2

0 50 100
Scale in feet

| | 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 |

NOTES:

1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
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4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PLAN VIEW - HDD 65A, CONDUIT 2

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

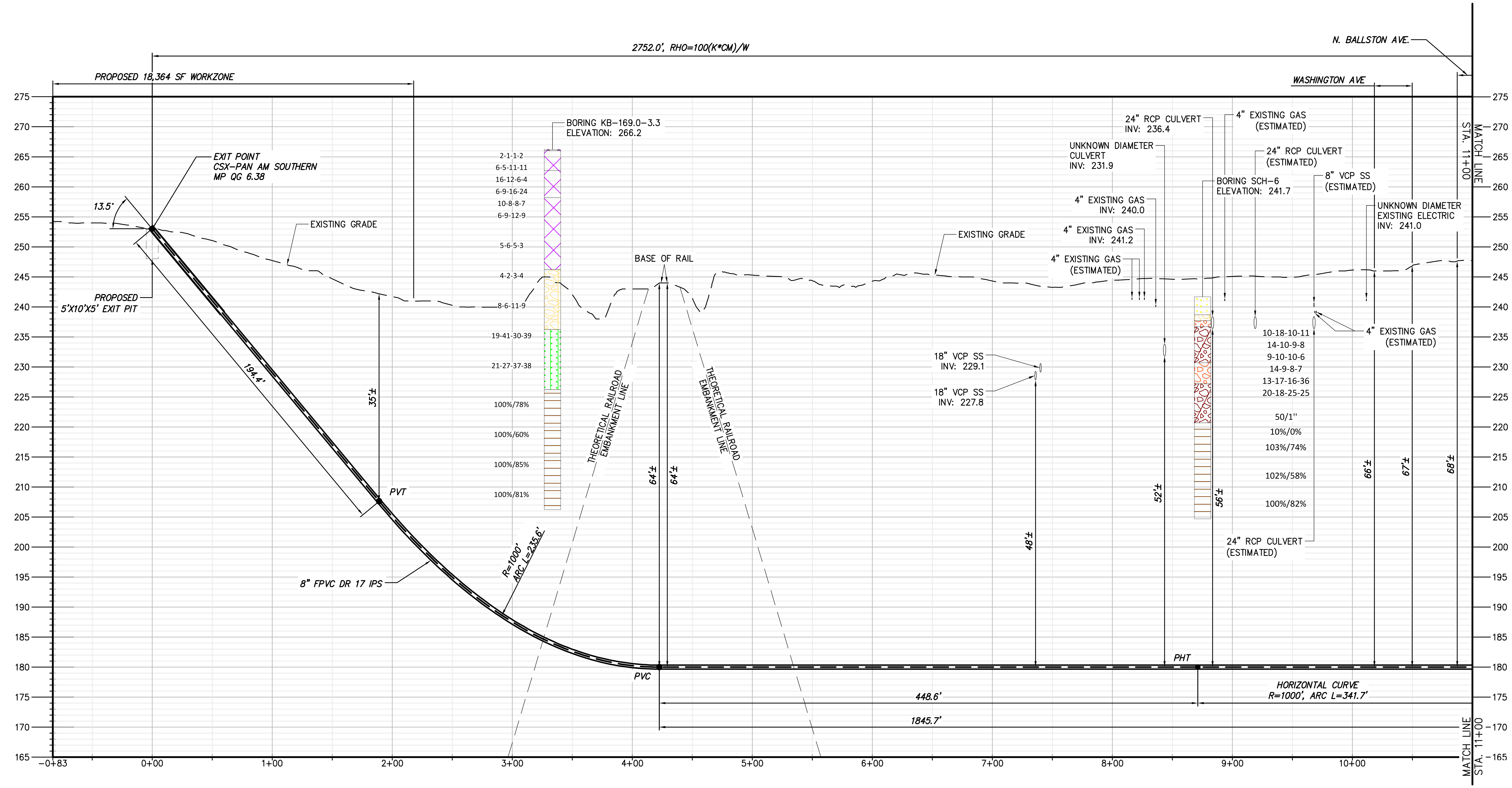
DRAWING NO. C-306A

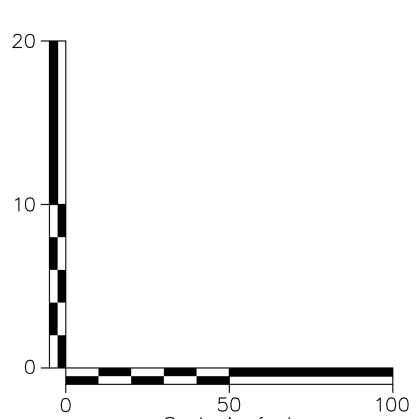
DRAWN BY: JAS | DESIGNED BY: JAS | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. 1 | DATE 07/28/2023 | SH.NO.

1 2 3 4

A

B




## PROPOSED HDD 65A PROFILE

CONDUIT 2

NOTES:

1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
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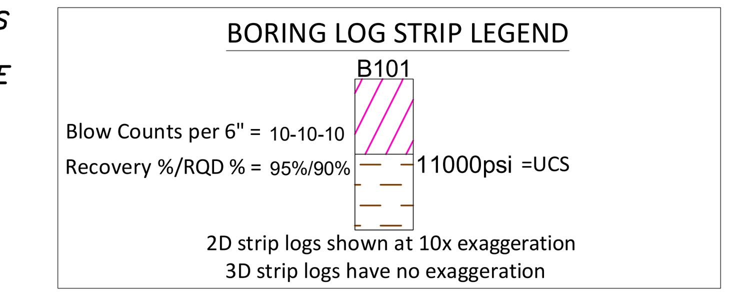
BORING LOG STRIP LEGEND




Legend

| | | |
|---|---|---|
| | ASPHALT | Asphalt |
| | Bedrock | Bedrock |
| | Boulder | Boulder |
| | CH | Fat CLAY |
| | CH-MH | SILTY Fat CLAY |
| | CL | Lean CLAY |
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| | GC-GM | SILTY CLAYEY GRAVEL |
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| | Rock | Rock |
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| | SC | CLAYEY SAND |
| | SC-SM | SILT, CLAYEY SAND |
| | SHALE | Shale |
| | SILTSTONE | Siltstone |
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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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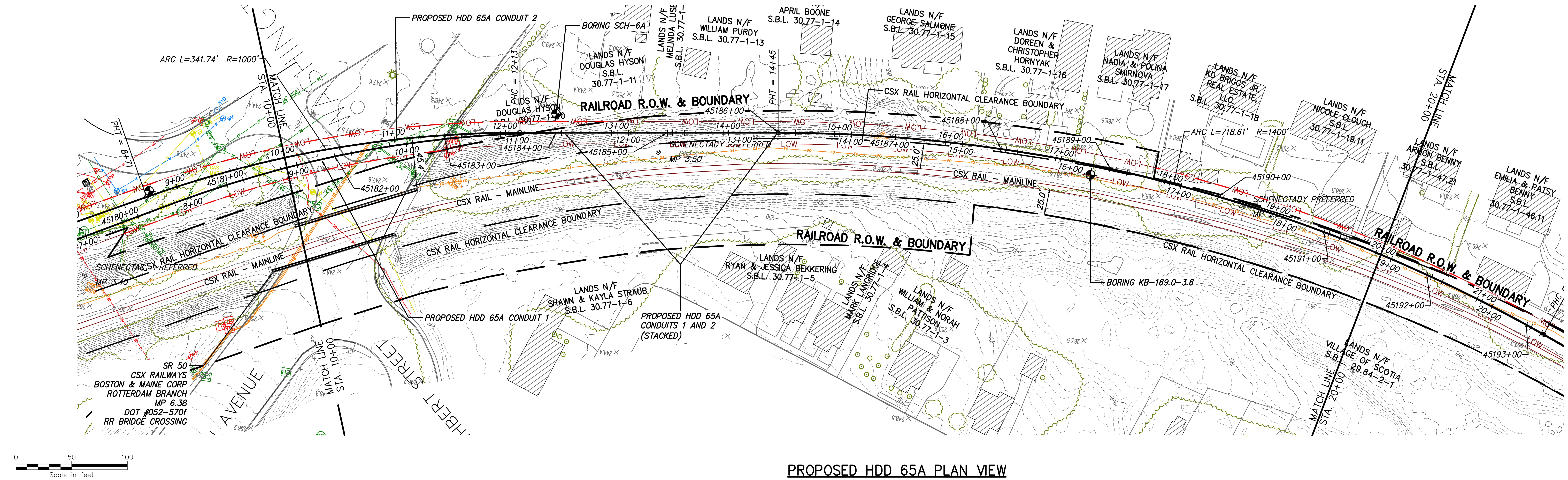
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PROFILE VIEW - HDD 65A, CONDUIT 2

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

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO

SCALE: AS NOTED | DATE: 07/28/2023 | REV. NO. 1 | SH.NO.




## PROPOSED HDD 65A PLAN VIEW

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 |
| | 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 |

NOTES:

1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. CONTRACTOR SHALL PREPARE PLANS AND CONTINGENCIES TO MANAGE THE POTENTIAL VARIATION IN MUD/SLURRY RETURNS TO THE ENTRY DUE TO THE ELEVATION GAIN ENTRY TO EXIT.
3. A CONDUCTOR CASING IS RECOMMENDED ON THE EXIT TANGENT TO MAINTAIN THE HOLE AND PREVENT COLLAPSE IN THE ABSENCE OF HYDROSTATIC PRESSURE.
4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

**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

CHPE Champlain Hudson Power Express

Kiewit

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III Winners Circle, PO Box 5269
Albany, NY 12205-0269
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| No. | DATE | SUBMITTAL / REVISION DESCRIPTION | DB | APP |
|---|---|---|---|---|
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

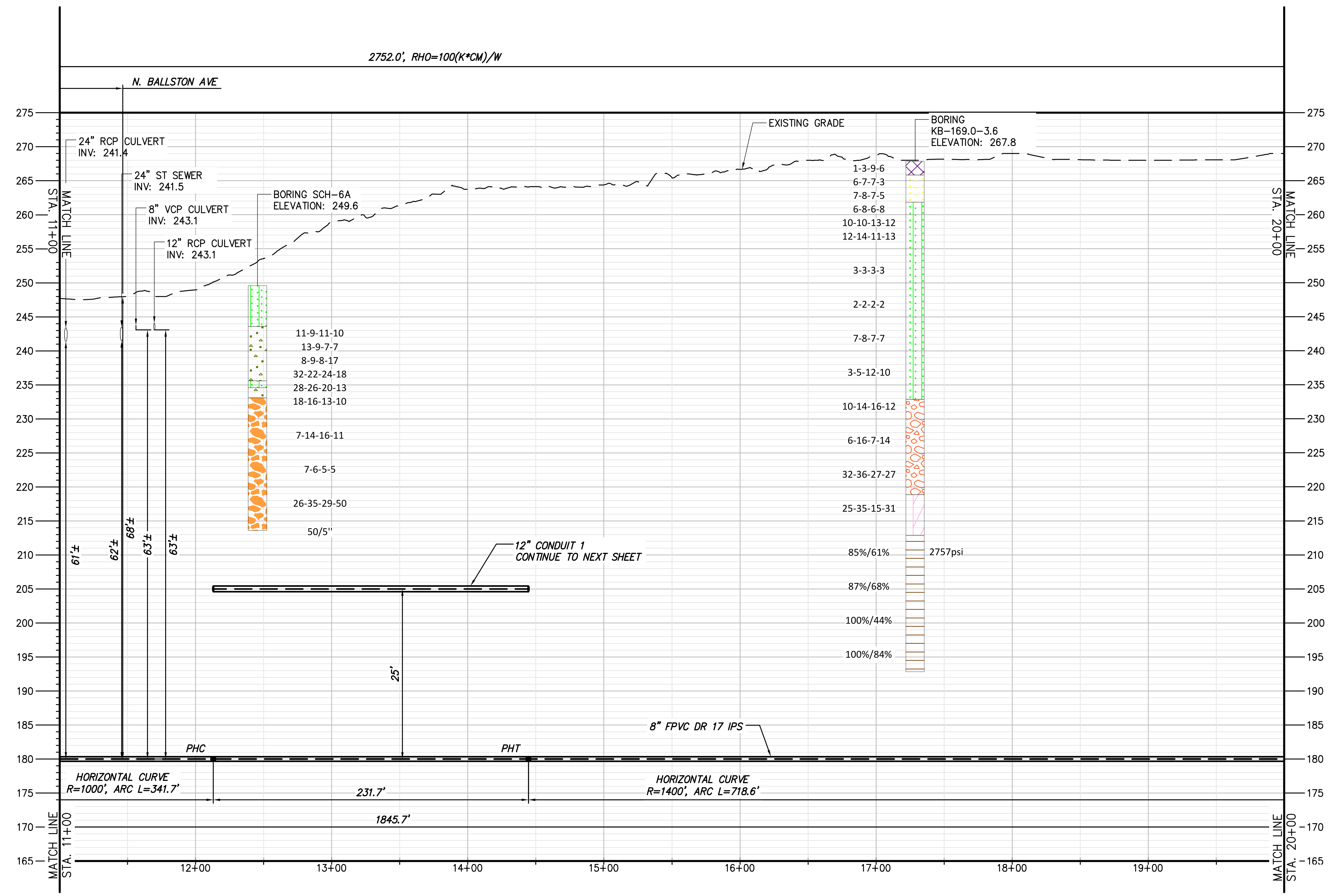
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN VIEW - HDD 65A, CONDUIT 2

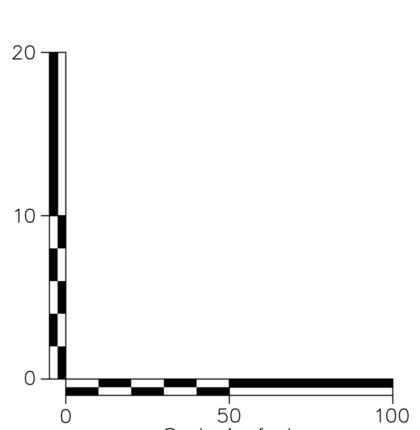
KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-306A.2

DRAWN BY: JAS | DESIGNED BY: JAS | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. 1 | DATE 07/28/2023 | SH.NO.



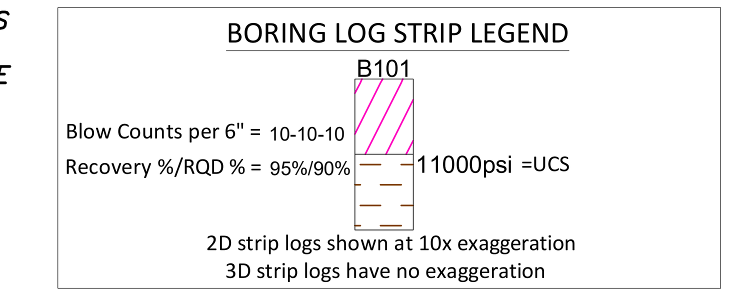

## PROPOSED HDD 65A PROFILE

CONDUIT 2

NOTES:

1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. CONTRACTOR SHALL PREPARE PLANS AND CONTINGENCIES TO MANAGE THE POTENTIAL VARIATION IN MUD/SLURRY RETURNS TO THE ENTRY DUE TO THE ELEVATION GAIN ENTRY TO EXIT.
3. A CONDUCTOR CASING IS RECOMMENDED ON THE EXIT TANGENT TO MAINTAIN THE HOLE AND PREVENT COLLAPSE IN THE ABSENCE OF HYDROSTATIC PRESSURE.
4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

BORING LOG STRIP LEGEND




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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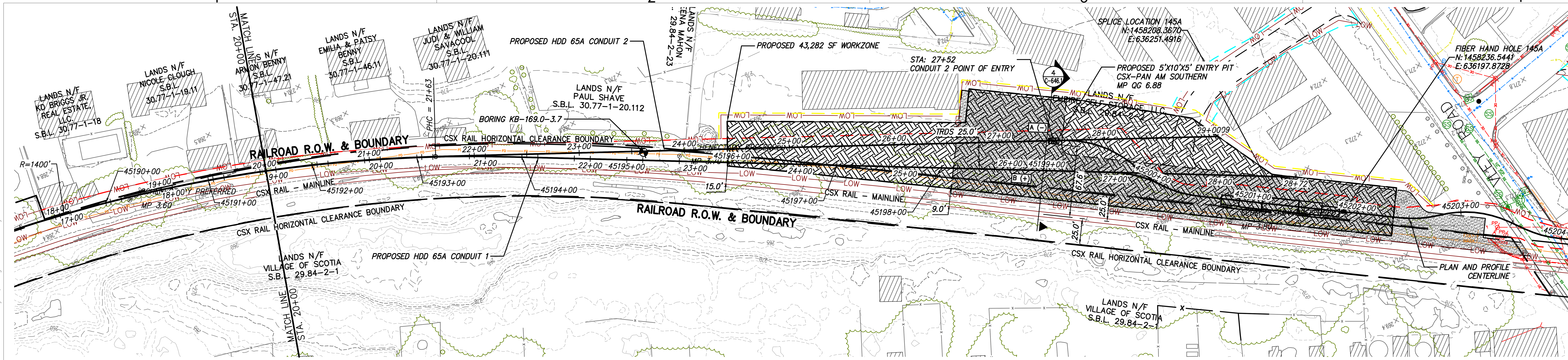
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PROFILE VIEW - HDD 65A, CONDUIT 2

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO

| | |
|---|---|
| KIEWIT PROJECT NO. | 21162 |
| CHA PROJECT NO. | 066076 |
| DRAWING NO. | C-306A.3 |
| SCALE | AS NOTED |
| DATE | 07/28/2023 |
| REV. NO. | 1 |
| SH.NO. | |

A

B




0 50 100
Scale in feet

## PROPOSED HDD 65A PLAN VIEW

CONDUIT 2

NOTES:

1. *HDD 65A CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. CONTRACTOR SHALL PREPARE PLANS AND CONTINGENCIES TO MANAGE THE POTENTIAL VARIATION IN MUD/SLURRY RETURNS TO THE ENTRY DUE TO THE ELEVATION GAIN ENTRY TO EXIT.
3. A CONDUCTOR CASING IS RECOMMENDED ON THE EXIT TANGENT TO MAINTAIN THE HOLE AND PREVENT COLLAPSE IN THE ABSENCE OF HYDROSTATIC PRESSURE.
4. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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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| | GW | Well Graded GRAVEL |
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| | MH | Elastic SILT |
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| | OH | ORGANIC Fat CLAY |
| | OL | ORGANIC Lean CLAY |
| | OL/OH | ORGANIC SOIL |
| | PT | PEAT |
| | Rock | Rock |
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| | SC | CLAYEY SAND |
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| | 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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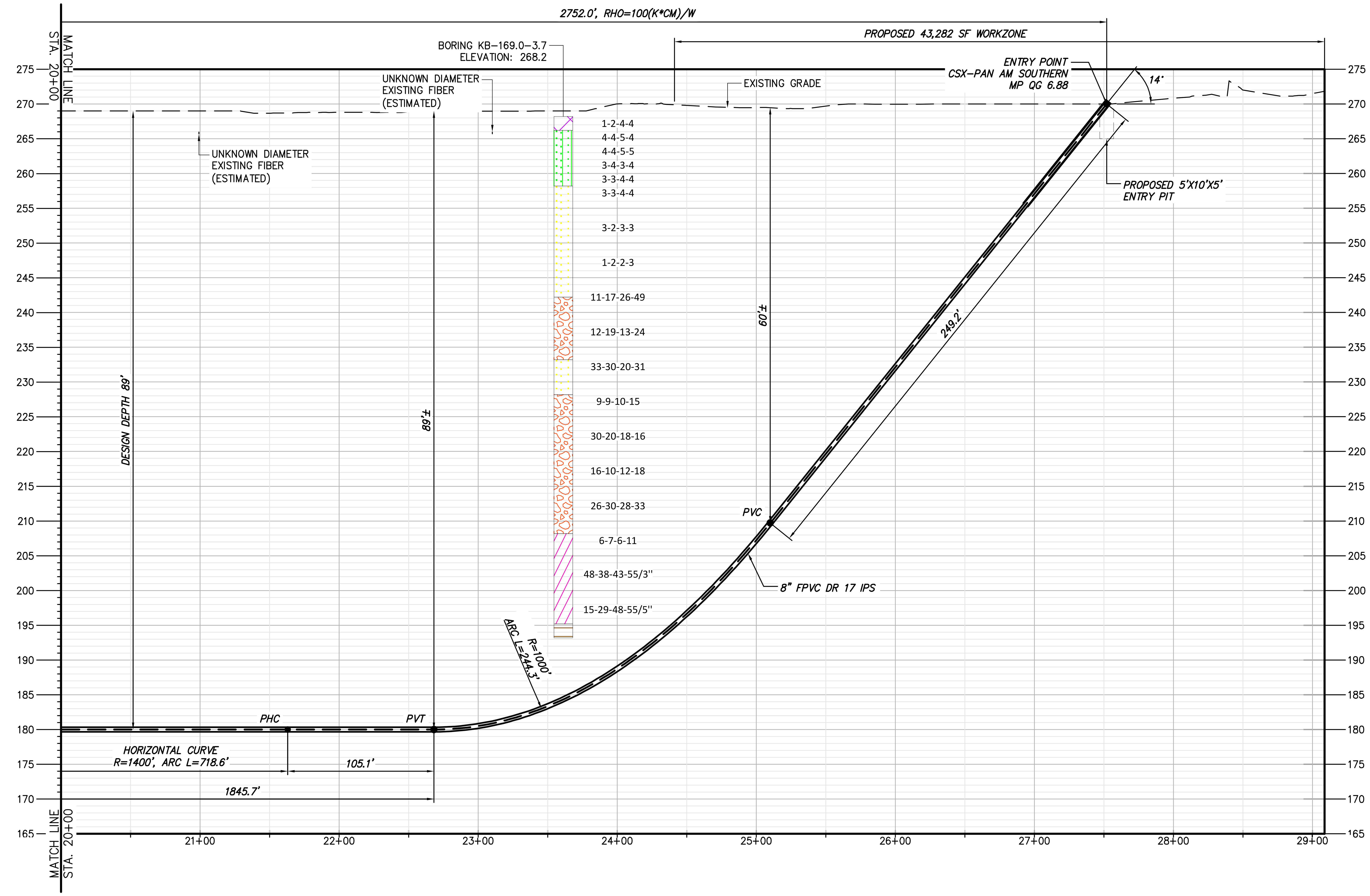
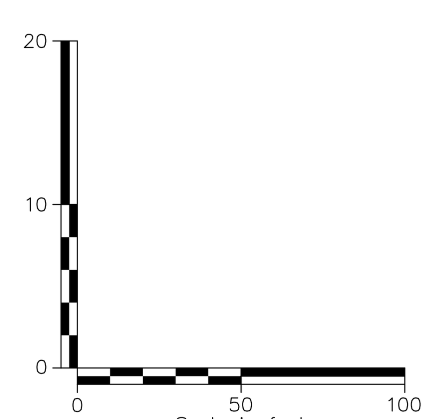
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PLAN VIEW - HDD 65A, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-306A.4

DRAWN BY: JAS | DESIGNED BY: JAS | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. 1 | DATE 07/28/2023 | SH.NO.




PROPOSED HDD 65A PROFILE

CONDUIT 2

NOTES:

1. *HDD 65A CONSIST OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUIT FOR A TELECOMMUNICATION LINE.
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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 |
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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 |
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| 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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|---|---|---|---|---|
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PROFILE VIEW - HDD 65A, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-306A.5

DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO

SCALE AS NOTED · REV. NO. 1 · DATE 07/28/2023 · SH.NO.

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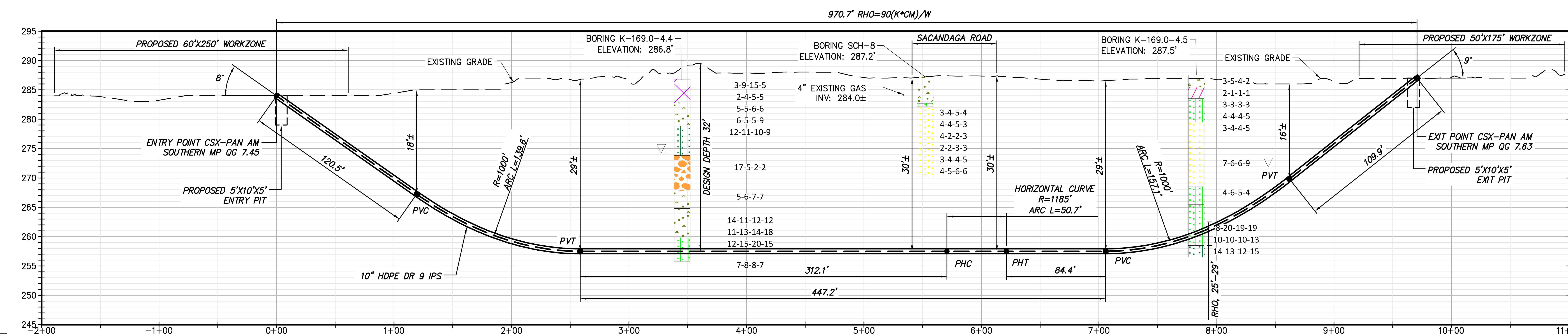
## PROPOSED HDD 66 PLAN VIEW

CONDUIT 1

0 50 100
Scale in feet




## PROPOSED HDD 66 PROFILE

CONDUIT 1

20 10 0
0 50 100
Scale in feet

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 |
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| | MH | Elastic SILT |
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| | 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 |
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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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| No. | DATE | SUBMITTAL / REVISION DESCRIPTION | DB | APP |
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# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN AND PROFILE - HDD 66. CONDUIT 1

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-307

DRAWN BY: CJL DESIGNED BY: CJL APPROVED BY: JEO

SCALE AS NOTED REV. NO. X

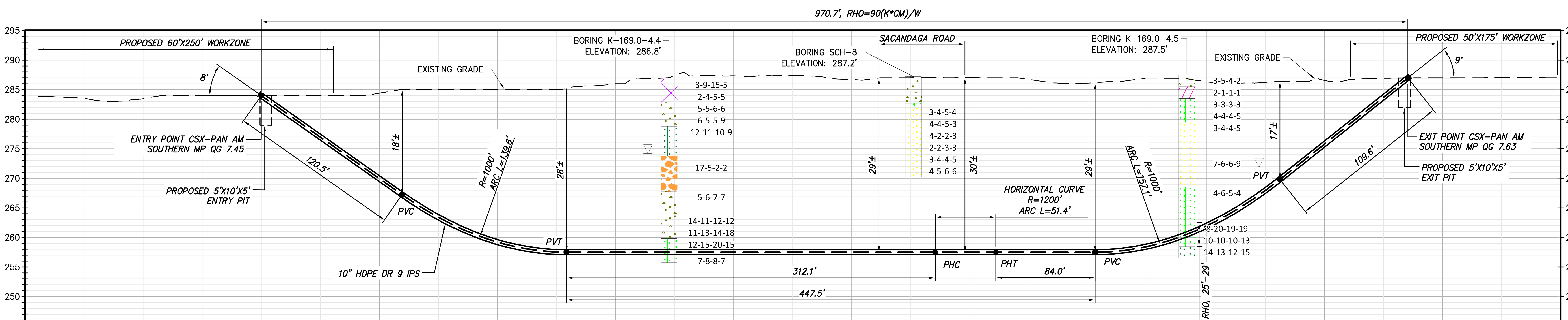
DATE 07/28/2023 SH.NO.

File: V:\PROJECTS\ANY\K6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 4\DESIGN PACKAGE B\066076_P4B - C-307 - C-307A.DWG Saved: 7/26/2023 6:10:13 AM Plotted: 7/26/2023 9:24:03 AM Current User: Snyder, Morgan LastSavedBy: 8275


## PROPOSED HDD 66 PLAN VIEW

CONDUIT 2

0 50 100
Scale in feet




## PROPOSED HDD 66 PROFILE

CONDUIT 2

20 10 0
0 50 100
Scale in feet

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 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS

## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN

## PLAN AND PROFILE- HDD 66, CONDUIT 2

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-307A

DRAWN BY: CJL DESIGNED BY: CJL APPROVED BY: JEO

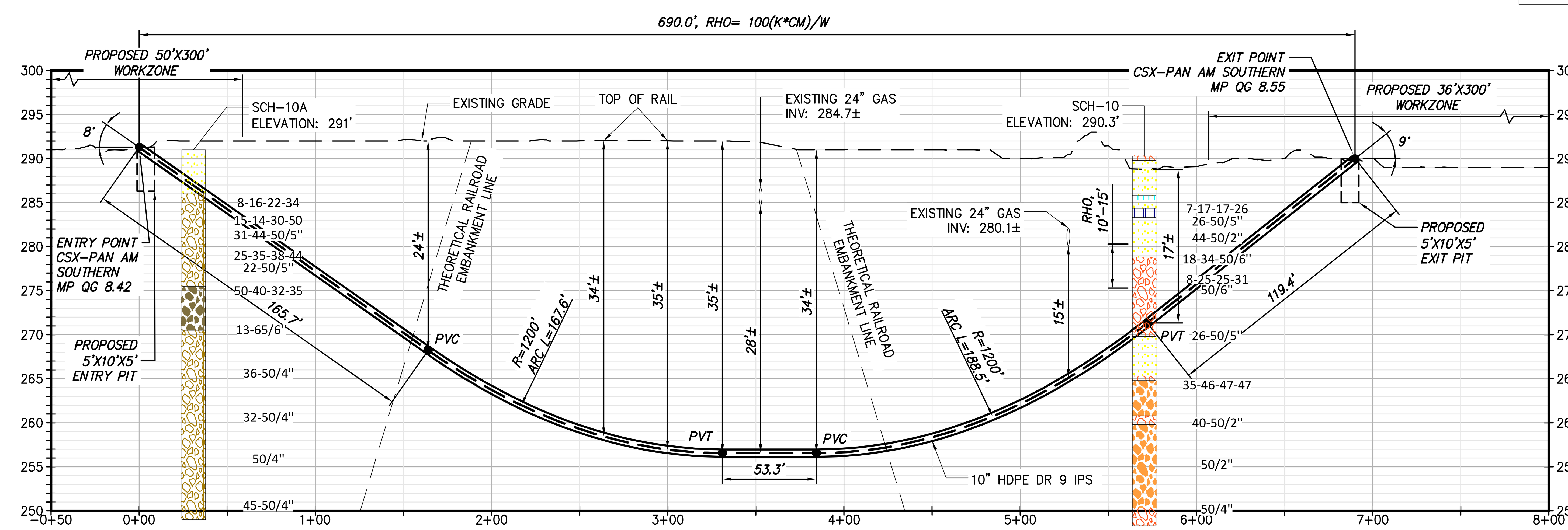
SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.

1 2 3 4


0 50 100
Scale in feet

## PROPOSED HDD 67 PLAN VIEW

CONDUIT 1




20 10 0
0 50 100
Scale in feet

## PROPOSED HDD 67 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 |
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| GP-GC | Poorly Graded Gravel with CLAY |
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| GW | Well Graded GRAVEL |
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| 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 |
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| 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 |

NOTES:

1. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
2. THE FINAL REAMING PASS SHOULD BE OVERSIZED TO ACCOUNT FOR POTENTIAL FOR GRAVELS TO SETTLE TO THE BOTTOM.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.
4. THE 25 FOOT OFFSET HORIZONTAL CLEARANCE BOUNDARY LINES ARE OMITTED WITH RESPECT TO THE SIDELINE/SPUR RAILS SERVING THE SCOTIA INDUSTRIAL PARK FOR CLARITY IN OBSERVING AND PRESENTING CSX RAIL PRIMARY INTERACTIONS WITH THE PROPOSED HDDS.
5. THE OWNERSHIP OF THE SIDELINE AND OR SPUR RAILS INTO SCOTIA INDUSTRIAL PARK IS UNKNOWN OR BEING VERIFIED AND THUS THE CALL OUTS ARE GENERIC "SIDELINE/SPUR RAILS".
6. THE CLOSEST SIDELINE/SPUR RAIL TO THE EXIT WORK ZONE MUST BE CLOSED TO RAIL TRAFFIC DURING THE HDD TO FACILITATE THE WORK ZONE EXTENDING UP TO RAILS. THE OFFSET NORMALLY AFFORDED TO ACTIVE RAILS CANNOT BE OBSERVED DUE TO LIMITED SPACE.
7. THE SINGLE ELECTRIC POLE SHOWN NEAR 45285+00 HAS FIELD REPORTED OVERHEAD WIRES NOT SHOWN THAT ARE PARALLEL TO THE BORE PATHS AND RUN OVER THE EXIT WORK ZONE. THESE OVERHEAD WIRES AND ASSOCIATED POLES SHALL BE RELOCATED BY THE UTILITY PRIOR TO STARTING HDD WORK.

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|---|---|---|---|---|
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CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
PLAN AND PROFILE - HDD 67, CONDUIT 1

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

DRAWN BY: ES DESIGNED BY: ES APPROVED BY: JEO SCALE AS NOTED REV. NO. X DATE 07/28/2023 SH.NO.

File: V:\PROJECTS\ANY\K6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 4\DESIGN PACKAGE B\066076_P4B - C-308 - C-308A.DWG Saved: 7/26/2023 6:13:56 AM Plotted: 7/26/2023 1:54:10 PM Current User: Snyder, Morgan LastSavedBy: 8275


Scale in feet

## PROPOSED HDD 67 PLAN VIEW

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 |
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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 |
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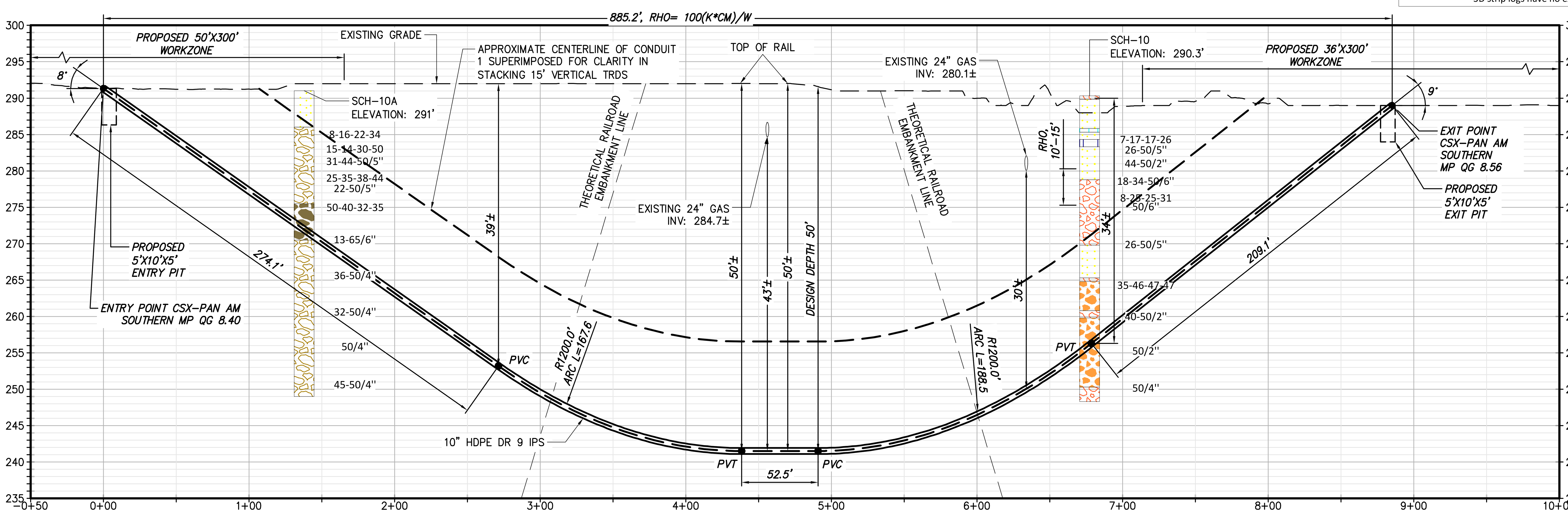


Scale in feet

## PROPOSED HDD 67 PROFILE

CONDUIT 2

NOTES:

1. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
2. THE FINAL REAMING PASS SHOULD BE OVERSIZED TO ACCOUNT FOR POTENTIAL FOR GRAVELS TO SETTLE TO THE BOTTOM.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.
4. THE 25 FOOT OFFSET HORIZONTAL CLEARANCE BOUNDARY LINES ARE OMITTED WITH RESPECT TO THE SIDELINE/SPUR RAILS SERVING THE SCOTIA INDUSTRIAL PARK FOR CLARITY IN OBSERVING AND PRESENTING CSX RAIL PRIMARY INTERACTIONS WITH THE PROPOSED HDDS.
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7. THE SINGLE ELECTRIC POLE SHOWN NEAR 45285+00 HAS FIELD REPORTED OVERHEAD WIRES NOT SHOWN THAT ARE PARALLEL TO THE BORE PATHS AND RUN OVER THE EXIT WORK ZONE. THESE OVERHEAD WIRES AND ASSOCIATED POLES SHALL BE RELOCATED BY THE UTILITY PRIOR TO STARTING HDD WORK.

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| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN AND PROFILE - HDD 67, CONDUIT 2

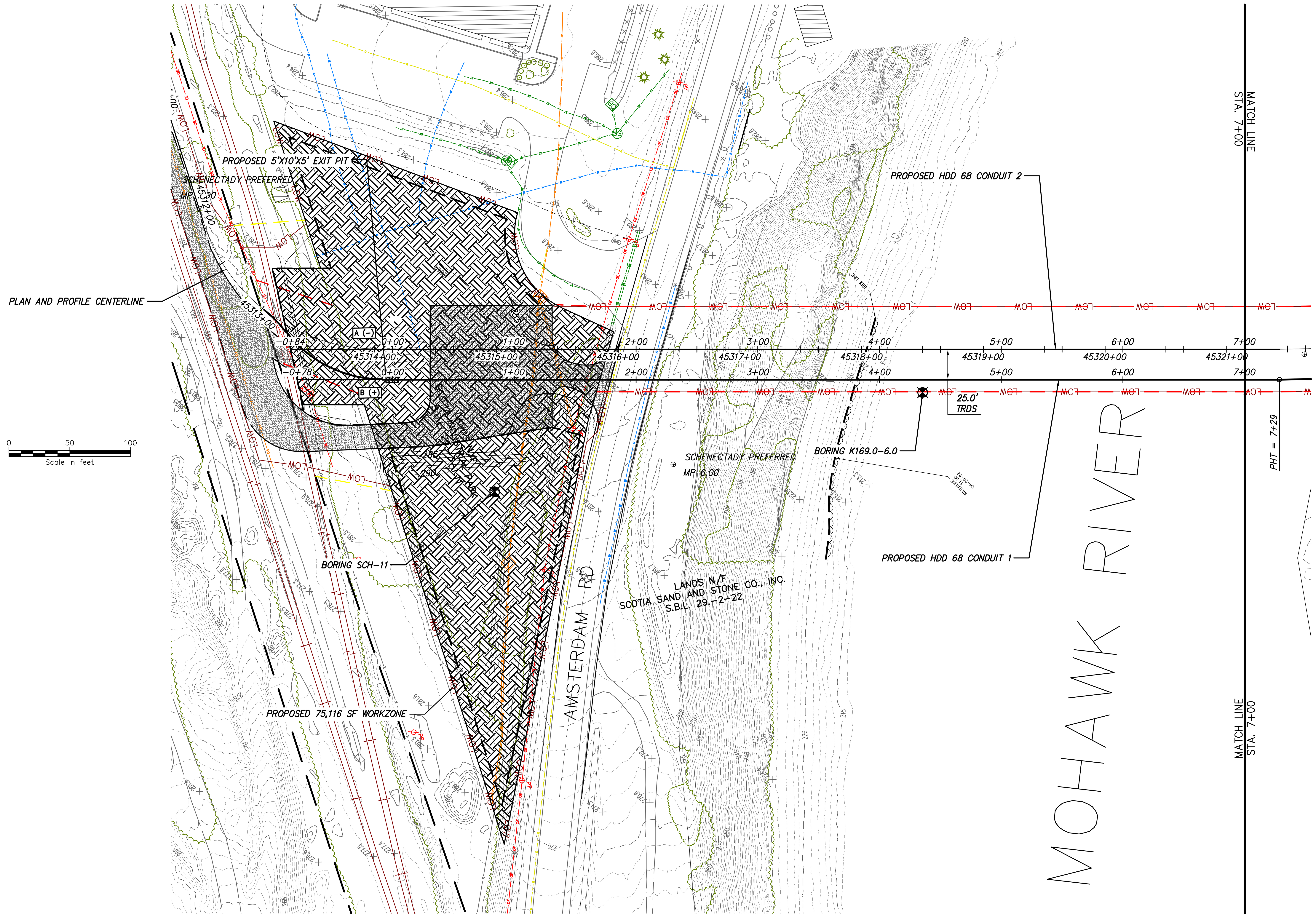
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-308A**

DRAWN BY: ES DESIGNED BY: ES APPROVED BY: JEO
SCALE: AS NOTED DATE: 07/28/2023
REV. NO. X SH.NO.

1 2 3 4

A

B




PROPOSED HDD 68 PLAN VIEW

CONDUIT 1

NOTE:

1. *HDD 68 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.
4. THE WATERLINE SHOWN ENDING APPROXIMATELY 21 FEET FROM CONDUIT 2 EXIT AND POTENTIALLY SIMILAR FOR CONDUIT 1 SHALL BE POSITIVELY IDENTIFIED DURING CONDUCTOR CASING INSTALLATION AND MAY REQUIRE WATERLINE RELOCATION IF THE HDD CANNOT ACCOMMODATE FIELD ADJUSTMENTS.
5. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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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| | 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 |
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| | USGS 705 | Schist |
| | USGS 708 | Gneiss |
| | USGS 708 | Gneiss |
| | USGS 718 | Granite 1 |
| | Void | Void |
| | Water | Water |
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| ▼ | Water Table | Water Table during drilling |
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| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS

## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN

PLAN VIEW - HDD 68, CONDUIT 1

KIEWIT PROJECT NO. 21162

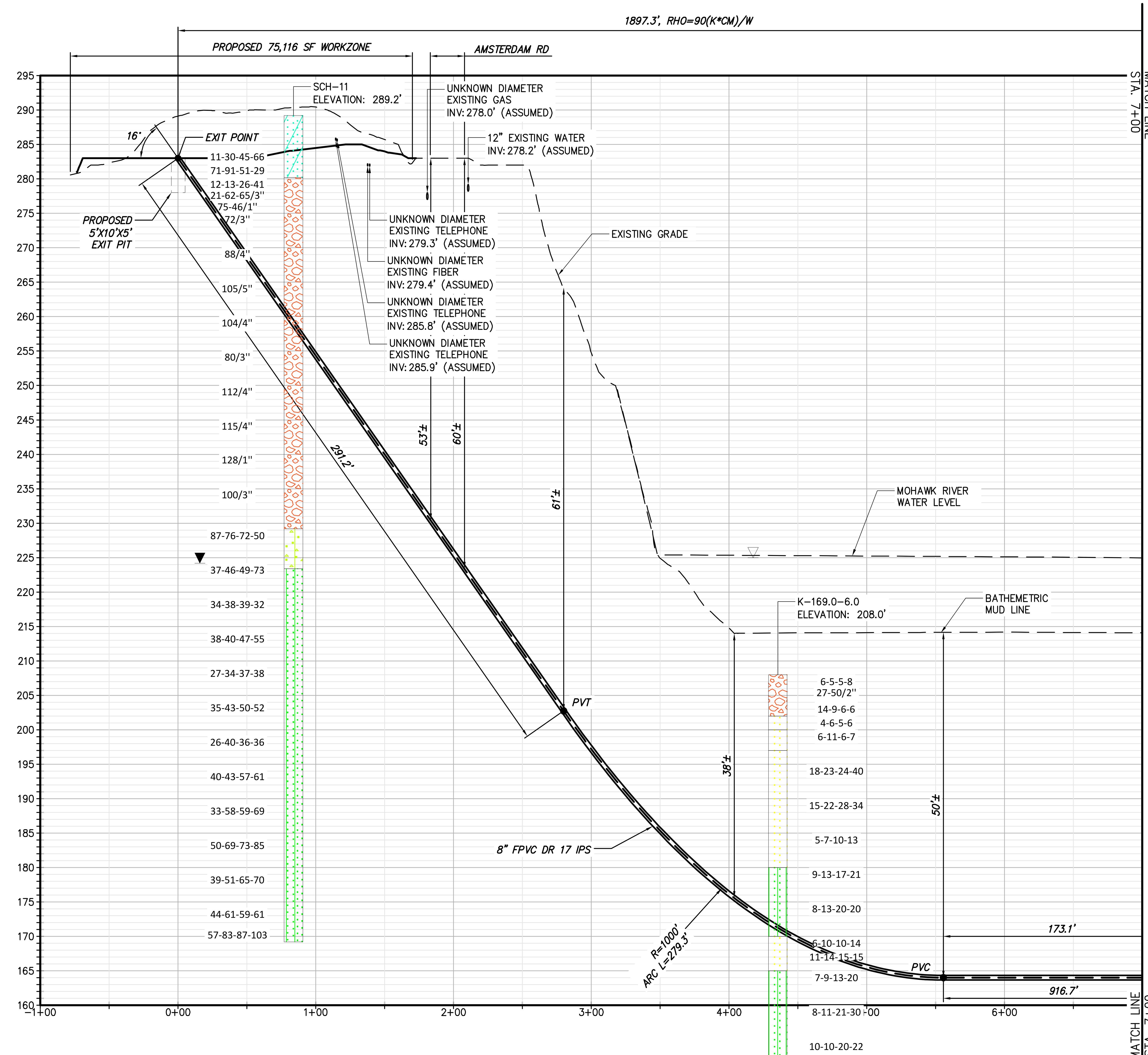
CHA PROJECT NO. 066076

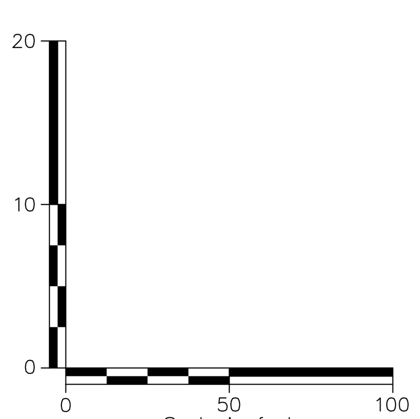
DRAWING NO. C-309

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.

File: V:\PROJECTS\ANY\K6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 4\DESIGN PACKAGE B\066076_P4B - C-309 - C-309A3.DWG Saved: 7/26/2023 10:16:37 AM Plotted: 7/26/2023 11:35:03 AM Current User: Snyder, Morgan LastSavedBy: 6043




## PROPOSED HDD 68 PROFILE VIEW

CONDUIT 1

NOTE:

1. *HDD 68 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
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5. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

BORING LOG STRIP LEGEND

B101

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

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| | OH | ORGANIC Fat CLAY |
| | OL | ORGANIC Lean CLAY |
| | OL/OH | ORGANIC SOIL |
| | PT | PEAT |
| | Rock | Rock |
| | Sandstone | Sandstone |
| | SC | CLAYEY SAND |
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STATE OF NEW YORK · JEFFREY E. O'DONNELL · 087450 · LICENSED PROFESSIONAL ENGINEER



| No. | DATE | SUBMITTAL / REVISION DESCRIPTION | DB | APP |
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| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS

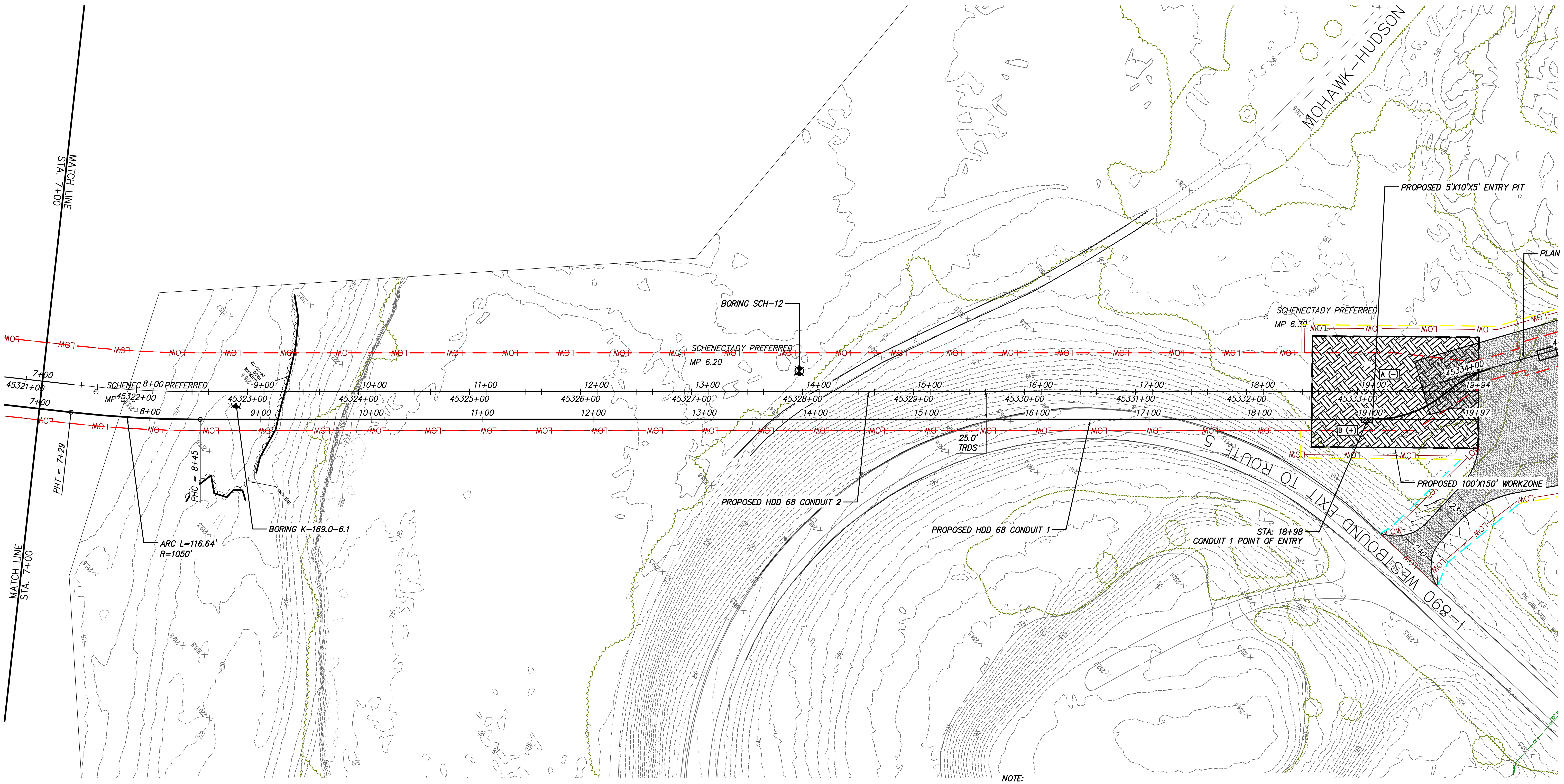
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN

## PROFILE VIEW - HDD 68, CONDUIT 1

| | |
|---|---|
| KIEWIT PROJECT NO. | 21162 |
| CHA PROJECT NO. | 066076 |
| DRAWING NO. | C-309.1 |

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

| SCALE | AS NOTED | DATE | 07/28/2023 |
|---|---|---|---|
| REV. NO. | X | SH.NO. | |



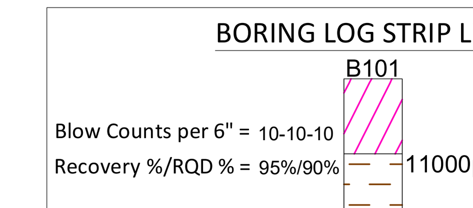

## PROPOSED HDD 68 PLAN VIEW

CONDUIT 1

NOTE:

1. *HDD 68 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.
4. THE WATERLINE SHOWN ENDING APPROXIMATELY 21 FEET FROM CONDUIT 2 EXIT AND POTENTIALLY SIMILAR FOR CONDUIT 1 SHALL BE POSITIVELY IDENTIFIED DURING CONDUCTOR CASING INSTALLATION AND MAY REQUIRE WATERLINE RELOCATION IF THE HDD CANNOT ACCOMMODATE FIELD ADJUSTMENTS.
5. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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 |
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| | 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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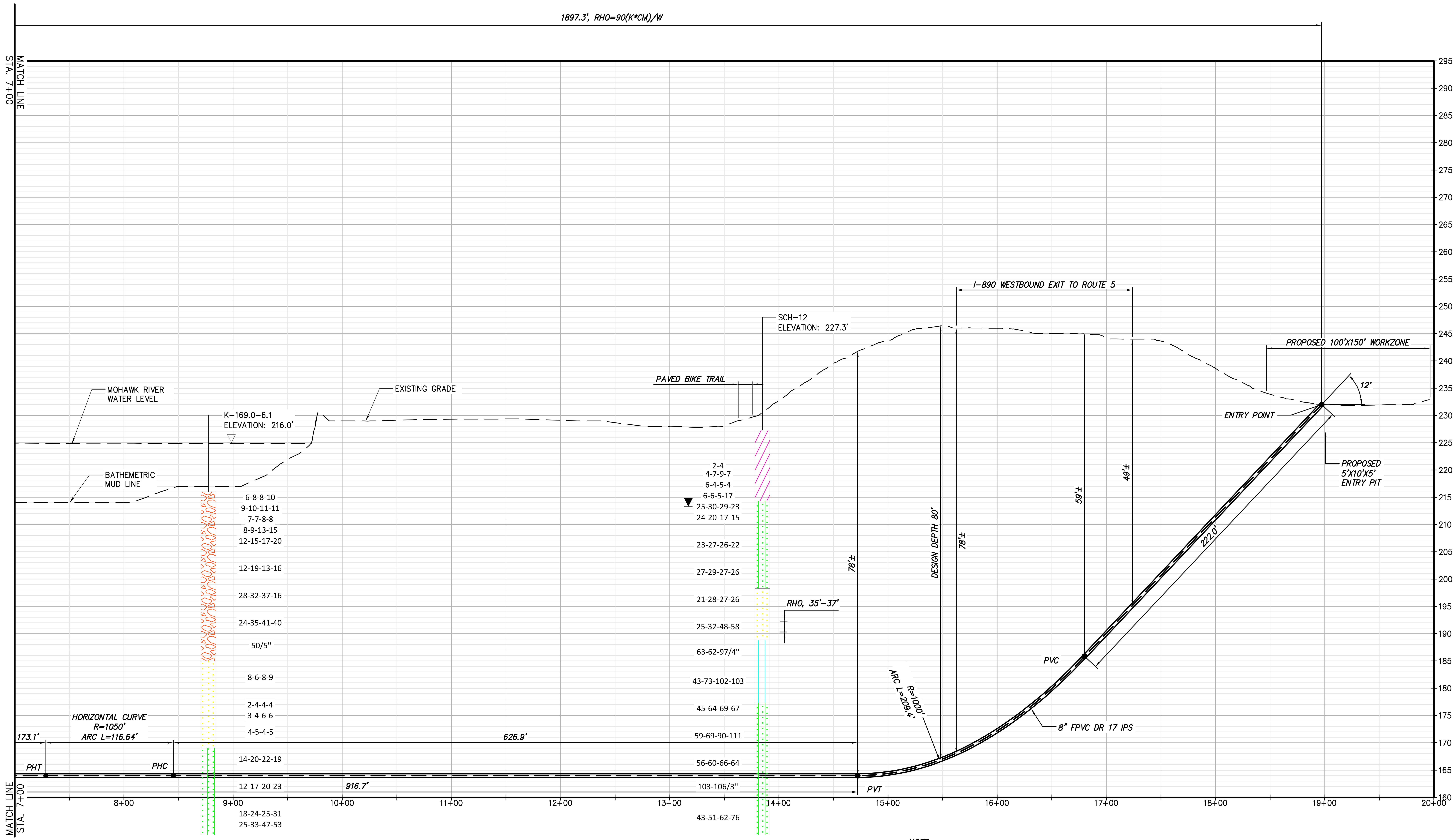
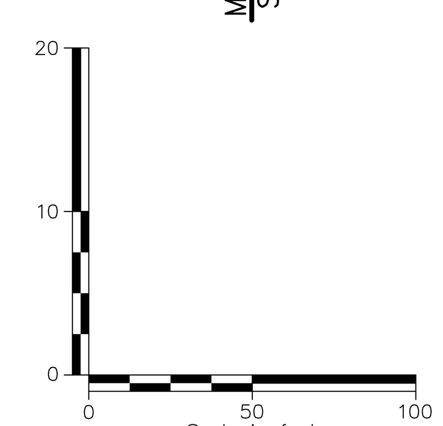
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PLAN VIEW - HDD 68, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-309.2**

DRAWN BY: CKZ | DESIGNED BY: CKZ | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.




## PROPOSED HDD 68 PROFILE VIEW

CONDUIT 1

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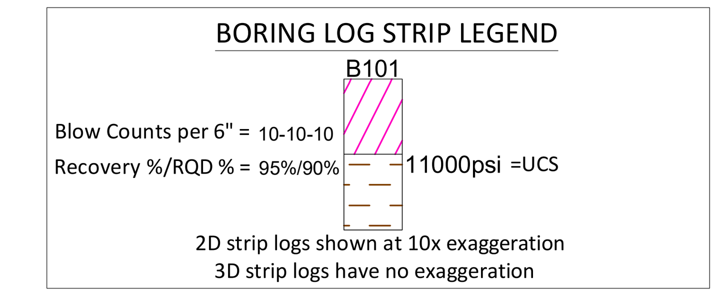
BORING LOG STRIP LEGEND




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 |
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| | GW-GC | Well Graded GRAVEL with CLAY |
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| | ML | SILT |
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| | 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 |
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| | 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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A

B

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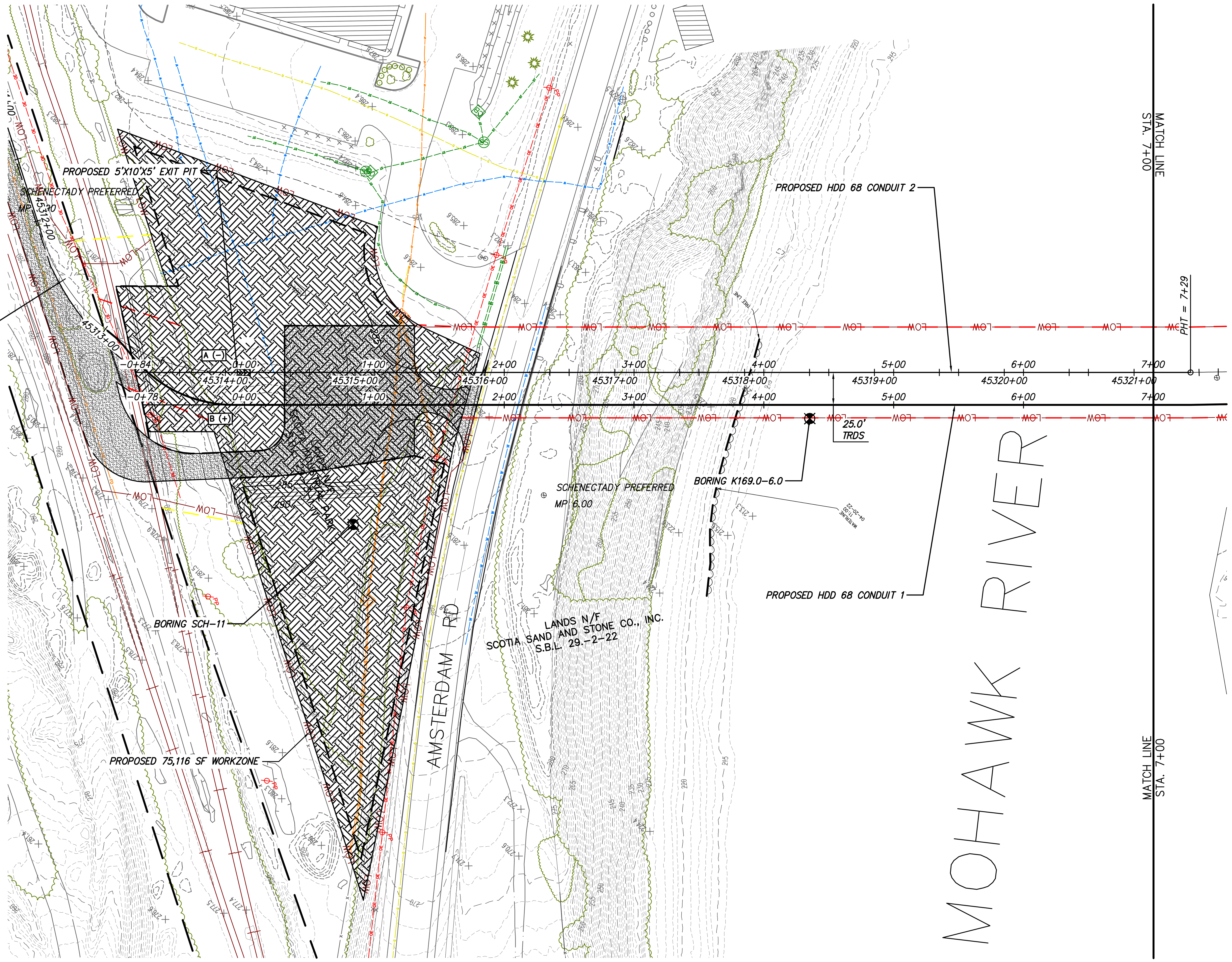
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PROFILE VIEW - HDD 68, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-309.3**

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.

File: V:\PROJECTS\ANY\K6\066076.000\09_DESIGN\DRAWINGS\01_SHEETS\DESIGN PACKAGE 4\DESIGN PACKAGE B\066076_P4B - C-309 - C-309A3.DWG Saved: 7/26/2023 10:16:37 AM Plotted: 7/26/2023 11:07:04 AM Current User: Snyder, Morgan LastSavedBy: 6043




0 50 100
Scale in feet

PROPOSED HDD 68 PLAN VIEW

CONDUIT 2

**NOTE:**

1. *HDD 68 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
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5. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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 |
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| | 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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| | 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 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
PLAN VIEW - HDD 68, CONDUIT 2

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

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO SCALE AS NOTED REV. NO. X DATE 07/28/2023 SH.NO.

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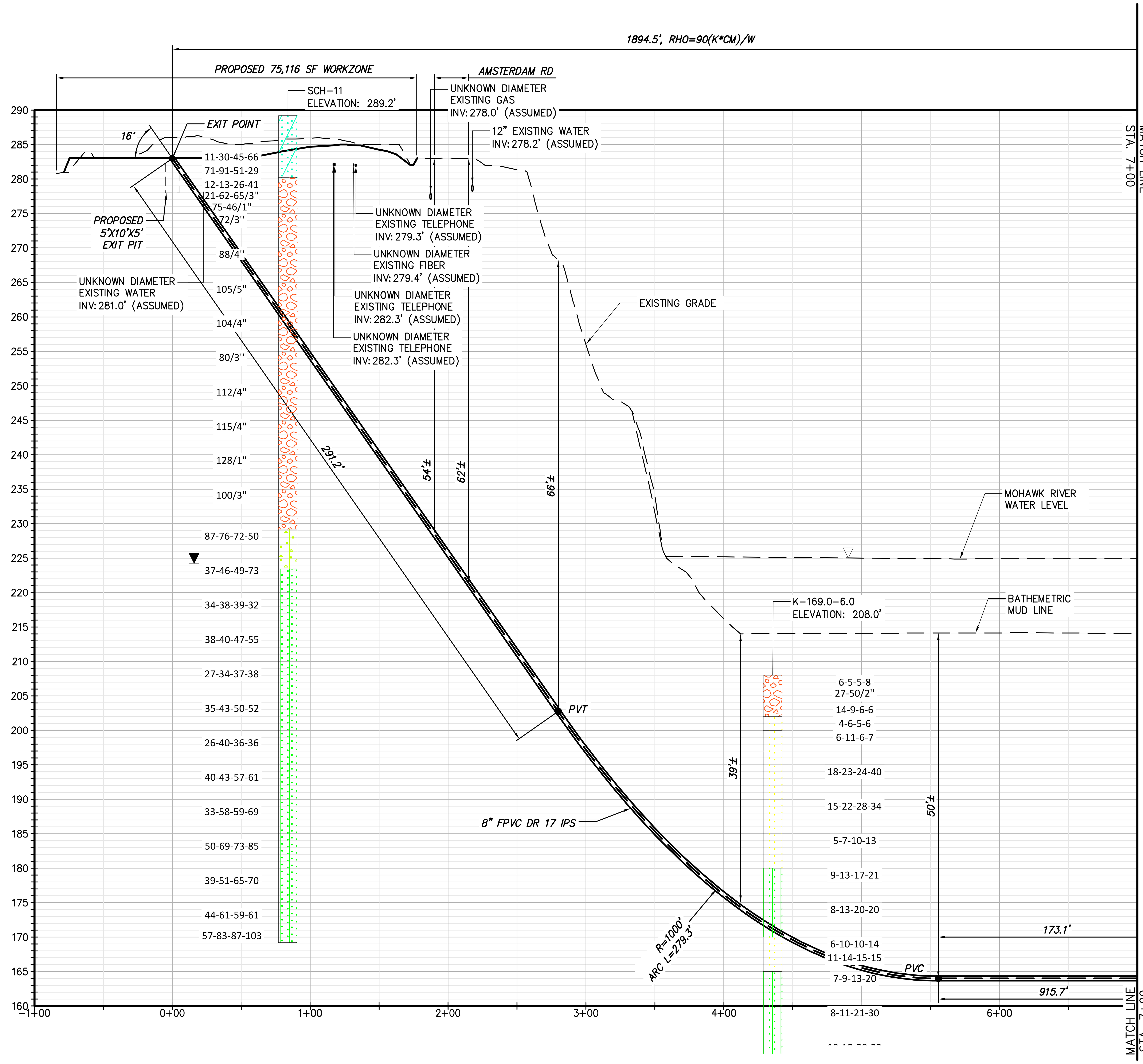


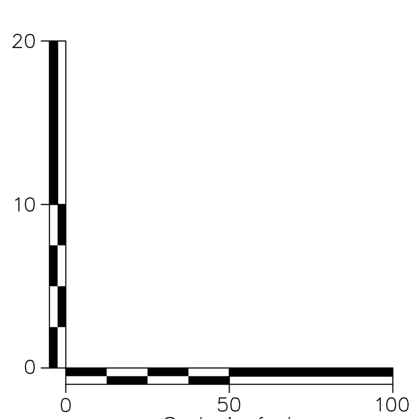


## PROPOSED HDD 68 PROFILE VIEW

CONDUIT 2

NOTE:

1. *HDD 68 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
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5. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

BORING LOG STRIP LEGEND

B101

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3D strip logs have no exaggeration

Legend

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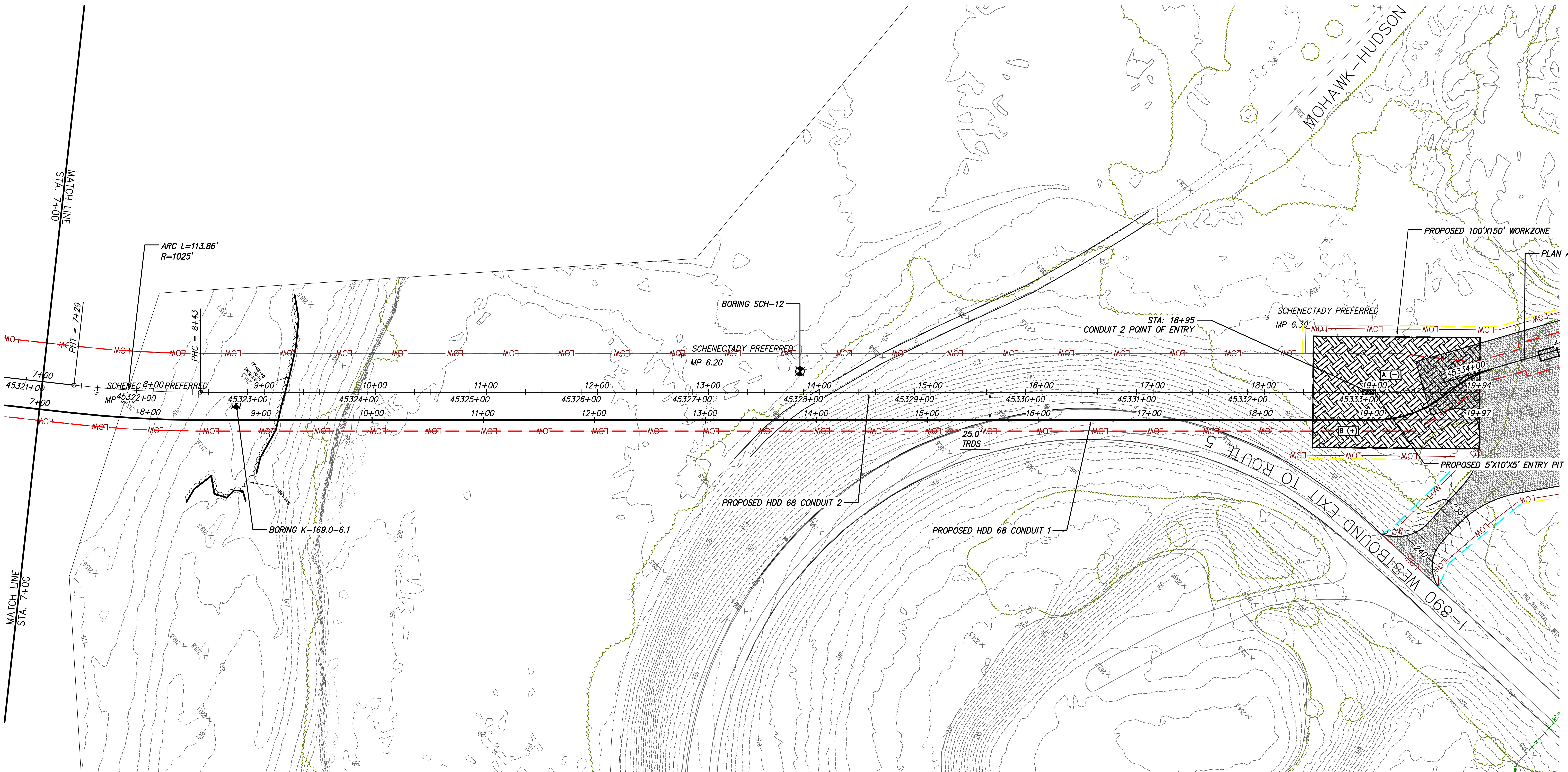
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PROFILE VIEW - HDD 68, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-309A.1**

DRAWN BY: CKZ | DESIGNED BY: CKZ | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.




PROPOSED HDD 68 PLAN VIEW

CONDUIT 2

0 50 100
Scale in feet

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| | 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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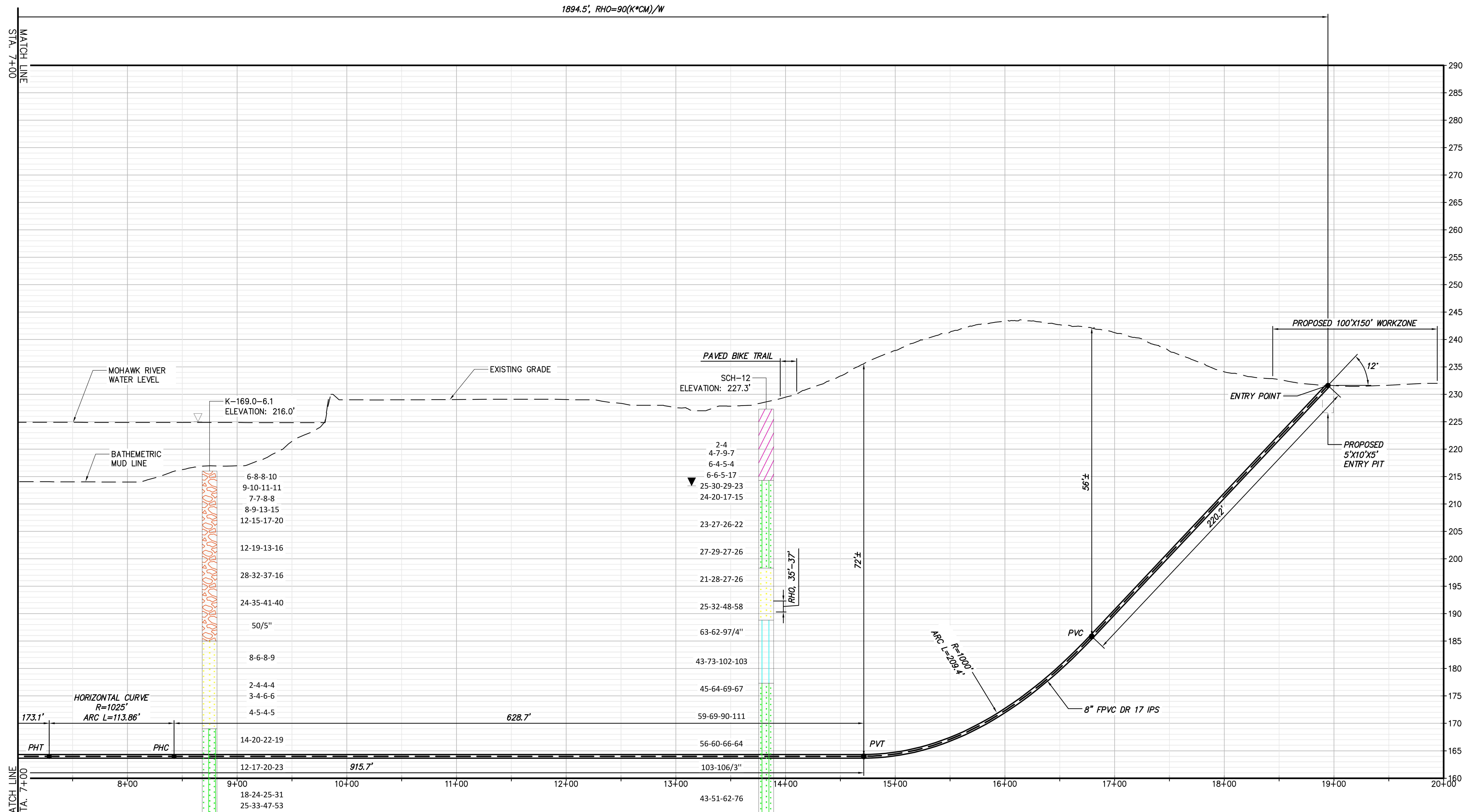
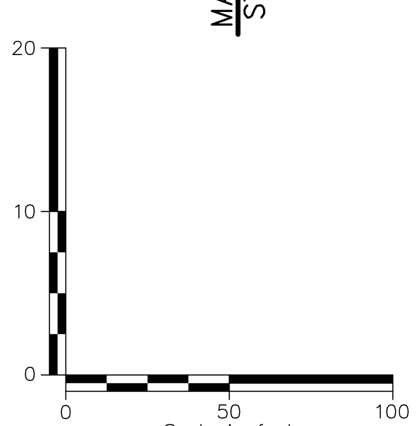
| No. | DATE | SUBMITTAL / REVISION DESCRIPTION | DB | APP |
|---|---|---|---|---|
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN VIEW - HDD 68, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-309A.2**

DRAWN BY: CKZ | DESIGNED BY: CKZ | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.



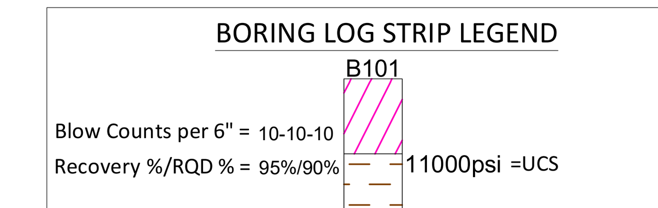

PROPOSED HDD 68 PROFILE VIEW

CONDUIT 2

NOTE:

1. *HDD 68 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 17 DIAMETER CONDUIT. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.
4. THE WATERLINE SHOWN ENDING APPROXIMATELY 21 FEET FROM CONDUIT 2 EXIT AND POTENTIALLY SIMILAR FOR CONDUIT 1 SHALL BE POSITIVELY IDENTIFIED DURING CONDUCTOR CASING INSTALLATION AND MAY REQUIRE WATERLINE RELOCATION IF THE HDD CANNOT ACCOMMODATE FIELD ADJUSTMENTS.
5. BALLASTING IS EXPECTED TO BE REQUIRED DURING PULL BACK TO MANAGE INSTALLATION STRESSES.

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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|---|---|---|---|---|
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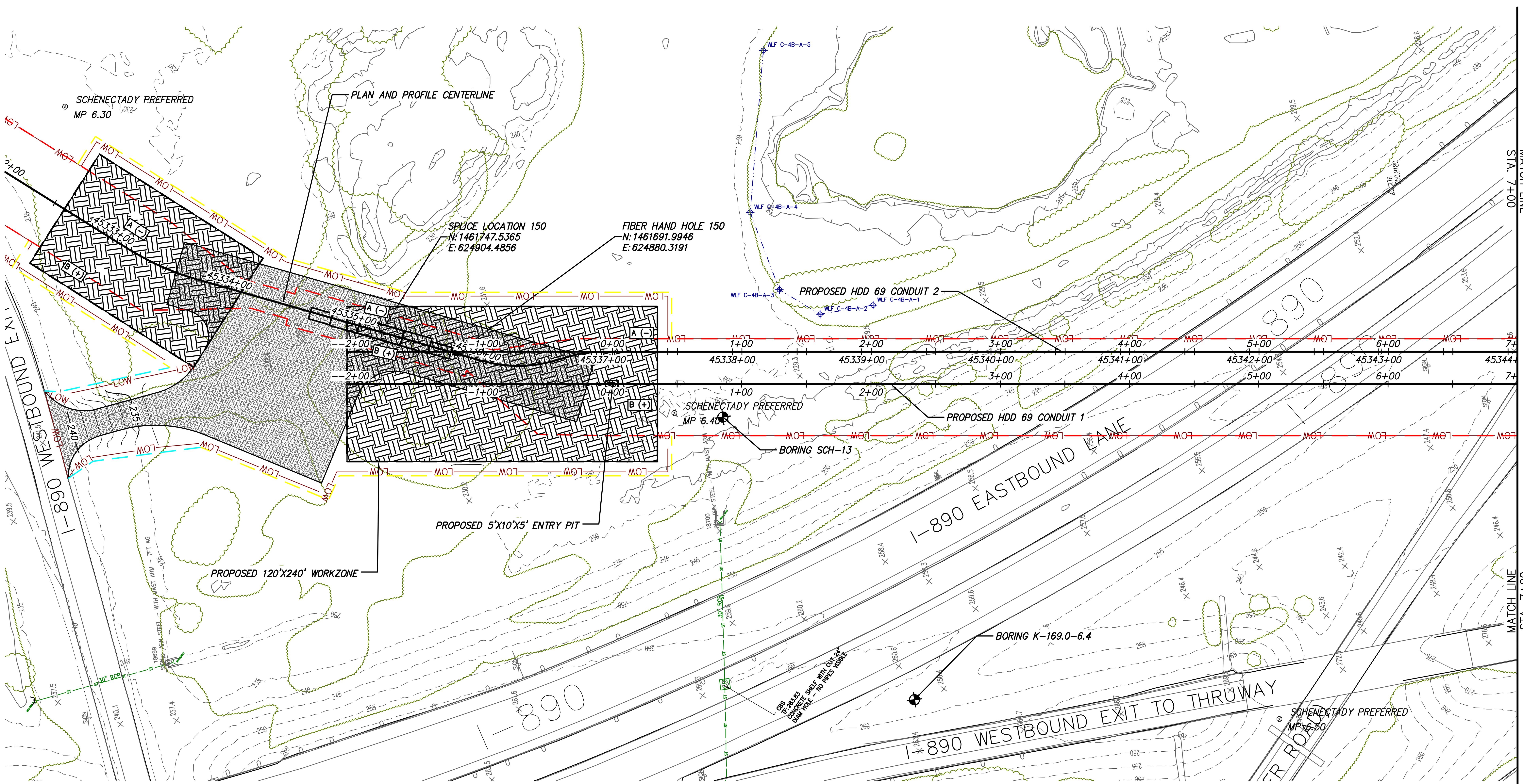
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PROFILE VIEW - HDD 68, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-309A.3

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED DATE 07/28/2023
REV. NO. X SH.NO.




## PROPOSED HDD 69 PLAN VIEW

CONDUIT 1

0 50 100
Scale in feet

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

### 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 |
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| 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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|---|---|---|---|---|
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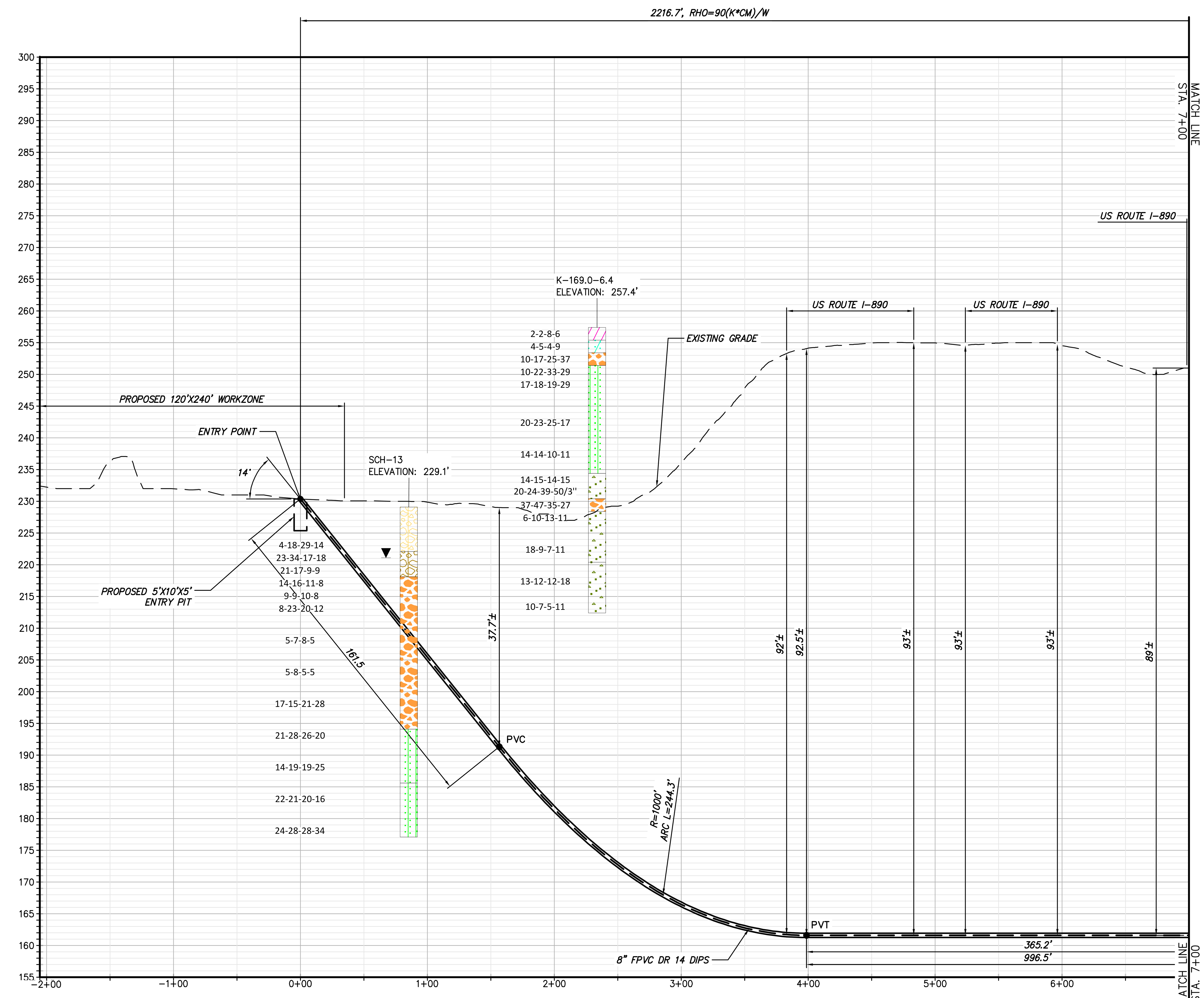
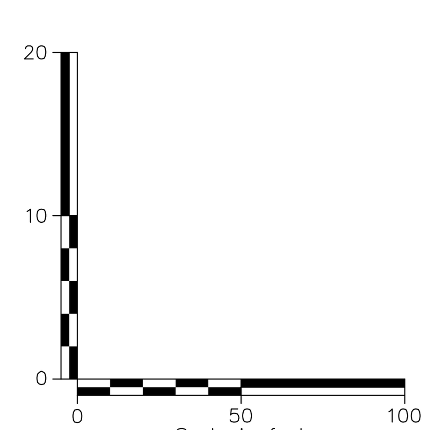
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PLAN VIEW - HDD 69, CONDUIT 1

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

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED DATE 07/28/2023
REV. NO. X SH.NO.




## PROPOSED HDD 69 PROFILE

CONDUIT 1

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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 |
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| | 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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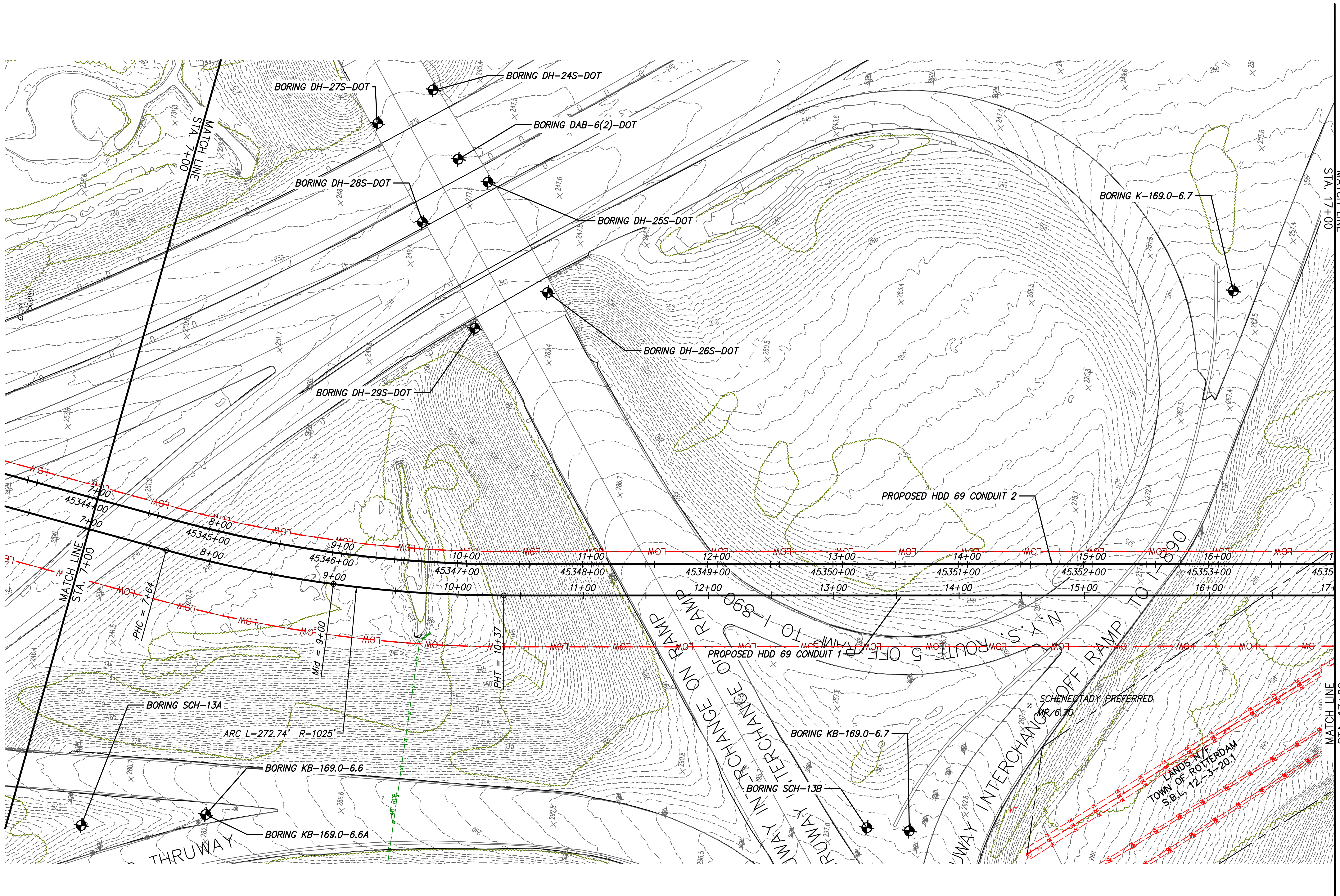
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PROFILE VIEW - HDD 69, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-310.1

DRAWN BY: CKZ | DESIGNED BY: CKZ | APPROVED BY: JEO | SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.




Scale in feet: 0 50 100

## PROPOSED HDD 69 PLAN VIEW

CONDUIT 1

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
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3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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 |
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| | USGS 702 | Quartzite |
| | USGS 705 | Schist |
| | USGS 705 | Schist |
| | USGS 708 | Gneiss |
| | USGS 708 | Gneiss |
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| | Void | Void |
| | Water | Water |
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| ▼ | Water Table | Water Table during drilling |
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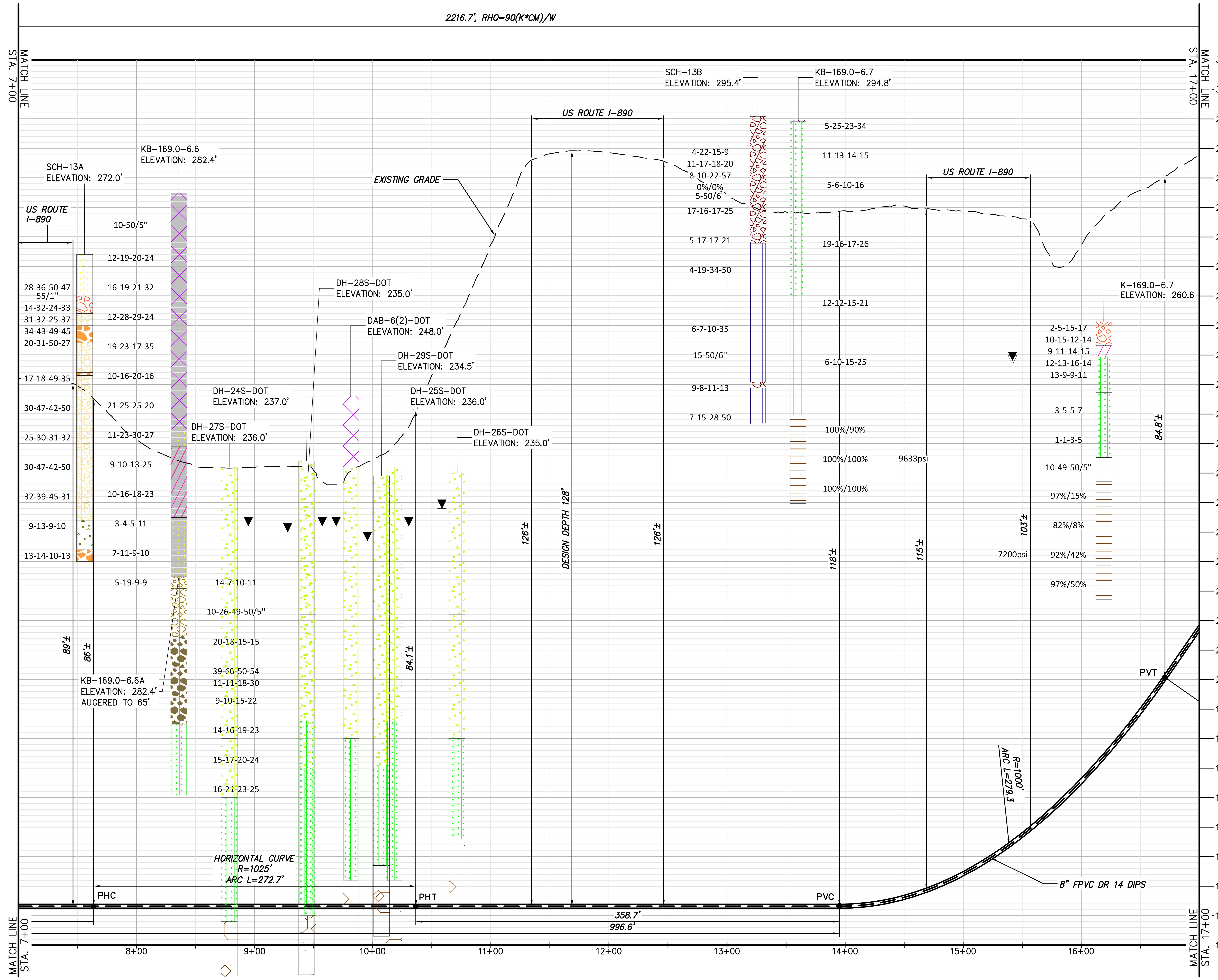
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
PLAN VIEW - HDD 69, CONDUIT 1

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-310.2

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO SCALE AS NOTED REV. NO. X DATE 07/28/2023 SH.NO.




PROPOSED HDD 69 PROFILE

CONDUIT 1

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

Legend

| | | |
|---|---|---|
| | ASPHALT | Asphalt |
| | Bedrock | Bedrock |
| | Boulder | Boulder |
| | CH | Fat CLAY |
| | CH-MH | SILTY Fat CLAY |
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| | CONCRETE | Concrete |
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| | OH | ORGANIC Fat CLAY |
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| | 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

Scale in feet: 0, 50, 100

CHPE Champlain Hudson Power Express

Kiewit

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| No. | DATE | SUBMITTAL / REVISION DESCRIPTION | DB | APP |
|---|---|---|---|---|
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

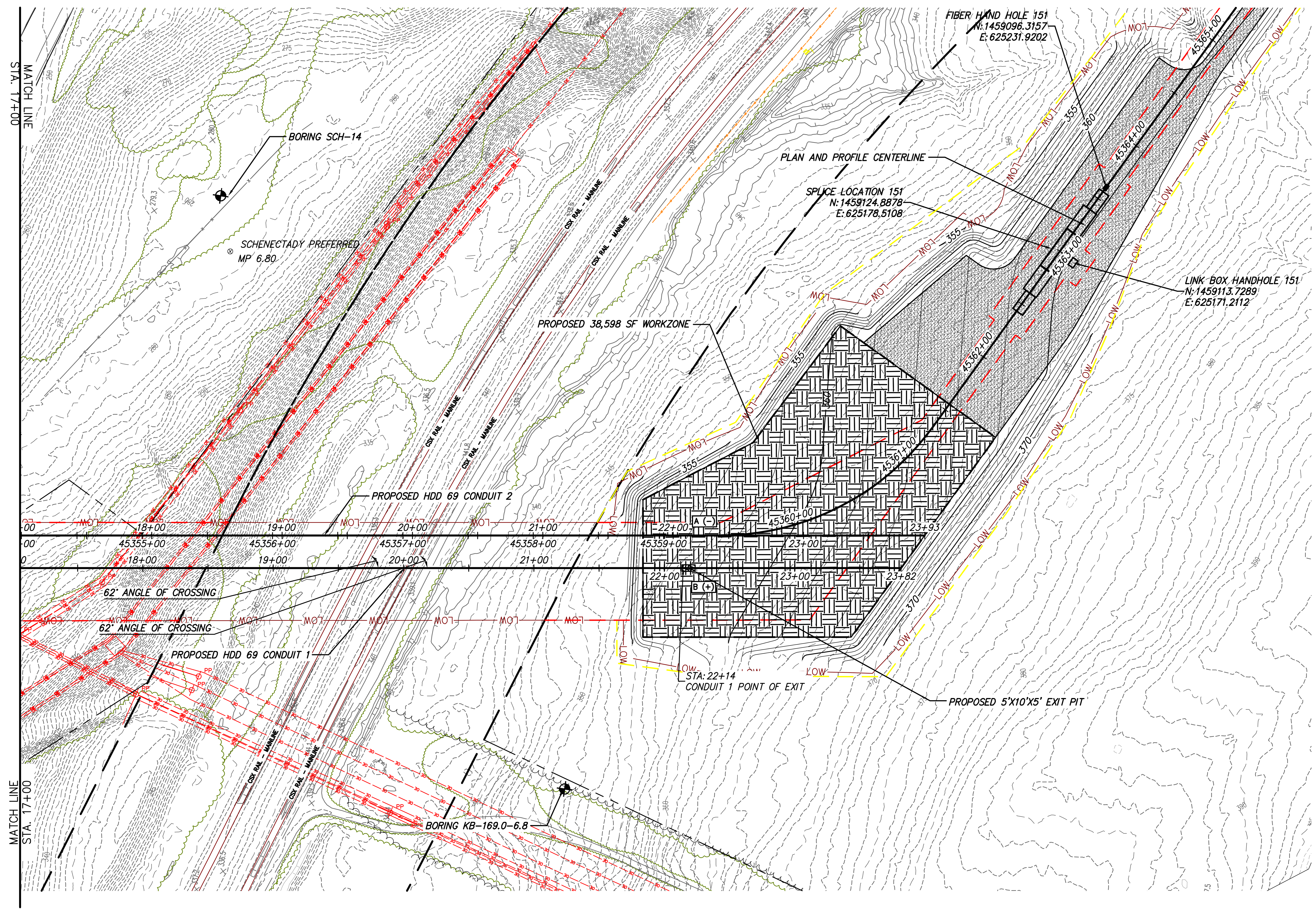
CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
PROFILE VIEW - HDD 69, CONDUIT 1

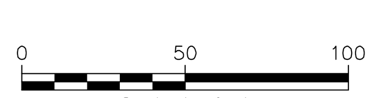
KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-310.3

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO
SCALE: AS NOTED REV. NO. X
DATE: 07/28/2023 SH.NO.

1 2 3 4

A




## PROPOSED HDD 69 PLAN VIEW

CONDUIT 1

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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

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 |
| | 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 |
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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 |

Champlain Hudson Power Express

Kiewit SINCE 1884

CHA

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Albany, NY 12205-0269
518.453.4500 . www.chacompanies.com

STATE OF NEW YORK
JEFFREY E. O'DONNELL
087450
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# CHAMPLAIN HUDSON POWER EXPRESS

## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN

PLAN VIEW - HDD 69, CONDUIT 1

KIEWIT PROJECT NO. 21162

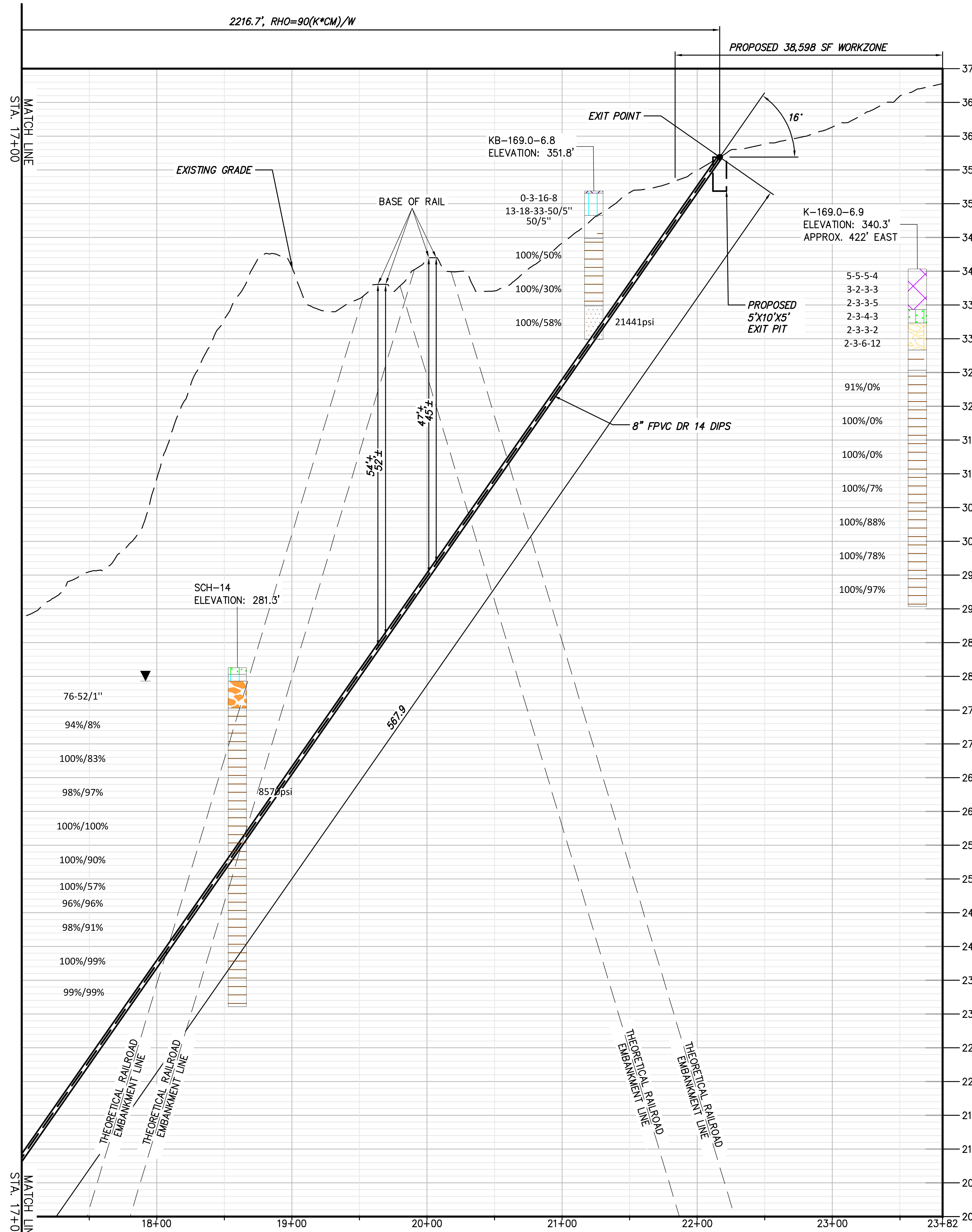
CHA PROJECT NO. 066076

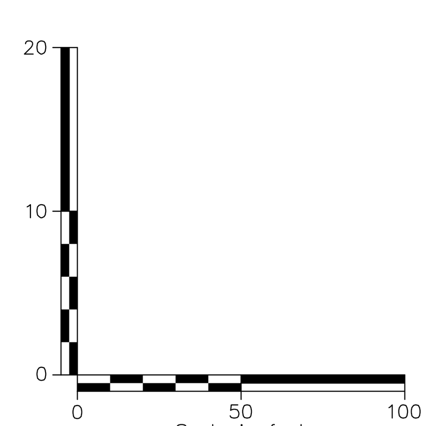
DRAWING NO. C-310.4

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED | DATE 07/28/2023

REV. NO. X | SH.NO.




## PROPOSED HDD 69 PROFILE

CONDUIT 1

**NOTE:**

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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

CHPE Champlain Hudson Power Express

Kiewit

CHA

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|---|---|---|---|---|
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS

## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN

PROFILE VIEW - HDD 69, CONDUIT 1

KIEWIT PROJECT NO. 21162

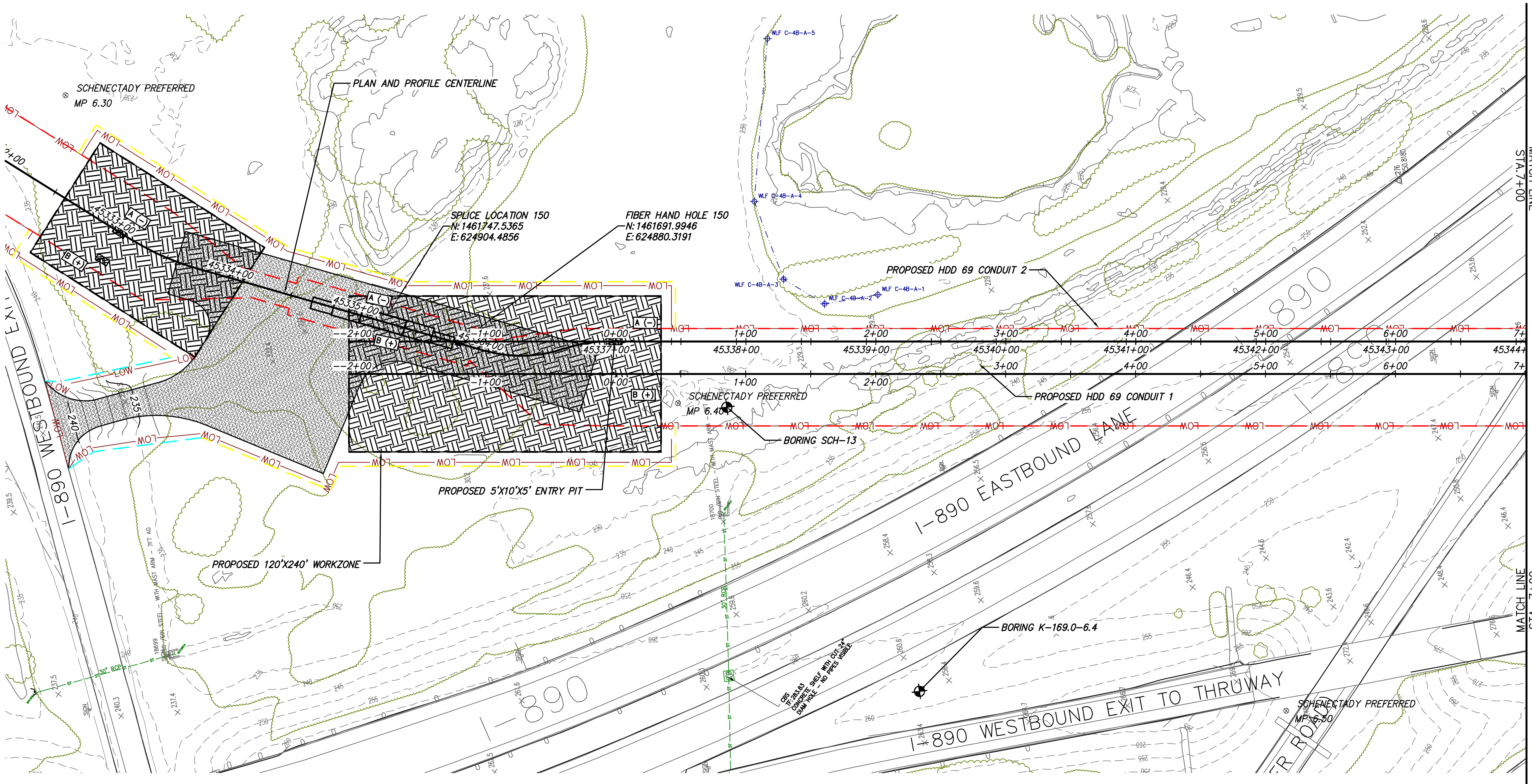
CHA PROJECT NO. 066076

DRAWING NO. **C-310.5**

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED REV. NO. X

DATE 07/28/2023 SH.NO.




# PROPOSED HDD 69 PLAN VIEW

CONDUIT 2

0 50 100
Scale in feet

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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 |

Champlain Hudson Power Express

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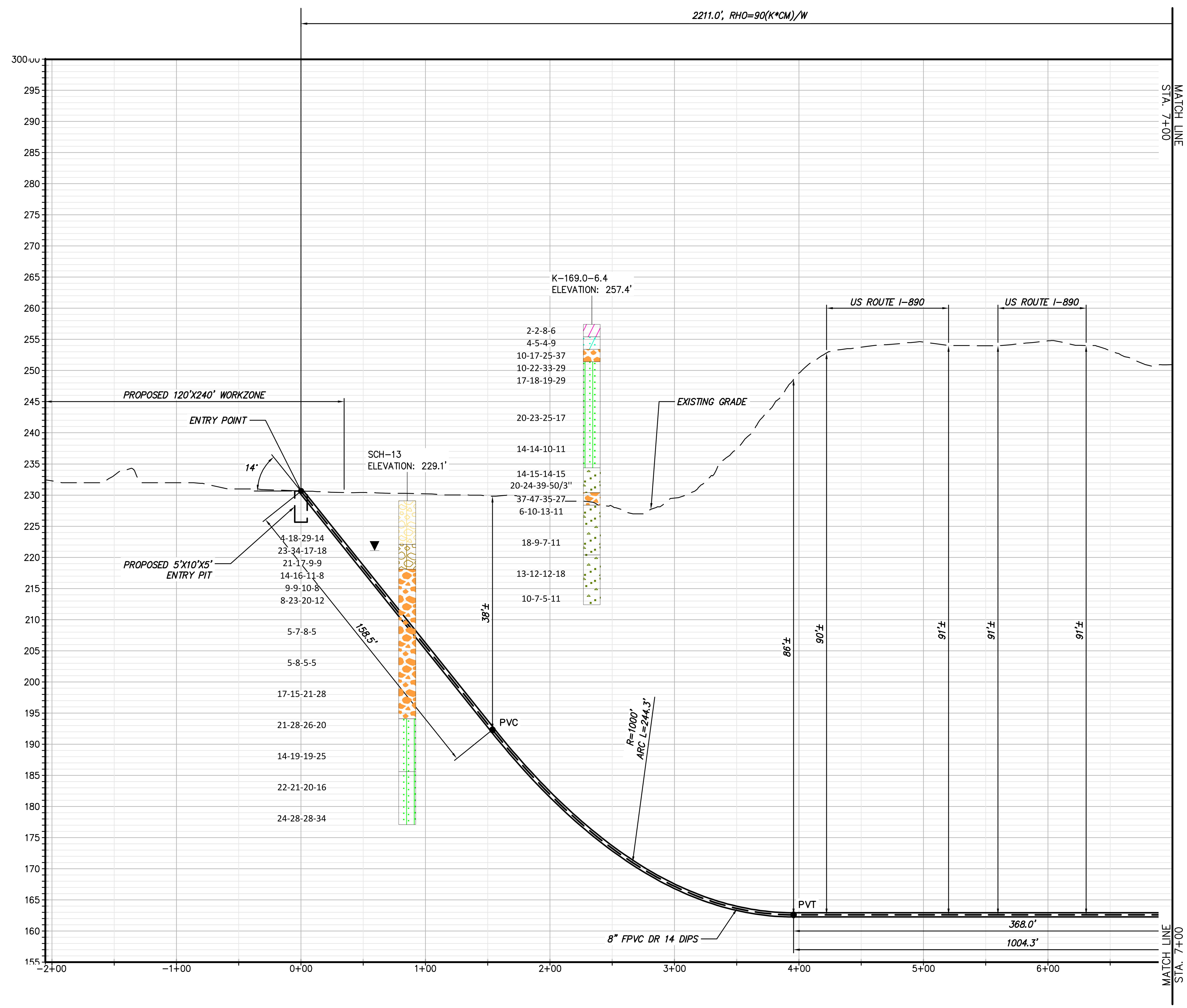
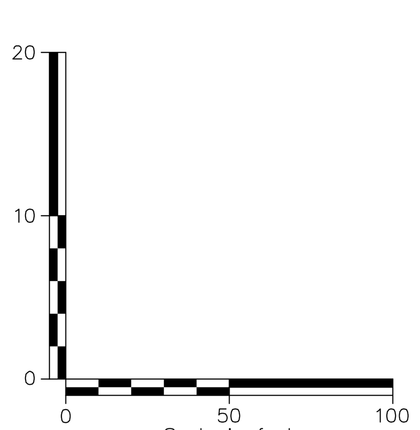
|---|---|---|---|---|
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PLAN VIEW - HDD 69, CONDUIT 2

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

DRAWN BY: CKZ | DESIGNED BY: CKZ | APPROVED BY: JEO | SCALE: AS NOTED | DATE: 07/28/2023 | REV. NO.: X | SH.NO.




## PROPOSED HDD 69 PROFILE

CONDUIT 2

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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 |
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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 |
| ▽ | 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

CHPE Champlain Hudson Power Express

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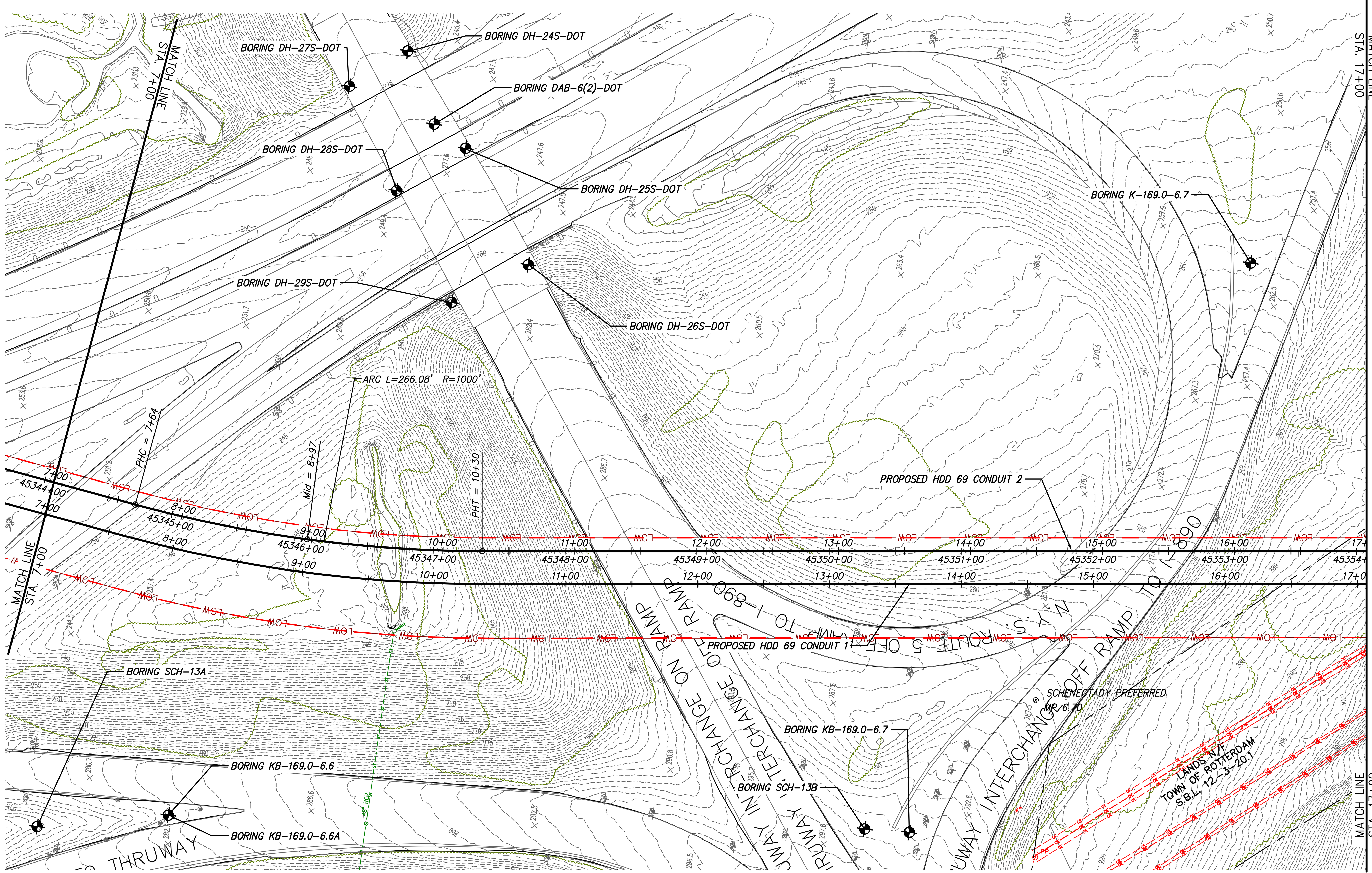
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
### PROFILE VIEW - HDD 69, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. **C-310A.1**

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED | REV. NO. X | DATE 07/28/2023 | SH.NO.




A

B

0 50 100
Scale in feet

## PROPOSED HDD 69 PLAN VIEW
CONDUIT 2

NOTE:
1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
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BORING LOG STRIP LEGEND

B101
Blow Counts per 6" = 10-10-10
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2D strip logs shown at 10x exaggeration
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| Legend | | |
|---|---|---|
| | ASPHALT | Asphalt |
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| | Boulder | Boulder |
| | CH | Fat CLAY |
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| | CL-ML | SILTY CLAY |
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| | ML | SILT |
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| | 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 |

CHPE Champlain Hudson Power Express

Kiewit

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Albany, NY 12205-0269
518.453.4500 . www.chacompanies.com

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JEFFREY E. O'DONNELL
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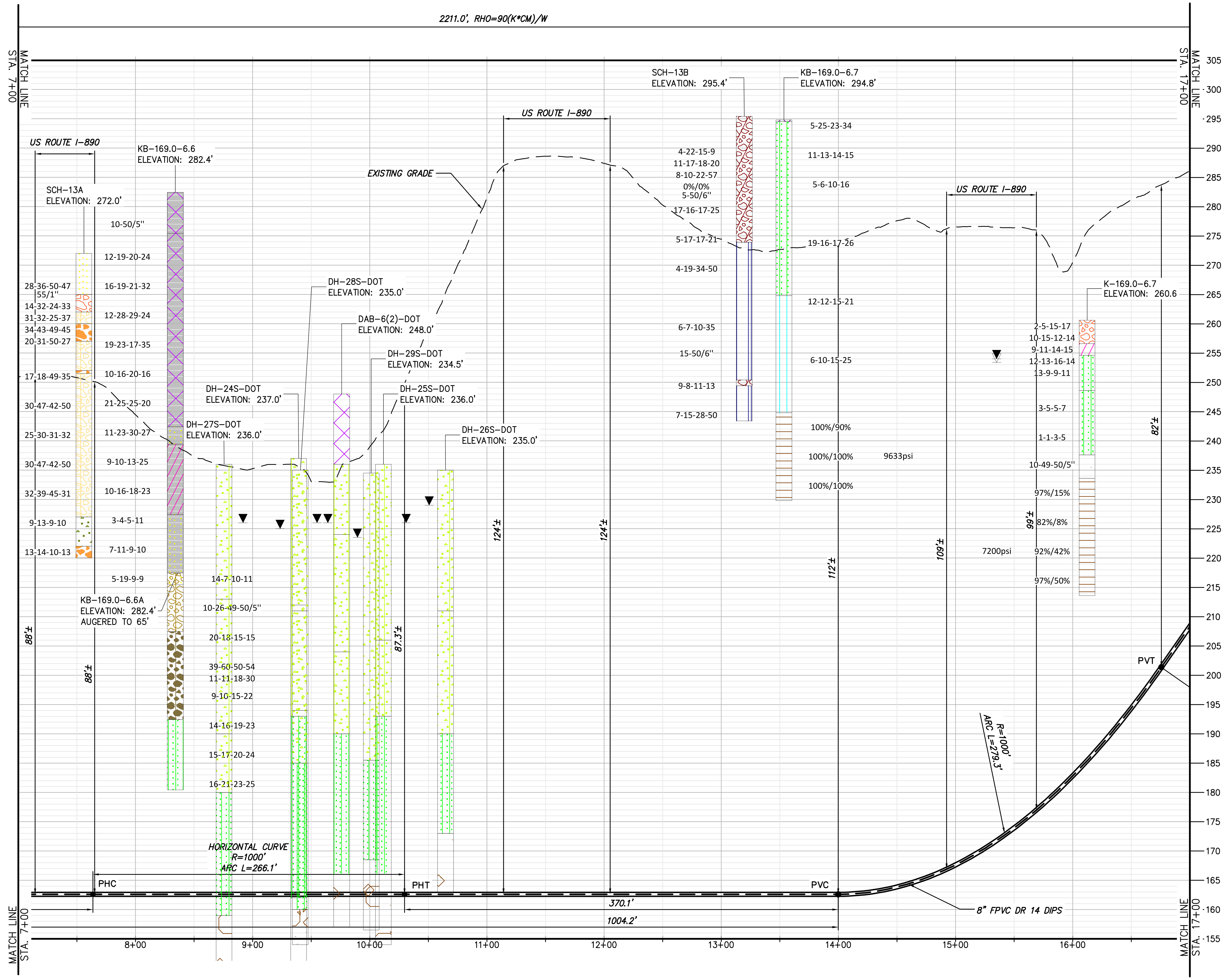
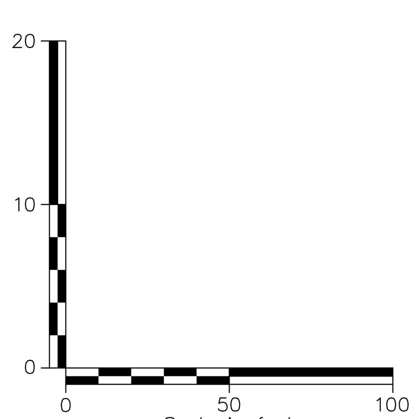
| 0 | 07/28/2023 | ISSUED FOR CONSTRUCTION SUBMISSION | SPB | JEO |

# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN VIEW - HDD 69, CONDUIT 2

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-310A.2

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO
SCALE AS NOTED
REV. NO. X
DATE 07/28/2023
SH.NO.




## PROPOSED HDD 69 PROFILE

CONDUIT 2

NOTE:

1. *HDD#69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
2. BASED ON THE BORING DATA THE CONTRACTOR SHOULD CONSIDER USE OF DRILLING ADDITIVES TO INCREASE THE CARRYING CAPACITY OF THE DRILLING MUD AND, ADDITIVES TO PLUG COARSER GRAVELS AND PREVENT SLURRY LOSS.
3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

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 |
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| | 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 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN

### PROFILE VIEW - HDD 69, CONDUIT 2

KIEWIT PROJECT NO. 21162

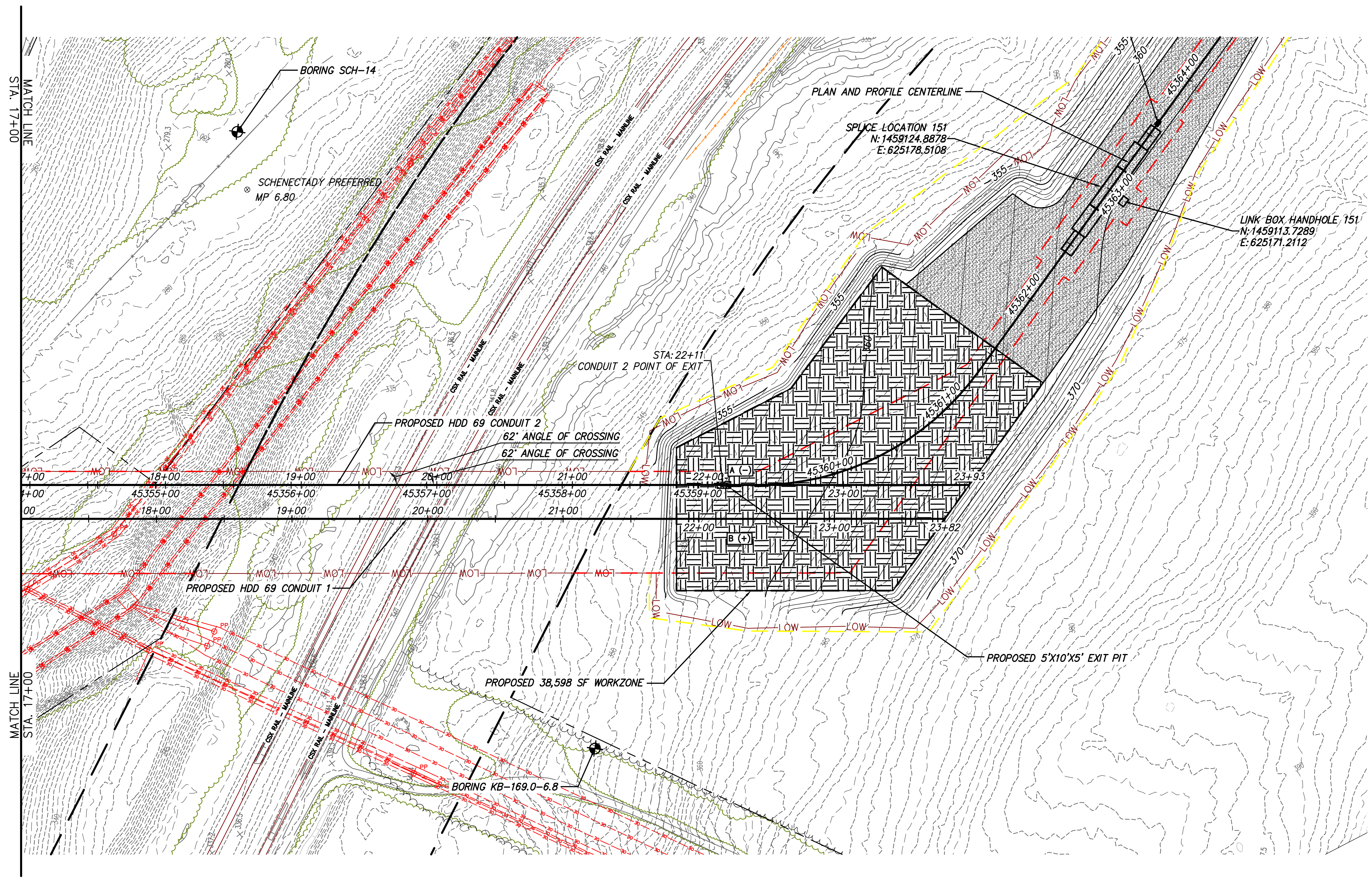
CHA PROJECT NO. 066076

DRAWING NO. C-310A.3

DRAWN BY: CKZ  DESIGNED BY: CKZ  APPROVED BY: JEO

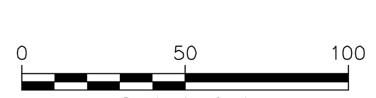
SCALE AS NOTED  REV. NO. X

DATE 07/28/2023  SH.NO.




## PROPOSED HDD 69 PLAN VIEW

CONDUIT 2




**NOTE:**

1. *HDD #69 CONSISTS OF (2) HVDC ELECTRICAL TRANSMISSION CABLES HOUSED IN INDIVIDUAL 8" FPVC DR 14 DIAMETER CONDUITS. A THIRD 3" HDPE DR 7 CASING WILL BE BUNDLED WITH ONE OF THE 8" CONDUITS FOR A TELECOMMUNICATION LINE.
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3. CONDUCTOR CASINGS FOR THE ENTRY AND EXIT VERTICAL TANGENT SECTIONS OF THE ALIGNMENTS SHOULD BE CONSIDERED.

**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

**Legend**

| | | |
|---|---|---|
| | ASPHALT | Asphalt |
| | Bedrock | Bedrock |
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| | CL-ML | SILTY CLAY |
| | CONCRETE | Concrete |
| | Fill | Fill |
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| | OH | ORGANIC Fat CLAY |
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| | PT | PEAT |
| | Rock | Rock |
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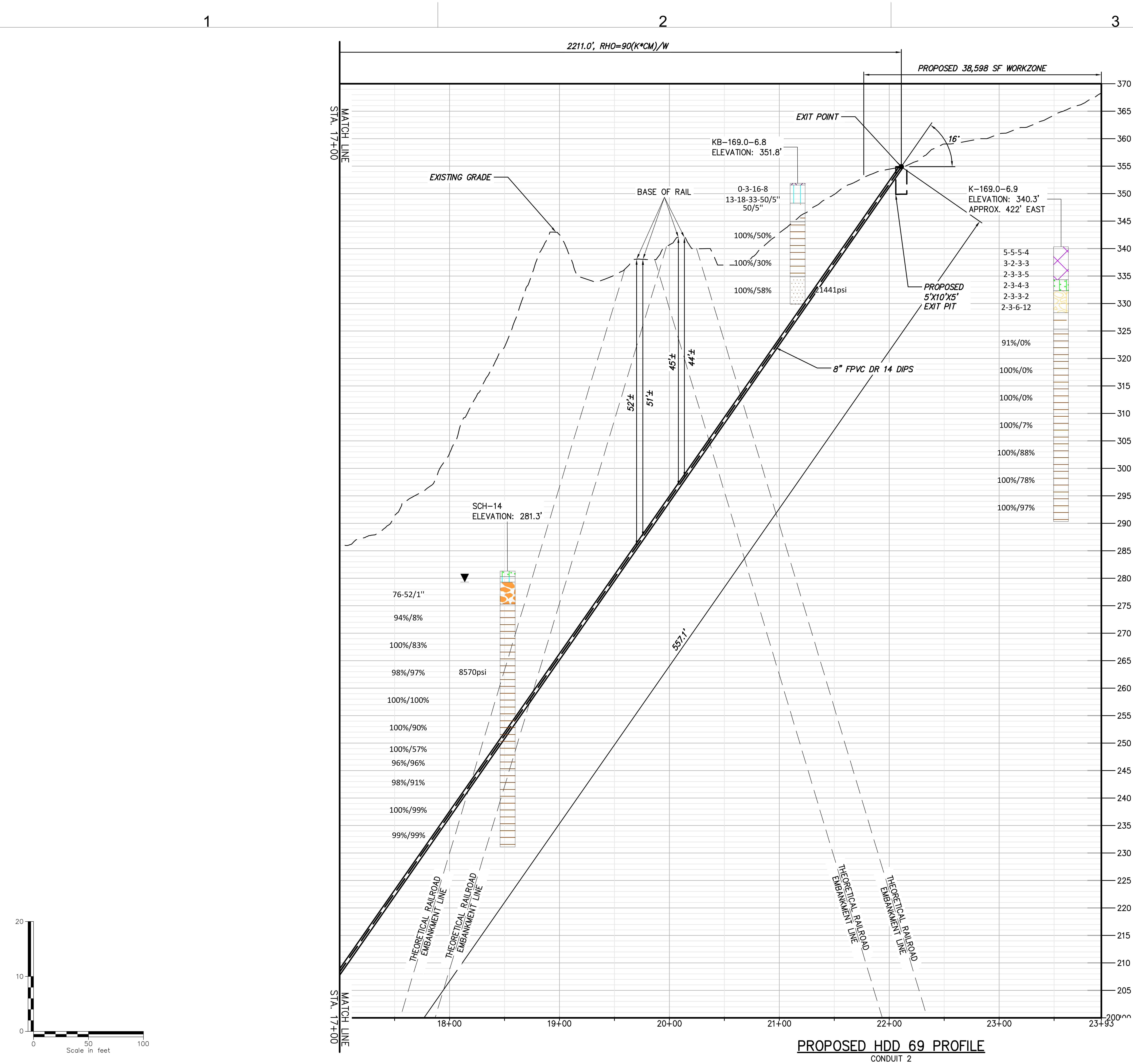
# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PLAN VIEW - HDD 69, CONDUIT 2

| | |
|---|---|
| KIEWIT PROJECT NO. | 21162 |
| CHA PROJECT NO. | 066076 |
| DRAWING NO. | C-310A.4 |

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO SCALE AS NOTED REV. NO. X DATE 07/28/2023 SH.NO.




PROPOSED HDD 69 PROFILE

CONDUIT 2

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# CHAMPLAIN HUDSON POWER EXPRESS
## SEGMENT 7 (PACKAGE 4B) - CSX - PAN AM SOUTHERN
## PROFILE VIEW - HDD 69, CONDUIT 2

KIEWIT PROJECT NO. 21162

CHA PROJECT NO. 066076

DRAWING NO. C-310A.5

DRAWN BY: CKZ DESIGNED BY: CKZ APPROVED BY: JEO

SCALE AS NOTED

REV. NO. X

DATE 07/28/2023

SH.NO.