








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DESIGN SEGMENT 3 PACKAGE 1C WORK ZONE TRAFFIC CONTROL MAIN STAGES						
MAIN STAGE	STA. START	STA. END	ROUTE(S)	CLOSURE TYPE	PLAN SHEET	WORK NOTES
1	15000+00	15001+00	LOWER BELLAMY ST	LANE CLOSURE WITH ALTERNATING ONE WAY TRAFFIC	C-502	TRENCHING & CONDUIT INSTALLATION
2	15001+00	15002+70	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
3	15002+70	15003+20	CLINTON AVE	ONE WAY OPERATION, PEDESTRIAN DETOUR, WESTBOUND DETOUR	C-503/C-504	TRENCHING & CONDUIT INSTALLATION
4	15003+20	15015+50	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
5	15015+50	15074+35	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
6	15017+40		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
7	15036+10		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
8	15067+20		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
9	15074+35	15093+30	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
10	15093+30	15138+60	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
11	15095+30		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
12	15127+10		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
13	15138+60	15144+90	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
14	15144+90	15163+10	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
15	15159+50		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
16	15163+10	15170+50	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
17	15170+50	15175+15	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
18	15175+15	15182+40	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
19	15182+40	15218+10	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
20	15191+40		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
21	15213+75		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
22	15218+10	15231+50	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
23	15231+50	15256+05	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
24	15246+20		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
25	15256+05	15269+05	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
26	15269+05	15280+75	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
27	15277+45		CP RAIL R.O.W.			SPLICE VAULT INSTALLATION
28	15280+75	15281+25	CP RAIL/RYDER RD	LANE CLOSURE WITH ALTERNATING ONE WAY TRAFFIC	C-502	TRENCHING & CONDUIT INSTALLATION
29	15281+25	15295+90	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION
30	15295+90	15302+45	CP RAIL R.O.W.			HORIZONTAL DIRECTIONAL DRILLING INSTALLATION
31	15302+45	15306+59	CP RAIL R.O.W.			TRENCHING & CONDUIT INSTALLATION

LEGEND

-  TEMPORARY SIGN
-  WORK ZONE
-  DRUM
-  TEMPORARY CONCRETE BARRIER (TCB)
-  FLAGGER
-  TYPE III BARRICADE
-  TEMPORARY TRAFFIC FLOW ARROW

ABBREVIATIONS

- FASU    FLASHING ARROW SIGN UNIT
- FHWA    FEDERAL HIGHWAY ADMINISTRATION
- MIN.    MINIMUM
- MUTCD    MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
- NYS    NEW YORK STATE
- NYSDOT    NEW YORK STATE DEPARTMENT OF TRANSPORTATION
- STA.    STATION

NOTES:

1. ALL TRAFFIC CONTROL AND WORK AREA PROTECTION DEVICES SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, LATEST EDITION, EXCEPT AS NOTED AND THIS EM&CP.
2. ALL TEMPORARY TRAFFIC CONTROL AND WORK AREA PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS AND APPROVED BY THE ENGINEER PRIOR TO COMMENCING WORK AND WILL BE INCLUDED IN THIS EM&CP.
3. ALL MAINTENANCE AND PROTECTION OF TRAFFIC WORK SHALL CONFORM TO THE CONTRACT DRAWINGS. MAINTENANCE AND PROTECTION OF TRAFFIC SCHEMES SHOWN ON THE CONTRACT DRAWINGS SHALL NOT BE CHANGED BY THE CONTRACTOR WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER AND WILL BE INCLUDED IN THE EM&CP.
4. THE TEMPORARY MAINTENANCE OF TRAFFIC AND WORK AREA PROTECTION DEVICE LOCATIONS SHOWN ON THE CONTRACT DRAWINGS ARE SCHEMATIC EXCEPT AS NOTED. LOCATION OF TRAFFIC CONTROL DEVICES MAY BE MODIFIED TO MEET FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
5. ALL CLOSURES SHALL BE COORDINATED WITH THE ENGINEER. A SCHEDULE OF WORK SHALL BE SUBMITTED AT LEAST TWO WEEKS IN ADVANCE FOR APPROVAL BY THE ENGINEER.
6. THERE MAY BE ONGOING CONSTRUCTION CONTRACTS WITHIN THE VICINITY OF THE WORK AREA. DO NOT MOVE, MODIFY, OR RELOCATE ANY ITEM ASSOCIATED WITH THESE CONTRACTS WITHOUT PROPER APPROVAL OF AND COORDINATION WITH THE ENGINEER.
7. PERFORM WORK IN SUCH A MANNER AND SEQUENCE AS TO INTERFERE AS LITTLE AS POSSIBLE WITH THE PASSAGE OF VEHICLES, PEDESTRIANS, AND OTHER KINDS OF PUBLIC TRAFFIC.
8. ALL TEMPORARY MAINTENANCE OF TRAFFIC AND WORK AREA PROTECTION SIGN SUPPORTS AND MOUNTINGS SHALL BE IN CONFORMANCE WITH NYSDOT STANDARD SHEETS AND STANDARD SPECIFICATIONS.
9. ALL CONSTRUCTION SIGNS SHALL BE COVERED WITH THICK PLASTIC WHEN THE WORK THEY ARE INTENDED FOR IS NOT IN PROGRESS.
10. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF THE WORK TO WHICH THEY APPLY, AND SHALL BE MAINTAINED BY THE CONTRACTOR THEREAFTER. THE DEVICES SHALL REMAIN IN PLACE AS LONG AS THEY ARE APPLICABLE.
11. TRAFFIC CONTROL DEVICES SHALL NOT BE PLACED AT ANY LOCATIONS WHERE THEY MAY OBSCURE OR INTERFERE WITH THE MOTORIST'S VIEW OF APPROACHING, MERGING, OR INTERSECTING TRAFFIC; OBSTRUCT OTHER TEMPORARY OR PERMANENT TRAFFIC CONTROL DEVICES WHICH ARE STILL APPLICABLE TO ROADWAY CONDITIONS; MISLEAD OR MISDIRECT MOTORISTS, OR ARE BLOCKED BY OTHER TEMPORARY OR PERMANENT OBJECTS.
12. ALL EXISTING ROADWAY ITEMS SUCH AS GUIDE RAILS, PAVEMENT MARKINGS, CURBS, SIGNALS AND SIGNS DAMAGED BY THE CONTRACTOR SHALL BE RESTORED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST.
13. TRAFFIC LANES AND OTHER AREAS CLOSED BY THE CONTRACTOR DURING PERMITTED WORK HOURS SHALL BE CLEARED OF ALL MATERIAL, EQUIPMENT, AND DEBRIS, AND SAFELY REOPENED TO TRAFFIC BY THE END OF THE WORK PERIOD UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS.
14. IF THE CONTRACTOR REQUIRES A LANE CLOSURE TO PERFORM OPERATIONS, THEY MAY DO SO WITH THE APPROVAL OF THE ENGINEER. ANY LANE CLOSURES WILL BE SHORT TERM AND IN ACCORDANCE WITH NYS STANDARD SHEETS UNLESS OTHERWISE SHOWN IN CONTRACT PLANS.
15. NO WORK ACTIVITY OR STORAGE OF EQUIPMENT, VEHICLES, OR MATERIAL SHOULD OCCUR WITHIN A BUFFER SPACE.
16. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 20' IN THE ACTIVE WORK SPACE.
17. ALL OPEN TRENCH EXCAVATIONS SHALL BE BACKFILLED OR COVERED BY A STEEL PLATE (HS-20 LOAD RATED) AT THE END OF EACH WORK DAY, OR AS DIRECTED BY THE ENGINEER.
18. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL COORDINATE WITH CP RAILROAD FOR RAILROAD FLAGGING FOR ALL WORK IN THE VICINITY OF ANY RAILROAD GRADE CROSSING AND WHENEVER WITHIN THE RAILROAD ROW.
19. ALL ADDITIONAL TEMPORARY SIGNAGE, NOT COVERED IN FHWA MUTCD, SHALL COMPLY WITH NYS SUPPLEMENT TO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
20. DURING NON-WORK HOURS, LEAVE DRUMS AND TCB IN PLACE, OR AS DIRECTED BY THE ENGINEER.
21. DURING WINTER MORATORIUM, COVER EXCAVATIONS WITH TEMPORARY ASPHALT AND OPEN ALL LANES TO TRAFFIC.
22. THE WZTC DETAILS CONTAINED IN THE CONTRACT PLANS SUPPLEMENT THE CURRENT NYSDOT STANDARD SHEETS. REFERENCE SHALL BE MADE TO THE APPLICABLE NYSDOT STANDARD SHEETS FOR ALL NOTES AND TABLES. THE LATEST REVISIONS OF THE STANDARD SHEETS MAINTAINED BY NYSDOT, WHICH ARE CURRENT ON THE DATE OF ADVERTISEMENT FOR BIDS, SHALL BE CONSIDERED TO BE IN EFFECT. ALL PAY ITEMS AND WORK CONTAINED IN THE CONTRACT AND ANY ADDITIONAL PAY ITEMS AND WORK ENCOUNTERED DURING THE COURSE OF THE CONTRACT SHALL BE SUBJECT TO THE APPLICABLE STANDARD SHEET(S) UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
23. MAINTAIN SAFE AND ADEQUATE ACCESS FOR INTERSECTING ROADWAYS, HOMES, AND BUSINESSES, AT ALL TIMES, TO THE SATISFACTION OF THE ENGINEER.
24. ACCESS TO RESIDENTIAL AND COMMERCIAL DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES. UNLESS OTHER AGREEMENTS SUITABLE TO THE PROPERTY OWNERS CAN BE MADE, PROPERTY OWNERS WHOSE DRIVEWAYS WILL BE MADE INACCESSIBLE SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 24 HOURS PRIOR TO RESTRICTING USE OF THE DRIVEWAY. THE CONTRACTOR SHALL MAINTAIN ACCESS TO COMMERCIAL DRIVEWAYS AT ALL TIMES WHEN A FACILITY IS IN USE. FOR MULTIPLE ACCESS PROPERTIES, ONLY ONE DRIVEWAY MAY BE CLOSED AT ANY ONE TIME. ACCESS SHALL BE RESTORED TO ALL DRIVEWAYS AS SOON AS POSSIBLE, OR AS DIRECTED BY THE ENGINEER.
25. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT THE FOLLOWING HOLIDAY WORK RESTRICTIONS ARE APPLICABLE TO THIS PROJECT. DURING THESE HOLIDAY PERIODS, THE CONTRACTOR WILL NOT BE ALLOWED TO PERFORM ANY WORK THAT WILL BE DISRUPTIVE TO TRAFFIC, INCLUDING BUT NOT LIMITED TO LANE CLOSURES. LANE CLOSURES WILL NOT BE PERMITTED DURING THE FOLLOWING STATE RECOGNIZED HOLIDAYS:

1) MEMORIAL DAY    - MONDAY, MAY 29, 2023

2) INDEPENDENCE DAY    - TUESDAY, JULY 4, 2023

3) LABOR DAY    - MONDAY, SEPTEMBER 4, 2023

4) THANKSGIVING DAY    - THURSDAY, NOVEMBER 23, 2023

5) CHRISTMAS DAY    - MONDAY, DECEMBER 25, 2023

6) NEW YEAR'S DAY    - MONDAY, JANUARY 1, 2024

7) MEMORIAL DAY    - MONDAY, MAY 27, 2024

8) INDEPENDENCE DAY    - THURSDAY, JULY 4, 2024

9) LABOR DAY    - MONDAY, SEPTEMBER 2, 2024

10) THANKSGIVING DAY    - THURSDAY, NOVEMBER 28, 2024

11) CHRISTMAS DAY    - WEDNESDAY, DECEMBER 25, 2024

12) NEW YEAR'S DAY    - WEDNESDAY, JANUARY 1, 2025

13) MEMORIAL DAY    - MONDAY, MAY 26, 2025

14) INDEPENDENCE DAY    - FRIDAY, JULY 4, 2025

15) LABOR DAY    - MONDAY, SEPTEMBER 1, 2025

16) THANKSGIVING DAY    - THURSDAY, NOVEMBER 27, 2025

17) CHRISTMAS DAY    - THURSDAY, DECEMBER 25, 2025
26. LANE CLOSURES SHALL BE SUSPENDED AS FOLLOWS:

- BEGINNING 6AM, FRIDAY MAY 26, 2023 AND ENDING 6AM, TUESDAY MAY 30, 2023

- BEGINNING 6AM, SATURDAY JULY 1, 2023 AND ENDING 6AM, WEDNESDAY JULY 5, 2023

- BEGINNING 6AM, FRIDAY SEPTEMBER 1, 2023 AND ENDING 6AM, TUESDAY SEPTEMBER 5, 2023

- BEGINNING 6AM, WEDNESDAY NOVEMBER 22, 2023 AND ENDING 6AM, MONDAY NOVEMBER 27, 2023

- BEGINNING 6AM, FRIDAY DECEMBER 22, 2023 AND ENDING 6AM, TUESDAY DECEMBER 26, 2023

- BEGINNING 6AM, FRIDAY DECEMBER 29, 2023 AND ENDING 6AM, TUESDAY JANUARY 2, 2024

- BEGINNING 6AM, FRIDAY MAY 24, 2024 AND ENDING 6AM, TUESDAY MAY 28, 2024

- BEGINNING 6AM, WEDNESDAY JULY 3, 2024 AND ENDING 6AM, MONDAY JULY 8, 2024

- BEGINNING 6AM, FRIDAY AUGUST 30, 2024 AND ENDING 6AM, TUESDAY SEPTEMBER 3, 2024

- BEGINNING 6AM, WEDNESDAY NOVEMBER 27, 2024 AND ENDING 6AM, TUESDAY DECEMBER 2, 2024

- BEGINNING 6AM, TUESDAY DECEMBER 24, 2024 AND ENDING 6AM, MONDAY DECEMBER 30, 2024

- BEGINNING 6AM, TUESDAY DECEMBER 30, 2024 AND ENDING 6AM, FRIDAY JANUARY 3, 2025

- BEGINNING 6AM, FRIDAY MAY 23, 2025 AND ENDING 6AM, TUESDAY MAY 27, 2025

- BEGINNING 6AM, THURSDAY JULY 3, 2025 AND ENDING 6AM, MONDAY JULY 7, 2025

- BEGINNING 6AM, FRIDAY AUGUST 29, 2025 AND ENDING 6AM, TUESDAY SEPTEMBER 2, 2025

- BEGINNING 6AM, WEDNESDAY NOVEMBER 26, 2025 AND ENDING 6AM, MONDAY DECEMBER 1, 2025

- BEGINNING 6AM, WEDNESDAY DECEMBER 24, 2025 AND ENDING 6AM, MONDAY DECEMBER 29, 2025
27. DURING WINTER STORM EVENTS, NO WORK WITHIN THE ROAD RIGHT-OF-WAY IS PERMITTED TO ALLOW FOR SNOW REMOVAL AND PLOWING ACTIVITIES.
28. ANY EARTHWORK DONE BETWEEN NOVEMBER 1ST AND APRIL 1ST MUST CONFORM TO NYSDOT STANDARD SPECIFICATION SECTION 203-1.01 P.

CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN

WORK ZONE TRAFFIC CONTROL NOTES  
LEGEND AND ABBREVIATIONS

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-501
DATE	03/22/2023

DRAWN BY: JAH	DESIGNED BY: JPS	APPROVED BY: MDH	SCALE AS SHOWN
			REV. NO.

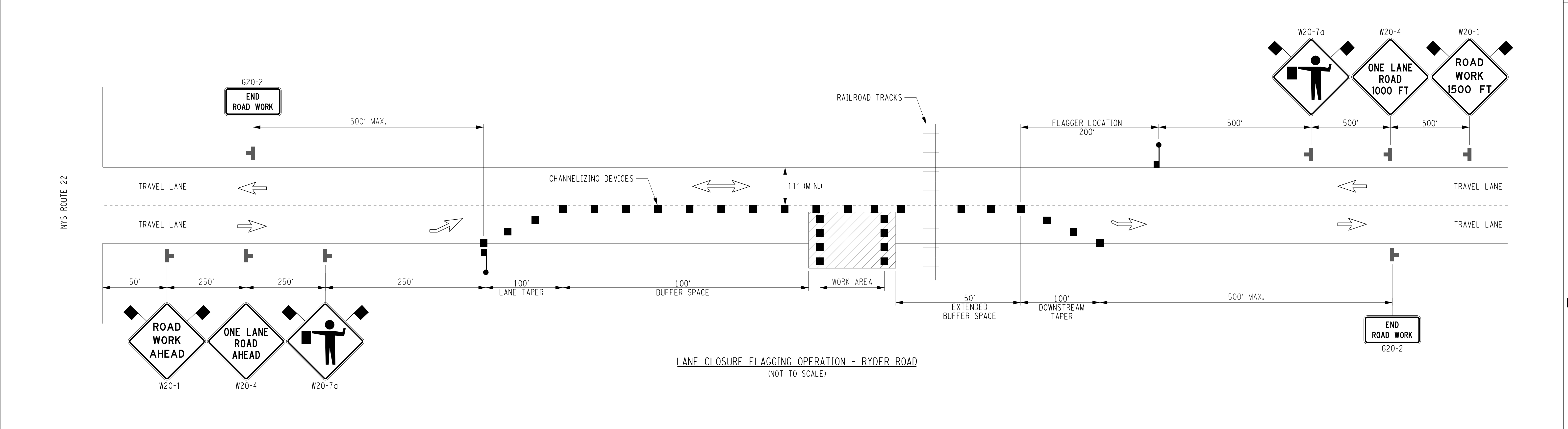
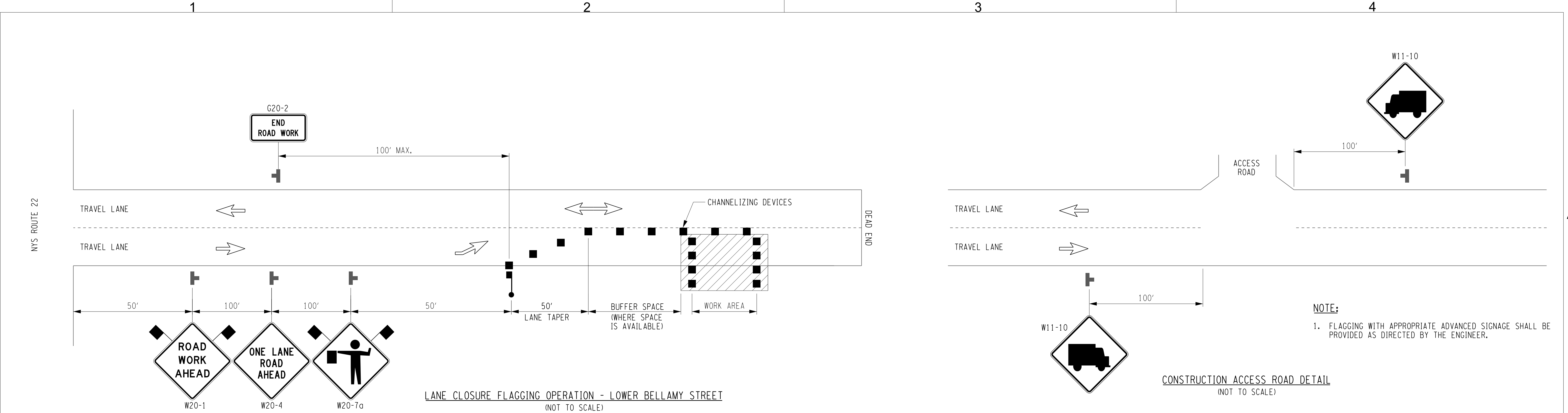



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0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	JS	MH	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	




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Champlain Hudson  
Power Express



Kiewit



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Albany, NY 12205-0269  
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STATE OF NEW YORK  
MICHAEL DOUGLAS  
LICENSED PROFESSIONAL ENGINEER  
179012

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### CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN

WORK ZONE TRAFFIC CONTROL DETAILS  
SHEET 1 OF 3

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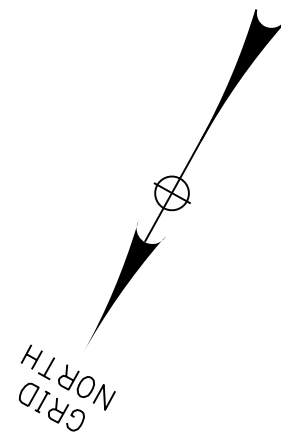
KIEWIT PROJECT NO. 21162	CHA PROJECT NO. 066076	DRAWING NO. <b>C-502</b>
DATE 03/22/2023		



CLINTON AVENUE ONE-WAY OPERATION DETAIL  
(NOT TO SCALE)

1. DETAIL SHOWS WORK ZONE AND CLOSURE ON SOUTH SIDE OF CLINTON AVENUE. REPOSITION TRAFFIC CONTROL DEVICES AS NECESSARY FOR NORTH SIDE CLOSURE.

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						<div>CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN</div> <div>WORK ZONE TRAFFIC CONTROL DETAILS SHEET 2 OF 3</div>					KIEWIT PROJECT NO. 21162		
											CHA PROJECT NO. 066076		
											DRAWING NO.		
											<div>C-503</div>		
0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION			JS	MH						DATE	03/22/2023
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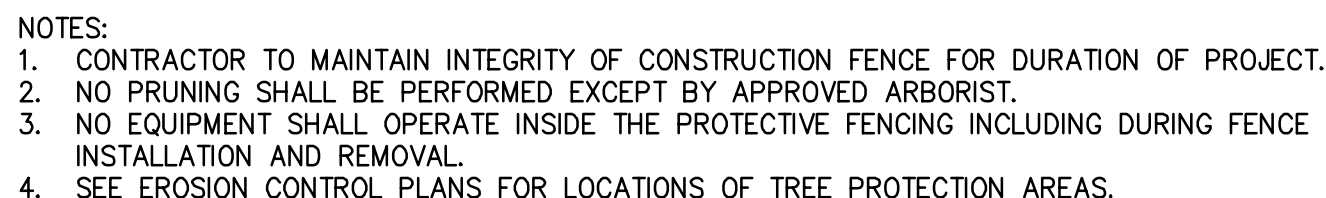
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SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN

WORK ZONE TRAFFIC CONTROL DETAILS  
SHEET 3 OF 3

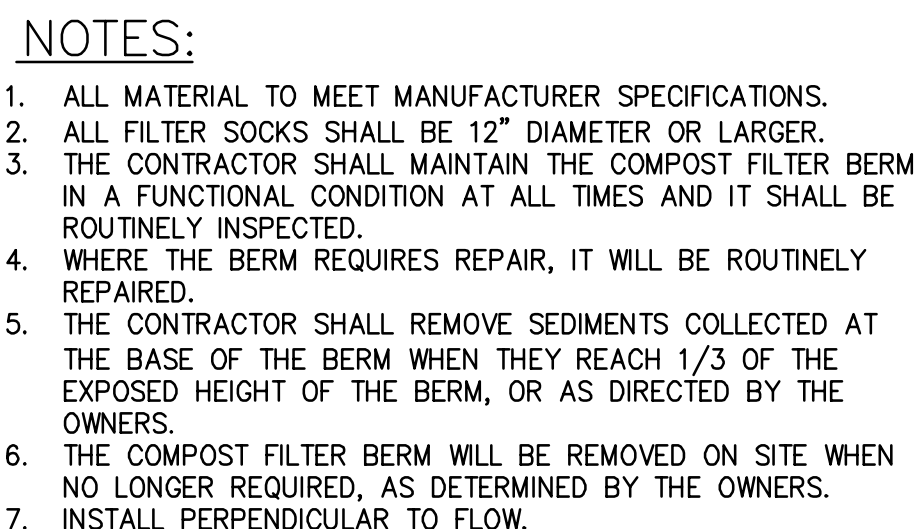
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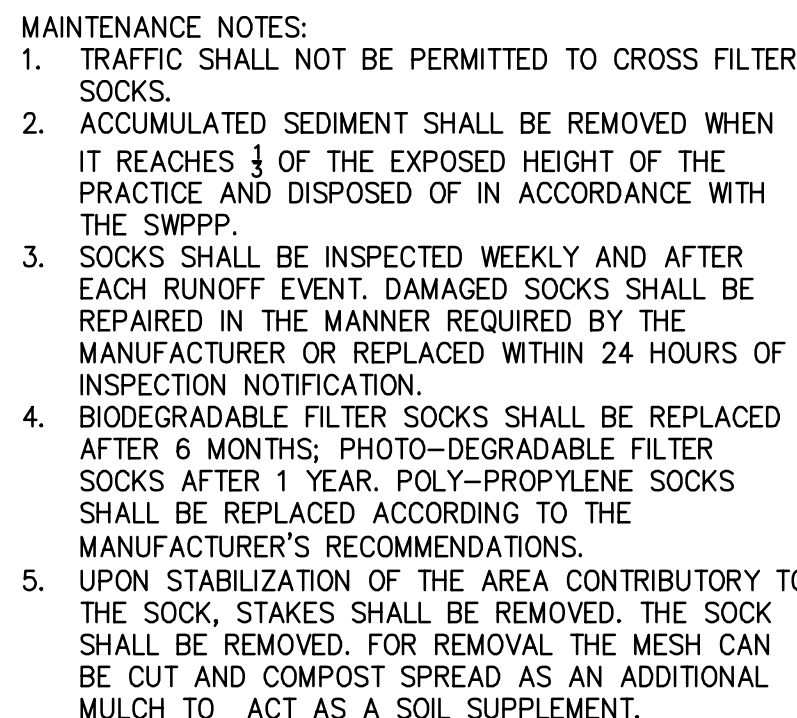




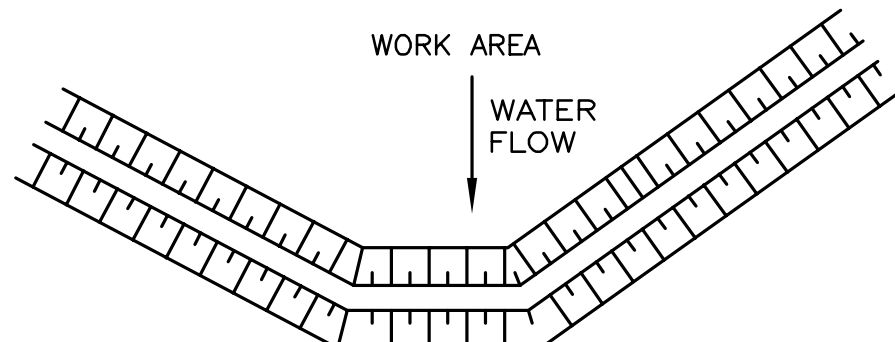
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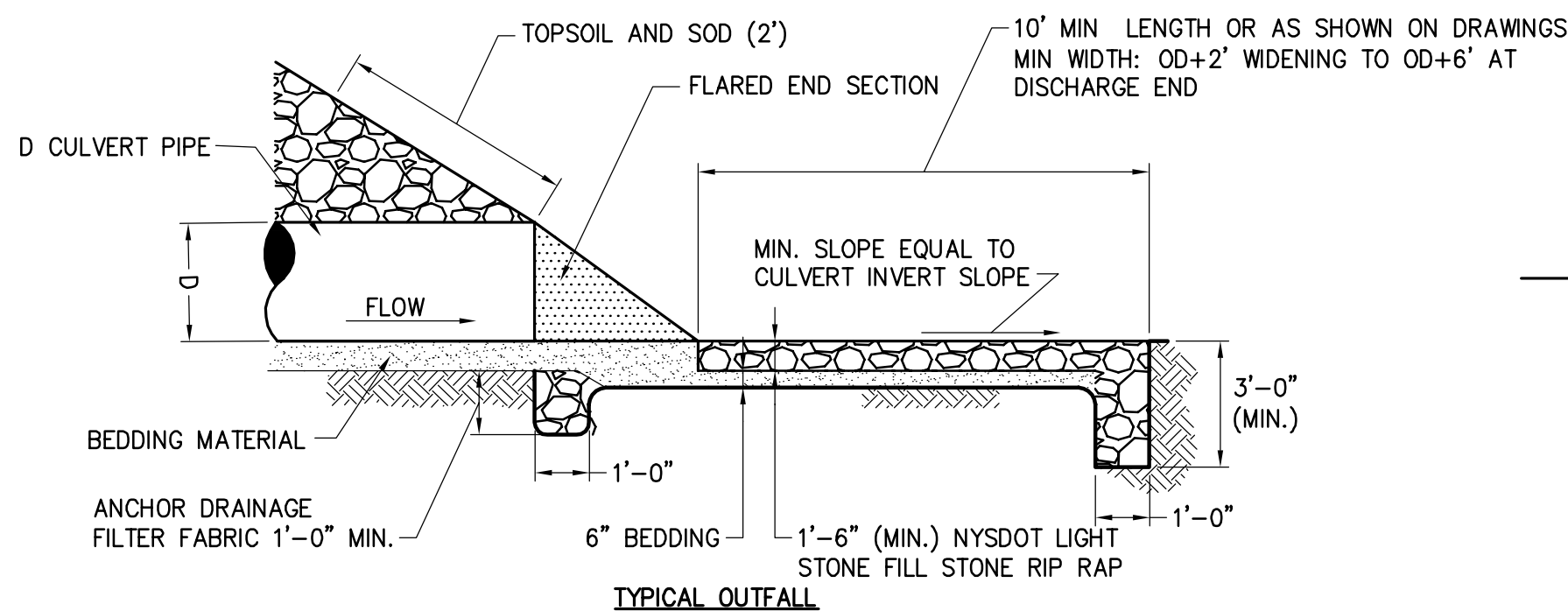
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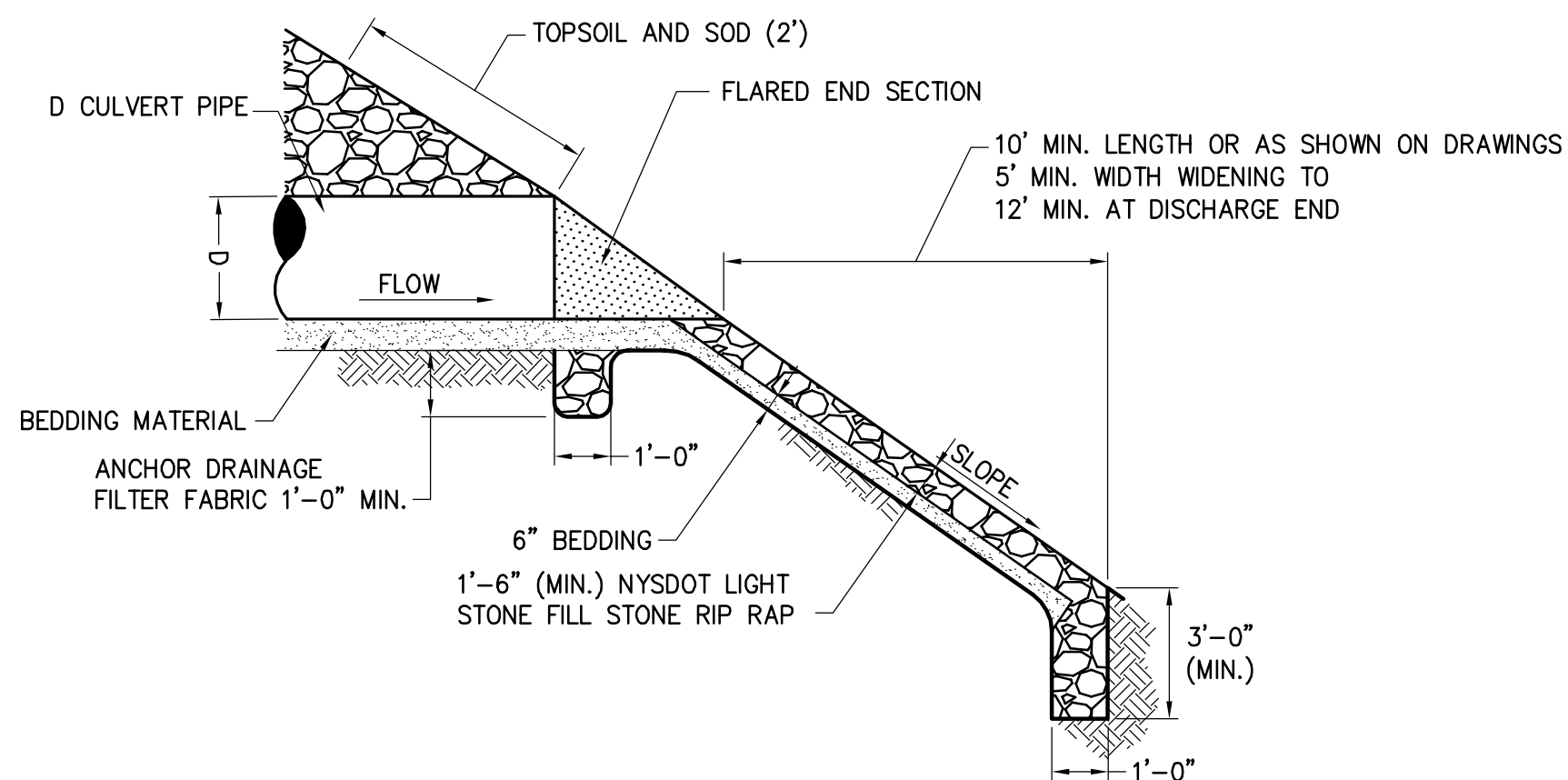
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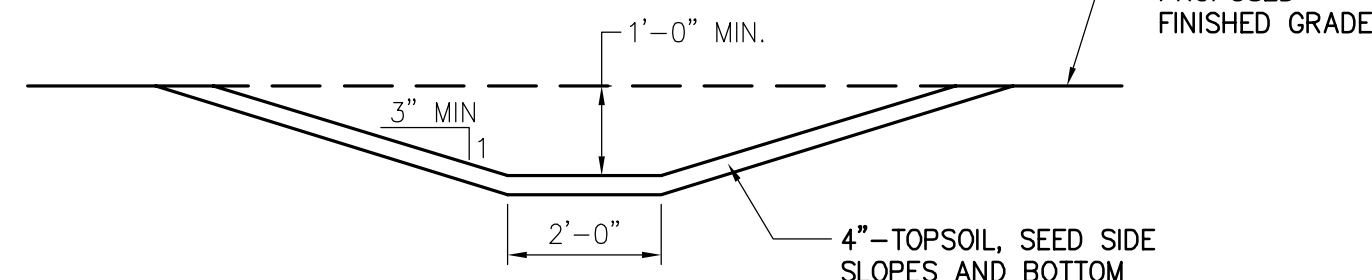
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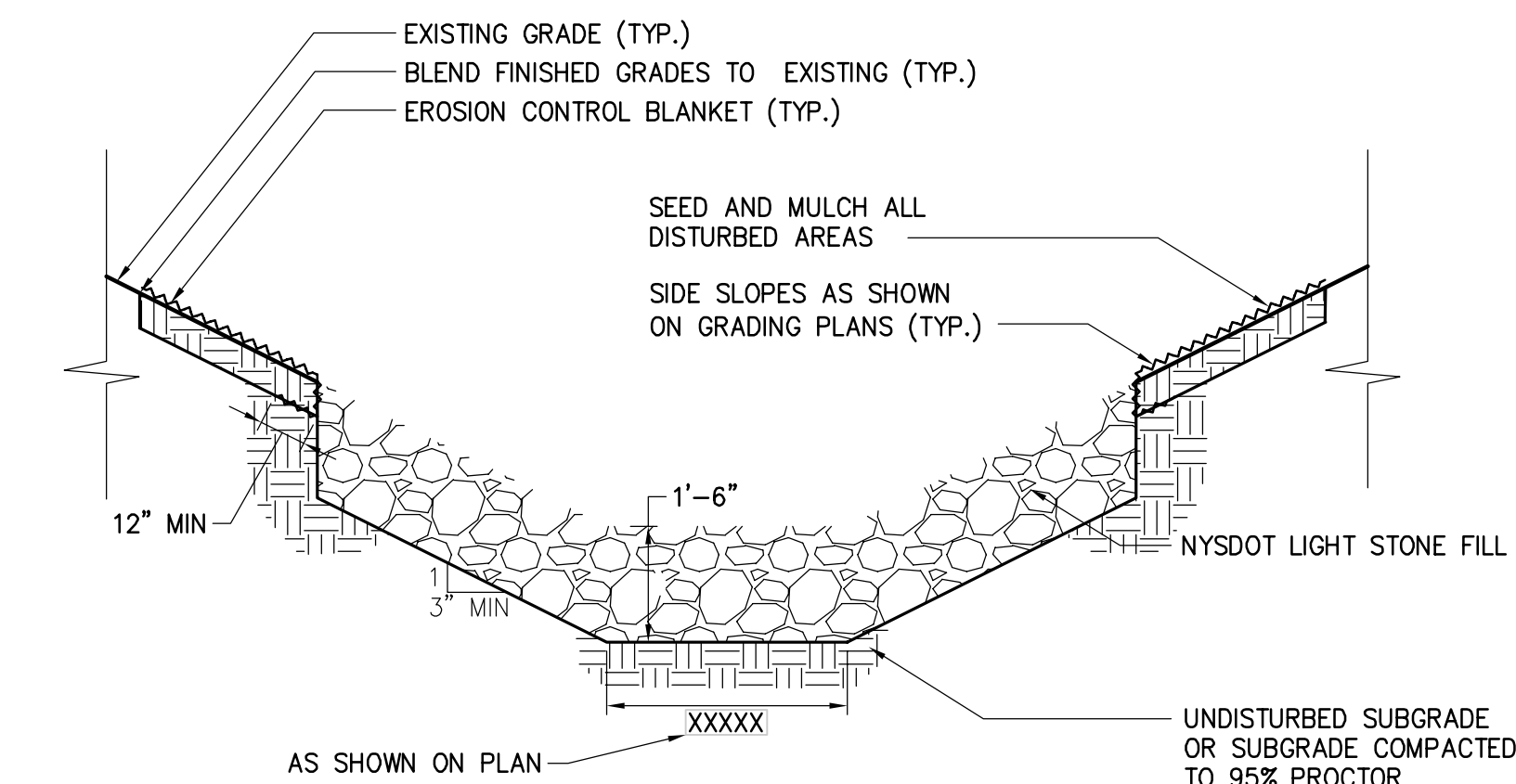
TYPICAL OUTFALL



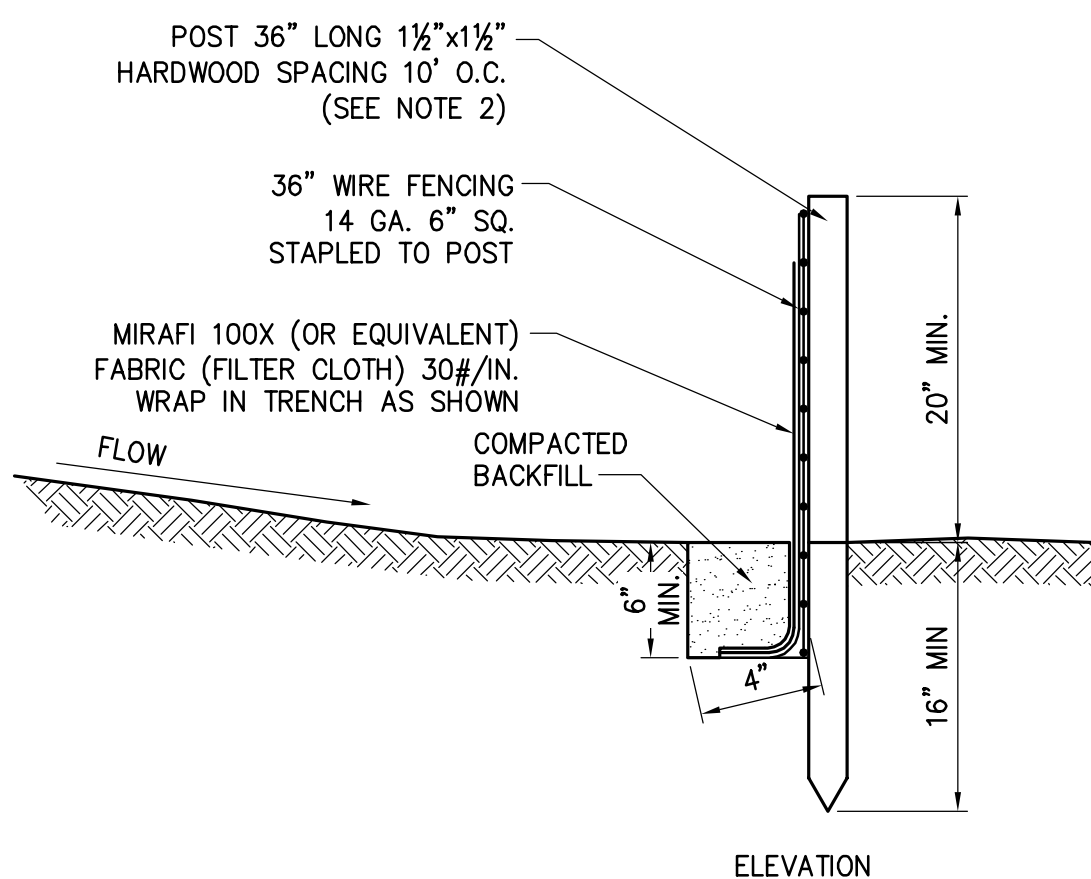
TYPICAL OUTFALL ON SLOPE



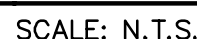
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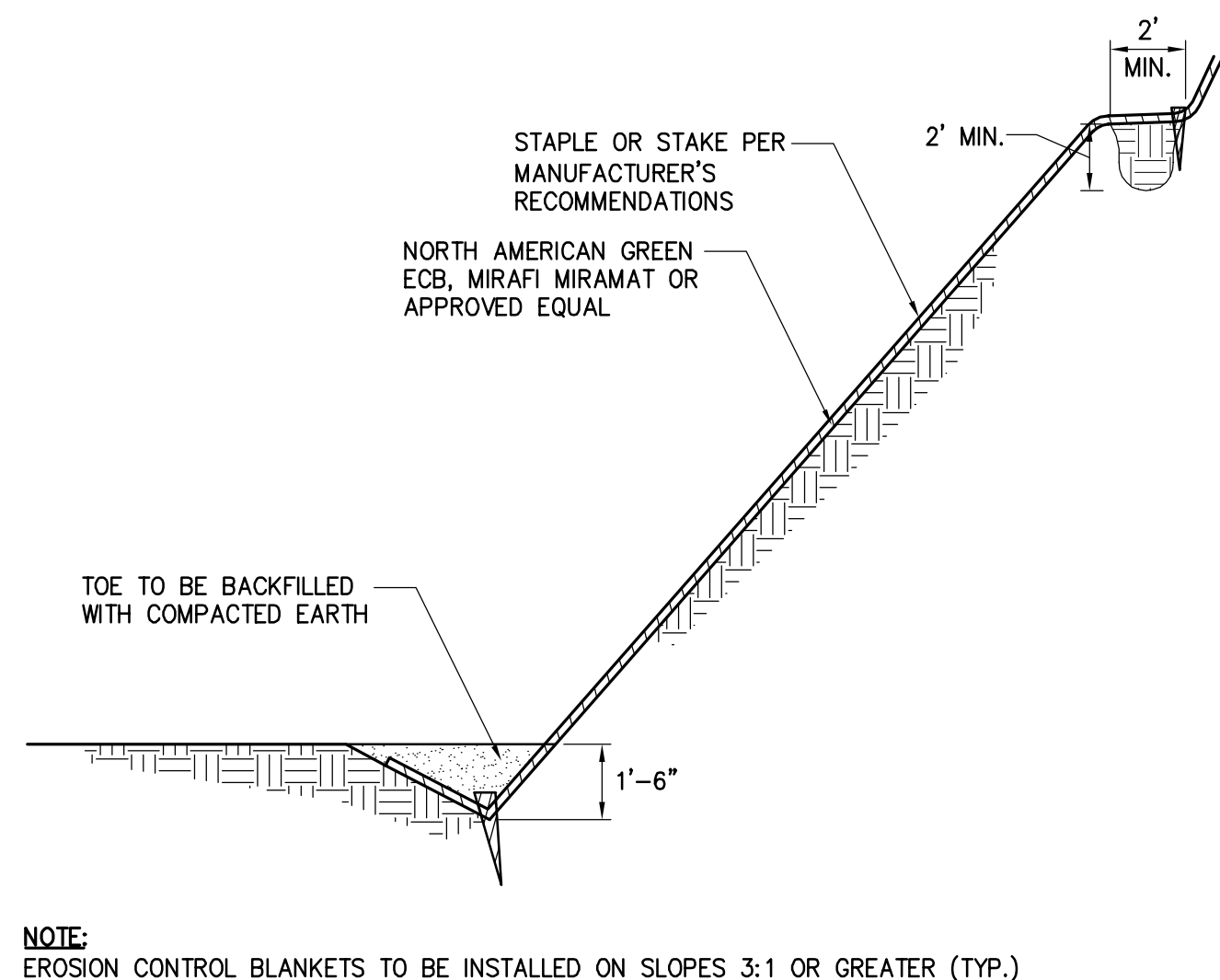


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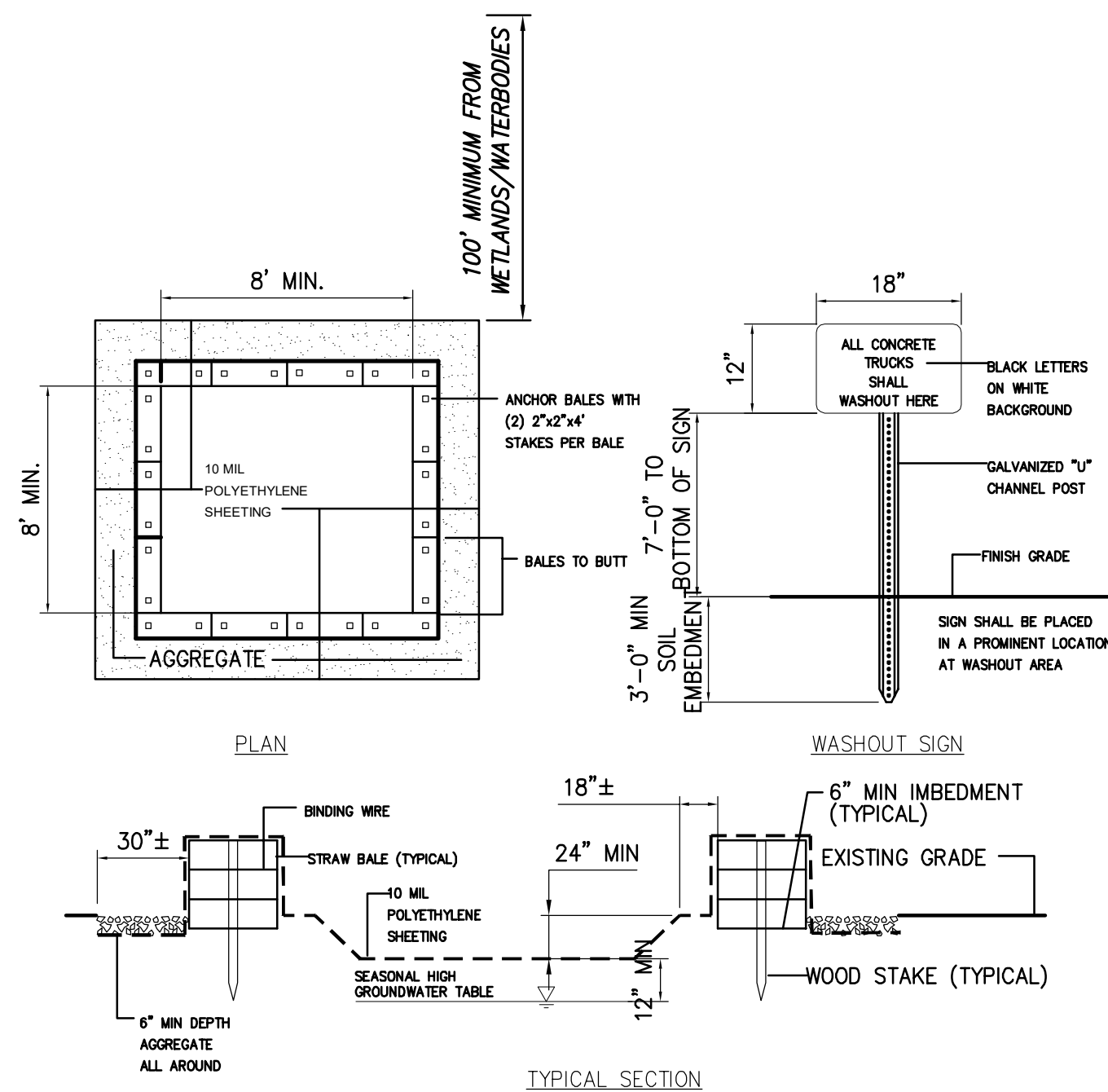
1. TIE FABRIC TO WIRE FENCE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. IF EXTRA STRENGTH FABRIC (GREATER THAN 50#/INCH) IS USED, WIRE CAN BE DELETED IF POST SPACING IS REDUCED TO 6' O.C.
3. AT THE ENDS OF THE FENCING THE FIRST 20' SHALL BE TURNED UP THE SLOPE 2'.
4. POSTS SHOULD BE INCLINED TOWARD THE DIRECTION FLOW CAME FROM.
5. OVERLAP FABRIC A MINIMUM OF 6" AND FOLDED AT JOINTS. ATTACH FILTER FABRIC TO STAKES ALLOWING EXTENSION INTO TRENCH AS SHOWN; SECURE TO STAKES AS NOTED.
6. THE MAXIMUM AREA OF RUNOFF PER 100LF. OF FENCE SHALL NOT EXCEED 0.25 ACRES.
7. MAINTENANCE SHALL BE PERFORMED AS NECESSARY. THE FENCING SHALL BE CHECKED AFTER EVERY STORM TO ENSURE THEY'RE PROPER FUNCTIONING.
8. WHEN FENCE IS NO LONGER NEEDED, THE ACCUMULATED SILT, THE POSTS AND FABRIC SHALL BE REMOVED AND TRENCH BACK FILLED WITH TOPSOIL AND SEEDDED.
9. FENCING SHOULD BE PLACED AS SHOWN ON THE DRAWING OR IF NOT SHOWN, 10' BEYOND THE TOE OF THE SLOPE AND AT A SPACING IN ACCORDANCE WITH THE TABLE.
10. EXCAVATE TRENCH AS PER DETAIL AND SET POSTS AT 10' O.C.
11. BACKFILL WITH COMPACTED, EXCAVATED SOIL FROM TRENCH.





3 EROSION CONTROL BANK STABILIZATION DETAIL

SCALE: N.T.S.



1. ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHALL BE PUMPED TO A STABILIZED AREA SUCH AS A GRASS FILTER STRIP.
2. ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF SITE.
3. DISPOSAL OF THE HARDENED MATERIAL SHALL BE OFF-SITE IN A CONSTRUCTION/DEMOLITION LANDFILL.
4. THE PLASTIC LINER SHALL BE REPLACED WITH EASILY CLEANABLE WASHOUT FACILITY.
5. INSPECT THE PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.
6. LOCATION(S) TO BE DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE
7. CONCRETE WASHOUTS SHALL NOT BE LOCATED WITHIN 200' OF ANY KNOWN WELL.

6 CONCRETE WASHOUT AREA

SCALE: N.T.S





File: V:\PROJECTS\ANY\K6\066076.000\09\_DESIGN\DRAWINGS\01\_SHEETS\DESIGN PACKAGE 1C\066076\_PHC - C-603.DWG Saved: 3/16/2023 10:21:03 AM Plotted: 3/16/2023 2:39:36 PM Current User: Moore, Elizabeth LastSavedBy: 3042

DEWATERING PLAN:  
CONSTRUCTION ACTIVITY WITHIN THE STREAM SHALL BE PROHIBITED BETWEEN OCTOBER 1 THROUGH MAY 31 FOR ALL STREAMS DESIGNATED AS TROUT WATER OR SUITABLE FOR TROUT SPAWNING.

DEWATERING PROCEDURES:  
TRAPPED WATER WITHIN THE TRENCH SHALL BE DISCHARGED INTO A PORTABLE SEDIMENT TANK OR SEDIMENT FILTER BAGS LOCATED AWAY FROM THE WATERBODY TO PREVENT SILT-LADEN WATER FROM FLOWING INTO THE WATERBODY.

DAM AND PUMP CROSSING PROCEDURES:  
BEFORE THE INITIATION OF ANY IN-STREAM ACTIVITIES, ALL MATERIAL ASSOCIATED WITH THE DAM AND PUMP SITE SET-UP MUST BE ON-HAND. THESE MATERIALS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:  
A)WATER BARRIERS  
B)DOWNSTREAM SPLASH PLATE  
C)PUMPS (PRIMARY AND SECONDARY) AND HOSES  
D)FUEL FOR PUMPS (STORED AT LEAST ONE HUNDRED (100) FEET FROM WATERBODY)  
E)SPILL PREVENTION AND CONTROL MATERIALS (INCLUDING SECONDARY CONTAINMENT FOR PUMPS LOCATED WITHIN ONE HUNDRED (100) FEET OF WETLAND OR WATERBODY)

ONCE THE NECESSARY MATERIALS ARE ON-LOCATION, SITE SET-UP MAY BEGIN. THE FIRST STEP IS TO SELECT AN APPROPRIATE LOCATION FOR THE PUMP INTAKE HOSE(S) TO BE POSITIONED, DEPENDING UPON THE CHANNEL CHARACTERISTICS, EITHER A NATURALLY OCCURRING DEEP SPOT OR CHANNEL WILL BE SELECTED AS A 'SUMP' OR A SUMP MAY NEED TO BE CREATED TO PROVIDE SUFFICIENT WATER DEPTH FOR THE SCREENED HOSE INTAKE(S). IF A NATURAL SUMP IS NOT AVAILABLE FOR THE INTAKE HOSE, AN IN-STREAM SUMP WILL BE CREATED BY EXCAVATING WITHIN THE STREAM CHANNEL AND SURROUNDING THE EXCAVATION USING SANDBAGS.

THE FOLLOWING BMPs SHALL BE IMPLEMENTED AT THE INTAKE OR SUMP SITE:  
A)ALL EQUIPMENT, MATERIAL, AND CONSTRUCTION PERSONNEL NECESSARY FOR THE CROSSING SHALL BE ON-SITE BEFORE SET-UP BEGIN  
SB)UPON COMPLETION OF THE WATERBODY CROSSING ANY SANDBAGS UTILIZED FOR A SUMP SHALL BE REMOVED AND THE STREAM CHANNEL RESTORED TO PRE-CONSTRUCTION CONDITION  
C)THE SUMP SHALL BE OF SUFFICIENT DEPTH TO PREVENT THE ENTRAINMENT OF EXCESSIVE AMOUNTS OF SEDIMENT INTO THE SUMP INTAKE, HOSE AND PUMP

DURING THE ASSEMBLY OF THE UPSTREAM AND DOWNSTREAM WATER BARRIERS, THE PUMPING NETWORK SHALL BE SETUP TO BEGIN THE TRANSFER OF WATER AROUND THE CONSTRUCTION WORK AREA.

THE PUMP INTAKE AND DISCHARGE HOSES SHALL BE APPROPRIATELY PLACED AND OF SUFFICIENT LENGTH, BASED UPON SITE-SPECIFIC CONDITIONS. THE INTAKE HOSE SHALL BE SCREENED TO PREVENT THE ENTRAINMENT OF FISH. DISCHARGE HOSES SHALL BE PROVIDED WITH SUPPORT OVER THE DITCH-LINE AS NEEDED TO PREVENT EXCESSIVE SAGGING AND REDUCTION OF PUMPING CAPACITY.

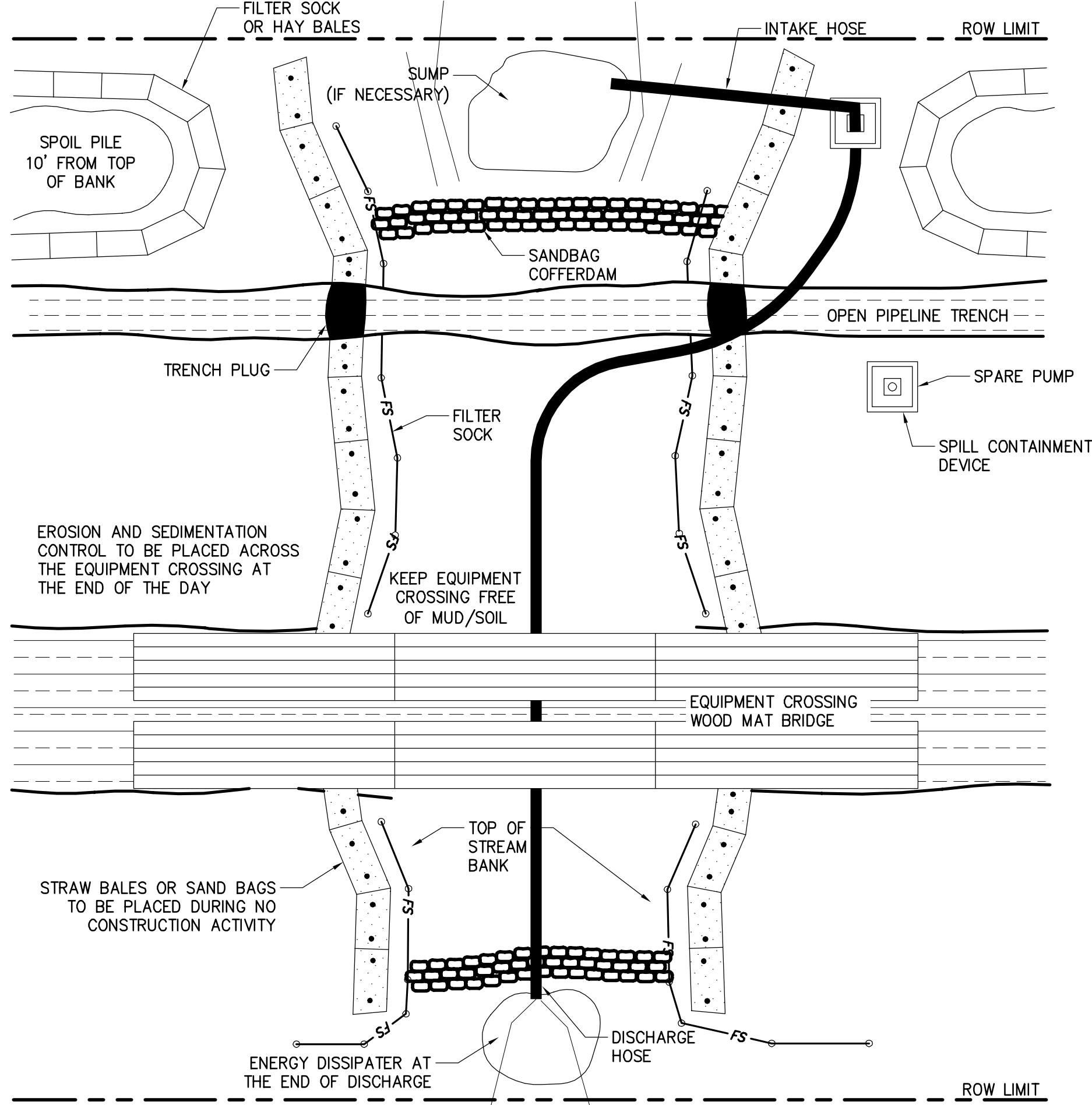
THE NUMBER AND SIZES OF PUMPS TO BE USED AT ANY CROSSING SHALL BE DEPENDENT UPON THE VOLUME OF WATER FLOWING AT THE TIME THE CROSSING IS MADE.

BMPs TO BE IMPLEMENTED DURING PUMP SET-UP INCLUDE:  
A)PUMPS SHALL BE FUELED PRIOR TO PLACING THEM IN POSITION  
B)IF IT IS NECESSARY TO REFUEL DURING THE PUMP OPERATION, EXTRA CARE SHALL BE TAKEN TO AVOID SPILLAGE AND SPILL CONTROL MATERIALS WILL BE READILY AVAILABLE ON SITE  
C)SECONDARY CONTAINMENT SHALL BE PLACED UNDER THE PUMPS AS AN ADDITIONAL PRECAUTIONARY MEASURE TO PROTECT AGAINST ACCIDENTAL LEAKAGE OR SPILL  
D)FUEL FOR FILLING THE PUMPS SHALL NOT BE STORED WITHIN ONE HUNDRED (100) FEET OF THE WATERBODY  
E)THE INTAKE HOSE SHALL BE SCREENED TO PREVENT THE ENTRAINMENT OF FISH  
F)THE END OF THE DISCHARGE HOSE SHALL BE MOUNTED UPON A SPLASH PLATE OR SIMILAR DEVICE OR IN A MANNER THAT WILL DISSIPATE THE ENERGY OF THE DISCHARGING WATER AND REDUCE OR ELIMINATE STREAMBED SCOUR  
G)IF HOSES CROSS THE TEMPORARY ACCESS ROAD, THEY SHALL BE PROTECTED FROM TRAVELING EQUIPMENT  
H)PUMP(S) SHALL BE OF SUFFICIENT CAPACITY TO TRANSFER TWICE THE CAPACITY OF THE ENTIRE STREAMFLOW AROUND THE CONSTRUCTION WORK AREA  
I)RESERVE OR BACKUP PUMP(S) SHALL BE KEPT ON SITE AT ALL TIMES.

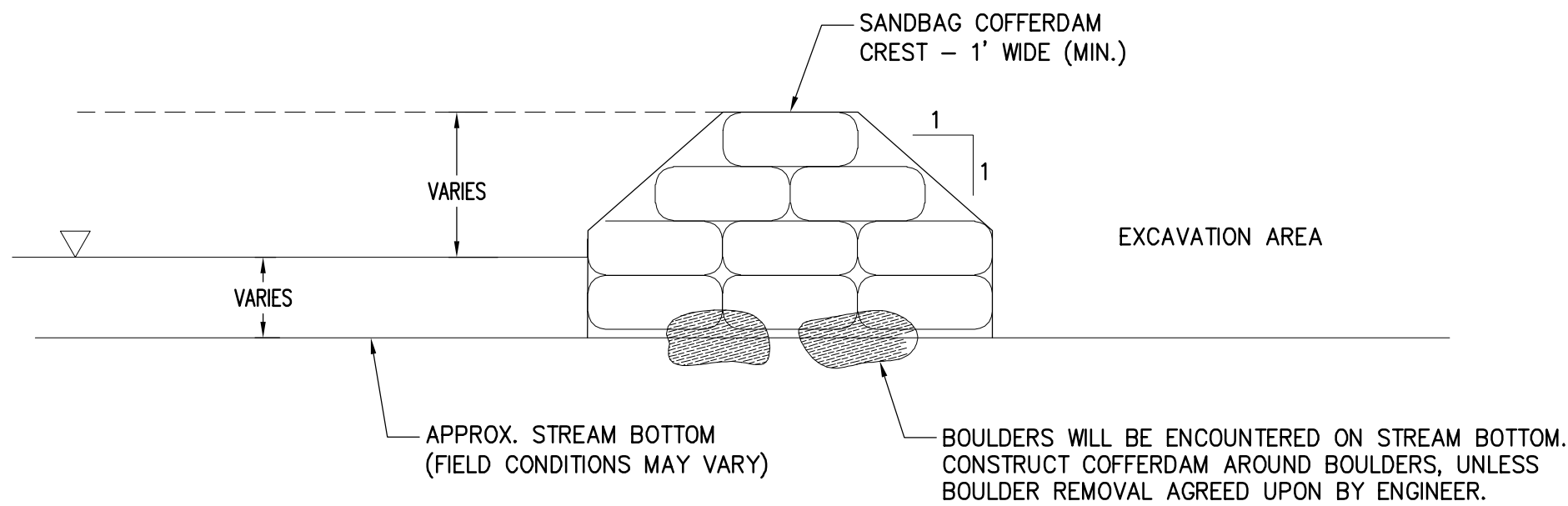
WATER BARRIER INSTALLATION

BETWEEN THE PUMP HOSE INTAKE OR SUMP HOLE AREA AND THE TRENCH, AS WELL AS DOWNSTREAM OF THE TRENCH, DAMS OF RELATIVELY IMPERVIOUS MATERIAL SHALL BE INSTALLED. THE UPSTREAM DAM SHALL BE COMPLETED FIRST. EVERY REASONABLE EFFORT SHALL BE MADE TO CONSTRUCT THE DAMS AS WATER TIGHT AS POSSIBLE.

THE FOLLOWING BMPs WILL BE IMPLEMENTED DURING WATER BARRIER INSTALLATION:  
A)DAMS SHALL BE CONSTRUCTED OF EITHER SANDBAGS, WATER BLADDERS, STEEL PLATES, PORTA-DAMS OR EQUIVALENT OR 'JERSEY BARRIERS' AND PLASTIC SHEETING OR A COMBINATION THEREOF  
B)THE DAMS SHALL BE CONSTRUCTED OF SUFFICIENT HEIGHT TO ALLOW ADEQUATE FREEBOARD UNDER REASONABLY EXPECTED WATER LEVELS OR FLOWS AND PROVIDE FOR SOME IMPOUNDMENT OF WATER  
C)PRIOR TO COMPLETION OF THE DAMS, THE PUMP(S) MUST BE STARTED IN ORDER TO PROVIDE DOWNSTREAM FLOW OF WATER AROUND THE CONSTRUCTION WORK AREA  
D)THE RATE OF PUMPING SHALL BE MONITORED TO MINIMIZE DRAINING OF THE INTAKE SUMP AND THE RESULTING CESSATION IN FLOW. ALTERNATIVELY, PUMPING SHALL BE MONITORED AND INCREASED AS NECESSARY TO PREVENT OVERTOPPING OF THE DAMS.



1 DAM AND PUMP AROUND STREAM CROSSING  
SCALE: N.T.S.



2 SANDBAG COFFERDAM DETAIL  
SCALE: N.T.S.

- NOTES:  
1. SAND BAGS SHALL BE FILTER FABRIC TYPE AND BE DOUBLE BAGGED.  
2. PORTADAM, BY PORTADAM, INC. SHALL BE CONSIDERED ACCEPTABLE SUBSTITUTE TO SAND BAGS

- GENERAL SEQUENCE:  
1. SCHEDULE CONSTRUCTION DURING LOW FLOW PERIOD, IF POSSIBLE.  
2. SET UP PUMP AND HOSE AS SHOWN, OR USE PRACTICAL ALTERNATIVES. PUMP SHOULD HAVE TWICE THE PUMPING CAPACITY OR ANTICIPATED FLOW. HAVE STANDBY PUMP ON SITE. DEPENDING ON STREAM FLOW, DIG SUMP HOLE TO CONCENTRATE WATER AT INTAKE.  
3. INSTALL UPSTREAM DAM COMPOSED OF SANDBAGS, METAL PLATING OR A COMBINATION OF BOTH. INSTALL DOWNSTREAM DAM, IF REQUIRED, TO KEEP STREAM BED DRY.  
4. AFTER DAMS ARE IN PLACE, IT MAY BE NECESSARY TO USE ADDITIONAL PUMPS TO HANDLE STREAM FLOW.  
5. EXCAVATE TRENCH AND LOWER IN PIPE UNDER HOSE. MOVE HOSE AS REQUIRED OR DISCONNECT, IF TEMPORARY FLOW BLOCKAGE IS ACCEPTABLE. BACKFILL TRENCH.  
6. DISMANTLE DOWNSTREAM DAM, THEN UPSTREAM DAM. KEEP PUMP RUNNING TO MAINTAIN STREAM FLOW.  
7. RESTORE STREAM BANKS AND APPROACHES FOR A MINIMUM DISTANCE OF AT LEAST 50 FEET FROM THE STREAM EDGES AND PERMANENTLY STABILIZE WITHIN 1 DAY OF INITIAL RESTORATION.



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION					DB	APP	

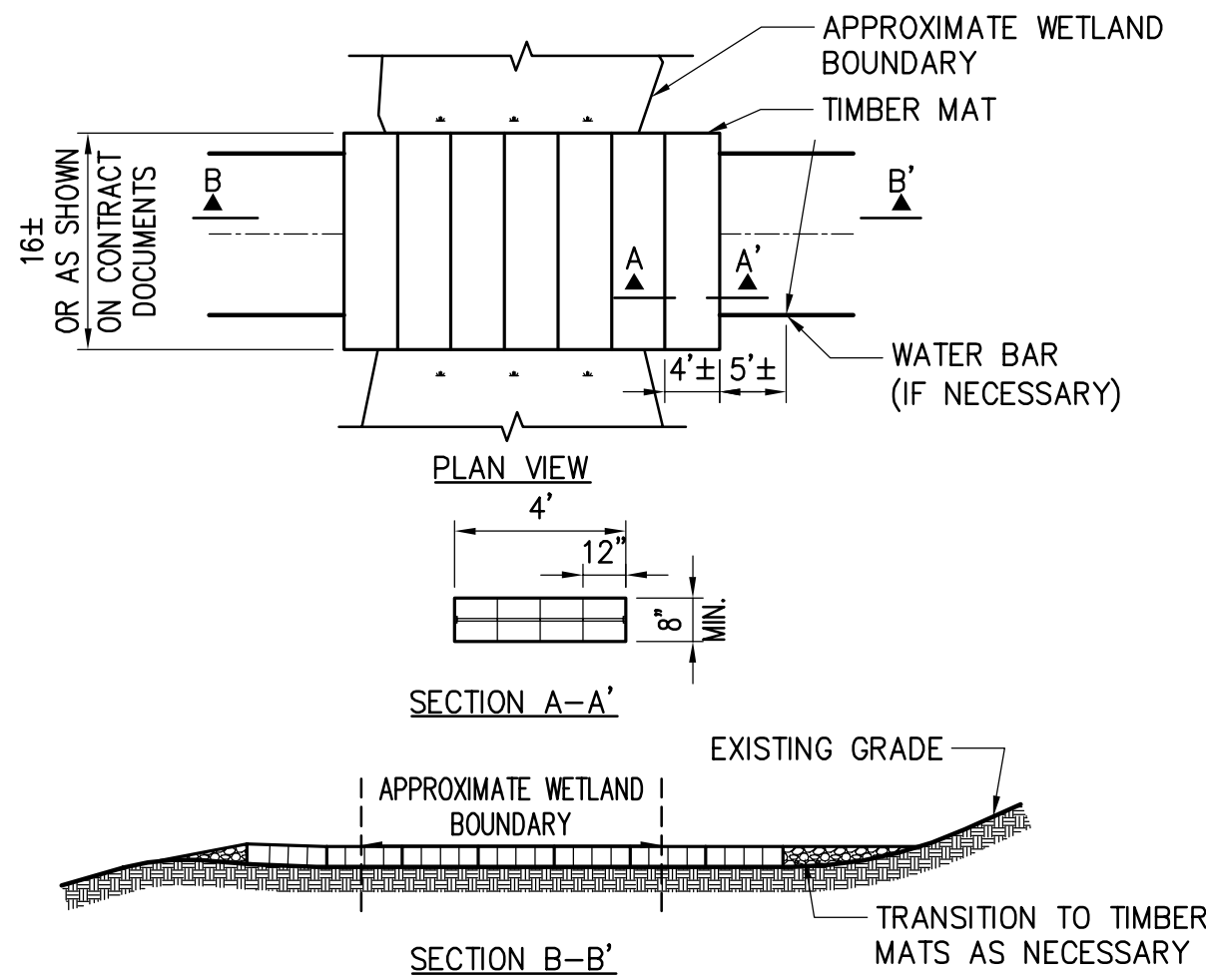
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN  
EROSION AND SEDIMENT CONTROL DETAILS

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-603
DATE	03/22/2023

DRAWN BY: JTM DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED REV. NO.



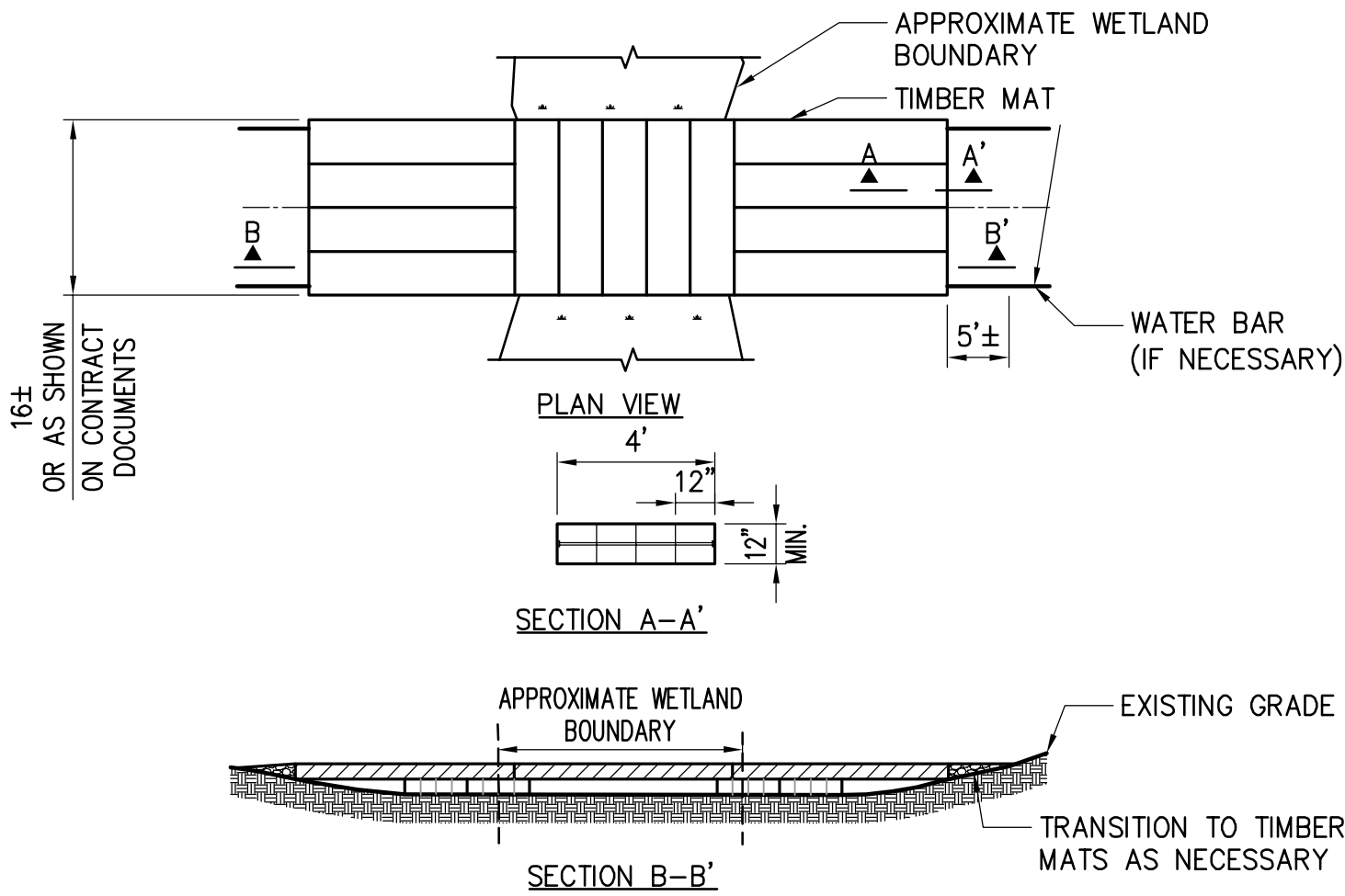
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- NOTES:
1. TIMBER MATS SHOULD BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
  2. BASED ON ACTUAL SITE CONDITIONS, MULTIPLE LAYERS OF TIMBER MATS MAY BE REQUIRED.
  3. TIMBER MAT SURFACE SHOULD BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
  4. SEDIMENT TRACKED ONTO TIMBER MATTING SHOULD BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND DURING RAIN EVENTS. SEDIMENT SHOULD BE REMOVED TO A STABILIZED SOIL STOCKPILE OR OTHER APPROVED LOCATION.
  5. PERIMETER EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
  6. UNLESS PERMITTED FROM REMOVAL, STUMPS WITHIN THE WETLAND SHOULD REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
  7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD SHOULD BE REMOVED. IF EXPOSED SOILS ARE PRESENT STRAW MULCH SHOULD BE APPLIED.

NOTE: GEOTEXTILE FABRIC TO BE INSTALLED UNDER MATTING (TYP)

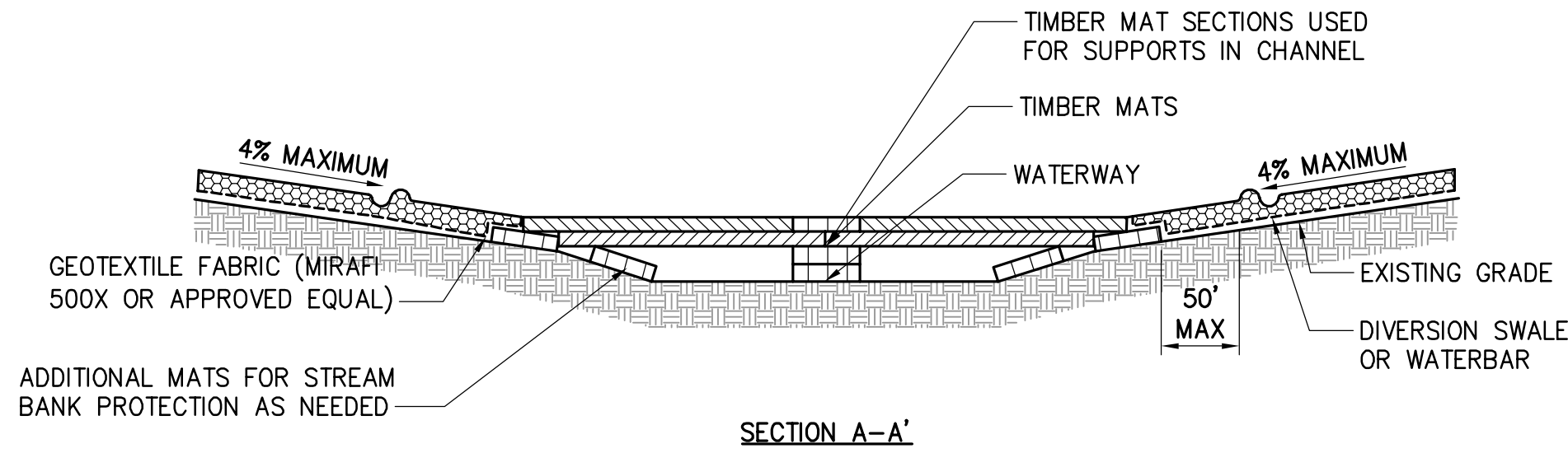
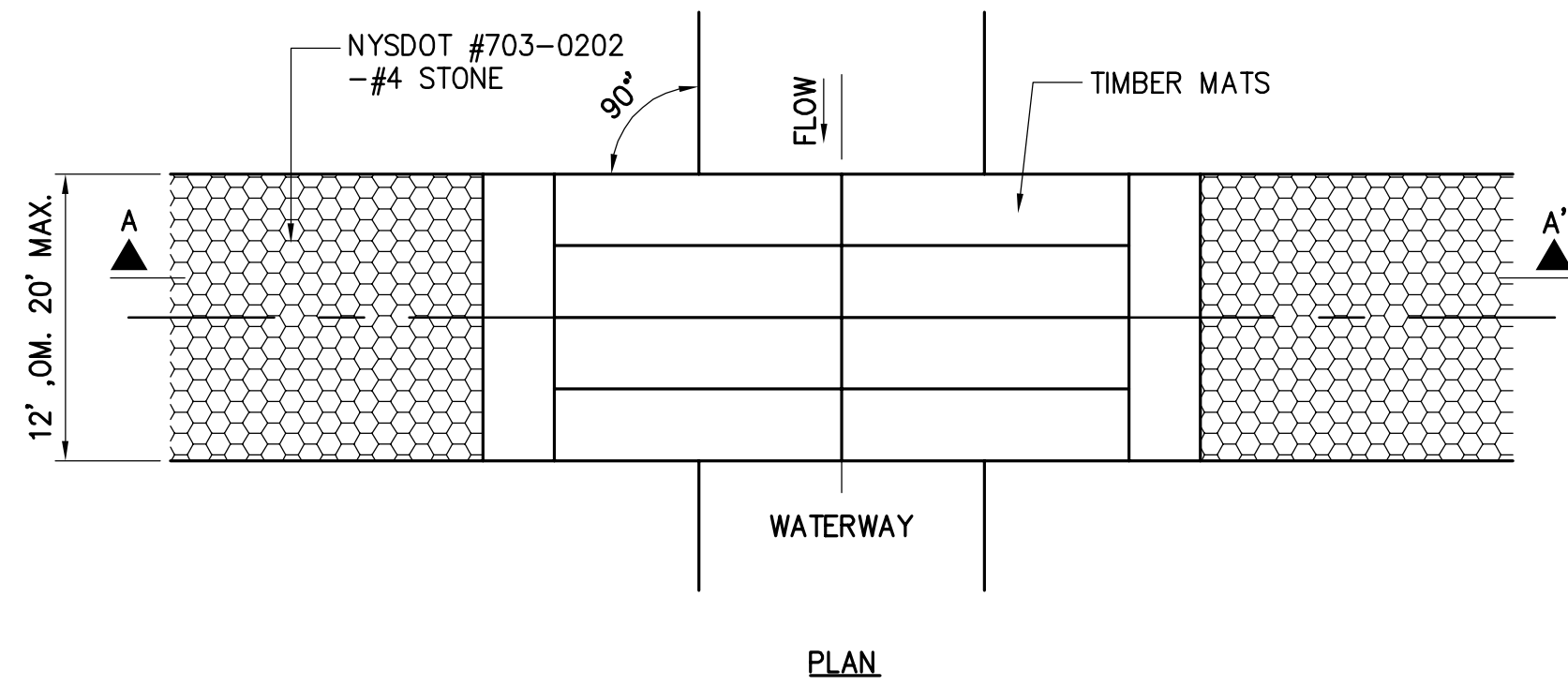
☐ OPTION "A"  
NOT TO SCALE



- NOTES:
1. TIMBER MATS SHOULD BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
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NOTE: GEOTEXTILE FABRIC TO BE INSTALLED UNDER MATTING (TYP)

☐ OPTION "B"  
NOT TO SCALE

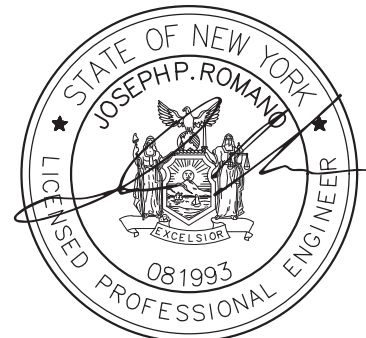


- NOTES:
1. IN-STREAM EXCAVATION SHOULD BE COMPLETED IN ACCORDANCE WITH "TEMPORARY ACCESS WATERWAY CROSSING" ON PAGE 2.32 OF THE 2016 NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (OR NEWEST VERSION) AND THE CERTIFICATE.
  2. THE CONSTRUCTION OF ANY CROSSING SHOULD NOT CAUSE A SIGNIFICANT WATER LEVEL DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. IN-STREAM WORK WILL BE PROHIBITED WITHIN COLD WATER TROUT FISHERIES FROM OCTOBER 1 TO MAY 31.
  3. ALL FILL MATERIALS ASSOCIATED WITH THE ROADWAY APPROACH SHOULD BE LIMITED TO A MAXIMUM HEIGHT OF 2 FEET ABOVE THE EXISTING FLOOD PLAIN ELEVATION.
  4. A WATER DIVERTING STRUCTURE SUCH AS A SWALE OR WATER BAR SHOULD BE CONSTRUCTED (ACROSS THE ROADWAY ON BOTH ROADWAY APPROACHES) 50 FEET (MAXIMUM) ON EITHER SIDE OF THE WATERWAY CROSSING. THIS WILL PREVENT ROADWAY SURFACE RUNOFF FROM DIRECTLY ENTERING THE WATERWAY. THE 50 FEET MEASURED IS MEASURED FROM THE TOP OF THE WATERWAY BANK. IF THE ROADWAY APPROACH IS CONSTRUCTED WITH A REVERSE GRADE AWAY FROM THE WATERWAY, A SEPARATE DIVERTING STRUCTURE IS NOT REQUIRED.
  5. ALL CROSSINGS SHOULD HAVE ONE TRAFFIC LANE. THE MINIMUM WIDTH SHOULD BE 12 FEET WITH A MAXIMUM WIDTH OF 20 FEET.

☐ OPTION "C"  
NOT TO SCALE

## 1 TIMBER MATTING

SCALE: N.T.S.



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

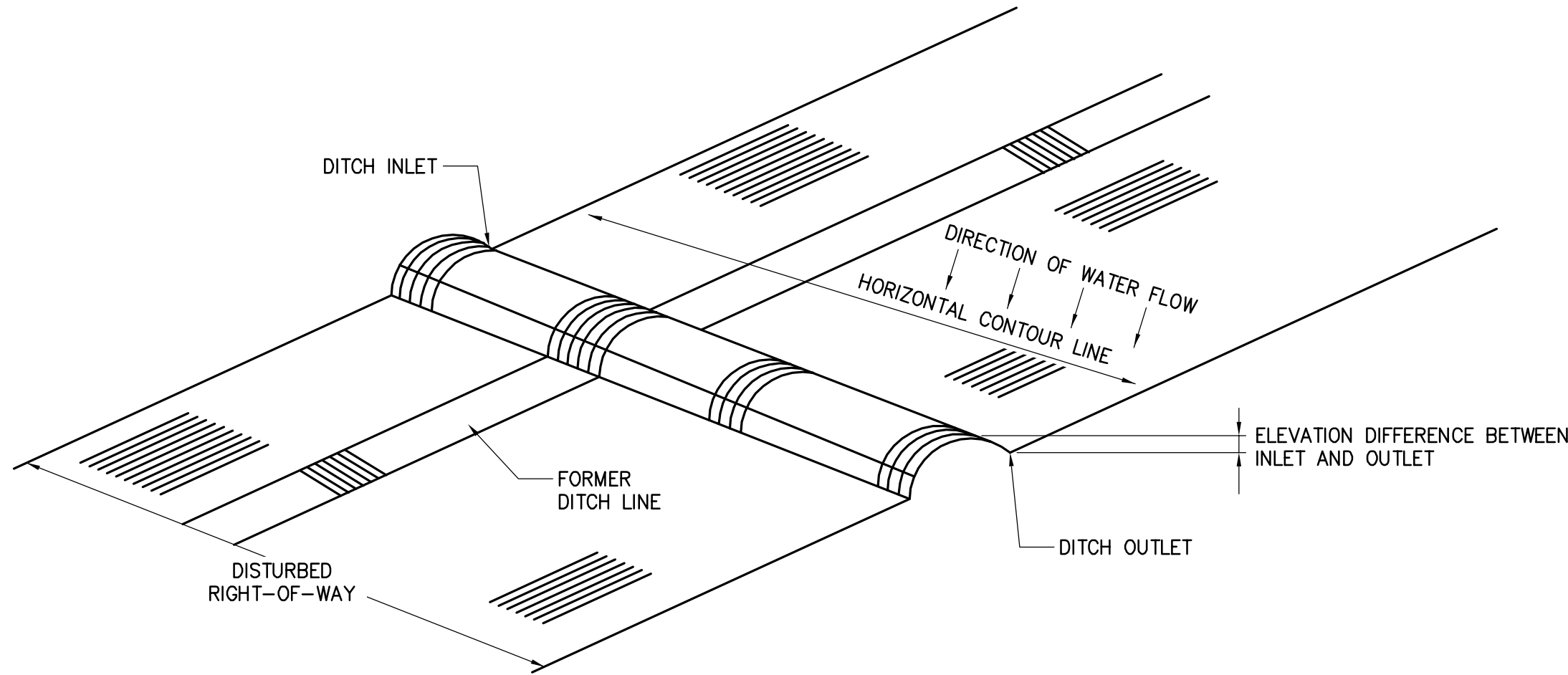
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN  
WETLAND CROSSING DETAILS

DRAWN BY: JJE DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED REV. NO. X

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-611
DATE	03/22/2023



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WATER SHALL BE DIVERTED OFF THE DISTURBED RIGHT-OF-WAY AT AN OUTSLOPE OF THREE TO FIVE PERCENT BY CONSTRUCTING DIVERSION DITCH ACCORDING TO THE FOLLOWING PROCEDURES:

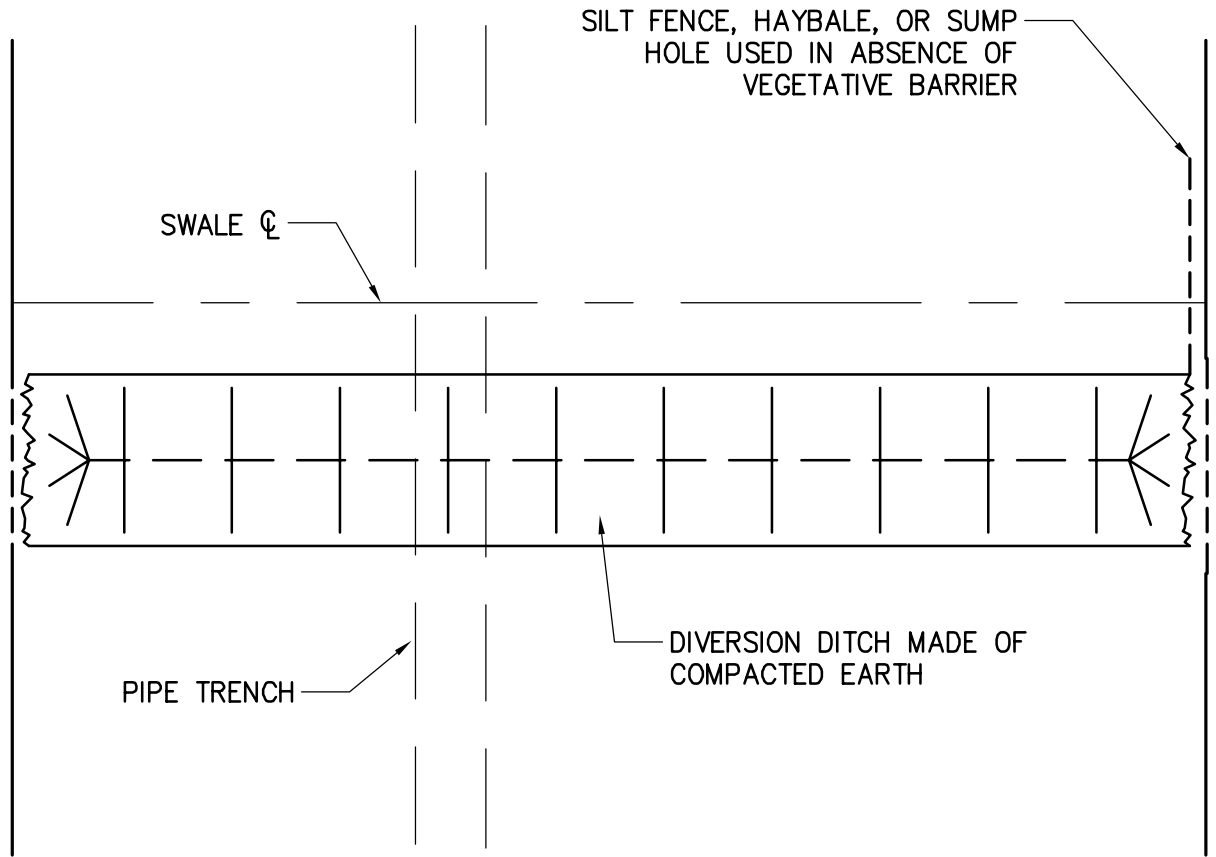
1. AT THE PROPOSED INTERCEPTOR DITCH LOCATION ESTABLISH A HORIZONTAL CONTOUR LINE (USING A POCKET TRANSIT OR HAND LEVEL) WHICH EXTENDS COMPLETELY ACROSS THE DISTURBED RIGHT-OF-WAY. THIS LINE WILL ALWAYS BE PERPENDICULAR TO THE DIRECTION OF WATER FLOW AND SHOULD BE PARALLEL TO THE MAP CONTOURS SHOWN ON THE PLAN DRAWINGS.
2. DETERMINE WHICH SIDE OF THE RIGHT-OF-WAY IS BEST SUITED FOR THE DITCH OUTLET (EVALUATE VEGETATION DENSITY, LOCAL TOPOGRAPHY, ETC.) AND DEVIATE DIKE AWAY FROM THE HORIZONTAL CONTOUR LINE SLIGHTLY DOWNWARD TOWARD THE SELECTED OUTLET SIDE MAINTAINING A THREE TO FIVE PERCENT SLOPE. AS AN EXAMPLE, THE CHART AT THE RIGHT SHOWS DIMENSIONS ASSUMING A FOUR PERCENT SLOPE.
3. WHEN OUTLETTING NEAR WATER BODIES, STREAMS, DITCHES, & CROP FIELDS, A FILTER FENCE OR STRAW BALE FENCE SHOULD BE PLACED ON OUTLET END OF THE DIVERSION DITCH.

TEMPORARY DRAINAGE DITCH

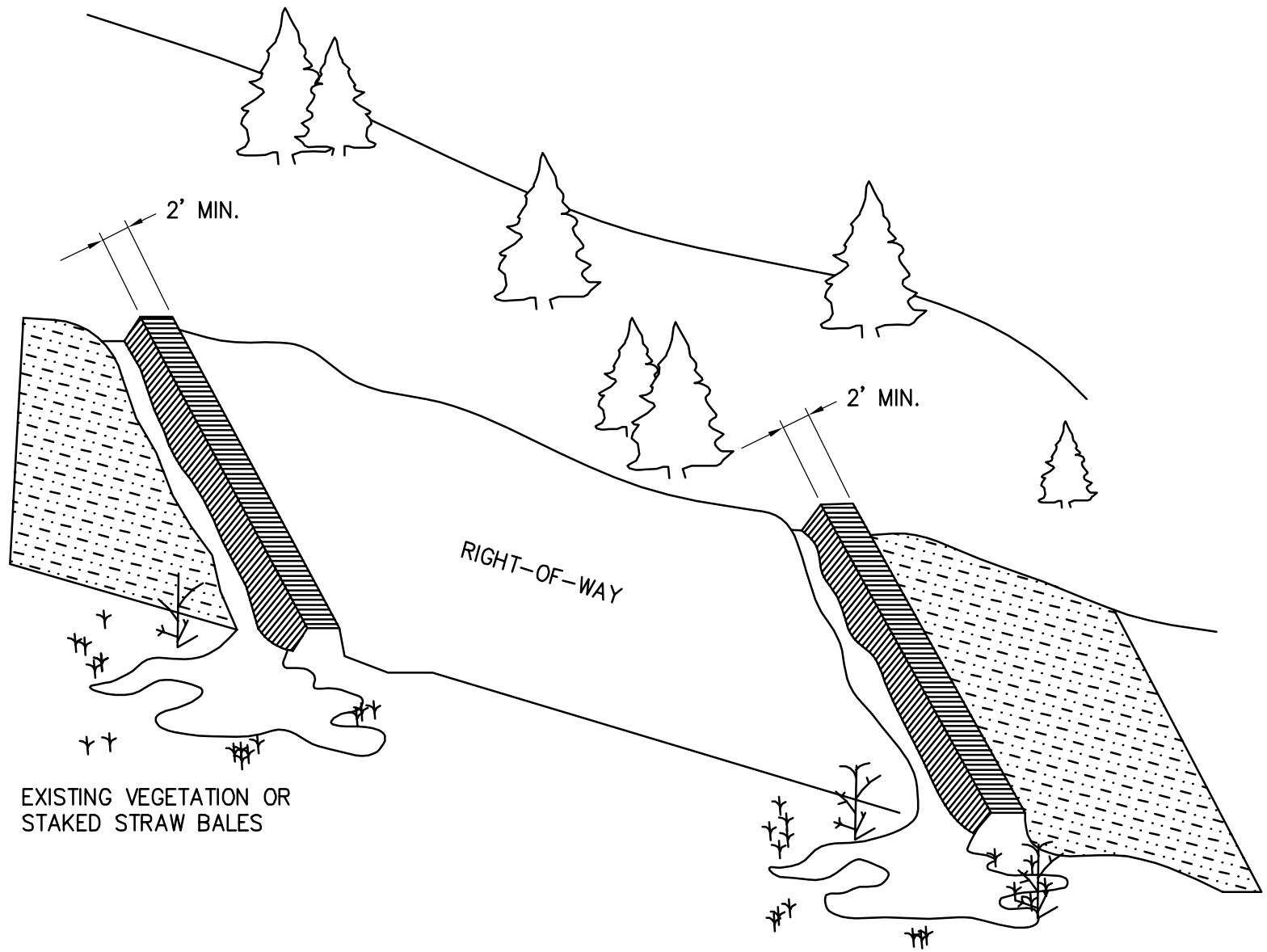
NOTES:

1. TEMPORARY DIVERSION DITCH SHOULD BE BUILT SIMILAR TO THE PERMANENT DITCH CONFIGURATION BUT THE DIMENSION CAN BE SCALED BACK.
2. MAXIMUM HEIGHT SHOULD BE 12" AND SHOULD BE COMPACTED.
3. SPACING BETWEEN DIVERSION DITCHES AND SKEW OF THE DIVERSION DITCHES CAN VARY FROM THE PERMANENT DIVERSION DITCHES.
4. WHEN CONSTRUCTING TEMPORARY DIVERSION DITCHES THEY SHOULD BE FUNCTIONAL, WHILE MAINLINE CONSTRUCTION IS PROCEEDING, UNTIL RESTORATION BEGINS AND PERMANENT DIVERSION DITCHES ARE THEN CONSTRUCTED.

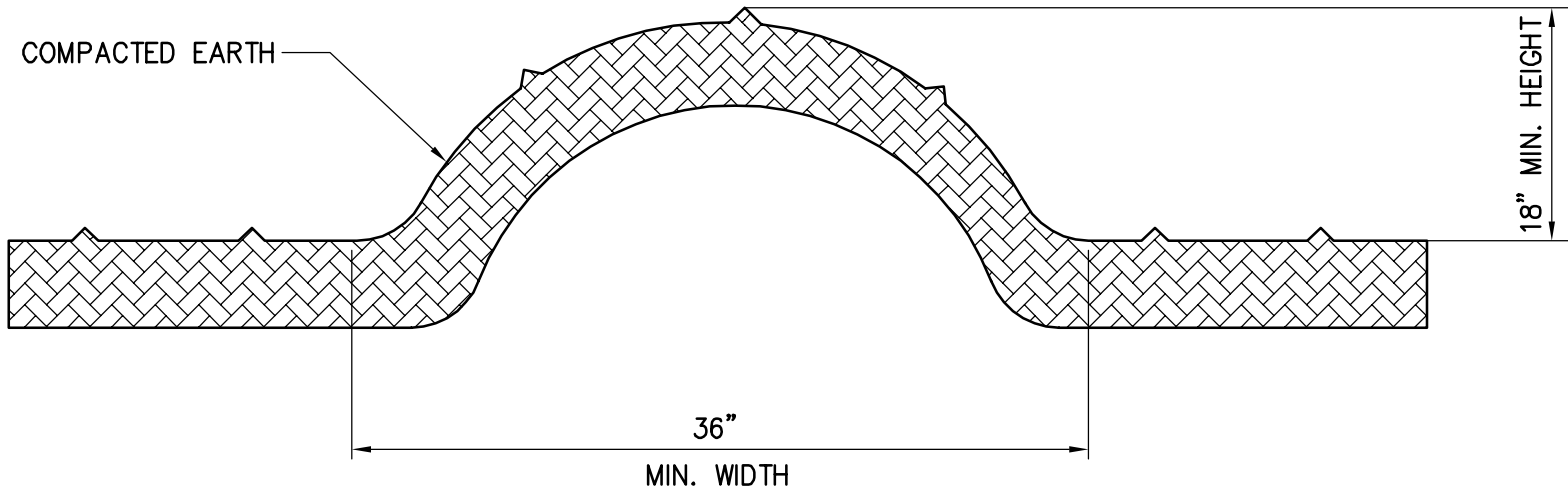
4% FLOW CHART	
HORIZONTAL DISTANCE BETWEEN WATERBAR INLET & OUTLET (FEET)	ELEVATION DISTANCE BETWEEN WATERBAR INLET AND OUTLET (FEET)
75	3
100	4
125	5
150	6
175	7



OVERHEAD VIEW



1 PERMANENT DIVERSION DITCH DETAIL  
SCALE: N.T.S.



2 MINIMAL HEIGHT & WIDTH DIMENSIONS FOR WATERBAR CONSTRUCTION  
SCALE: N.T.S.



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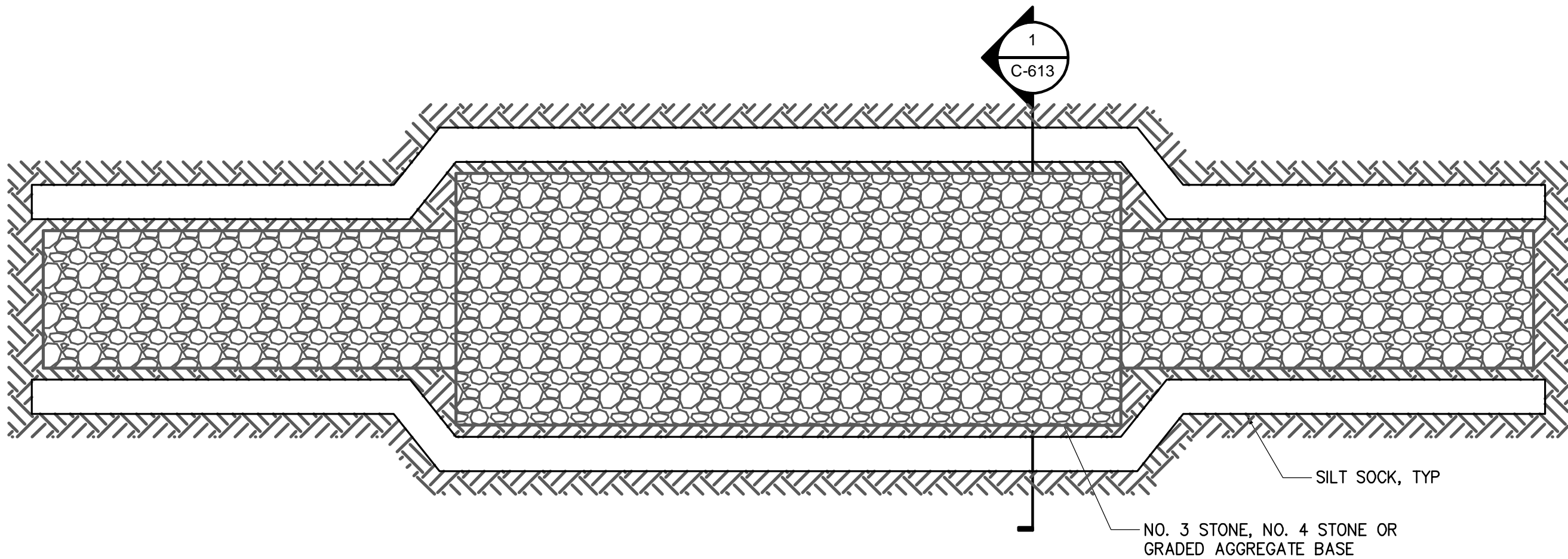
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN  
WATERBAR DETAILS

DRAWN BY: xxx DESIGNED BY: xxx APPROVED BY: xxx SCALE AS NOTED  
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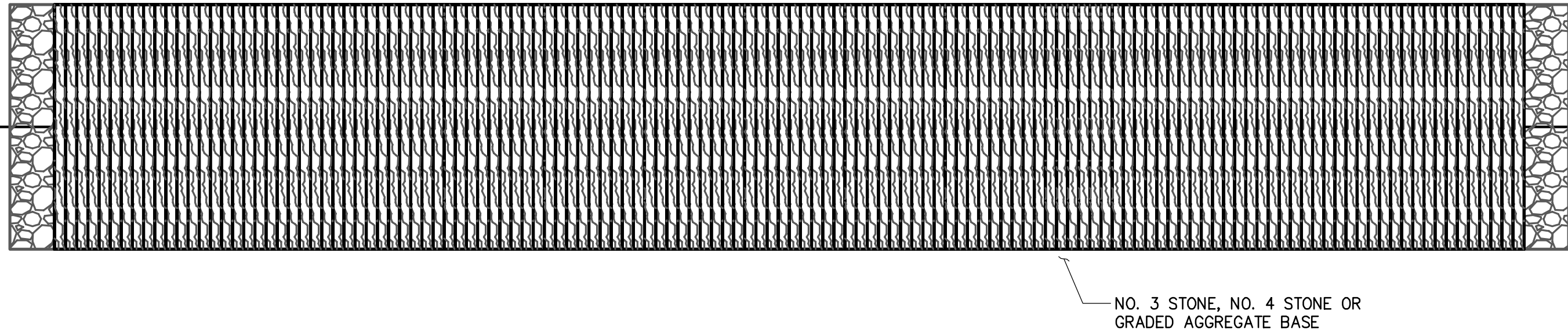
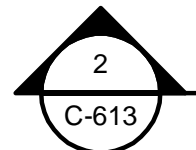
KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-612
DATE	03/22/2023



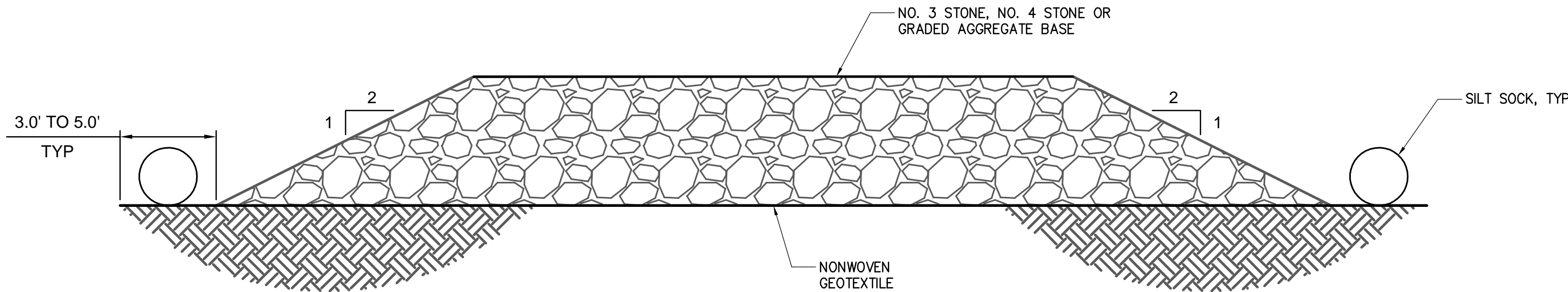
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WETLAND WORKING SURFACE PLAN - OPTION A  
NOT TO SCALE



WETLAND WORKING SURFACE PLAN - OPTION B  
NOT TO SCALE



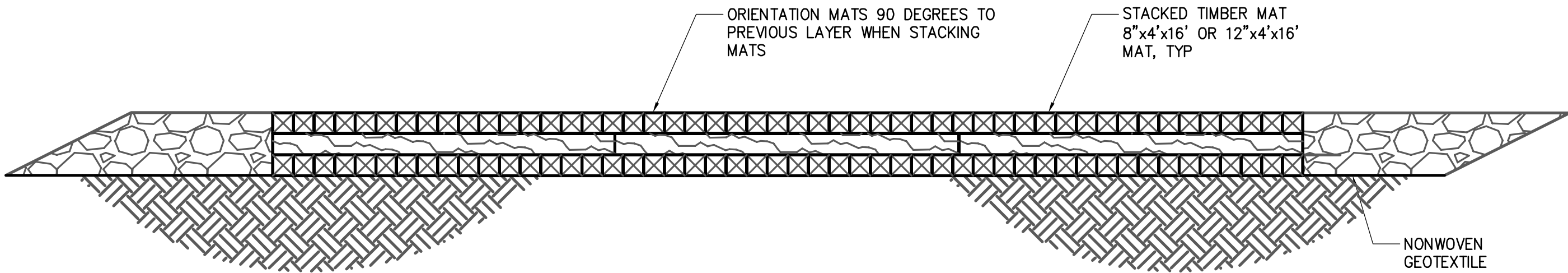
SECTION 1  
NOT TO SCALE

NOTES:

1. UNDERCUT AND REMOVE TOP SOIL PRIOR TO PLACING GEOTEXTILE FABRIC.
2. A LAYER OF CLEAN CRUSHED STONE SHALL BE LAID ON TOP OF THE GEOTEXTILE FABRIC.
3. GEOTEXTILE FABRIC SHALL EXTEND AT LEAST 3 FT TO 5 FT BEYOND THE EDGE OF STONE PLACEMENT TO MINIMIZE STONE ENTERING THE WETLAND AND FACILITATE REMOVAL OF THE ROAD.
4. SUITABLE CROSS DRAINING SHALL BE PROVIDED ACROSS THE ROAD FOR STREAM CHANNELS AND SURFACE FLOW.
5. AREA TO BE RESTORED IN ACCORDANCE WITH THE EM&CP SECTION 14

GENERAL NOTES:

1. TIMBER:
  - A. TIMBER SHALL BE SELECT STRUCTURAL MIXED OAK WITH A MINIMUM BENDING STRESS OF 1250 PSI OR BETTER.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO COMMENCING WORK. ANY ERRORS, OMISSIONS, OR UNUSUAL CONDITIONS ARE TO BE REPORTED TO THE TEMPORARY STRUCTURES AND CONSTRUCTION DEVICES ENGINEER IMMEDIATELY.



SECTION 2  
NOT TO SCALE

NOTES:

1. TIMBER MATS SHOULD BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
2. BASED ON ACTUAL SITE CONDITIONS, NUMBER OF TIMBER MAT LAYERS TO BE DETERMINED ON SITE.
3. TIMBER MAT SURFACE SHOULD BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
4. SEDIMENT TRACKED ONTO TIMBER MATTING SHOULD BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND DURING RAIN EVENTS. SEDIMENT SHOULD BE REMOVED TO A STABILIZED SOIL STOCKPILE OR OTHER APPROVED LOCATION.
5. PERIMETER EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
6. UNLESS PERMITTED FROM REMOVAL, STUMPS WITHIN THE WETLAND SHOULD REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD SHOULD BE REMOVED. IF EXPOSED SOILS ARE PRESENT STRAW MULCH SHOULD BE APPLIED.
8. IF DEEMED NECESSARY BY CONSTRUCTION IN THE FIELD, GEOTEXTILE FABRIC TO BE INSTALLED UNDER MATTING. (TYP)
9. AREA TO BE RESTORED IN ACCORDANCE WITH THE EM&CP SECTION 14.



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.

1	04/06/2023	REVISED PER DPS COMMENTS	JTM	JPR	
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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

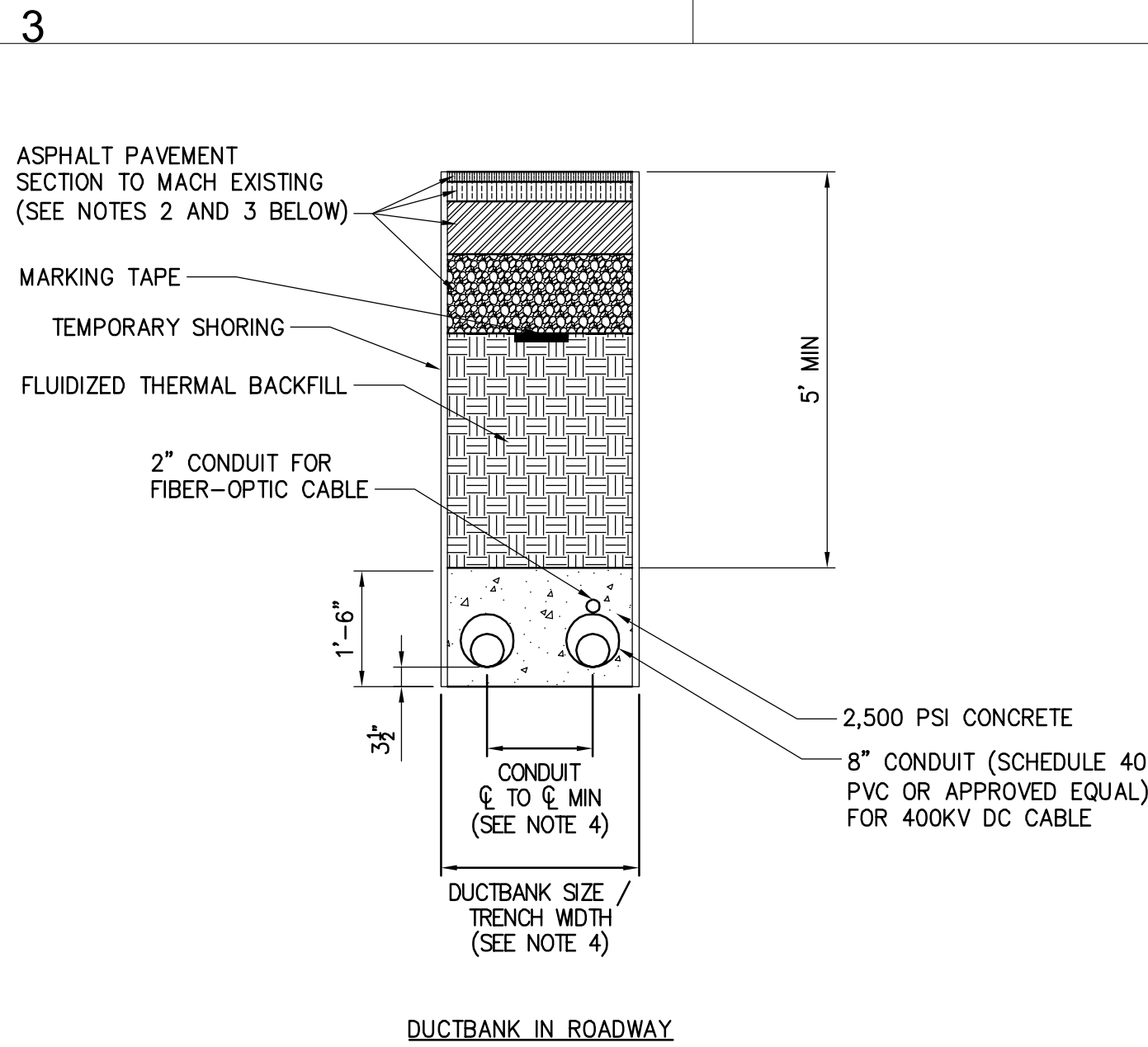
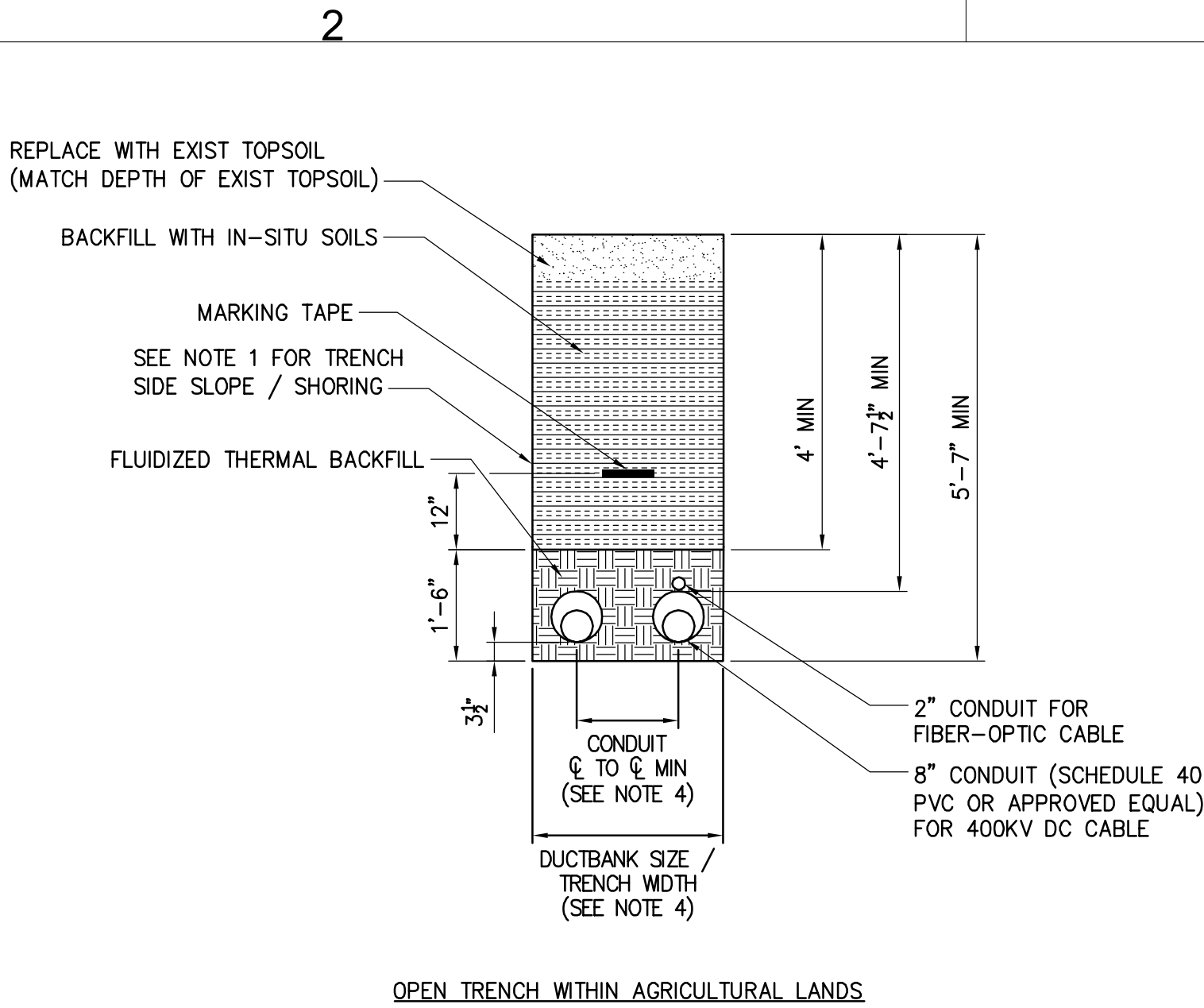
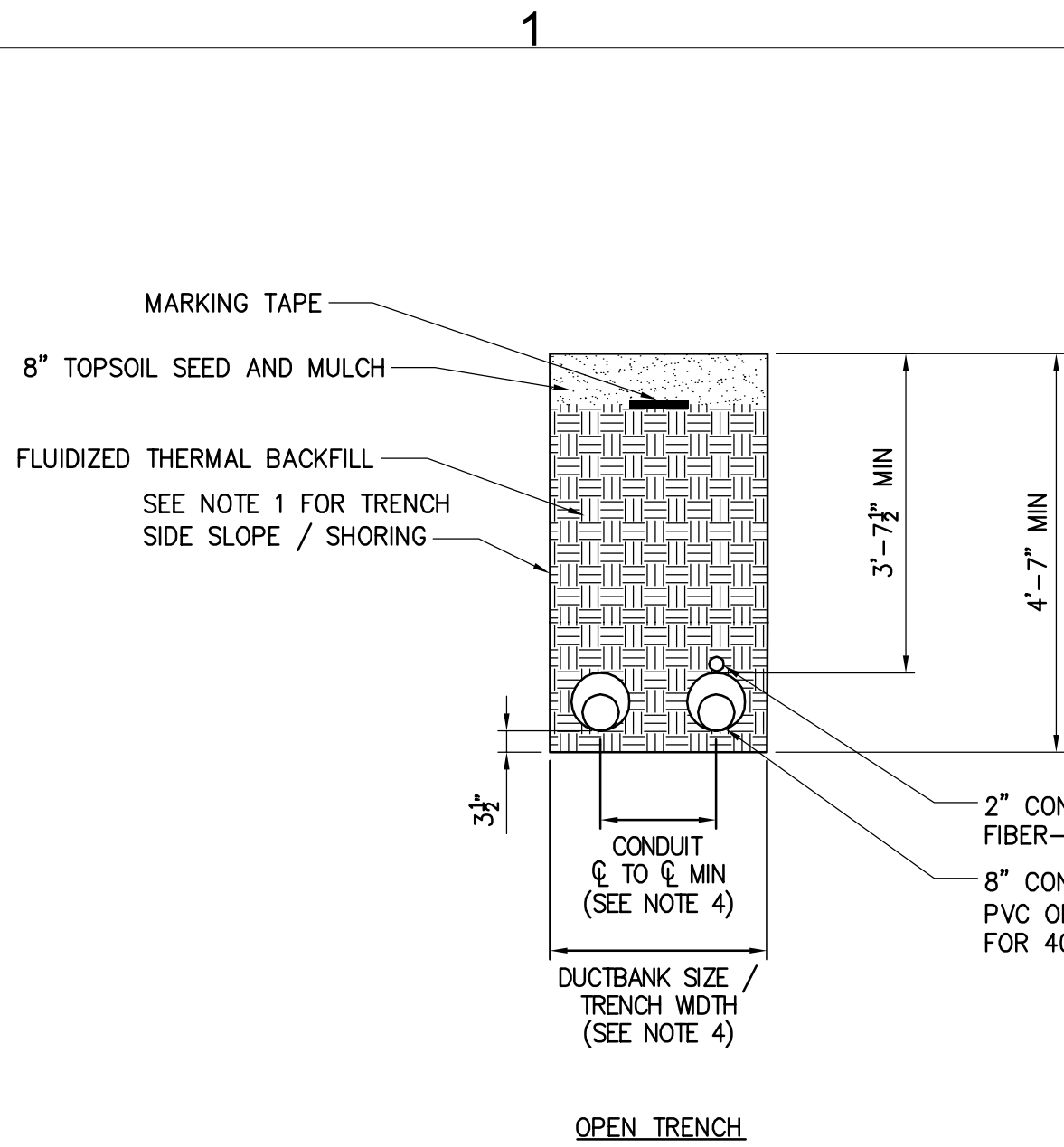
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN  
WETLAND WORKING SURFACE PLAN

DRAWN BY: xxx DESIGNED BY: xxx APPROVED BY: xxx SCALE AS NOTED DATE 03/22/2023

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-613
DATE	03/22/2023

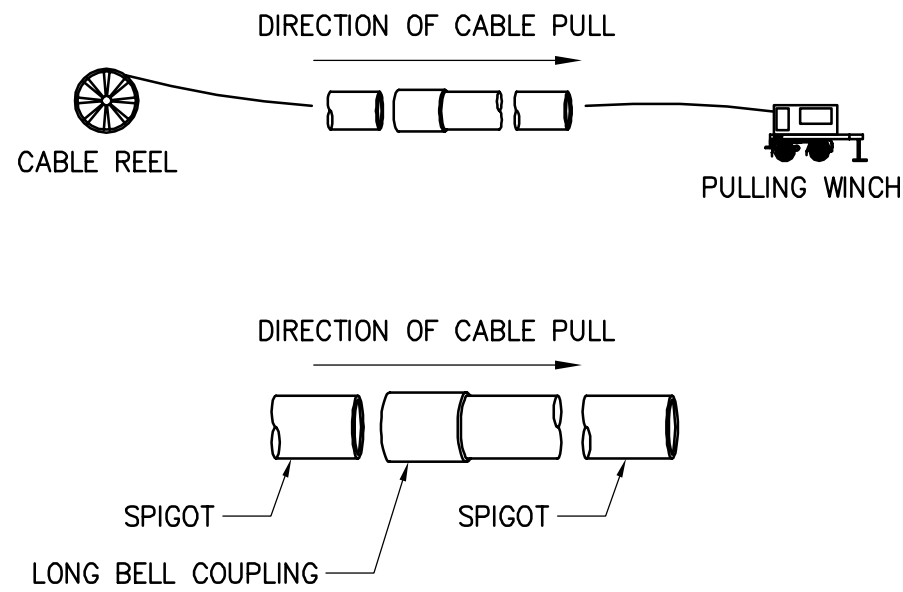


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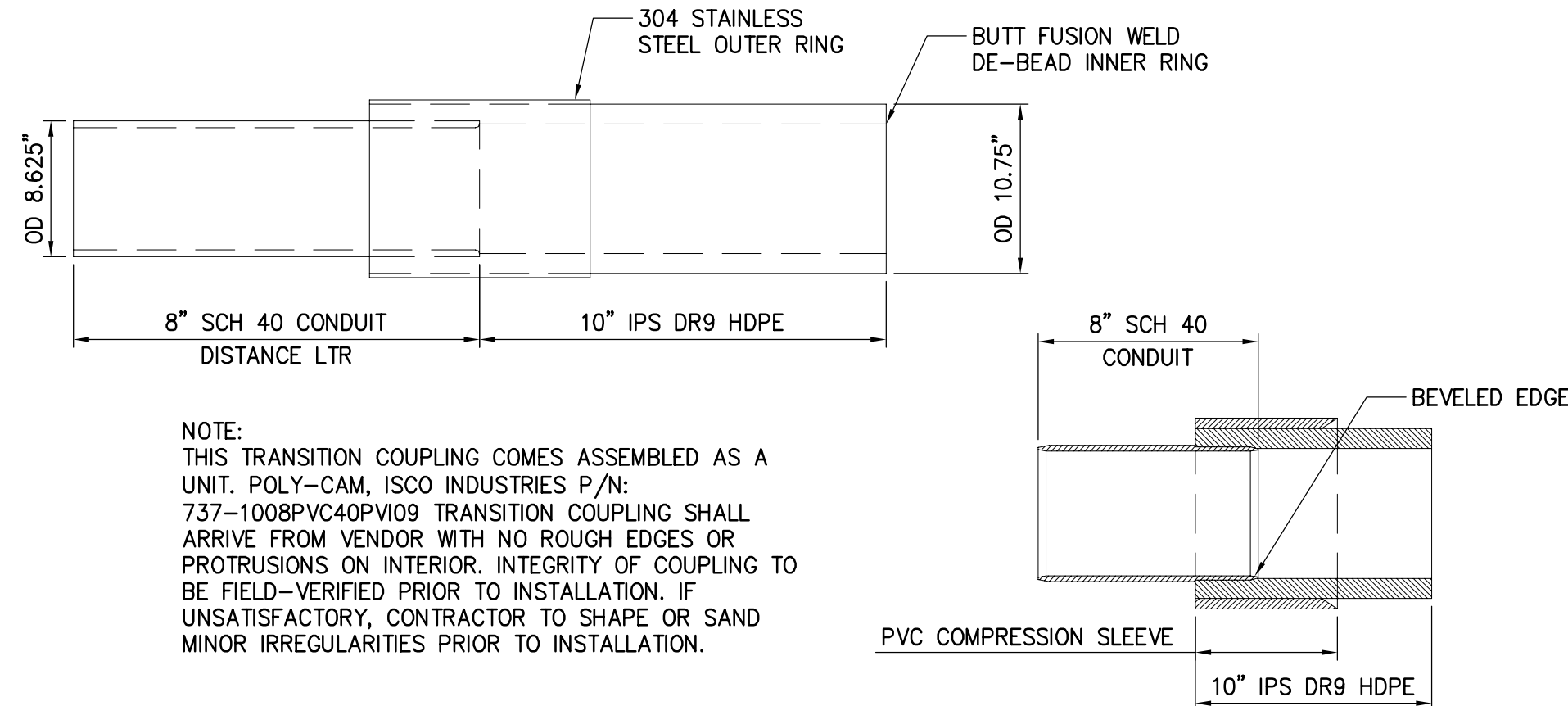


- NOTES:
1. SLOPING, BENCHING, OR SHORING SHALL BE IN ACCORDANCE WITH OSHA EXCAVATION STANDARDS, 29 CFR PART 1926, SUBPART P. AT LOCATIONS WHERE THE TRENCH IS NOT SHORED, SLOPING AND/OR BENCHING WILL DEPEND ON TYPE OF SOILS ENCOUNTERED ON SITE. SLOPE FROM EDGE OF ROADWAY TO BOTTOM OF EXCAVATIONS MAY BE FLATTER THAN 2:1 (H:V) FOR AASHTO HS-20 LOADING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EVALUATING SLOPE STABILITY BASED ON ACTUAL EQUIPMENT FOR SITE OPERATIONS AS DETERMINED BY A GEOTECHNICAL ENGINEER.
  2. SEE DETAIL 4 ON DETAIL SHEET C-631 FOR PAVEMENT TRANSITION DETAIL.
  3. SEE SHEET C-631 FOR SURFACE RESTORATION DETAILS.
  4. SEE PLAN AND PROFILE SHEETS FOR CONDUIT  $\phi$  TO  $\phi$  AND DUCTBANK SIZE TRENCH WIDTH (NOTE ABOVE PROFILE VIEW).

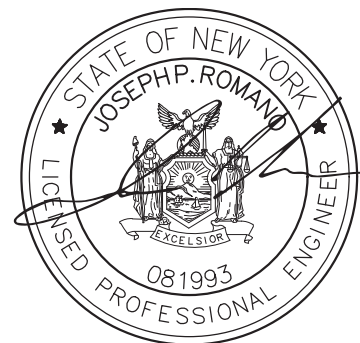
1 TYPICAL TRENCHING DETAILS  
NOT TO SCALE



5 TYPICAL COUPLING DIRECTION OF PULL DETAIL  
NOT TO SCALE



6 8"-10" PVC/HDPE TRANSITION COUPLING  
NOT TO SCALE



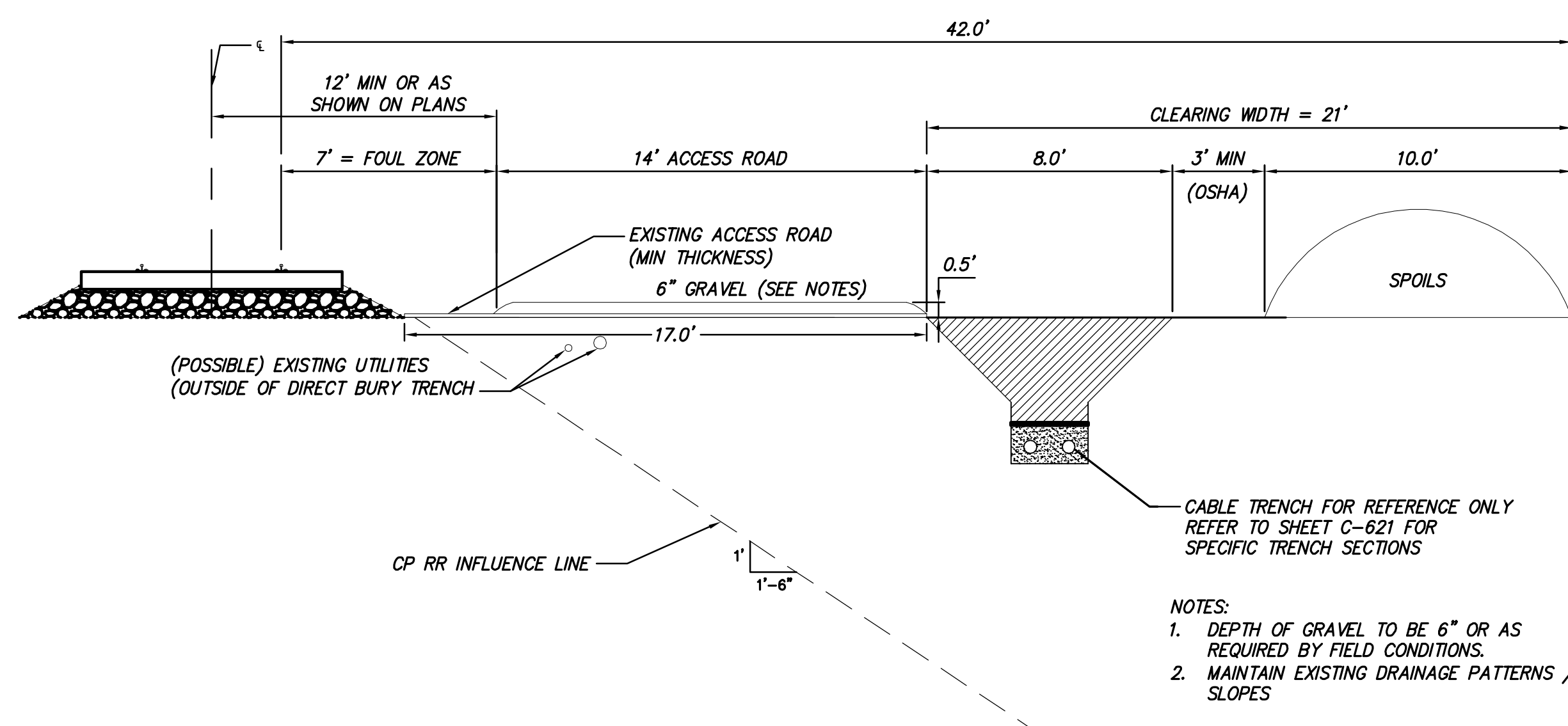
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE 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.

0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	JTM	JPR
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

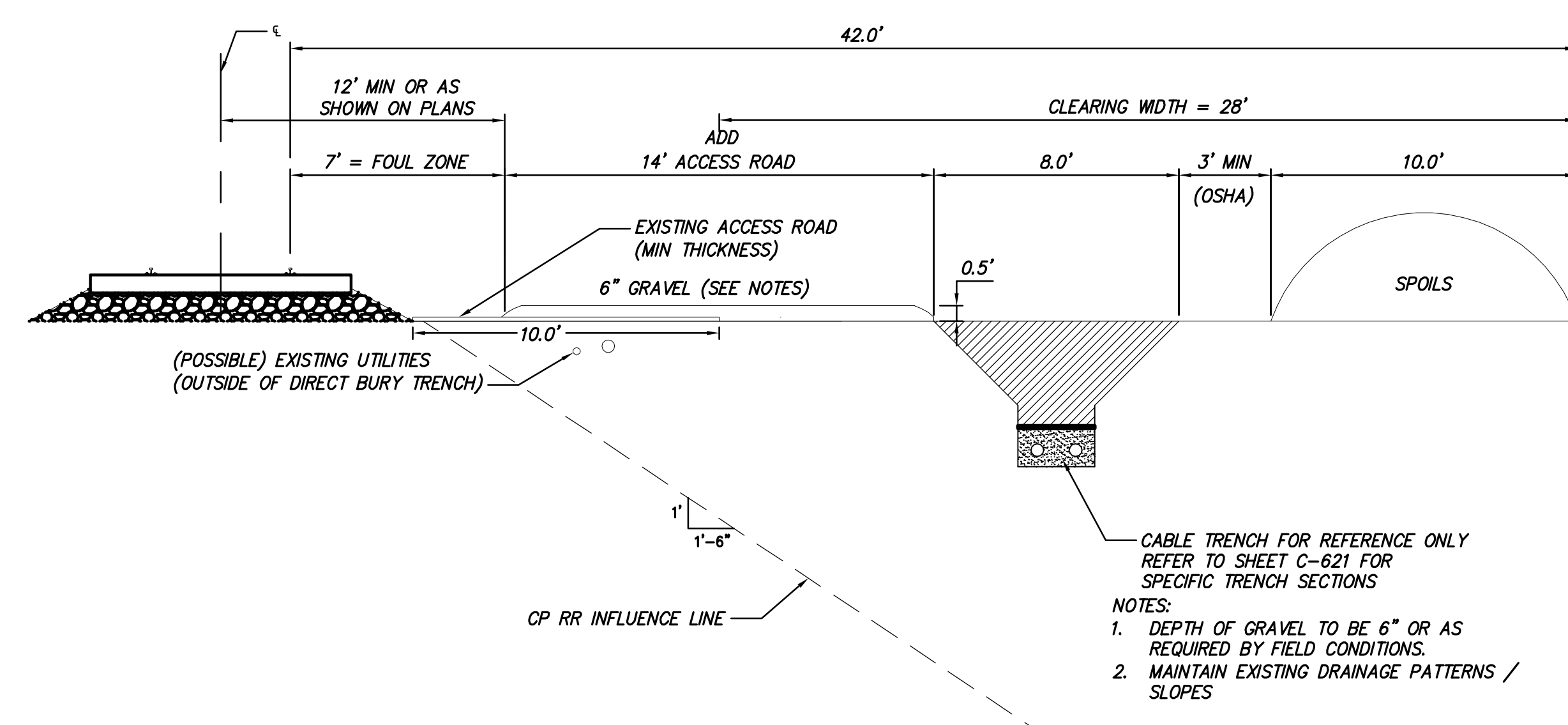
CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN TRENCHING DETAILS				KIEWIT PROJECT NO. 21162	
				CHA PROJECT NO. 066076	
				DRAWING NO. C-621	
DRAWN BY: JJE				DESIGNED BY: JTM	APPROVED BY: JPR
				SCALE	AS NOTED
				REV. NO.	X

DATE	03/22/2023
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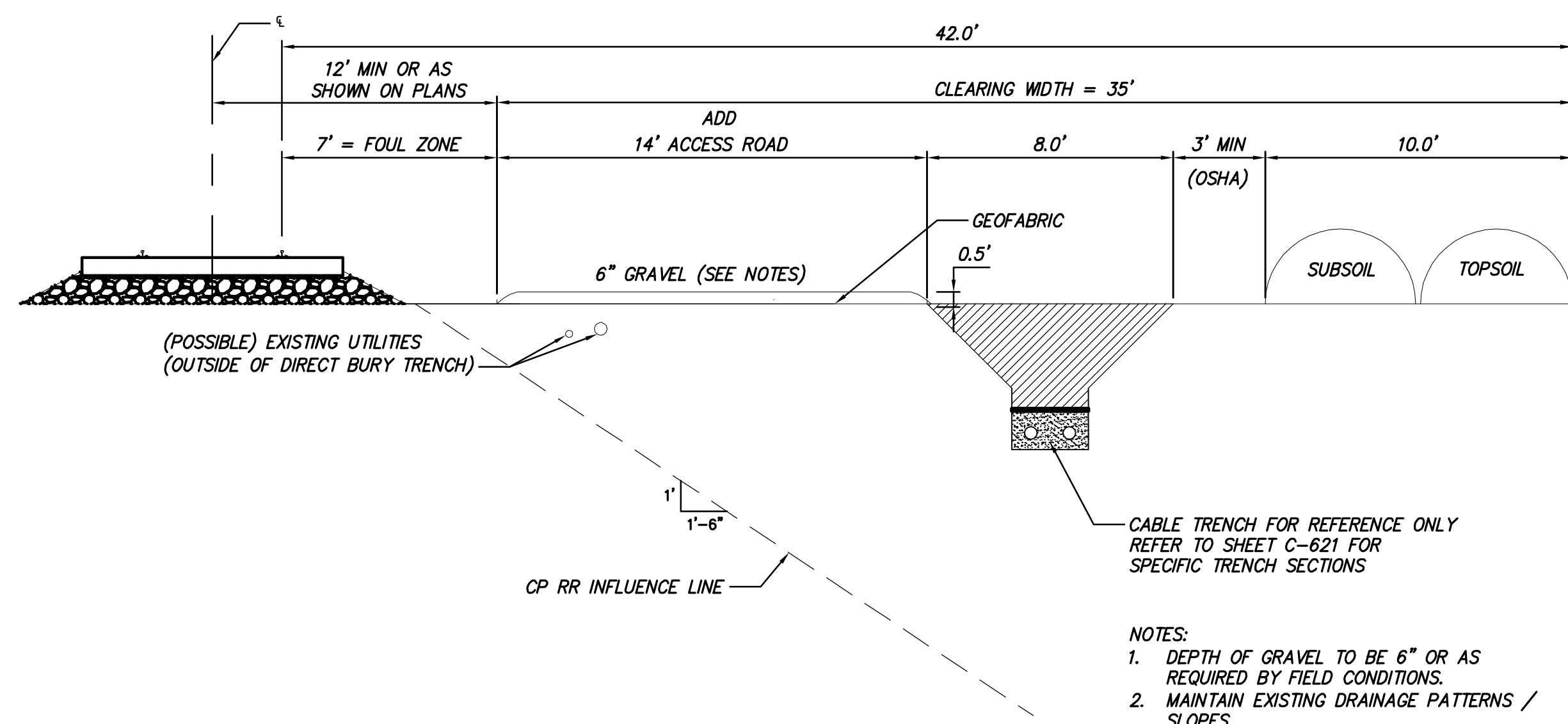




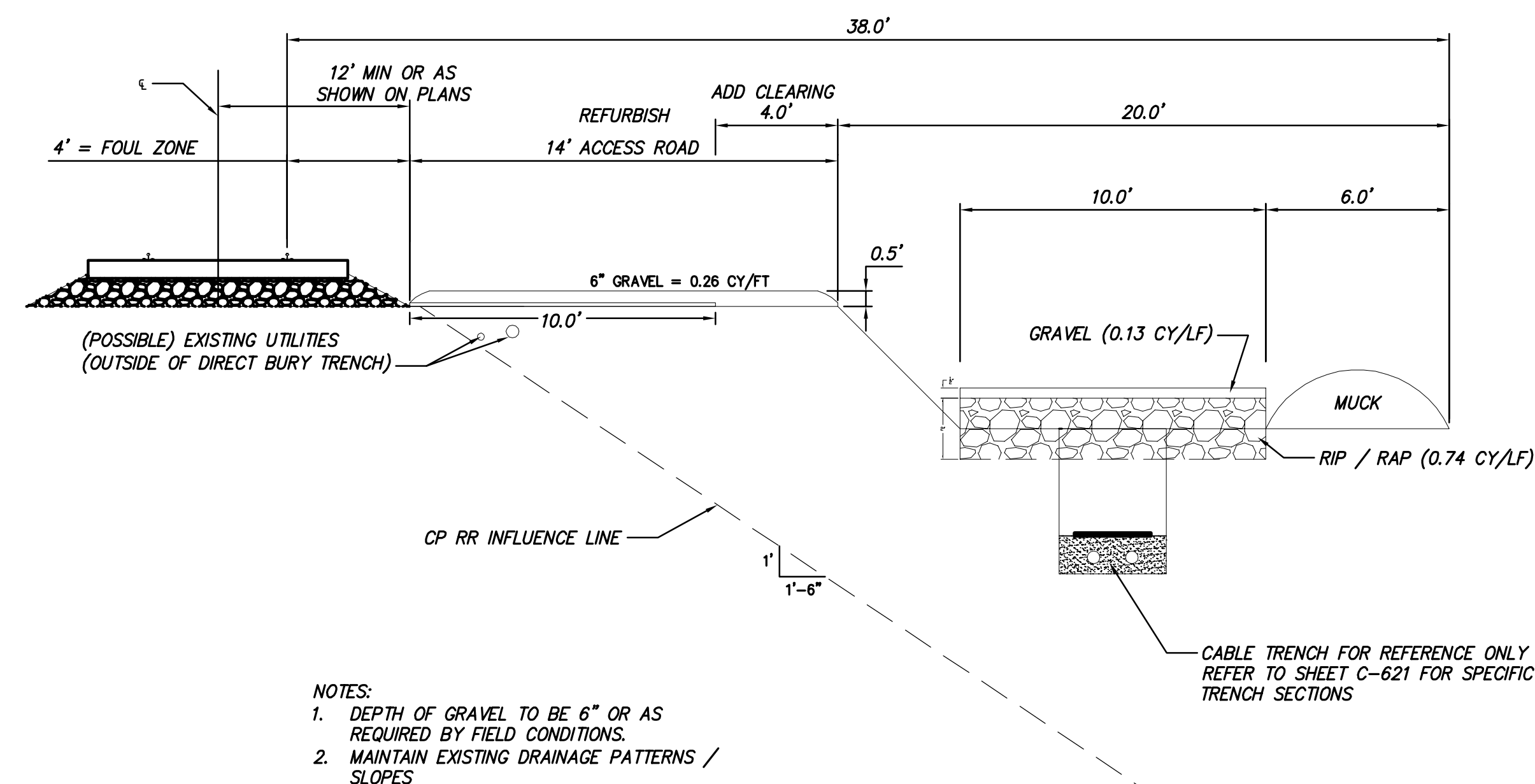
TYPE 1  
EXISTING, MINOR REFURBISHMENT



TYPE 2  
EXISTING, MAJOR REFURBISHMENT



TYPE 3  
BUILD NEW



TYPE 4A  
WETLAND

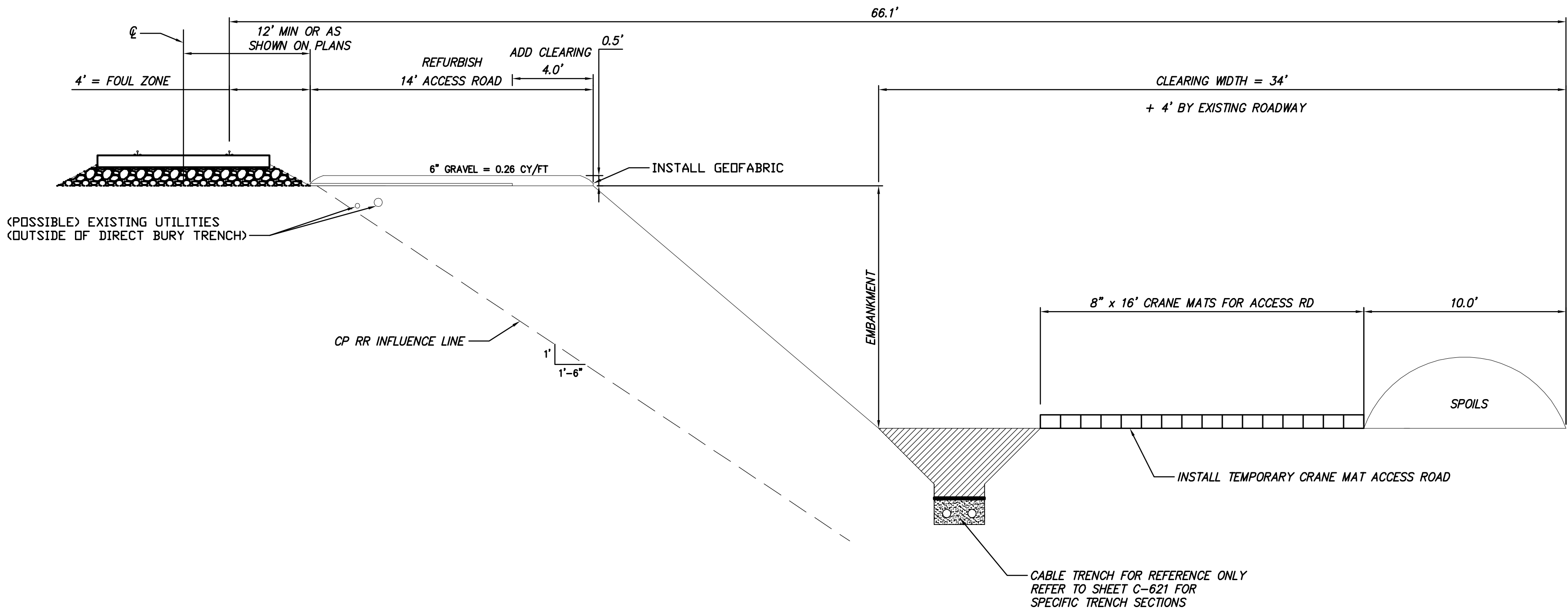


IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE 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.

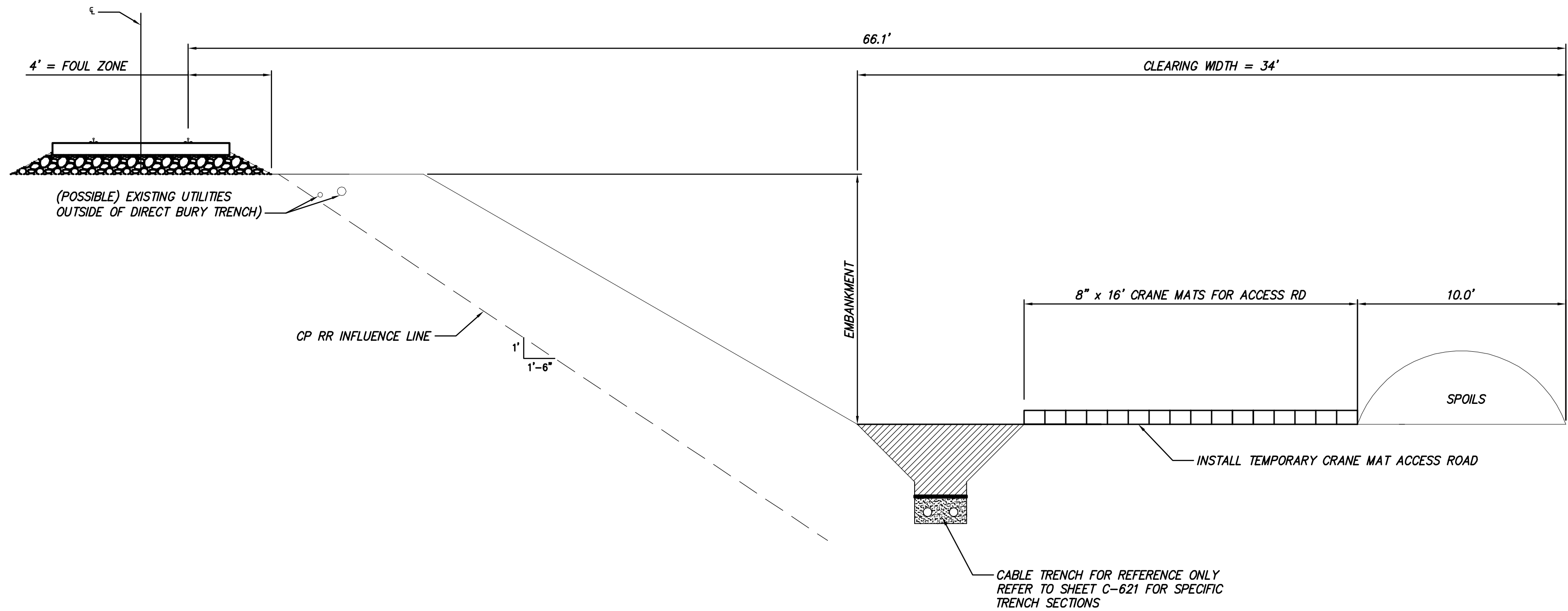
						CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN TYPICAL ACCESS ROAD CROSS SECTIONS				KIEWIT PROJECT NO. 21162		
										CHA PROJECT NO. 068076		
										DRAWING NO.		
										C-622		
0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION			JTM	JPR					DATE	03/22/2023
No.	DATE	SUBMITTAL / REVISION DESCRIPTION			DB	APP	DRAWN BY: JJE	DESIGNED BY: JTM	APPROVED BY: JPR	SCALE REV. NO.	AS NOTED X	



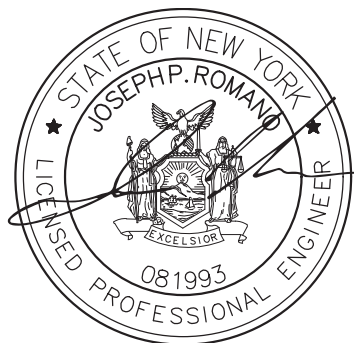
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TYPE 4  
REFURBISH ACCESS NEXT TO RAIL. BUILD TEMP ACCESS AT TOE OF SLOPE



TYPE 5  
BUILD TEMP ACCESS AT TOE OF SLOPE



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.

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION					DB	APP	

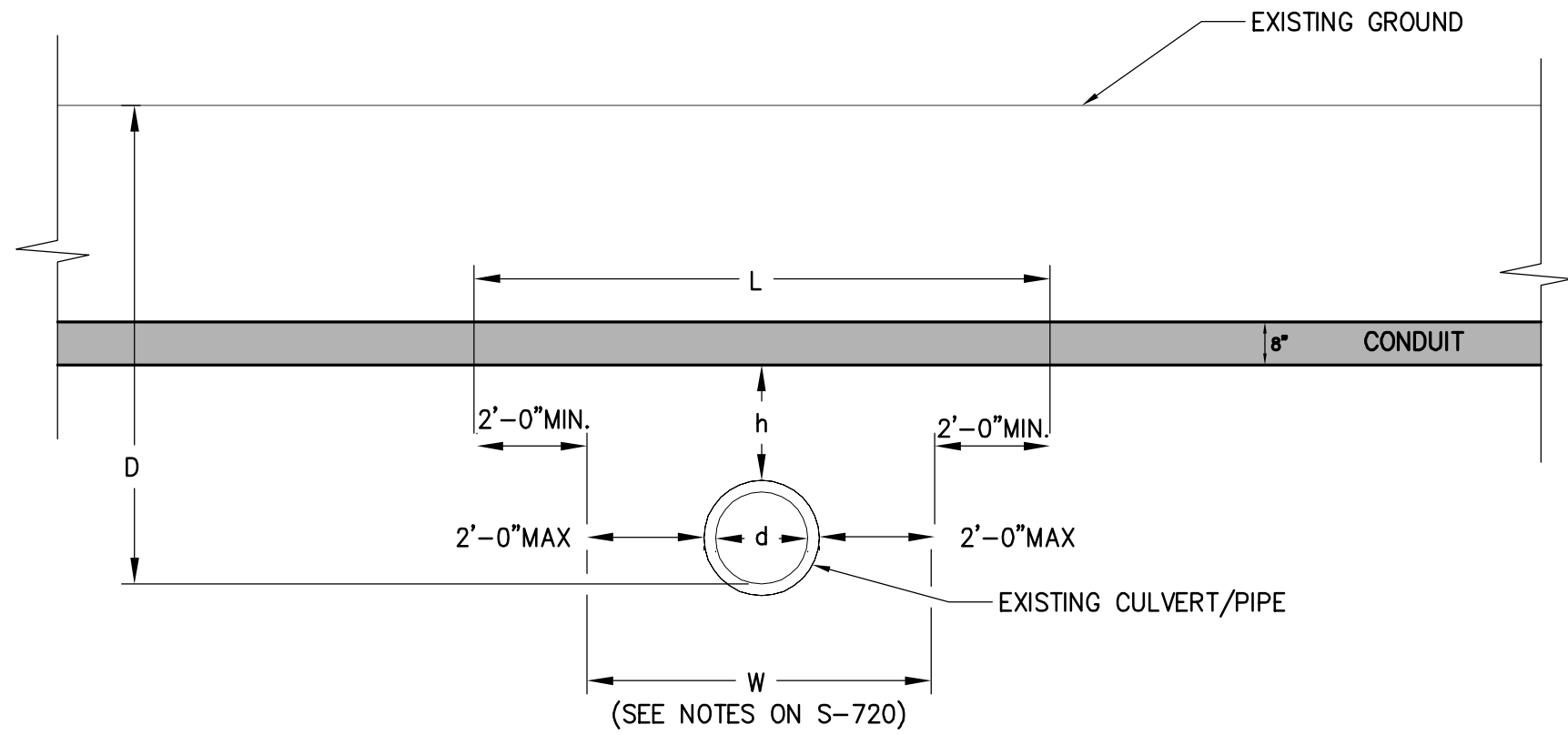
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN  
TYPICAL ACCESS ROAD CROSS SECTIONS

DRAWN BY: JJE DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED  
REV. NO. X

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-623
DATE	03/22/2023



File: V:\PROJECTS\ANY\6\066076.000\09\_DESIGN\DRAWINGS\01\_SHEETS\DESIGN PACKAGE 10\C-624 TYPICAL CULVERT OVER SECTION.DWG Saved: 2/21/2023 11:55:35 AM Plotted: 3/16/2023 2:40:10 PM Current User: Moore, Elizabeth LastSavedBy: 8314



1

TYPICAL DUCTBANK SECTION OVER EXISTING CP RAIL CULVERT OUTLET

NOT TO SCALE

NOTES:

1. DUCT BANK TO BE 2.0' MIN ABOVE OR BELOW EXISTING CULVERTS.

Package	Sheet Number	CP Rail Mile Post	Station	Utility	Size "d"	Exist. Ground Elev. (ft.)*	Invert (ft.)*	D (ft.)*	h (ft.)	L (ft.)
Package 1C	C-105	77.03	15062+00	Storm Drainage Pipe/Culvert	84"	134.3	116.6	17.7	5.73	15



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

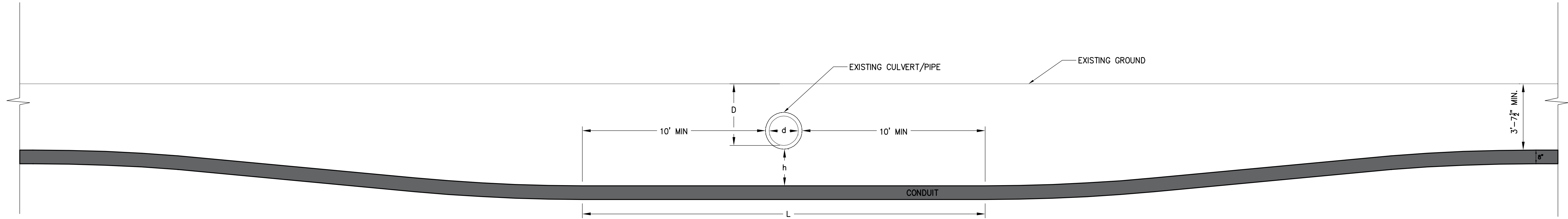
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN  
TYPICAL CULVERT SECTION (1 OF 3)

DRAWN BY: JJE DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED  
REV. NO. X

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-624
DATE	03/22/2023



File: V:\PROJECTS\ANY\6\066076.000\09\_DESIGN\DRAWINGS\01\_SHEETS\DESIGN PACKAGE 10\10\_C-624 TYPICAL CULVERT OVER SECTION.DWG Saved: 2/21/2023 11:55:35 AM Plotted: 3/16/2023 2:40:13 PM Current User: Moore, Elizabeth LastSavedBy: 8314



**2 TYPICAL DUCTBANK SECTION UNDER EXISTING CP RAIL CULVERT OUTLET**

NOT TO SCALE

NOTES:

1. DUCT BANK TO BE 2.0' MIN ABOVE OR BELOW EXISTING CULVERTS.

Package	Sheet Number	CP Rail Mile Post	Station	Utility	Size "d"	Exist. Ground Elev. (ft.)*	Invert (ft.)*	D (ft.)*	h (ft.)*	L (ft.)
Package 1C	C-107	76.21	15104+89	Storm Drainage Pipe/Culvert	30"	120	111.4	8.6	2.3	22.5
Package 1C	C-109	75.9	15121+57	Storm Drainage Pipe/Culvert	24"	119.2	115.5	3.7	2.1	22
Package 1C	C-302/C-302A	75.51	15141+88-15142+05	Storm Drainage Pipe/Culvert	84"twin	122.4	108.5	13.5	18.7	35



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

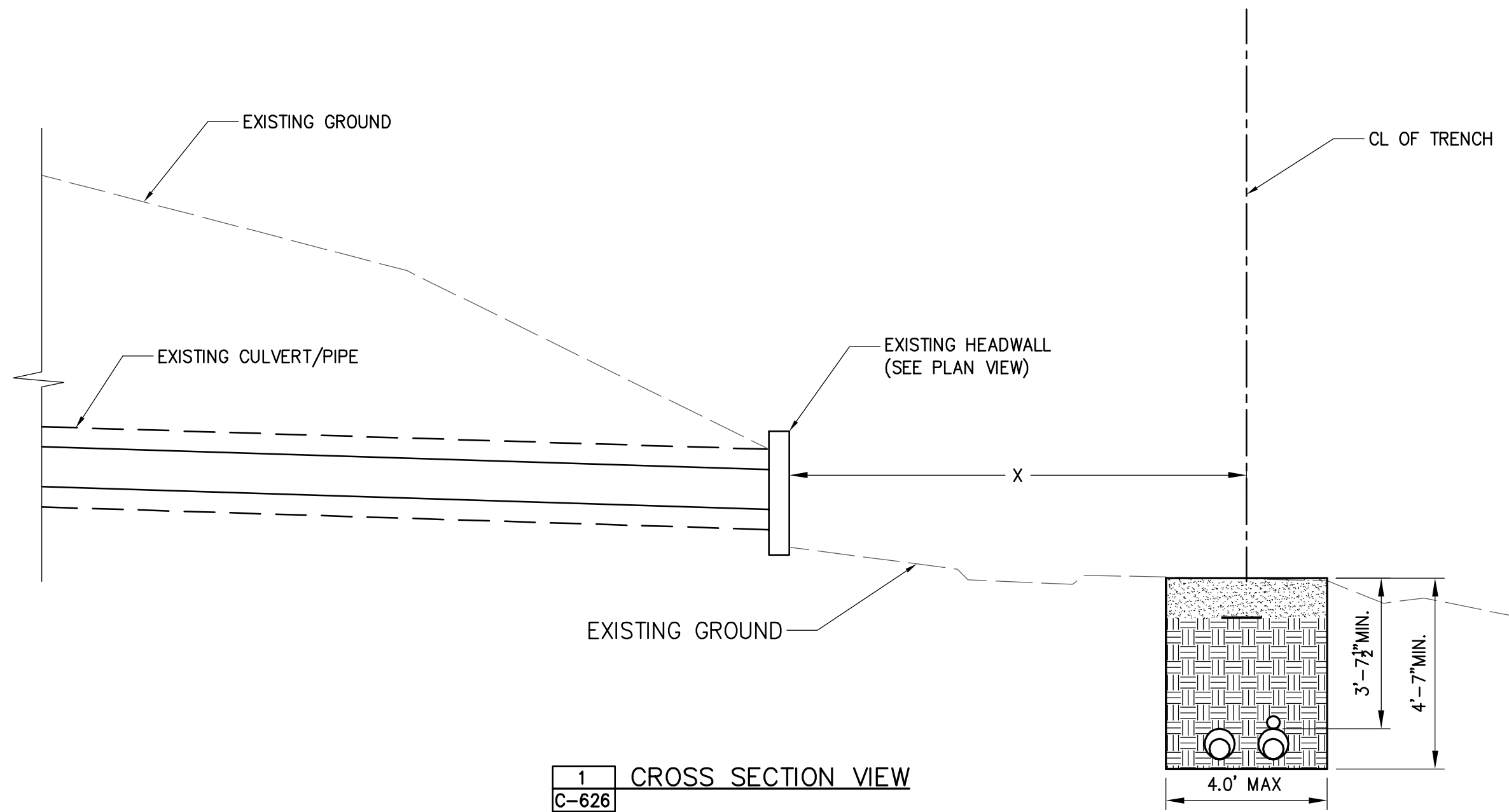
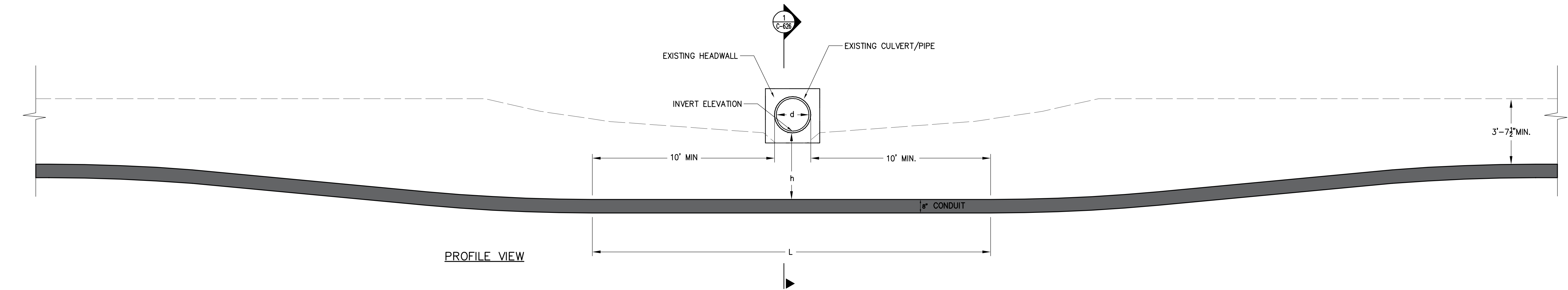
CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN  
TYPICAL CULVERT SECTION (2 OF 3)

DRAWN BY: JJE DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED  
REV. NO. X

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-625
DATE	03/22/2023



File: V:\PROJECTS\ANY\6\066076.000\09\_Design\Drawings\01\_Sheets\Design Package 10\C-624 TYPICAL CULVERT OVER SECTION.DWG Saved: 2/21/2023 11:55:35 AM Plotted: 3/16/2023 2:40:18 PM Current User: Moore, Elizabeth Last Saved By: 8314



Package	Sheet Number	CP Rail Mile Post	Station	Utility	Size "d"	Exist. Ground Elev. (ft.)*	Invert (ft.)*	h (ft.)	L (ft.)	x (ft.)
Package 1C	C-301/C-301A	76.56	15087+50	Storm Drainage Pipe/Culvert	36"	116	114.2	54.3	38.1	23
Package 1C	C-301A	76.42	15092+00	Storm Drainage Pipe/Culvert	12"	116	117.1	8.9	20.8	21
Package 1C	C-304/C-304A	74.9	15178+45 -15179+5	Storm Drainage Pipe/Culvert	84"	110.6	107.9	27.2	24	85
Package 1C	C-305/C-305A	73.88	15227+56	Storm Drainage Pipe/Culvert	84"	111.6	112.3	16	24.8	12

**3** **TYPICAL DUCTBANK SECTION NEAR EXISTING CP RAIL CULVERT OUTLET**  
NOT TO SCALE  
NOTES:  
1. DUCT BANK TO BE 2.0' MIN ABOVE OR BELOW EXISTING CULVERTS.



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.

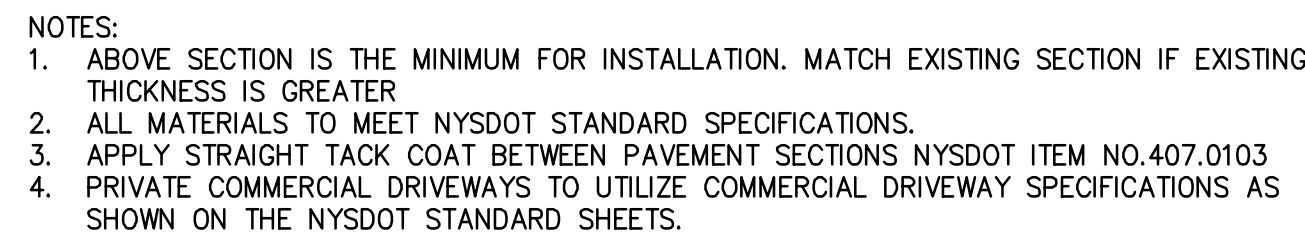
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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 (PACKAGE 1C ) WHITEHALL TO FORT ANN  
TYPICAL CULVERT SECTION (3 OF 3)

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-626
DATE	03/22/2023

DRAWN BY: JJE DESIGNED BY: JTM APPROVED BY: JPR SCALE AS NOTED  
REV. NO. X





1 (PRIVATE)  
SCALE: N.T.S.



2	(WITHIN SCALE: N.T.S.)
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3	PAVEMENT
	SCALE: N.T.S.

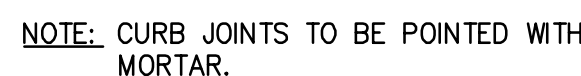


4	WING WE
	SCALE: N.T.S.

NOTES:

- <sup>1</sup> TEMPORARY ACCESS ROAD SECTIONS PER KIEWIT ENGINEERING (NY) CORP.
- <sup>2</sup> AGGREGATE SHALL BE NYSDOT TYPE 2 CRUSHED AGGREGATE OR APPROVED ALTERNATIVE.
- <sup>3</sup> DESIGN CONSIDERS 1,000 PASSES OF MAXIMUM 22-KIP AXLE LOAD AND A DESIGN RUT DEPTH OF 3 INCHES. ADDITIONAL AXLE PASSES, HEAVIER AXLE LOADS, AND DETERIORATED SUBGRADE CONDITIONS MAY REQUIRE THICKER AGGREGATE SECTIONS OR ADDITIONAL MAINTENANCE.
- <sup>4</sup> ALTERNATE TEMPORARY ACCESS ROAD DESIGNS MAY BE PROVIDED BY KIEWIT ENGINEERING, AS REQUIRED, BASED ON FIELD CONDITIONS AND TRAFFIC LOADING.
- <sup>5</sup> ESTIMATE CBR IN THE FIELD USING A DYNAMIC CONE PENETROMETER OR ALTERNATIVE METHOD APPROVED BY GEOTECHNICAL ENGINEER OF RECORD (EOR). CBR OF IN-SITU SOIL MAY VARY SEASONALLY DUE TO FREEZE/THAW AND BASED ON MOISTURE CONDITIONS.
- <sup>6</sup> GEOGRID AND GEOTEXTILE
  - <sup>A</sup> GEOGRID AND GEOTEXTILES SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATION INCLUDING OVERLAP AND EDGE DETAILS.
  - <sup>B</sup> SPECIFIED GEOTEXTILE OR GEOGRID MAY BE REPLACED BY EQUIVALENT MATERIAL APPROVED BY EOR.
  - <sup>C</sup> GEOTEXTILE IS REQUIRED IN REGULATED WETLANDS AND AGRICULTURAL LANDS.
  - <sup>D</sup> GEOTEXTILE SEPARATOR FABRIC IS REQUIRED BENEATH GEOGRID ON COHESIVE SUBGRADE
- <sup>7</sup> RIP RAP
  - <sup>A</sup> RIP RAP SHALL BE NYSDOT LIGHT STONE FILL OR APPROVED ALTERNATIVE.
  - <sup>B</sup> A LAYER OF #57 STONE IS RECOMMENDED ON TOP OF GEOTEXTILE TO PREVENT DAMAGING OR PUNCHING OF THE GEOTEXTILE FABRIC WHERE RIP RAP IS USED.

5	TEMPOR.
	SCALE: N.T.S.



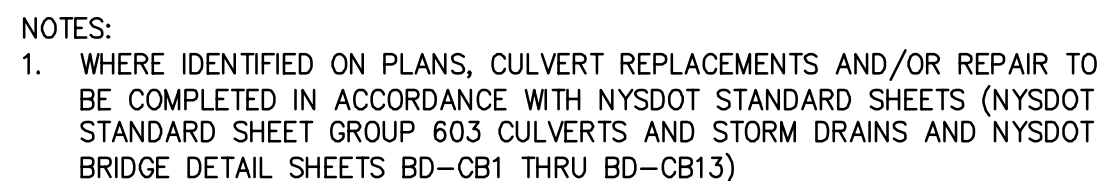
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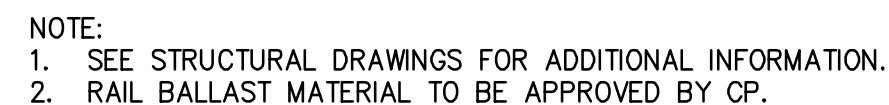
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6	GRAVEL
	SCALE: N.T.S.



9	CULVERT
	SCALE: N.T.S.

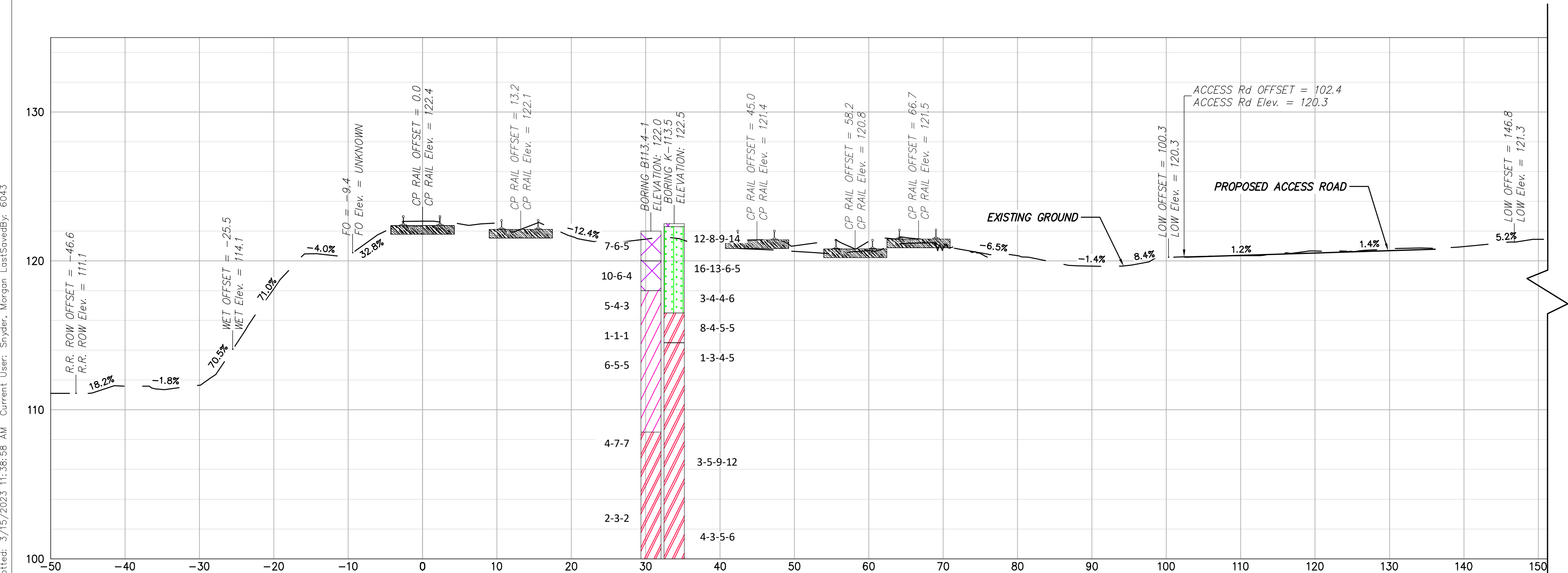


10	UNDERD
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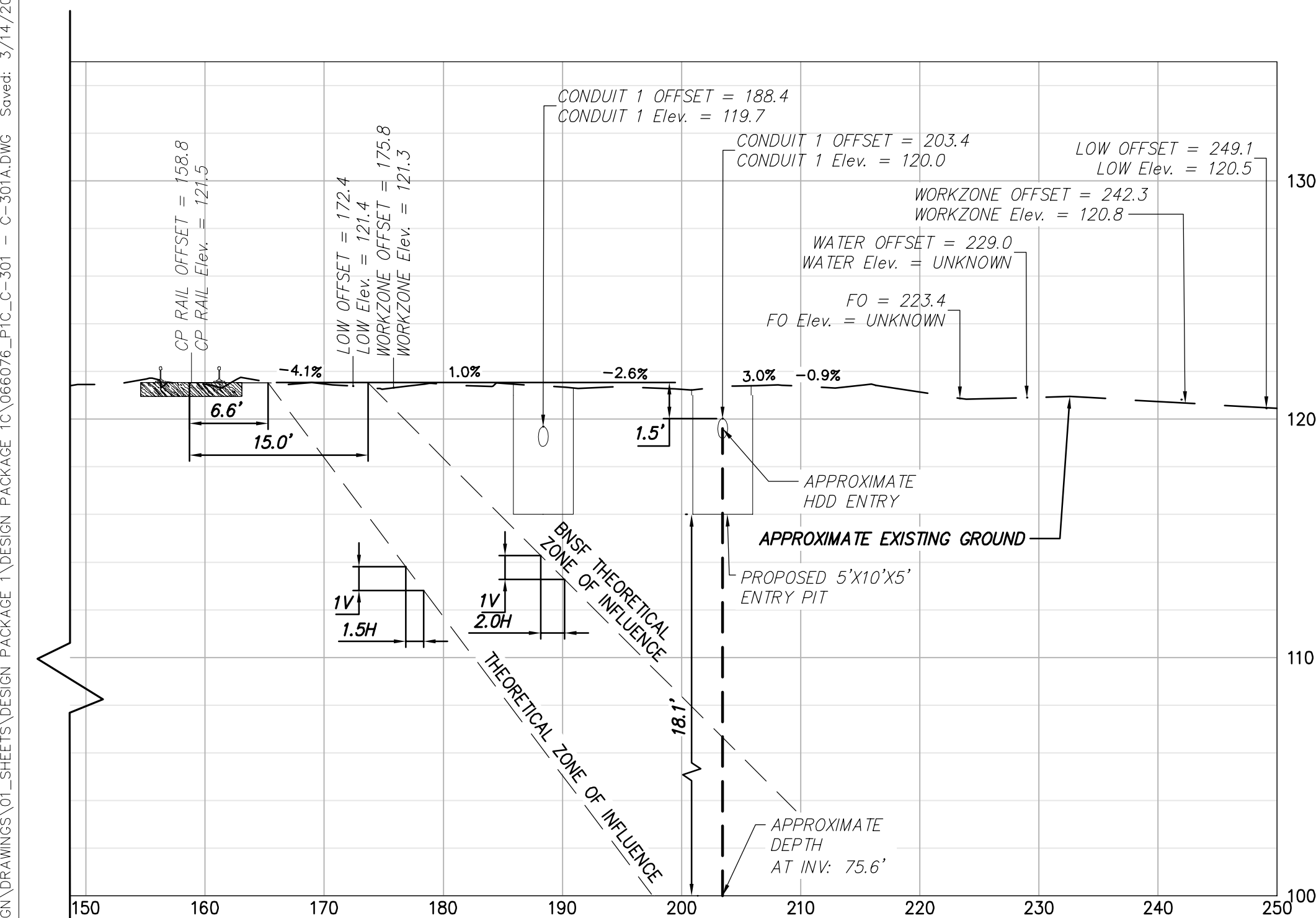




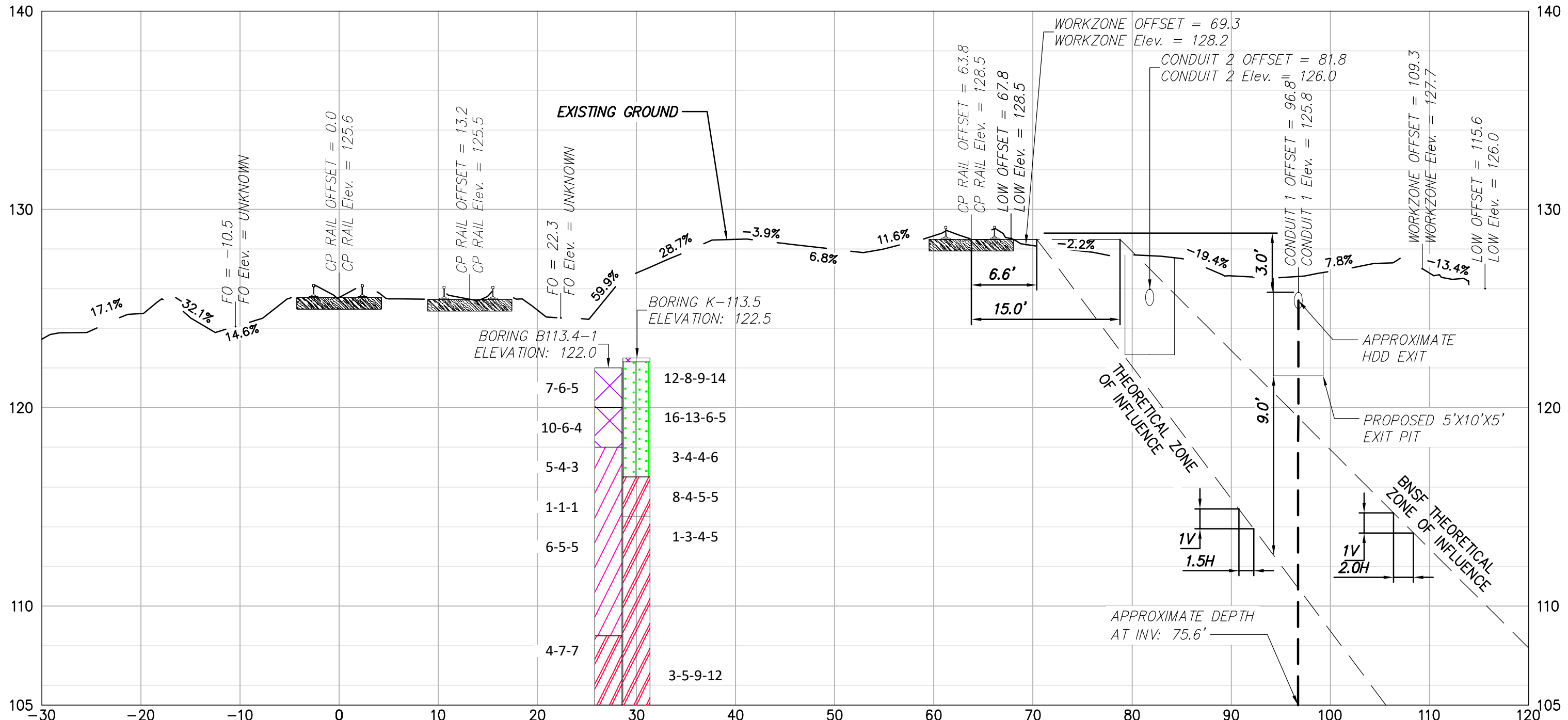
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**2 HDD #3 CONDUIT 1 ENTRY PIT CUT SECTION: STA. 15093+16**  
CP RAIL CANADIAN MAINLINE MP: 76.42



**2 HDD #3 CONDUIT 2 ENTRY PIT CUT SECTION: STA. 15093+16**  
CP RAIL CANADIAN MAINLINE MP: 76.42



**1 HDD #3 CONDUIT 2 EXIT PIT CUT SECTION: STA. 15074+34**  
CP RAIL CANADIAN MAINLINE MP: 76.78

**BORING LOG STRIP LEGEND**

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

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

**B101**

11000psi = UCS

Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CDCONCRETE	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
	Topsail	Topsail
	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 during drilling	Water Table during drilling
	Delayed Water Table	Water Table after drilling



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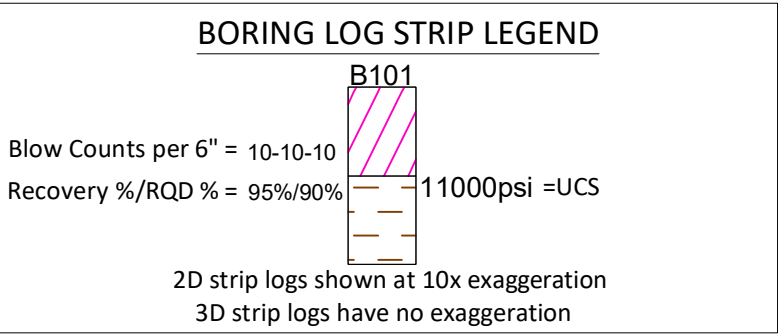
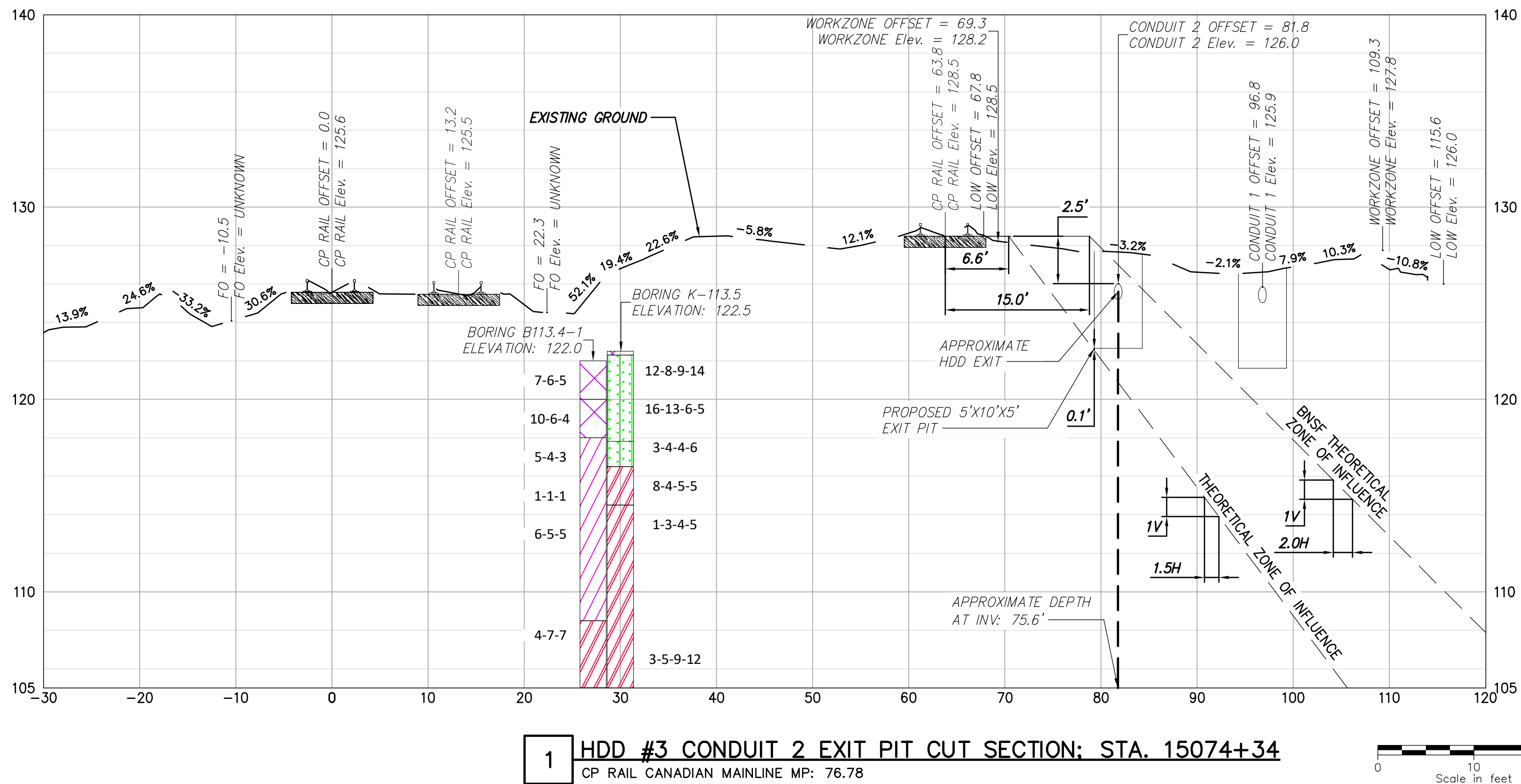
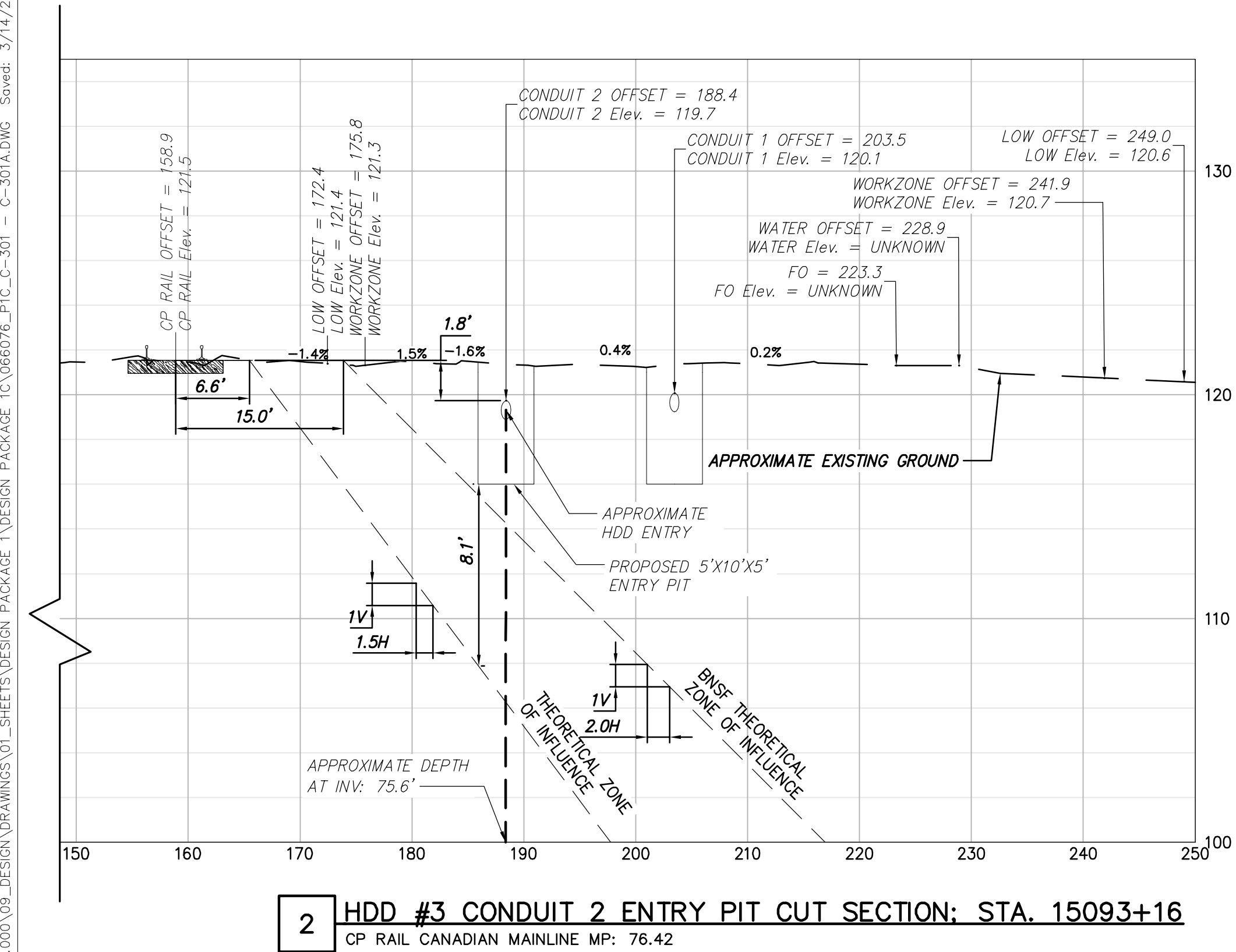
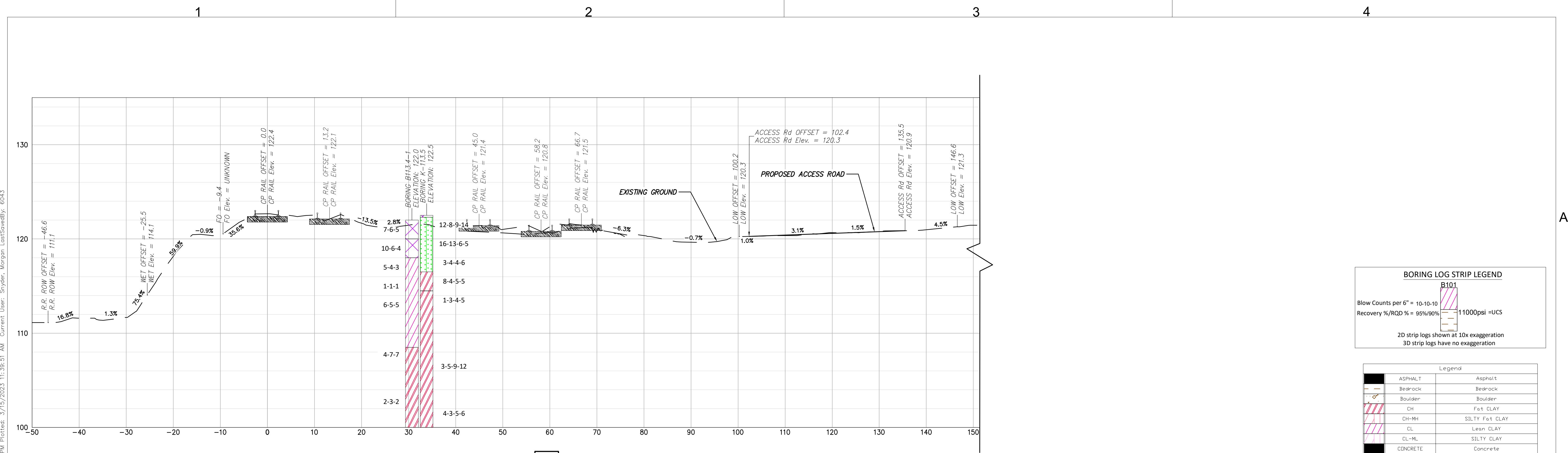
0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

**CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN**  
RAIL CROSS SECTION DETAILS HDD 3

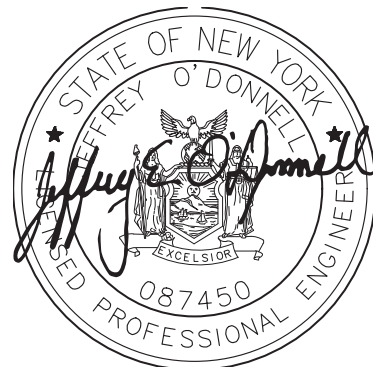
DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED REV. NO. C

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-641
DATE	03/22/2023





Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CD/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 during drilling	Water Table during drilling
	Delayed Water Table	Water Table after drilling



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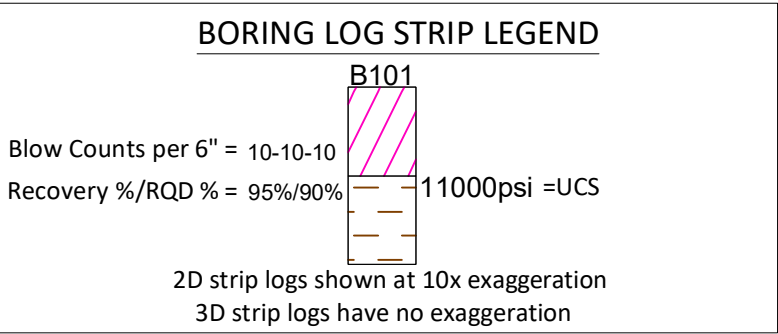
0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN  
RAIL CROSS SECTION DETAILS HDD 3

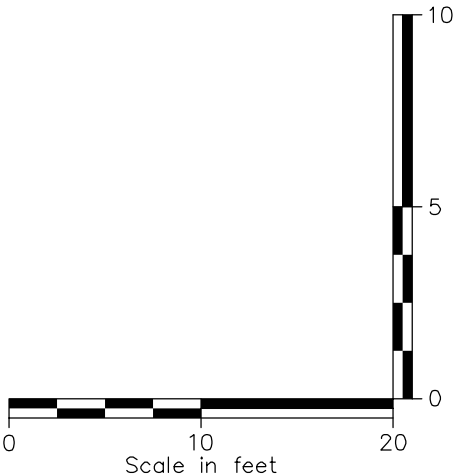
DRAWN BY: JAS DESIGNED BY: JAS APPROVED BY: JEO SCALE AS NOTED REV. NO. C

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	068076
DRAWING NO.	C-641.1
DATE	03/22/2023

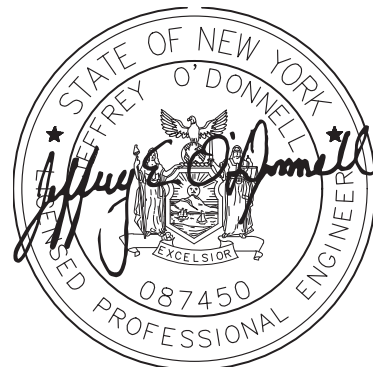




Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	OH	Fat CLAY
	OH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded 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	Subgrade/rock
	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



B



0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP


**C-642**

DATE	03/22/2023
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### BORING LOG STRIP LEGEND



Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration



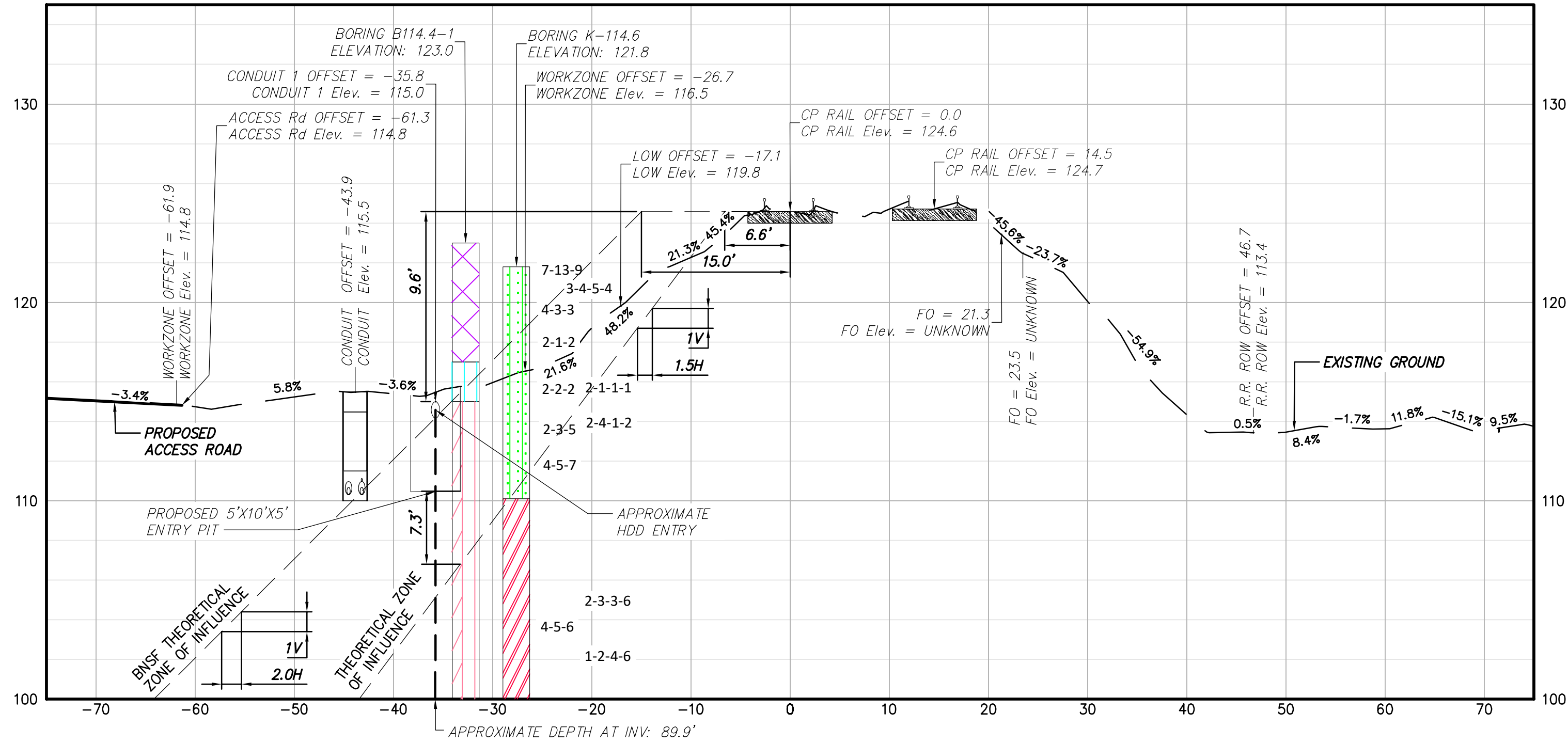
Legend	
	Asphalt
	Bedrock
	Boulder
	Fat CLAY
	SILTY Fat CLAY
	Lean CLAY
	SILTY CLAY
	Concrete
	Fill
	CLAYEY GRAVEL
	SILTY CLAYEY GRAVEL
	SILTY GRAVEL
	Poorly Graded GRAVEL
	Poorly Graded Gravel with CLAY
	Poorly Graded GRAVEL with SILT
	Well Graded GRAVEL
	Well Graded GRAVEL with CLAY
	Well Graded GRAVEL with SILT
	Limestone
	Elastic SILT
	SILT
	ORGANIC Fat CLAY
	ORGANIC Lean CLAY
	ORGANIC SOIL
	PEAT
	Rock
	Sandstone
	CLAYEY SAND
	SILT, CLAYEY SAND
	Shale
	Siltstone
	SILTY SAND
	Poorly Graded SAND
	Poorly Graded SAND with CLAY
	Poorly Graded SAND with SILT
	Well graded SAND
	Well Graded SAND with CLAY
	Well Graded SAND with SILT
	Topsoil
	Gravel or Conglomerate 1
	Subgraywacke
	Interbedded Sandstone and Shale
	Quartzite
	Schist
	Schist
	Gneiss
	Gneiss
	Granite 1
	Void
	Water
	Undefined
	Water Table during drilling
	Water Table after drilling



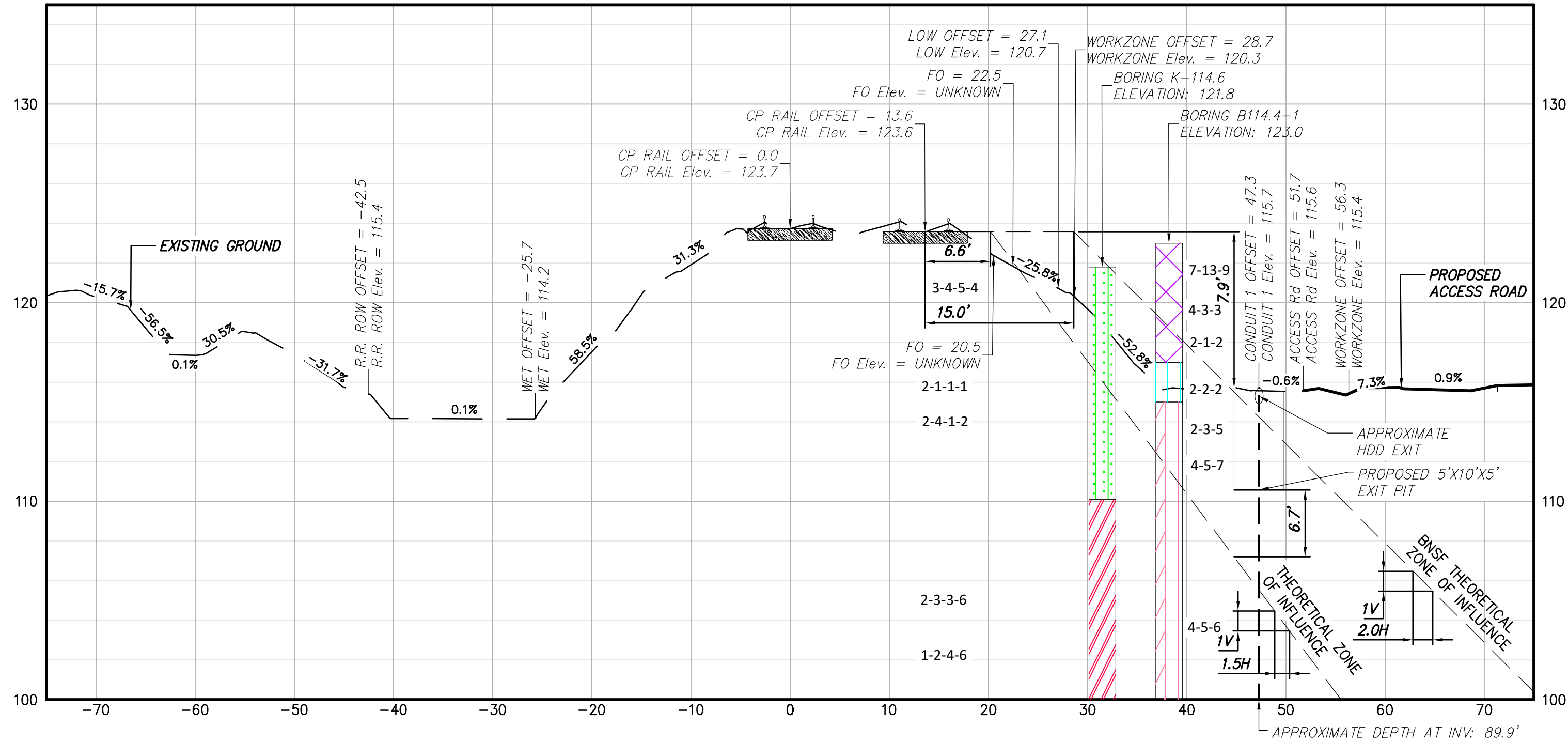
0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO						
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY: ES	DESIGNED BY: ES	APPROVED BY: JEO	SCALE REV. NO.	AS NOTED C	DATE 03/22/2023



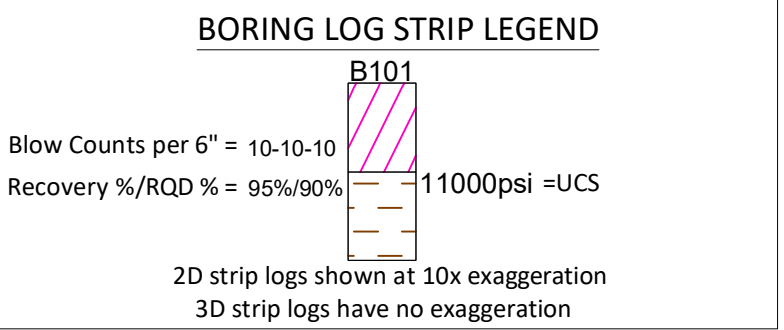
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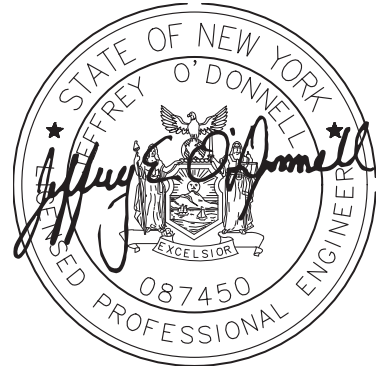
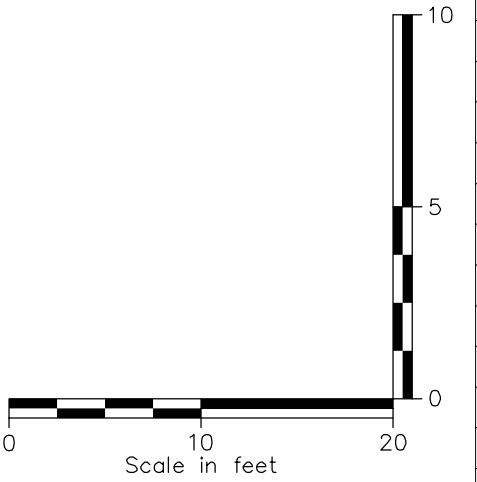
2 HDD #4A CONDUIT 1 ENTRY PIT CUT SECTION; STA. 15172+00  
CP RAIL CANADIAN MAINLINE MP: 74.95



1 HDD #4A CONDUIT 1 EXIT PIT CUT SECTION; STA. 15164+48  
CP RAIL CANADIAN MAINLINE MP: 75.10



Legend	
ASPHALT	Asphalt
Bedrock	Bedrock
Boulder	Boulder
CH	Fat CLAY
CH-MH	SILTY Fat CLAY
CL	Lean CLAY
CL-ML	SILTY CLAY
CDCONCRETE	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
Topsail	Topsail
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 during drilling	Water Table during drilling
Delayed Water Table	Water Table after drilling



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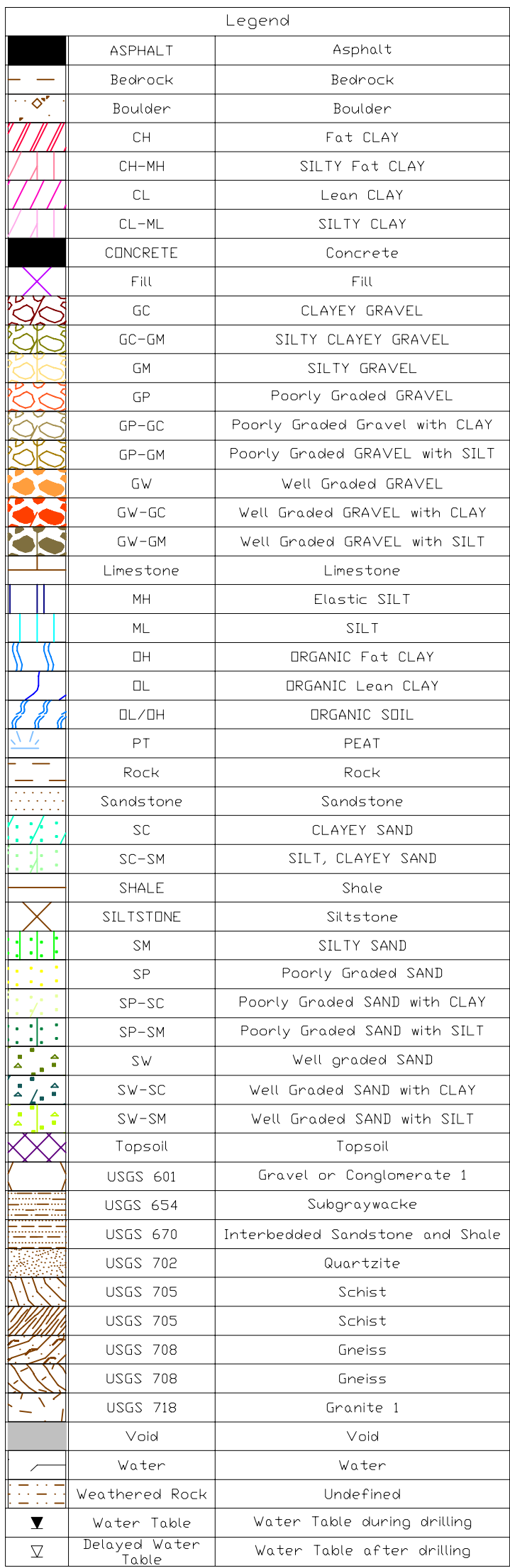
0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN  
RAIL CROSS SECTION DETAILS HDD 4A

DRAWN BY: ES DESIGNED BY: ES APPROVED BY: JEO SCALE AS NOTED DATE 03/22/2023

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-643
DATE	03/22/2023



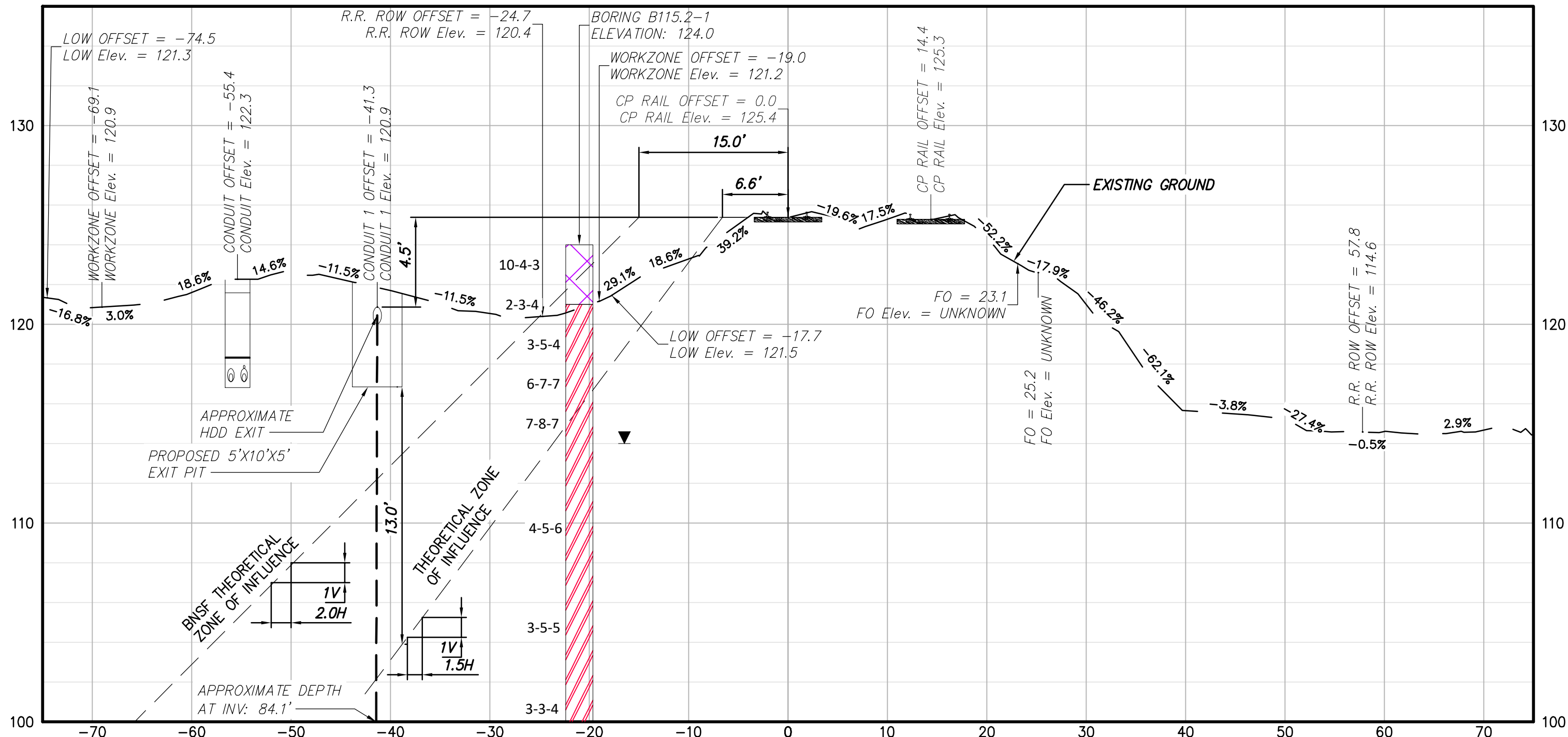


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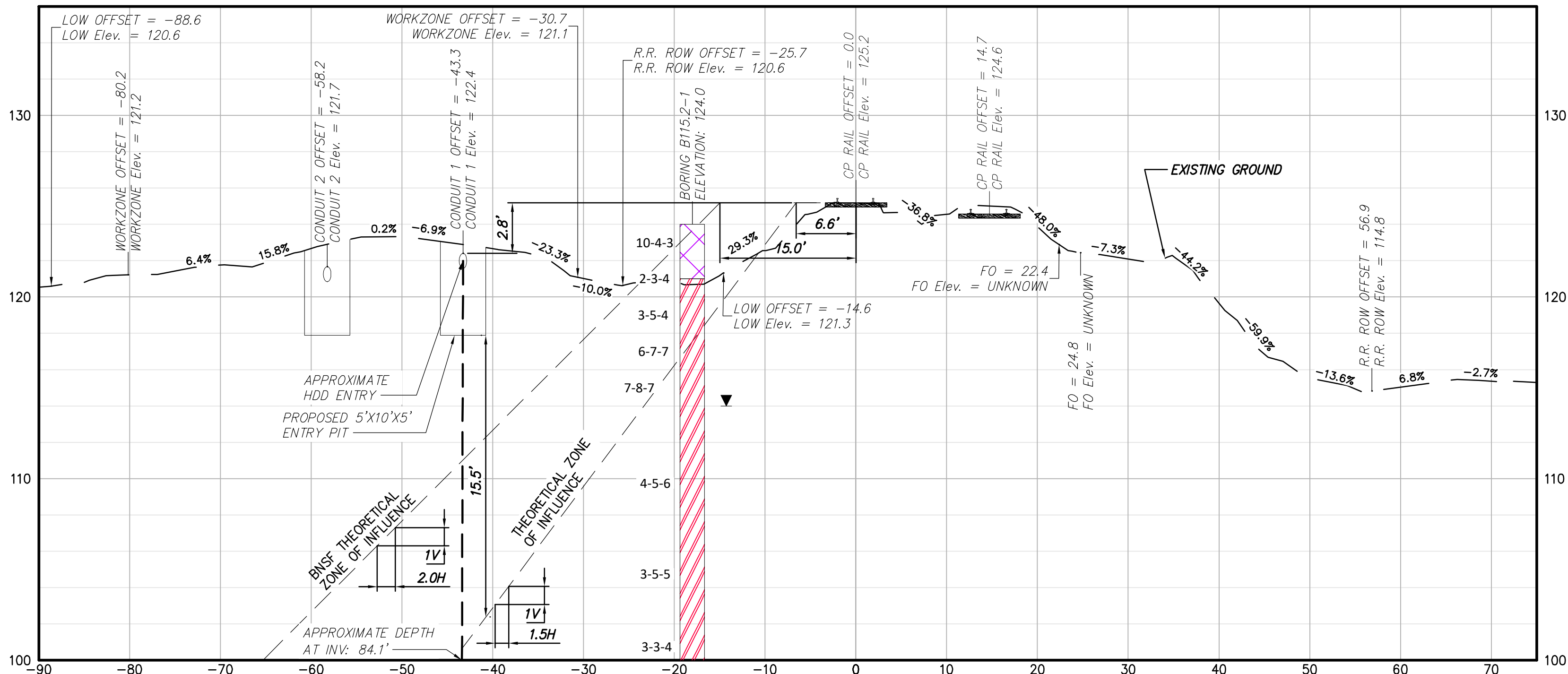




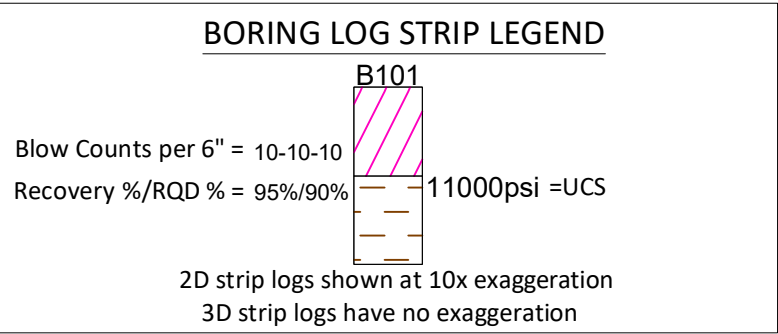
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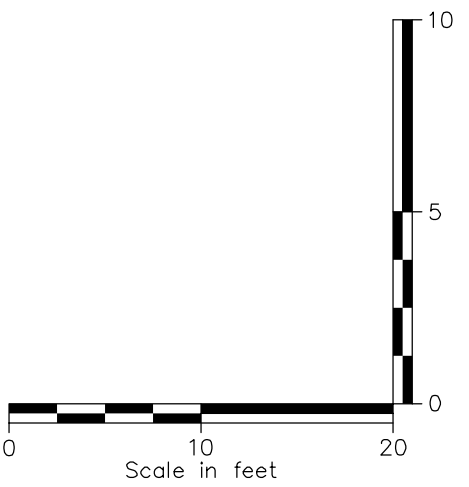
2 HDD #5 CONDUIT 1 EXIT PIT CUT SECTION: STA. 15182+35  
CP RAIL CANADIAN MAINLINE MP: 74.75



1 HDD #5 CONDUIT 1 ENTRY PIT CUT SECTION: STA. 15175+25  
CP RAIL CANADIAN MAINLINE MP: 74.89



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
Topsail	Topsail
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	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS  
SEGMENT 3 ( PACKAGE 1C ) WHITEHALL TO FORT ANN  
RAIL CROSS SECTION DETAILS HDD 5

DRAWN BY: CJL DESIGNED BY: CJL APPROVED BY: JEO SCALE AS NOTED  
REV. NO. C

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-644
DATE	03/22/2023