

**EROSION AND SEDIMENT CONTROL GENERAL NOTES:**

- CONTRACTOR SHALL CONSIDER ALL THE REQUIREMENTS IN THE ENVIRONMENTAL PROTECTION PLAN (EPP), WILDLIFE MANAGEMENT PLAN AND FOLLOW UP PROGRAM AS WELL AS THE ENVIRONMENTAL PROTECTION SECTION 01560 DURING THE IMPLEMENTATION OF THE EROSION AND CONTROL (ESC) MEASURES SHOWN IN THE PLANS.
- DETAILED SITE SPECIFIC METHODS AND DRAWINGS FOR ESC MEASURES SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE GENERAL REQUIREMENTS SHOWN ON THE EROSION AND SEDIMENT CONTROL DRAWINGS AND THE CONTRACTOR METHOD OF CONSTRUCTION.
- ESC PRACTICES SHALL BE CONSISTENT WITH THE CONSOLIDATED CONDITIONS AND COMMITMENTS AS DETAILED IN APPENDIX A OF SECTION 01560.
- THE CONTRACTOR SHALL INSTALL, INSPECT AND MAINTAIN ESC MEASURES IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLANS.
- THE CONTRACTOR SHALL ENSURE THAT ESC MEASURES ARE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES INCLUDING VEGETATION CLEARING AND GRUBBING AND REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE FULLY STABILIZED SO AS TO RETAIN SEDIMENT ON SITE AND PREVENT ENTRY INTO ANY WATERCOURSES.
- THE ESC STRATEGIES OUTLINED ON THE APPROVED PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE/WEATHER CONDITIONS CHANGE TO MINIMIZE SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREAS.
- IF THE PRESCRIBED MEASURES ARE NOT EFFECTIVE IN MITIGATING THE ACCIDENTAL RELEASE OF SEDIMENT OR DELETERIOUS SUBSTANCE, ALTERNATIVE MEASURES MUST BE IMPLEMENTED IMMEDIATELY TO CIRCUMVENT AND AVOID POTENTIAL ECOLOGICAL IMPACTS AS A PRIORITY AND MINIMIZE POTENTIAL ECOLOGICAL IMPACTS IF THEY COULD NOT BE AVOIDED.
- FOR LOW RISK ACTIVITIES, THE CONTRACTOR SHALL PROVIDE AN ENVIRONMENTAL SITE INSPECTOR PER ENVIRONMENTAL PROTECTION SECTION 01560 TO INSPECT ESC MEASURES ON A WEEKLY BASIS AS WELL AS PRIOR TO AND FOLLOWING HEAVY PRECIPITATION EVENTS (I.E. 10mm IN 24HRS) AND SIGNIFICANT SNOW MELTS TO ENSURE THE MEASURES ARE FUNCTIONING PROPERLY, MAINTAINED AND UPGRADED AS REQUIRED. IF ESC MEASURES ARE NOT FUNCTIONING PROPERLY, THE CONTRACTOR SHALL MAKE REPAIRS IMMEDIATELY. LOW RISK WORKS INCLUDE CONSTRUCTION ACTIVITIES OCCURRING AWAY FROM SENSITIVE NATURAL AREAS AS IDENTIFIED. HIGH RISK ACTIVITIES SHALL BE MONITORED DAILY. HIGH RISK ACTIVITIES OCCUR IN CLOSE PROXIMITY TO SENSITIVE NATURAL AREAS AND INCLUDE IN-OR NEAR-WATER WORKS, CONCRETE WORKS, DEWATERING, VEGETATION CLEARING AND GRUBBING, AND THOSE WHERE SHOULD ESC FAIL, THERE IS LIKELY IMPACT TO SENSITIVE NATURAL AREAS. SENSITIVE NATURAL AREAS ARE IDENTIFIED IN THE DRAWING PACKAGE.
- THE CONTRACTOR SHALL PROVIDE ADDITIONAL SEDIMENT AND EROSION CONTROL MEASURES TO BE KEPT ON SITE FOR EMERGENCIES AND REPAIRS.
- ALL DAMAGED ESC MEASURES SHALL BE REPAIRED/REPLACED WITHIN ONE (1) WORKING DAY.
- ALL WORKS SHALL BE CONDUCTED SUCH THAT WORKS IN SEVERE WEATHER ARE AVOIDED AS PER THE EPP. THE CONTRACTOR SHALL MONITOR WEATHER FORECASTS IN ADVANCE AND PLAN WORKS ACCORDINGLY. REFER TO THE ACCIDENT AND MALFUNCTIONS PLAN.
- ALL IN-WATER WORK SHALL ENDEAVOR TO OCCUR DURING LOW FLOW CONDITIONS. IN-WATER WORK AREAS SHALL BE ISOLATED SUCH THAT WORKS ARE CONDUCTED IN THE DRY.
- THE CONTRACTOR SHALL MINIMIZE DISTURBANCES TO THE WATERCOURSE BANKS DURING CONSTRUCTION, BY RESTRICTING ACCESS AND MINIMIZING THE AREA REQUIRED FOR CONSTRUCTION.

- THE LIMITS OF CONSTRUCTION, WHICH INCLUDES SENSITIVE NATURAL AREAS AS DEFINED IN THE DRAWING PACKAGE WILL BE MARKED IN THE FIELD TO PROTECT RETAINED NATURAL AREAS.
- ALL ACCESS TO WORK SITES SHALL BE FROM EITHER SIDE OF ANY WATERCOURSE EXCEPT FOR THE CASE OF THE TWO PRE-DETERMINED TEMPORARY CROSSINGS OF INDIAN CREEK. ONCE CONSTRUCTED, THE TWO PRE-DETERMINED TEMPORARY CROSSINGS OF INDIAN CREEK AS PER THE CONTRACT DRAWINGS CAN BE USED.
- THE CONTRACTOR SHALL ENSURE THAT DEWATERING DURING CONSTRUCTION WORK SHALL PASS THROUGH A FILTER BAG OR ROCK FLOW CHECK DAM WITH FILTER CLOTH PRIOR TO RELEASE INTO ANY WATERCOURSE. THE FILTER BAG(S) SHOULD BE LOCATED A MINIMUM OF 30M FROM THE RECEIVING WATERCOURSE BANK. ALL WATER AND PUMP INTAKE STRUCTURES LOCATED IN FISH-BEARING WATER SHALL BE INSTALLED AND OPERATED IN A MANNER THAT MITIGATES THE INCIDENTAL CAPTURE OF FISH BY ENTRAINMENT AND IMPINGEMENT AND IS CONSISTENT WITH THE FISHERIES ACT AND PER THE ENVIRONMENTAL PROTECTION SECTION 01560. SHOULD THE FILTER BAG NEED TO BE WITHIN 30m OF THE RECEIVING WATERCOURSE OR IS LOCATED WITHIN SPARSELY VEGETATED/DISTURBED AREA, ADDITIONAL CONTAINMENT AND MITIGATION SUCH AS A STRAW BALE ENCLOSURE, DETENTION POND, SUMP OR SIMILAR STRUCTURE IS REQUIRED.
- ALL GROUND DISTURBANCE ACTIVITIES NEAR WATERCOURSES, INCLUDING EXCAVATION AND STRIPPING WORKS, SHALL BE AVOIDED DURING PERIODS OF WET WEATHER.
- BEFORE HOLIDAYS, WEEKENDS, AND EXTENDED NON-WORK PERIODS, EXPOSED SOILS MUST BE STABILIZED TO ENSURE STABILITY DURING RAIN EVENTS.
- ALL GRADES WITHIN THE REGULATORY FLOODPLAIN AS DEFINED IN THE CONTRACT DRAWINGS SHALL BE MAINTAINED AND RESTORED EXCEPT WHERE GRADING AND FLOOD PLAIN ALTERATIONS ARE PROPOSED.
- ALL CONSTRUCTION MATERIALS, EQUIPMENT AND ESC MEASURES SHALL ARRIVE ON SITE IN A CLEAN CONDITION FREE OF DEBRIS AND SHALL BE STORED AND OPERATED IN A WAY THAT PREVENTS DELETERIOUS SUBSTANCES FROM ENTERING ANY WATERCOURSE. CONSTRUCTION AND EXCAVATED MATERIALS SHALL BE LOCATED AND MAINTAINED AWAY (30M MINIMUM) FROM WATERCOURSES AND OTHER DRAINAGE FEATURES, STORM INLETS, CATCHBASINS AND MAINTENANCE HOLES.
- BIODEGRADABLE OIL SHALL BE USED IN ALL EQUIPMENT OPERATING IN OR NEAR WATER FOR CREEK ALIGNMENT ACTIVITIES. ALL VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE SHALL BE CONDUCTED A MINIMUM OF 30M AWAY FROM ANY WETLAND OR WATERBODY, STORM INLETS, CATCH BASINS AND MAINTENANCE HOLES. IN ADDITION, A SPILL KIT CONTAINING SUITABLE ABSORBENT MATERIAL MUST BE STORED ON SITE PER ENVIRONMENTAL PROTECTION SECTION 01560.
- ESC MEASURES SHALL BE APPLIED TO ALL STAGING AND STORAGE AREAS.
- STAGING AREAS MUST BE LOCATED A MINIMUM OF 30 m AWAY FROM ANY WATERCOURSE.
- STOCKPILE AREAS SHALL BE MANAGED AND MAINTAINED AS PER THE SOILS MANAGEMENT PLAN AND NOT BE WITHIN 30m OF ANY WATERCOURSE.
- HAZARDOUS MATERIALS MUST BE STOCKED ABOVE THE REGULATORY FLOOD PLAIN.
- THE CONTRACTOR SHALL COLLECT AND TREAT ALL WASTEWATERS AND WASH WATERS, TAKING INTO ACCOUNT THE CANADIAN COUNCIL OF MINISTERS OF THE ENVIRONMENT'S CANADIAN WATER QUALITY GUIDELINES FOR THE PROTECTION OF AQUATIC LIFE, BEFORE DISCHARGING THEM IN ANY WETLAND OR WATERBODY.
- THE CONTRACTOR SHALL IMPLEMENT MEASURES TO PREVENT WET CONCRETE OR CEMENT-LADEN WATER, INCLUDING HIGH pH RUN-OFF OCCURRING DURING CONCRETE WORK, FROM ENTERING ANY WETLAND OR WATERBODY DURING CONSTRUCTION. THE CONTRACTOR SHALL ESTABLISH WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK.
- THE CONTRACTOR SHALL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR

- PRIVATE ROADS USING GRAVELED OR PAVED EXITS AND PARKING AREAS. MUD MATS ARE TO BE PLACED AT ALL EXIT POINTS OF EACH ACCESS TO THE SITE.
- ESC MEASURES SHALL NOT BE REMOVED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR THE SITE IS OTHERWISE FULLY STABILIZED.
- TEMPORARY FLOW DIVERSION SHOULD BE PROVIDED FOR ALL CULVERT EXTENSIONS, REPLACEMENTS, ADDITIONS AND TEMPORARY CROSSINGS. THE MEANS OF CONVEYING TEMPORARY FLOWS DURING CONSTRUCTION (DAM AND PUMP, FLUME, ETC) SHOULD CONSIDER THE DURATION OF THE WORKS, THE TIMING OF THE WORKS (SPRING VS. SUMMER), THE SIZE OF THE UPSTREAM DRAINAGE AREA, THE POTENTIAL DAMAGES TO EQUIPMENT AND THE IMPACT OF THE STORM EVENT.
- THE CONTRACTOR SHALL PROTECT ALL EXPOSED SURFACES, AND CONTROL ALL RUN-OFF DURING CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT ALL CATCHBASINS, MANHOLES, AND PIPE ENDS FROM SEDIMENT INTRUSION.
- THE CONTRACTOR SHALL DISPOSE OF ALL COLLECTED SEDIMENT TO AN APPROVED SITE PER THE SOILS MANAGEMENT PLAN AND APPROVAL OF CN'S ENVIRONMENTAL MONITOR AND QP.
- THE CONTRACTOR SHALL KEEP ALL SUMPS CLEAN DURING CONSTRUCTION.
- THE CONTRACTOR SHALL PREVENT WIND-BLOWN DUST THROUGH IMPLEMENTATION OF APPROPRIATE DUST MITIGATION MEASURES ON ALL EXPOSED SURFACES.
- THE CONTRACTOR SHALL ENSURE ALL DEWATERING EFFLUENT IS DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
- FLOW CHECK DAM LOCATIONS SHOWN ON ESC DRAWINGS ARE APPROXIMATE ONLY. PRECISE LOCATIONS AND EXTENT OF PROTECTION REQUIRED ARE TO BE DETERMINED IN THE FIELD BY CN'S ENVIRONMENTAL MONITOR. TEMPORARY ROCK CHECK DAMS TO BE INSTALLED IN EXISTING AND PROPOSED DITCHES EVERY 50m.
- ROCK CHECK DAMS TO BE INSTALLED AS PER OPSD 219.210 AND OPSD 219.211.
- HEAVY DUTY SILT FENCING TO BE INSTALLED AS PER OPSD 219.130.
- EROSION MATTING TO BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS.
- SILT FENCING TO BE INSTALLED AT TOE OF SLOPE FOR ALL DISTURBED SURFACES.
- SILT CURTAIN OR STRAW BALE FILTER TO BE INSTALLED AT ALL MAJOR DITCH OUTLET POINTS.
- ANY RE-GRADED CHANNEL AREAS WILL BE RE-STABILIZED WITH NATURAL SUBSTRATE (COBBLE) BEFORE FLOW IS REINSTATED.
- THE CONTRACTOR SHALL NOTIFY CN'S ENVIRONMENTAL MONITOR 72 HOURS BEFORE ANY IN-WATER WORK, INCLUDING BUT NOT LIMITED TO CONSTRUCTION OF ANY WATERCOURSE OR WATER BODY CROSSING OR DIVERSIONS, TO ENSURE ANY NECESSARY FISH SALVAGE OPERATIONS ARE CONDUCTED PER SECTION 01560.
- PROGRESSIVE RECLAMATION TO BE UNDERTAKEN IN AREAS WHERE CONSTRUCTION/GRADING IS COMPLETE PER THE RESTORATION AND ENHANCEMENT PLAN.

**CULVERTS**

**COFFERDAM NOTES:**

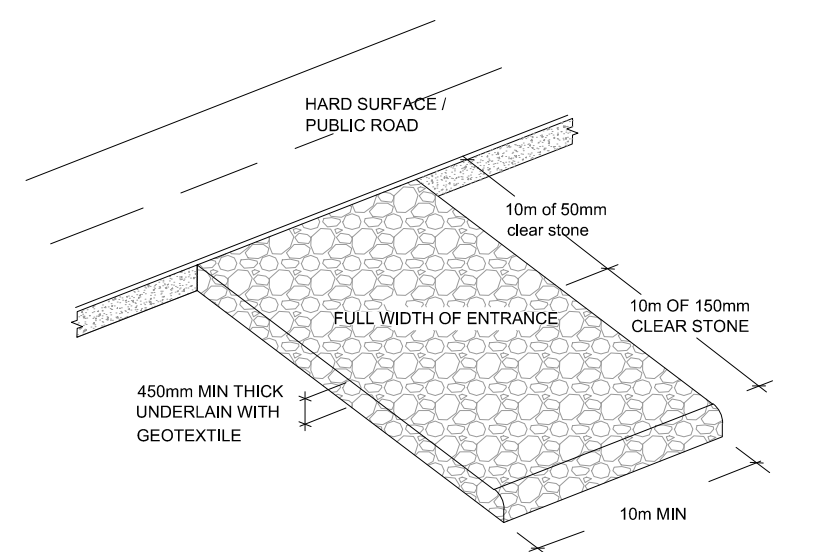
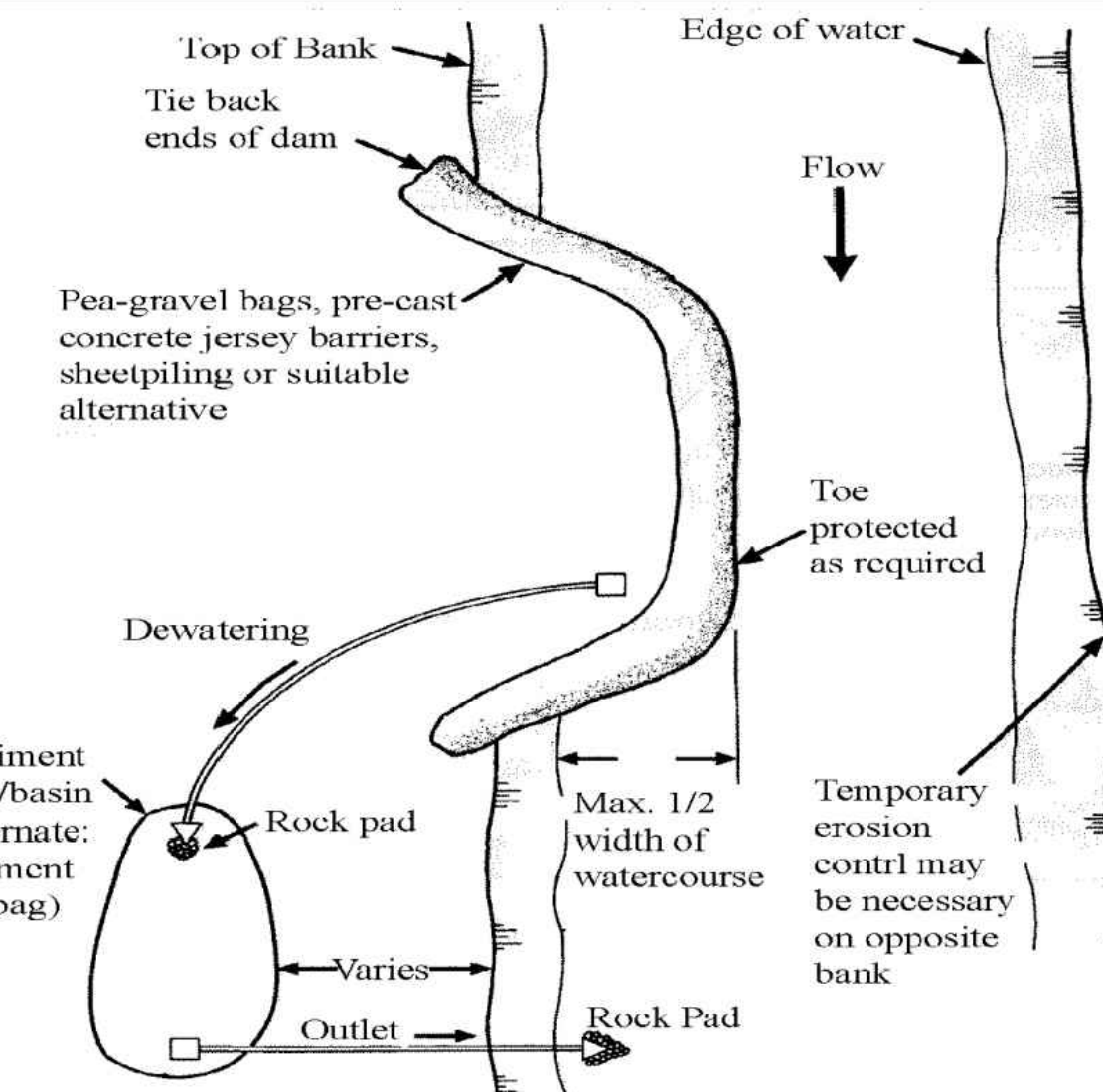
- CONTRACTOR SHALL DESIGN AND INSTALL COFFERDAM IN ACCORDANCE WITH THE DOCUMENT EROSION AND SEDIMENT CONTROL GUIDELINE FOR URBAN CONSTRUCTION (2019)
- CONTRACTOR SHALL SUBMIT THE DESIGN OF COFFERDAM FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION.
- WORK IS TO BE COMPLETED ON DRY WEATHER DAYS ONLY. CONTRACTOR IS TO MONITOR WEATHER FORECAST 5 DAYS PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL MONITOR WEATHER FORECAST AND WHERE WET WEATHER EVENTS MAY EXCEED THE COFFERDAM, REMOVE ALL EQUIPMENT AND CEASE IN-WATER WORK. AFTER FLOODING SUBSIDES, DEWATER FROM WITHIN THE ISOLATED ZONE TO APPROVED SEDIMENTATION CONTROL FEATURES, MAKE ANY REPAIRS NECESSARY TO THE COFFERDAM AND CONTINUE IN-WATER WORKS.
- PEA-GRAVEL BAGS OR A SUITABLE ALTERNATIVE IS TO BE USED FOR THE COFFERDAM. DESIGN AND MATERIAL TO BE APPROVED BY CN'S ENVIRONMENTAL MONITOR PRIOR TO START OF CONSTRUCTION.

**SILT FENCE NOTES:**

- SILT FENCE SHALL BE PLACED AT LOCATIONS SHOWN ON THE CONTRACT DRAWINGS INCLUDING THE CONSTRUCTION LIMITS, LAYDOWN AREAS, ACCESS ROUTES AND SEDIMENT STORAGE AREAS.
- ALL SILT FENCES SHALL BE ANCHORED AT OPENINGS AND START/END LOCATIONS WITH J-HOOKS.

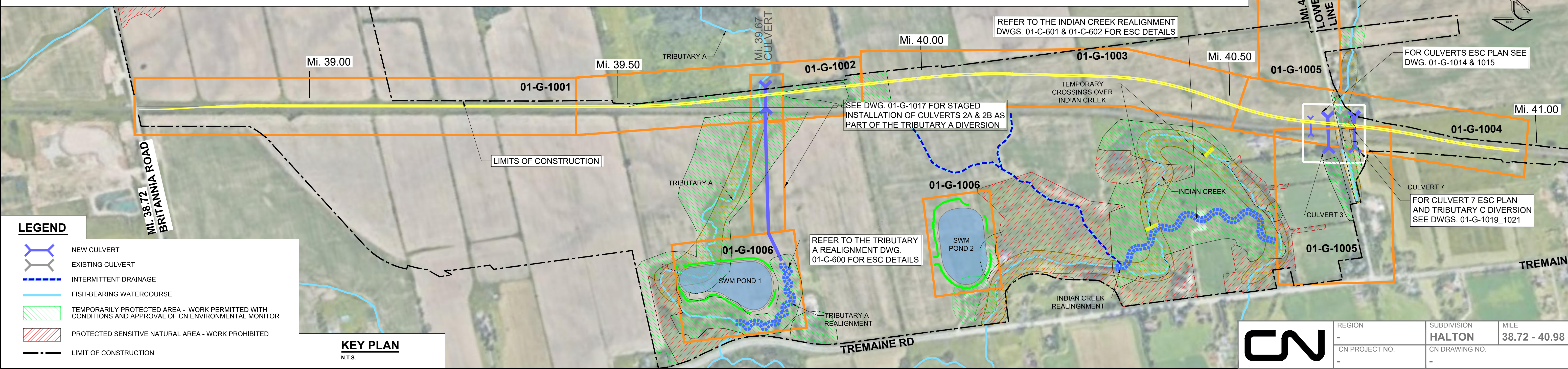
**RIP-RAP AND ROCK PROTECTION NOTES:**

- RIP-RAP TO OPSD 810.010 TO THE THICKNESS AND SIZES SPECIFIED IN THE CONTRACT DRAWINGS ARE TO BE INSTALLED AT THE NEW CULVERTS INLET AND OUTLET POINTS AS WELL AS OVER EVERY OTHER POINT OF POTENTIAL EROSION POINTS DUE TO WATER DISCHARGE OR CHANGE OF DIRECTION AS SHOWN IN THE CONTRACT DRAWINGS.
- ALL ROCK PROTECTION REQUIRED ALONG FISH-BEARING WATERCOURSES AND TRIBUTARIES SHALL CONSIST OF RIVERSTONE OF THE TYPE SPECIFIED IN THE CONTRACT DRAWINGS.



**COFFERDAM - SCHEMATIC PLAN**

HRCA & HCA, 1994

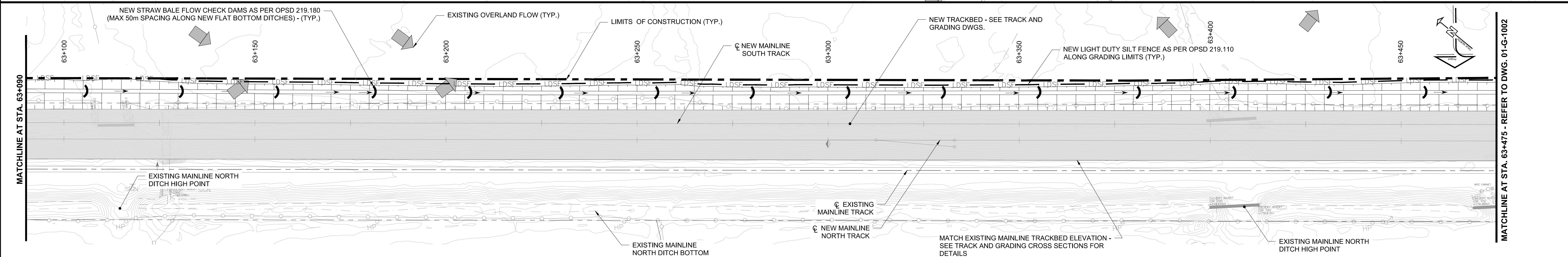
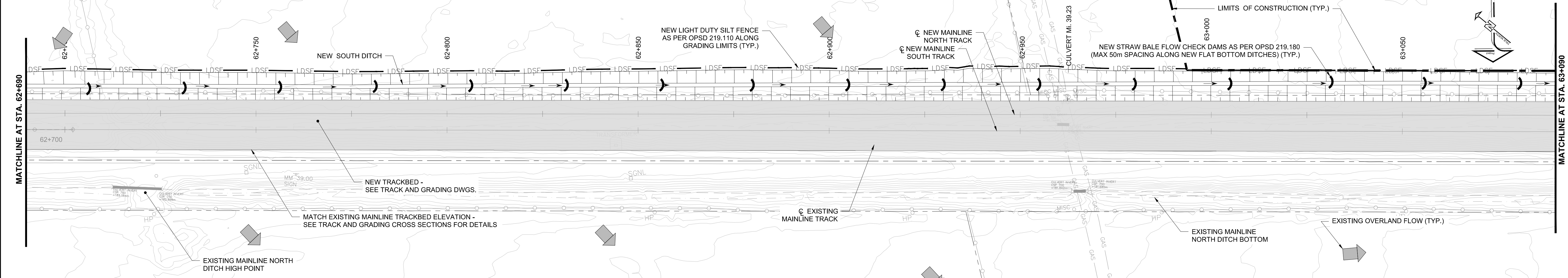
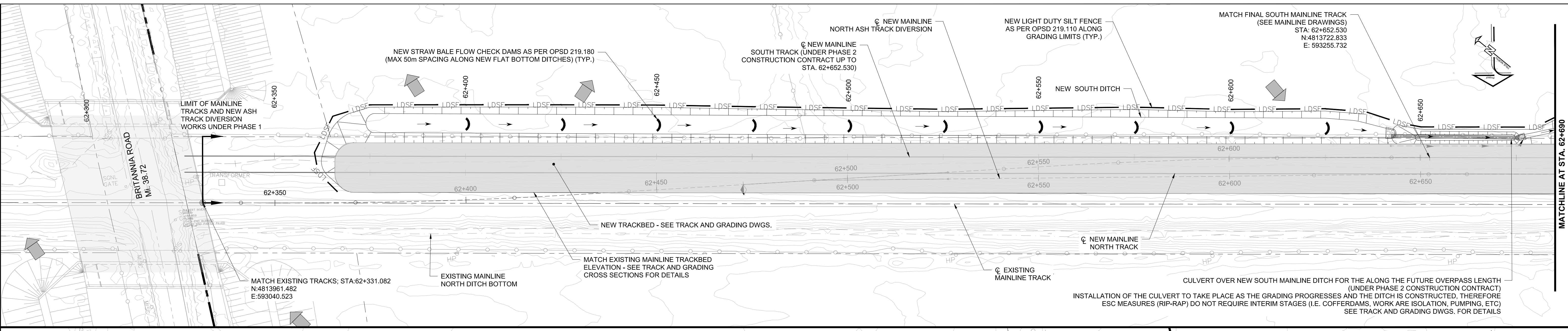


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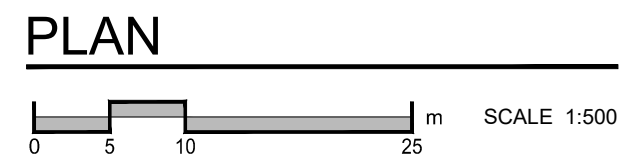
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<b>CN</b>	REGION	SUBDIVISION	MILE
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CN PROJECT NO.	CN DRAWING NO.		
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<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS GENERAL NOTES, DETAILS AND KEY PLAN</b>			
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION	
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- NOTES:**
- THE CONTRACTOR SHALL ENSURE THAT ESC MEASURES AT THE ACCESS POINTS TO THE WORKING AREAS ARE ALWAYS IN PLACE. THE ESC MEASURES AT THE ACCESS POINTS SHALL BE REMOVED AND REINSTATED TO FACILITATE THE MOVEMENT OF THE CONSTRUCTION EQUIPMENT.
  - ALL STRAW BALES SHOWN ARE TEMPORARY AND SHALL BE REMOVED AS PRESCRIBED IN THE GENERAL NOTES AND SPECIFICATIONS



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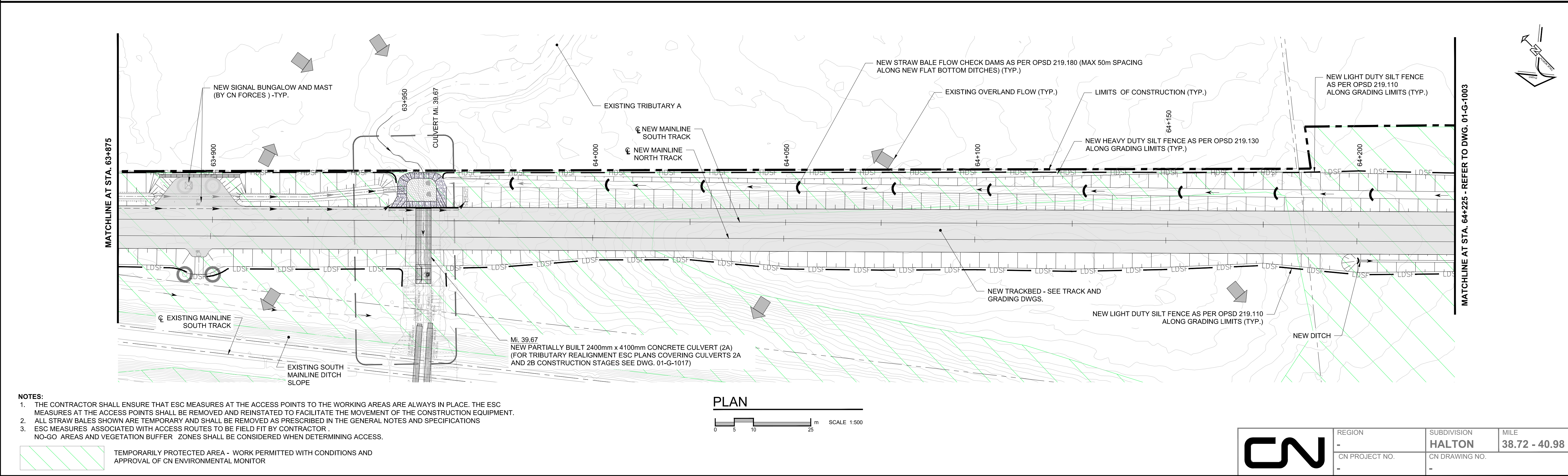
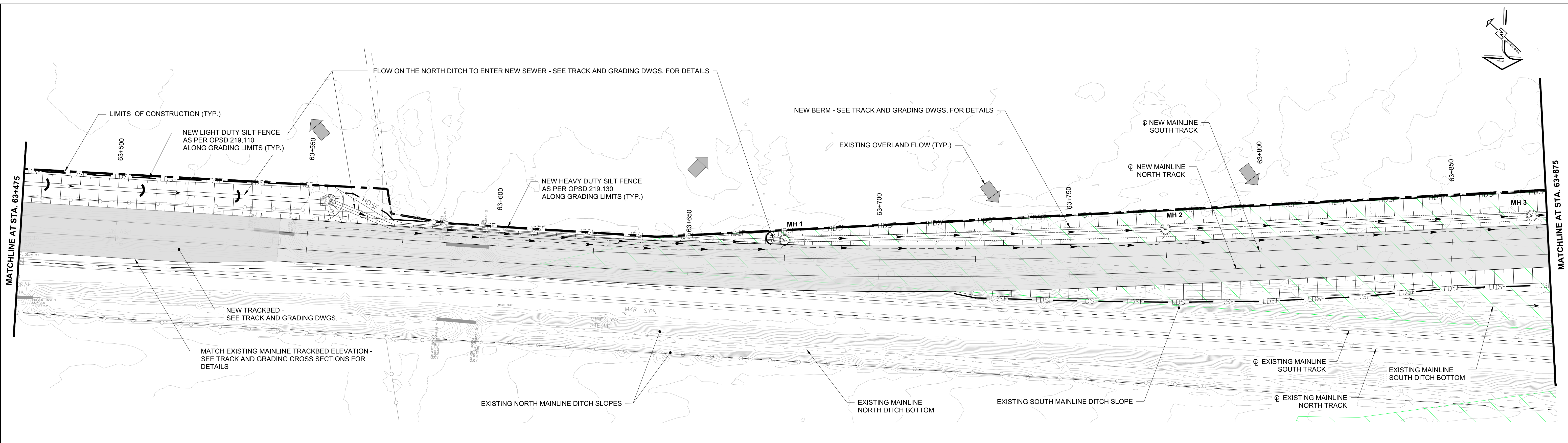
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<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS STA. 62+331.082 - STA. 63+475.000</b>		
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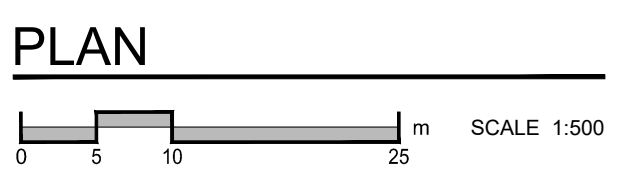
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TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR



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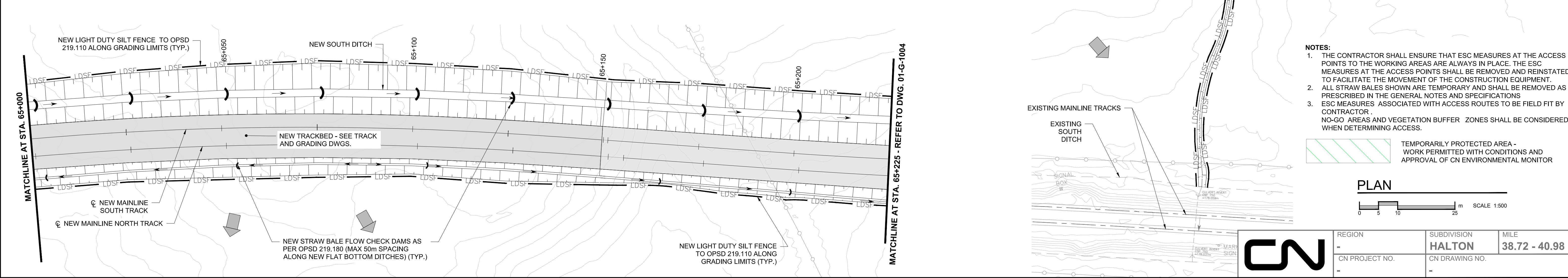
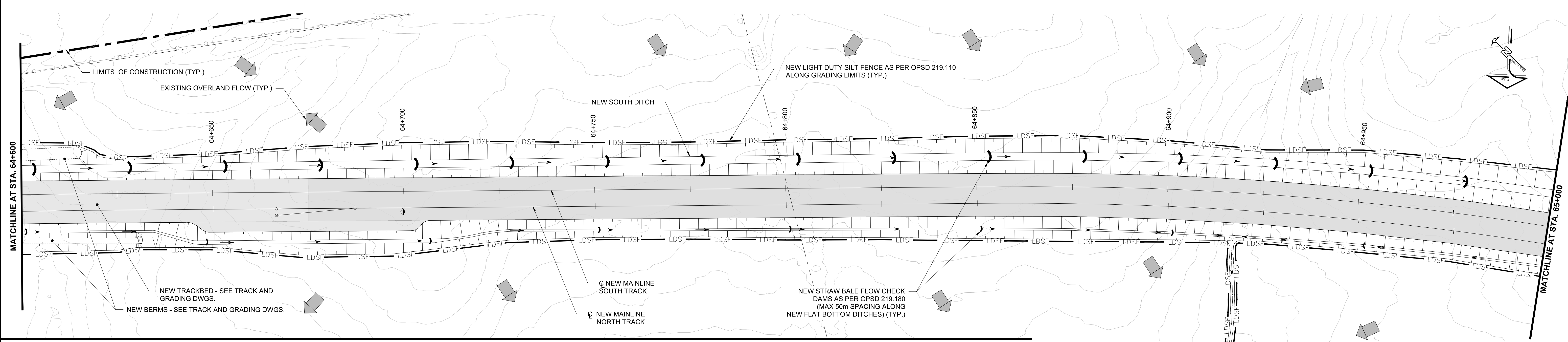
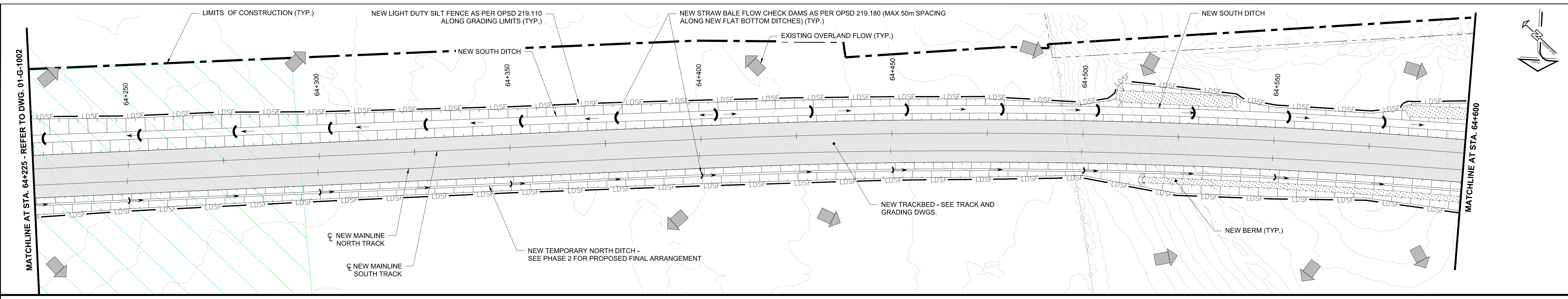
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<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS STA. 63+475.000 - STA. 64+225.000</b>		
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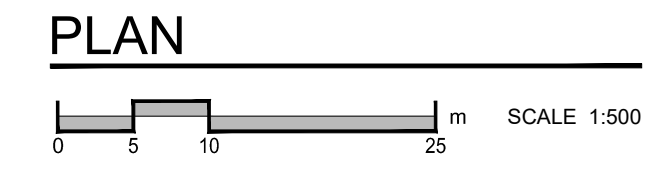
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TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR



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<b>CN MILTON LOGISTIC HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS STA. 64+225.000 - STA. 65+225.000</b>		
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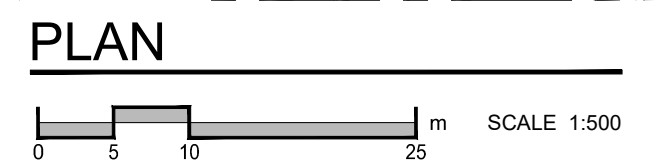
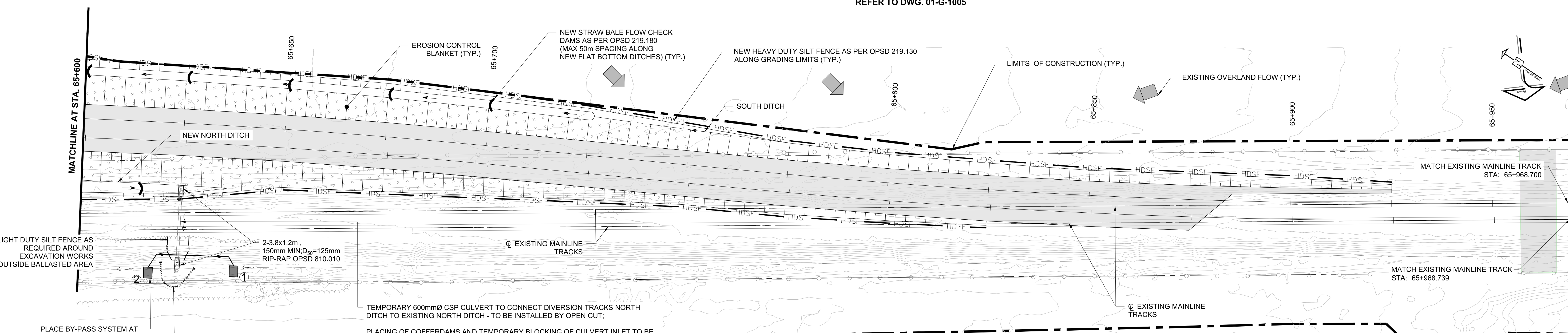
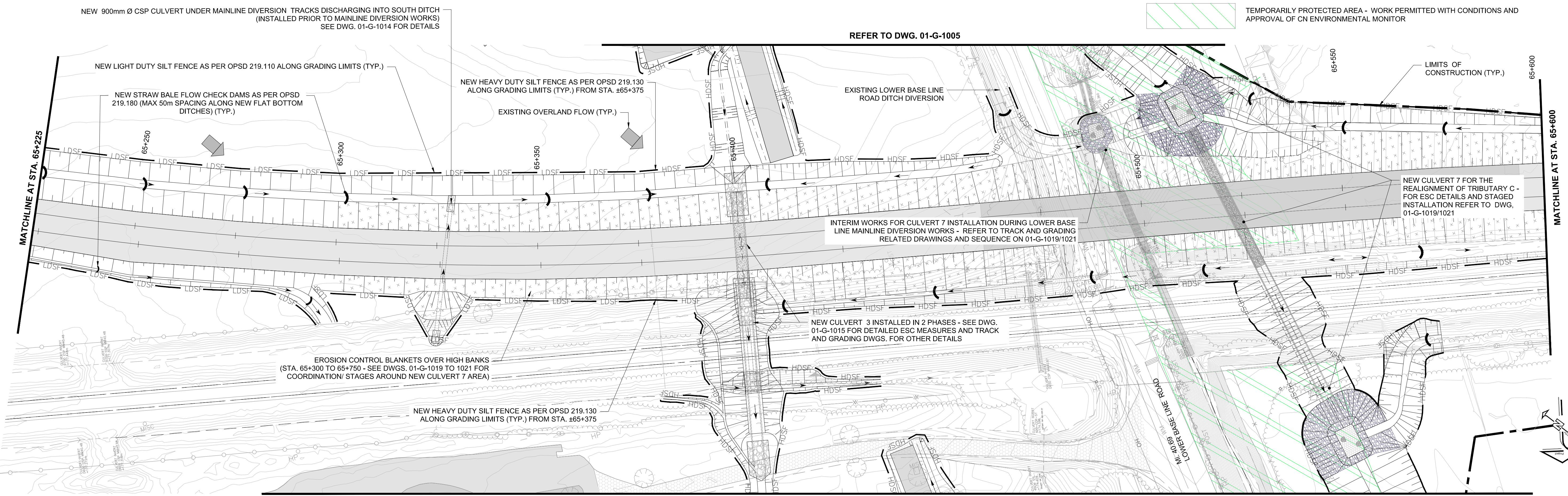
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 TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR



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PROFESSIONAL SEALS

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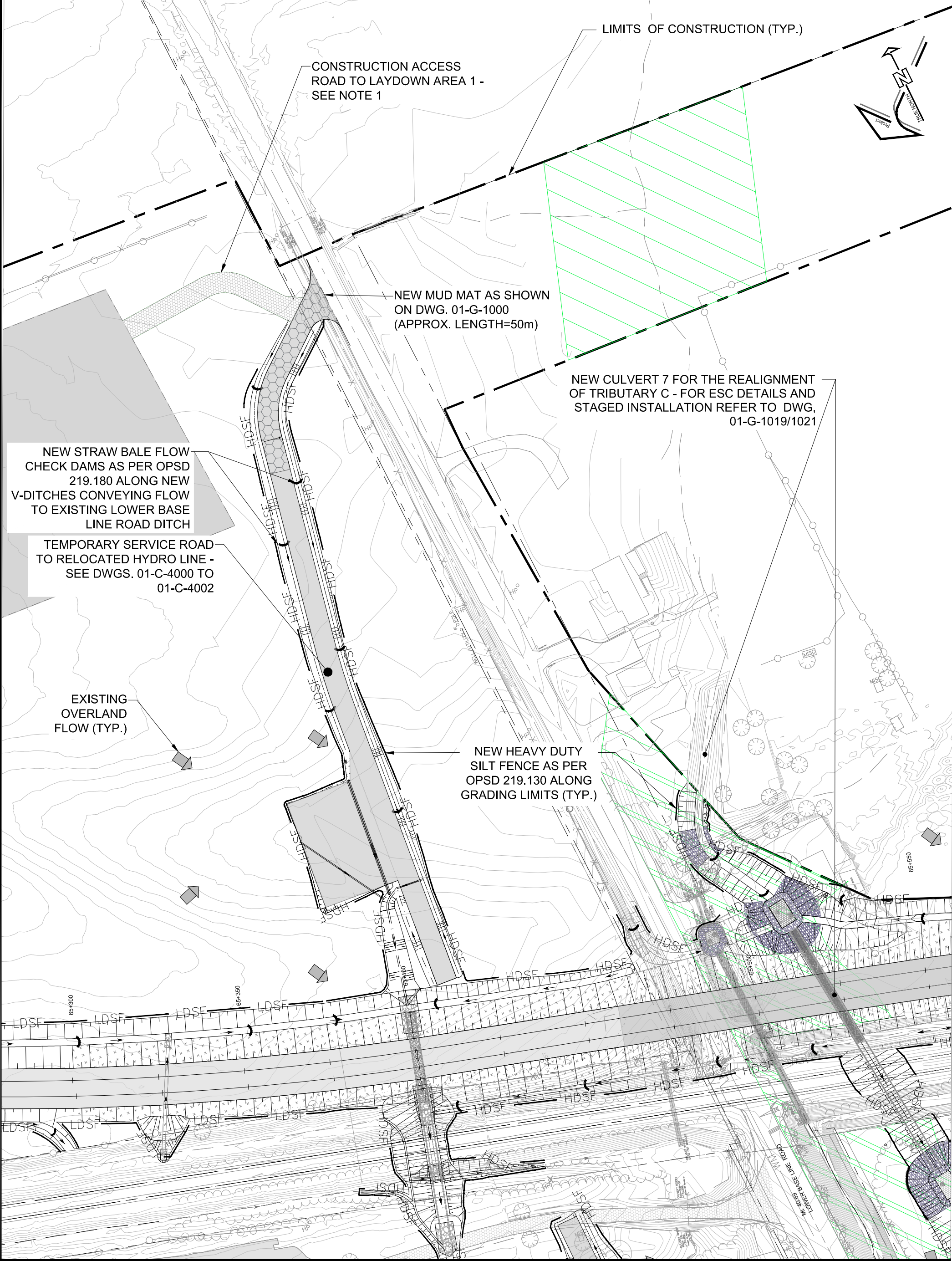
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**CN MILTON LOGISTIC HUB - HALTON SUBDIVISION - PHASE 1**  
**GENERAL DRAWINGS**  
**EROSION AND SEDIMENT CONTROL PLANS**  
**STA. 65+225.000 - STA. 65+968.700**

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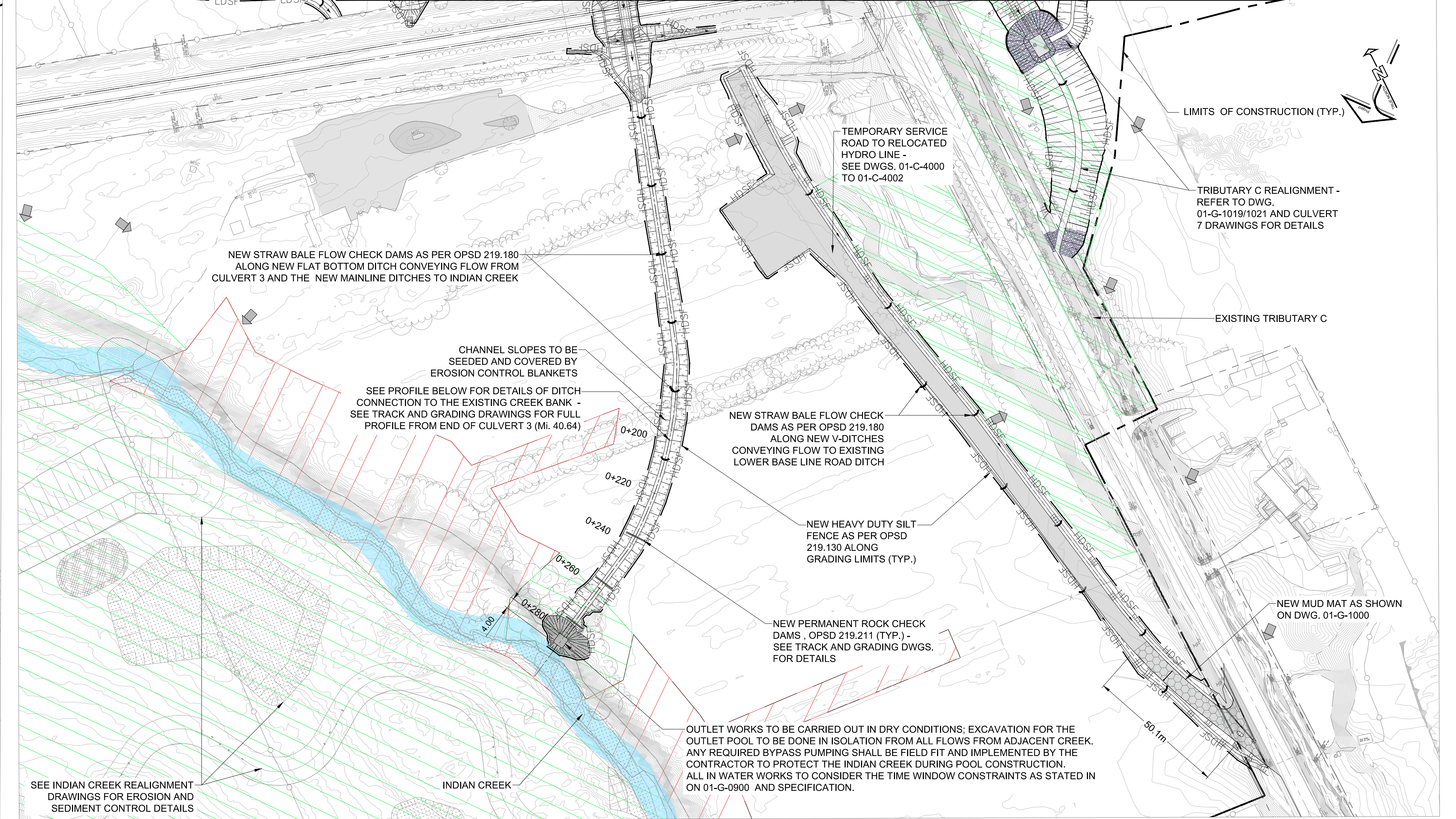
REFER TO DWG. 01-G-1004

PLAN

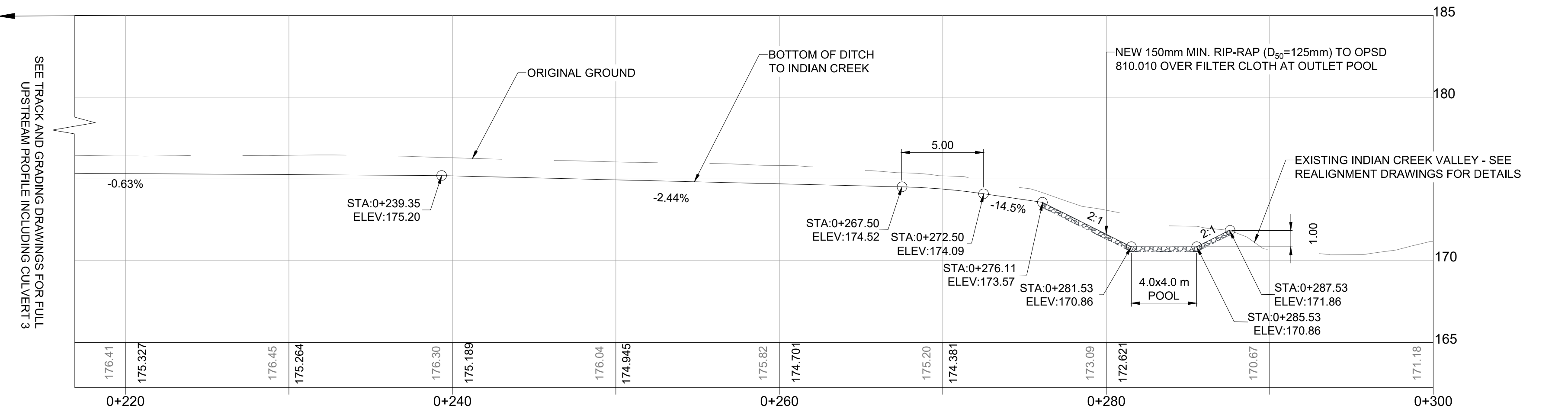


- NOTES:**
1. THE CONTRACTOR SHALL ENSURE THAT ESC MEASURES AT THE ACCESS POINTS TO THE WORKING AREAS ARE ALWAYS IN PLACE. THE ESC MEASURES AT THE ACCESS POINTS SHALL BE REMOVED AND REINSTATED TO FACILITATE THE MOVEMENT OF THE CONSTRUCTION EQUIPMENT.
  2. ALL STRAW BALES SHOWN ARE TEMPORARY AND SHALL BE REMOVED AS PRESCRIBED IN THE GENERAL NOTES AND SPECIFICATIONS
  3. ESC MEASURES ASSOCIATED WITH ACCESS ROUTES TO BE FIELD FIT BY CONTRACTOR. NO-GO AREAS AND VEGETATION BUFFER ZONES SHALL BE CONSIDERED WHEN DETERMINING ACCESS.

- TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR
- PROTECTED SENSITIVE NATURAL AREA - WORK PROHIBITED



REFER TO DWG. 01-G-1004



PROFILE



	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.		CN DRAWING NO.	
-		-	

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I/R	YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG	IDR APP

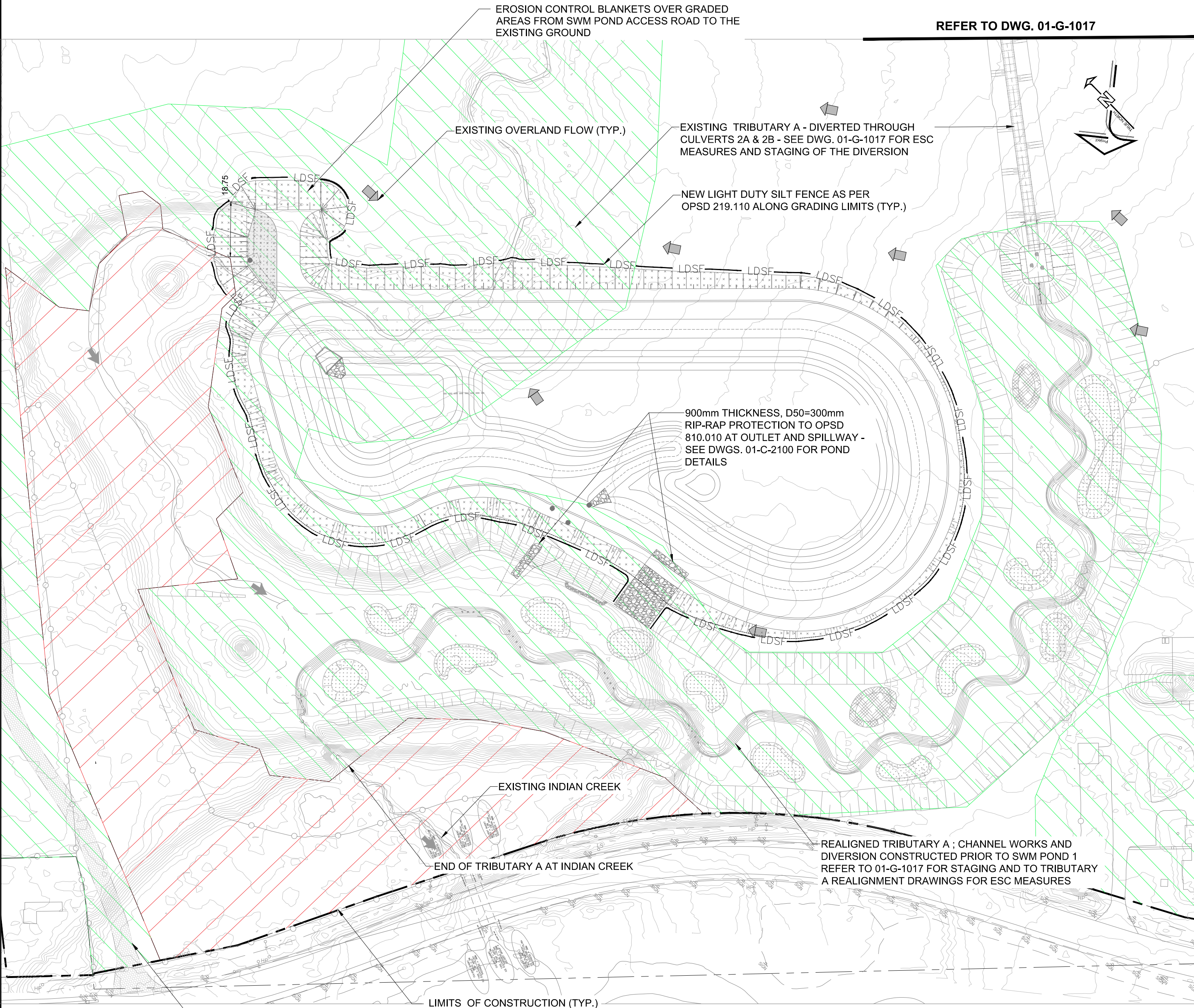
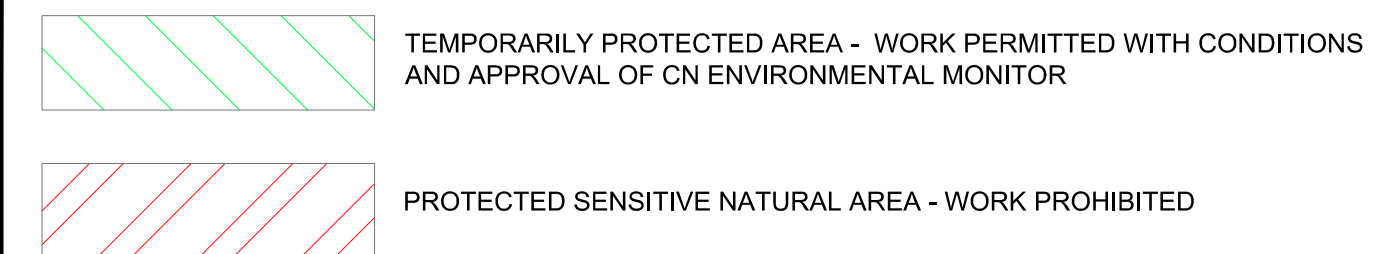


<b>CN</b>		
<b>MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1</b>		
<b>GENERAL DRAWINGS</b>		
<b>EROSION AND SEDIMENT CONTROL PLANS</b>		
<b>DRAINAGE AND SERVICE ROAD WORKS AROUND LOWER BASE LINE ROAD</b>		
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
<b>60579933</b>	<b>01-G-1005</b>	<b>A</b>

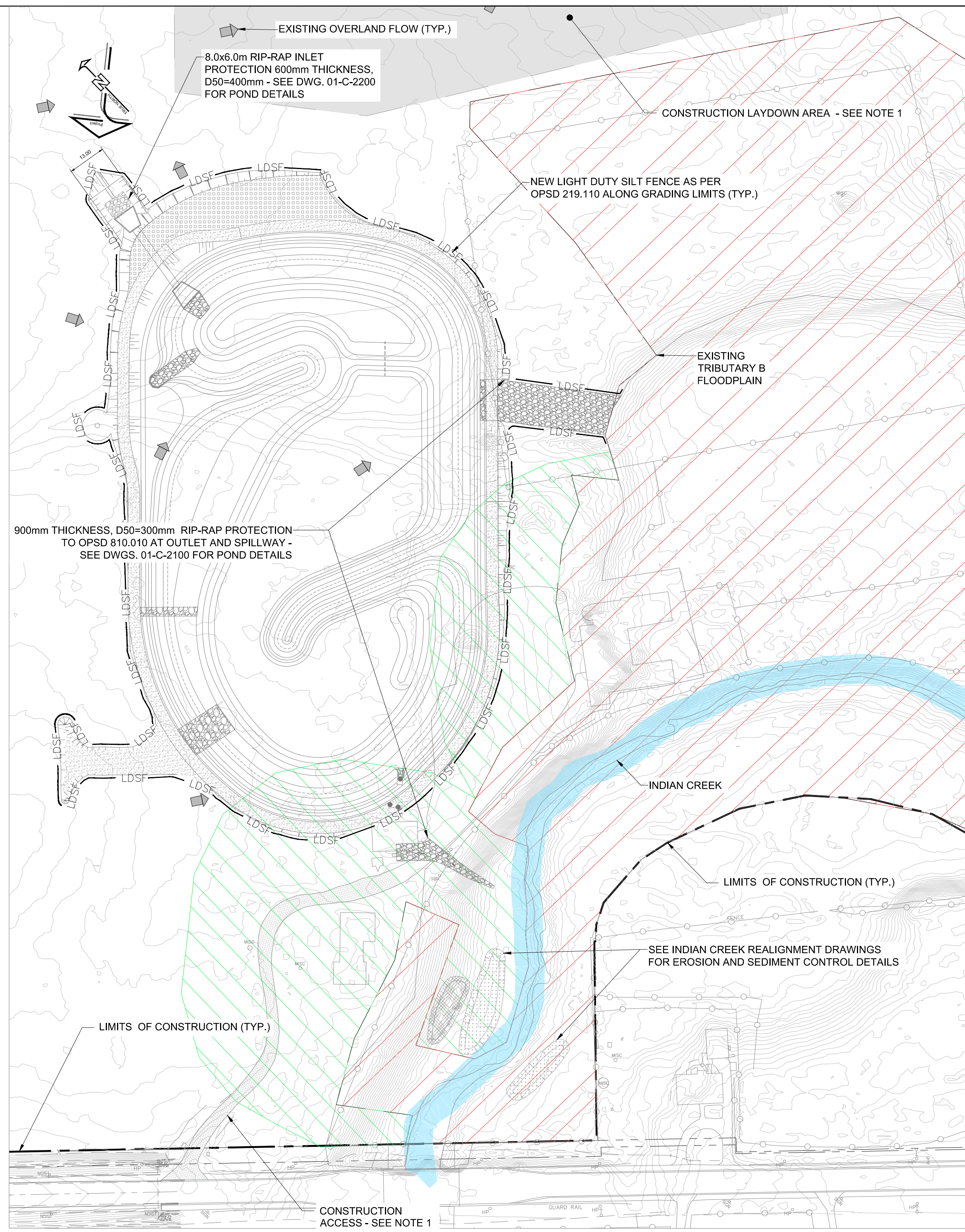
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**NOTES:**

1. THE CONTRACTOR SHALL ENSURE THAT ESC MEASURES AT THE ACCESS POINTS TO THE WORKING AREAS ARE ALWAYS IN PLACE. THE ESC MEASURES AT THE ACCESS POINTS SHALL BE REMOVED AND REINSTATED TO FACILITATE THE MOVEMENT OF THE CONSTRUCTION EQUIPMENT.
2. ALL STRAW BALES SHOWN ARE TEMPORARY AND SHALL BE REMOVED AS PRESCRIBED IN THE GENERAL NOTES AND SPECIFICATIONS
3. ESC MEASURES ASSOCIATED WITH ACCESS ROUTES TO BE FIELD FIT BY CONTRACTOR. NO-GO AREAS AND VEGETATION BUFFER ZONES SHALL BE CONSIDERED WHEN DETERMINING ACCESS.



**PLAN**  
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**PLAN**  
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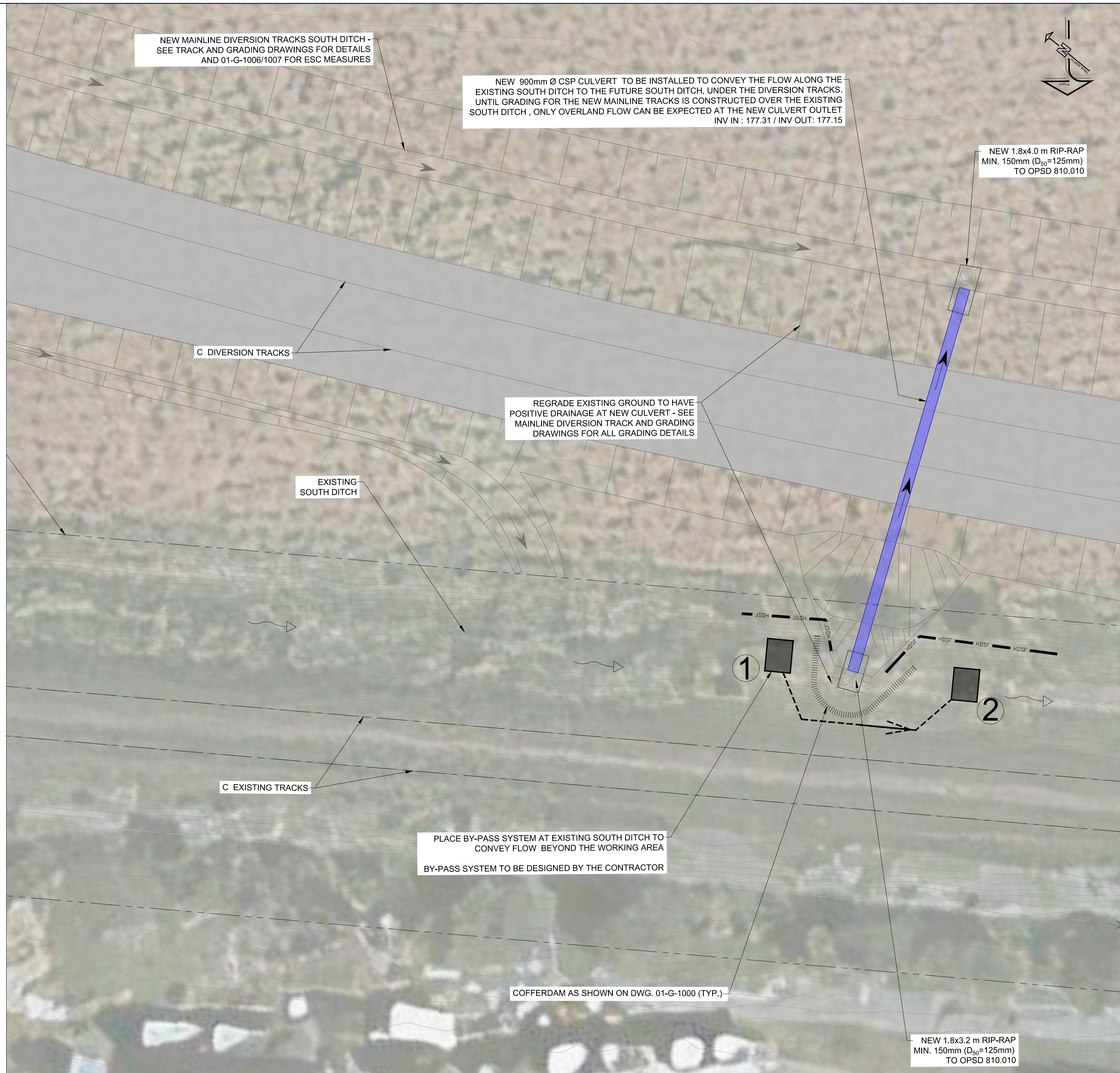
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I/R	YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG	IDR



<b>CN</b>	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.		CN DRAWING NO.	
-		-	

<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS STORMWATER MANAGEMENT PONDS #1 AND #2</b>		
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
60579933	01-G-1006	A



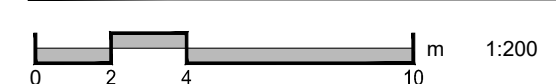
**NOTES:**

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN IN DRAWINGS 01-G-1011 TO 01-G-1016 ARE PROPOSED FOR THE INSTALLATION OF THE CULVERTS ONLY. GRADING WORKS FOR THE NEW TRACKS WILL BE CONSTRUCTED ONCE THESE ARE IN PLACE.
2. WHERE EXISTING CULVERT REMOVALS ARE REQUIRED, ADDITIONAL FIELD FIT ESC MEASURES SHALL BE INSTALLED BY THE CONTRACTOR TO FULLY CONTAIN THE WORK AREA AND MINIMIZE THE RISK OF SEDIMENT MOBILIZATION TOWARDS NEWLY INSTALLED CULVERT.
3. ESC MEASURES ASSOCIATED WITH ACCESS ROUTES TO BE FIELD FIT BY CONTRACTOR. NO-GO AREAS AND VEGETATION BUFFER ZONES SHALL BE CONSIDERED WHEN DETERMINING ACCESS.
4. NEW RIP-RAP SHOWN AT NEW CULVERTS INLET AND OUTLET POINTS IS REQUIRED AS SOON AS FLOW IS CONVEYED THROUGH THE CULVERTS, BUT IS TO BE ADJUSTED WHERE REQUIRED TO FINAL GRADING SLOPES AS SHOWN ON TRACK AND GRADING DRAWINGS.

**LEGEND**

- COFFERDAM AS SHOWN ON DWG. 01-G-1000
- HDSF HEAVY DUTY SILT FENCE (OPSD 219.130)
- DIRECTION OF FLOW
- DIRECTION OF EXISTING FLOW
- NEW CULVERT
- EXISTING CULVERT
- C OF EXISTING TRACK
- PROPERTY LINE
- ① DEWATERING SUMP-PUMP IN CLEARSTONE OR AS SPECIFIED IN THE CONTRACTOR'S BY-PASS SYSTEM (UPSTREAM)
- ② DOWNSTREAM OF BY-PASS SYSTEM. DISCHARGE OVER RIP-RAP WITH OVERFLOW OR AS DESIGNED BY THE CONTRACTOR

**NEW CULVERTS AT DIVERSION TRACKS STA. 63+325**



	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.		CN DRAWING NO.	
-		-	

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PROFESSIONAL SEALS

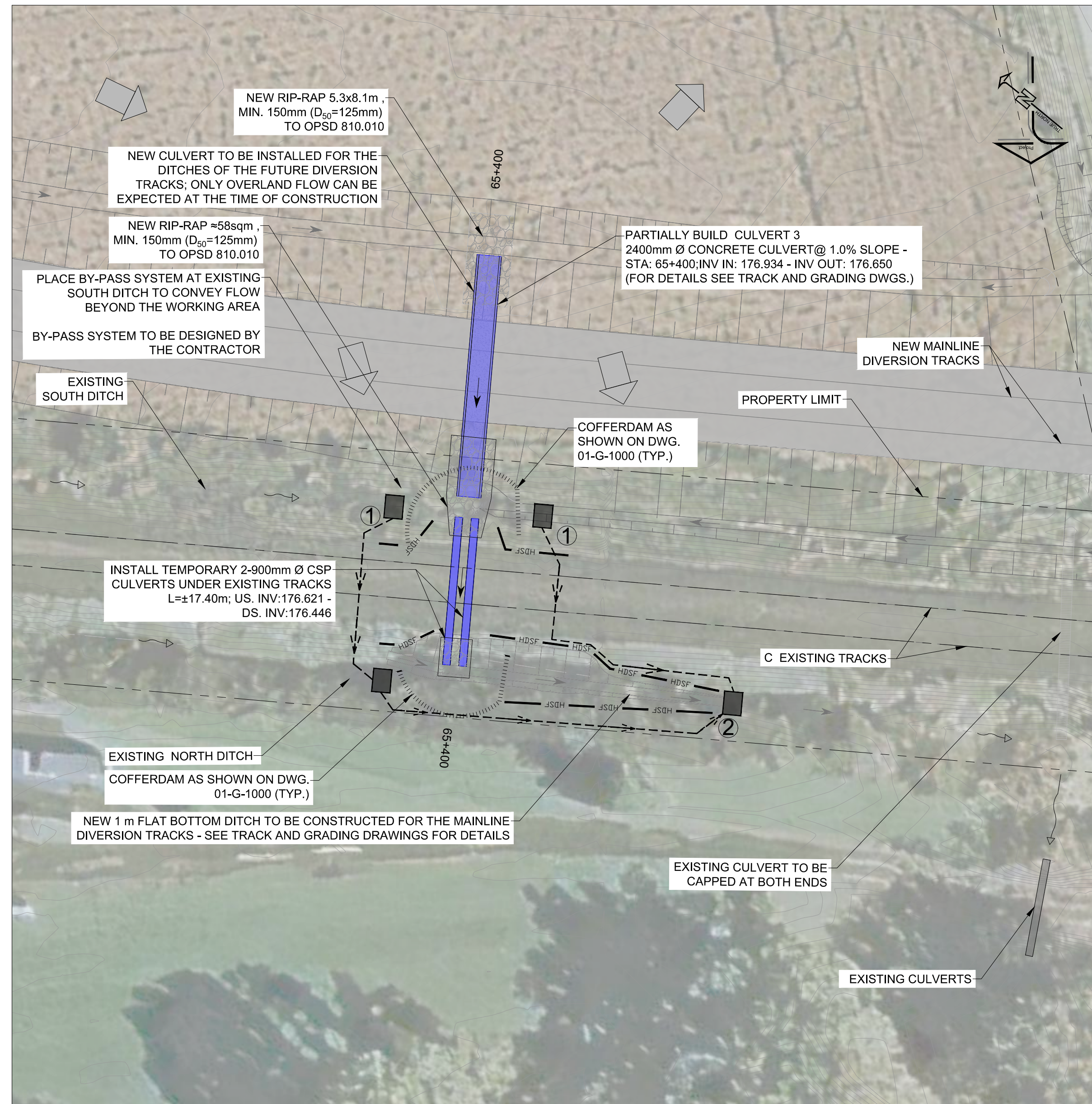
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I/R	YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG	IDR APP



<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS CULVERTS INSTALLED DURING PHASE 1 - STA. 65+325</b>		
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
60579933	01-G-1014	A





**NOTES:**

1. EROSION AND SEDIMENT CONTROL MEASURES SHOWN IN DRAWINGS 01-G-1011 TO 01-G-1016 ARE PROPOSED FOR THE INSTALLATION OF THE CULVERTS ONLY. GRADING WORKS FOR THE NEW TRACKS WILL BE CONSTRUCTED ONCE THESE ARE IN PLACE.
2. WHERE EXISTING CULVERT REMOVALS ARE REQUIRED, ADDITIONAL FIELD FIT ESC MEASURES SHALL BE INSTALLED BY THE CONTRACTOR TO FULLY CONTAIN THE WORK AREA AND MINIMIZE THE RISK OF SEDIMENT MOBILIZATION TOWARDS NEWLY INSTALLED CULVERT.
3. ESC MEASURES ASSOCIATED WITH ACCESS ROUTES TO BE FIELD FIT BY CONTRACTOR. NO-GO AREAS AND VEGETATION BUFFER ZONES SHALL BE CONSIDERED WHEN DETERMINING ACCESS.
4. NEW RIP-RAP SHOWN AT NEW CULVERTS INLET AND OUTLET POINTS IS REQUIRED AS SOON AS FLOW IS CONVEYED THROUGH THE CULVERTS, BUT IS TO BE ADJUSTED WHERE REQUIRED TO FINAL GRADING SLOPES AS SHOWN ON TRACK AND GRADING DRAWINGS.

**LEGEND**

- COFFERDAM AS SHOWN ON DWG. 01-G-1000 (TYP.)
- HEAVY DUTY SILT FENCE (OPSD 219.01)
- DIRECTION OF FLOW
- DIRECTION OF EXISTING FLOW
- NEW CULVERT
- EXISTING CULVERT
- Q OF EXISTING TRACK
- PROPERTY LINE
- GRADING SLOPES
- EXISTING OVERLAND FLOW

- ① DEWATERING SUMP-PUMP IN CLEARSTONE OR AS SPECIFIED IN THE CONTRACTOR'S BY-PASS SYSTEM (UPSTREAM)
- ② DOWNSTREAM OF BY-PASS SYSTEM, DISCHARGE OVER RIP-RAP WITH OVERFLOW OR AS DESIGNED BY THE CONTRACTOR

**CULVERT 3 SOUTH PORTION & TEMPORARY CULVERTS AT Mi. 40.62**



	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
	CN PROJECT NO.	CN DRAWING NO.	
	-	-	

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PROFESSIONAL SEALS

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I/R	YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG	IDR	APP	

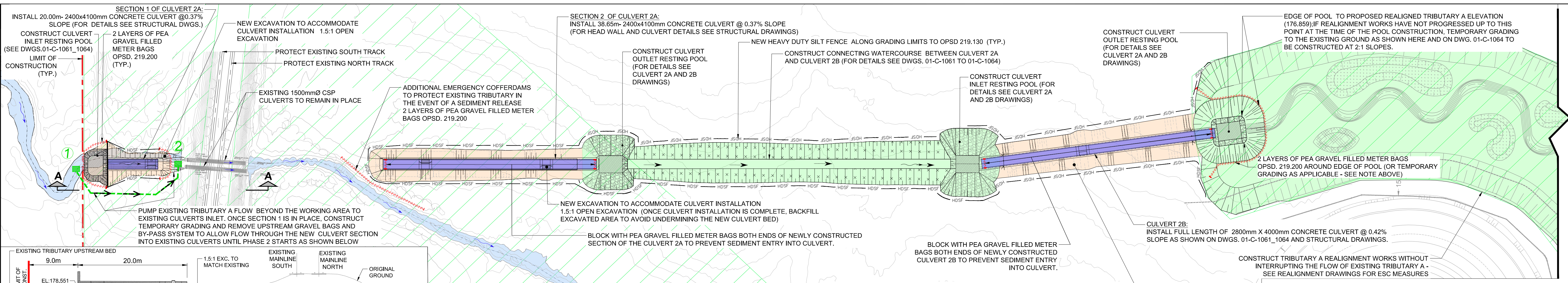


<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS CULVERTS INSTALLED DURING PHASE 1 - CULVERT 3 - STA. 65+400</b>		
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
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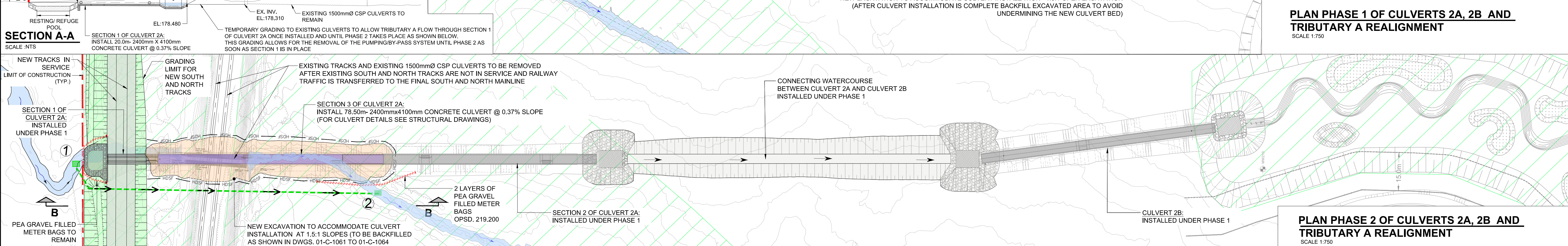
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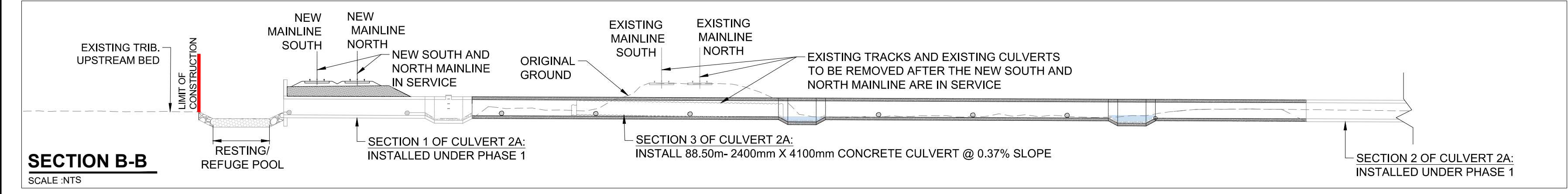
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**PLAN PHASE 1 OF CULVERTS 2A, 2B AND TRIBUTARY A REALIGNMENT**  
SCALE 1:750

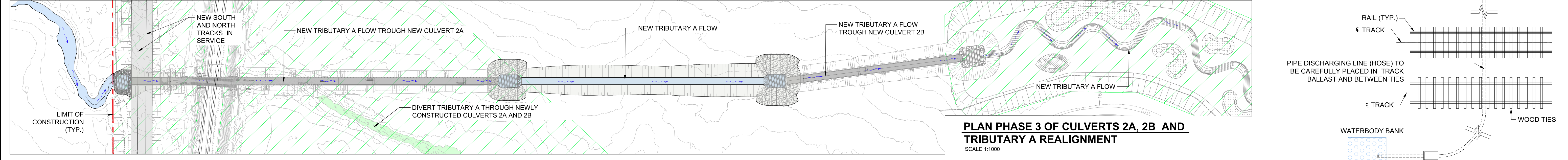


**PLAN PHASE 2 OF CULVERTS 2A, 2B AND TRIBUTARY A REALIGNMENT**  
SCALE 1:750



**LEGEND:**

- TEMPORARY GRADING AND DRAINAGE
- FINAL GRADING AND DRAINAGE
- GRADING AND DRAINAGE CONSTRUCTED UNDER PREVIOUS PHASES
- TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR



**PLAN PHASE 3 OF CULVERTS 2A, 2B AND TRIBUTARY A REALIGNMENT**  
SCALE 1:1000

**DETAIL FOR HOSE ACROSS LIVE TRACKS**  
SCALE 1:100

- NOTES:**
- COORDINATE TURTLE RESCUES THROUGH CN ENVIRONMENTAL MONITOR TO RELOCATE SNAPPING TURTLES BETWEEN APRIL 15 AND SEPTEMBER 30 PRIOR TO IN-WATER WORKS OCCURRING IN THE AGRICULTURAL POND
  - INSTALL EXCLUSIONARY FENCING TO PREVENT TURTLES FROM RE-ENTERING THE AREA UNTIL CONSTRUCTION IS COMPLETE.
  - IN-WATER WORKS MUST ONLY OCCUR DURING THE DFO IN-WATER WORKS WINDOW (I.E., NO IN-WATER WORK BETWEEN MARCH 15 AND JUNE 30 INCLUSIVE).
  - MAINTAIN FLOW IN TRIBUTARY A FOR AS LONG AS POSSIBLE WITHOUT DISTURBANCE
  - COORDINATE FISH SALVAGE OF THE AGRICULTURAL POND THROUGH ENVIRONMENTAL MONITOR
  - PLACE COFFERDAM IN AGRICULTURAL POND TO ISOLATE TRIBUTARY A FLOW FROM REST OF AGRICULTURAL POND
- DEWATER REMAINDER OF AGRICULTURAL POND
  - COMMENCE TRIBUTARY A REALIGNMENT WORKS AS INDICATED IN THE PHASE 1, PHASE 2 AND PHASE 3.
    - PHASE 1:**
      - CONSTRUCT TRIBUTARY A REALIGNMENT WORKS WITHOUT INTERRUPTING THE FLOW OF EXISTING TRIBUTARY A
      - CONSTRUCT CONNECTING WATERCOURSE BETWEEN CULVERT 2A AND CULVERT 2B
      - CONSTRUCT SECTION 1 OF CULVERT 2A WITH INLET RESTING POOL. DURING CONSTRUCTION THE EXISTING TRIBUTARY A FLOW WILL BE PUMPED AT THE EXISTING CULVERT INLET
      - CONSTRUCT SECTION 2 OF CULVERT 2A WITH THE OUTLET RESTING POOL

- PHASE 2:**
- CONSTRUCT GRADING AND DRAINAGE FOR NEW MAINLINE TRACKS. DURING THIS CONSTRUCTION STAGE THE EXISTING TRIBUTARY A FLOW WILL BE PUMPED AT THE EXISTING CULVERT INLET
  - WHEN NEW MAINLINE TRACKS ARE IN SERVICE REMOVE EXISTING TRACKS AND EXISTING CULVERTS
  - CONSTRUCT SECTION 3 OF CULVERT 2A. DURING CONSTRUCTION THE EXISTING TRIBUTARY A FLOW WILL BE PUMPED INTO EXISTING TRIBUTARY A.
- PHASE 3:**
- CONSTRUCT THE FINAL TIE-IN OF NEW TRIBUTARY A CHANNEL TO EXISTING AREA SOUTH OF TREMAINE ROAD AS PER THE CHANNEL DESIGN DRAWINGS
  - DIVERT TRIBUTARY A THROUGH NEWLY CONSTRUCTED CULVERTS 2A AND 2B
9. ALL ACTIVITIES OF MONITORING AND CONTROL OF FISH SALVAGE SHALL BE COORDINATED FROM TREMAINE ROAD TO THE INLET RESTING POOL OF CULVERT 2A.

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I/R	YY/MM/DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	ENG	IDR

	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.	CN DRAWING NO.		
-	-		

**CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS CULVERTS 2A, 2B AND TRIBUTARY A REALIGNMENT**

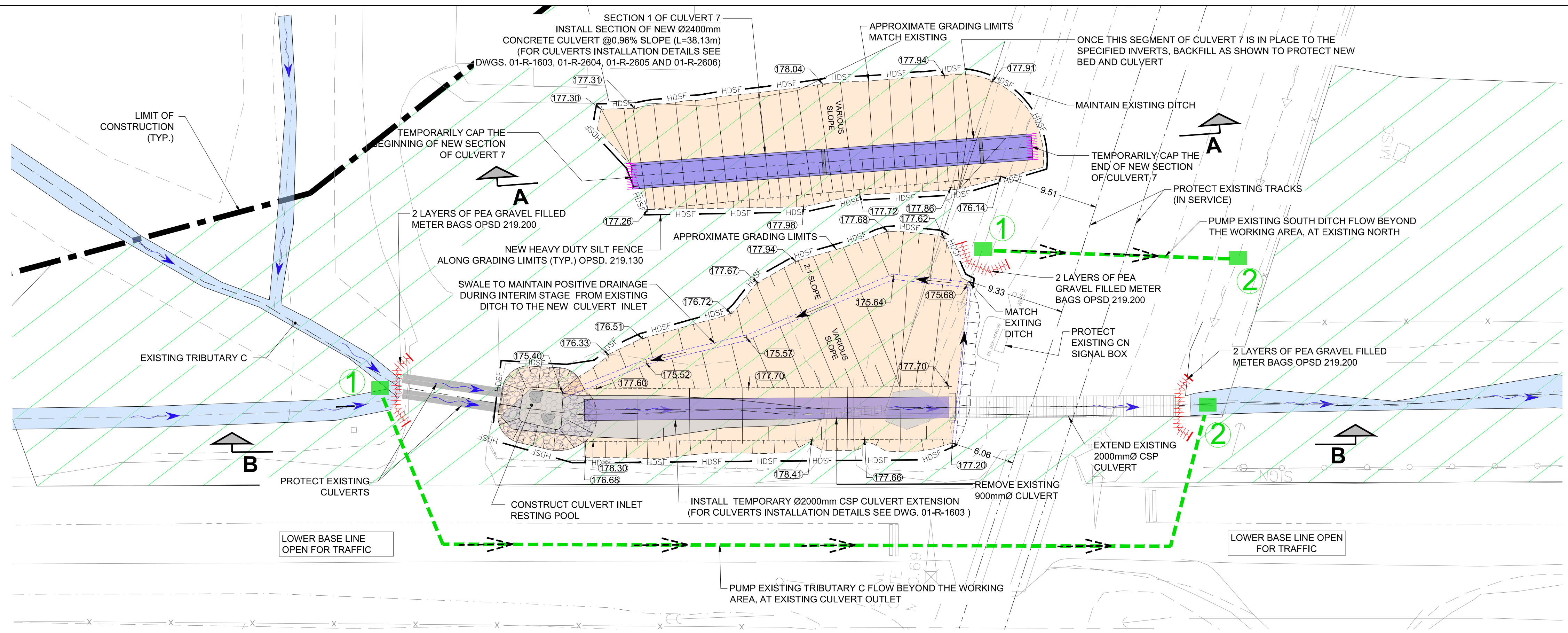
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
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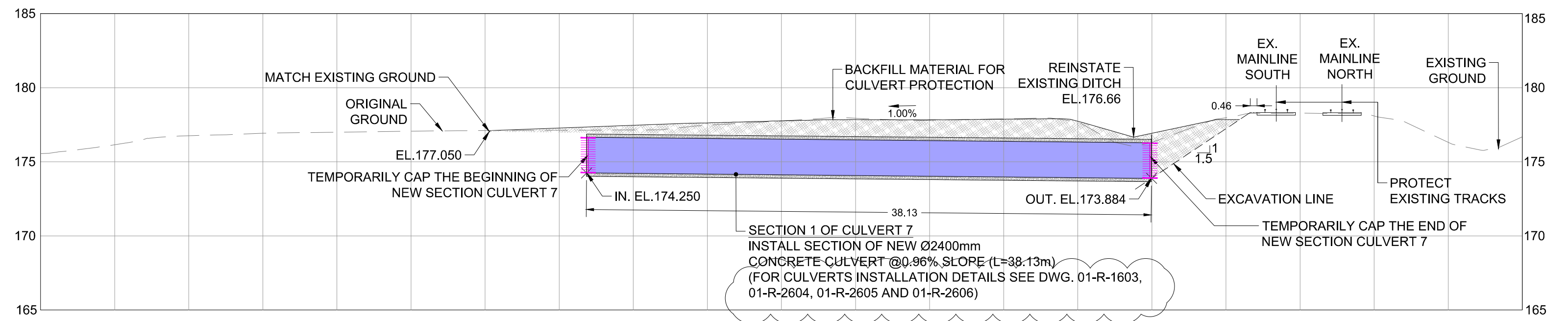
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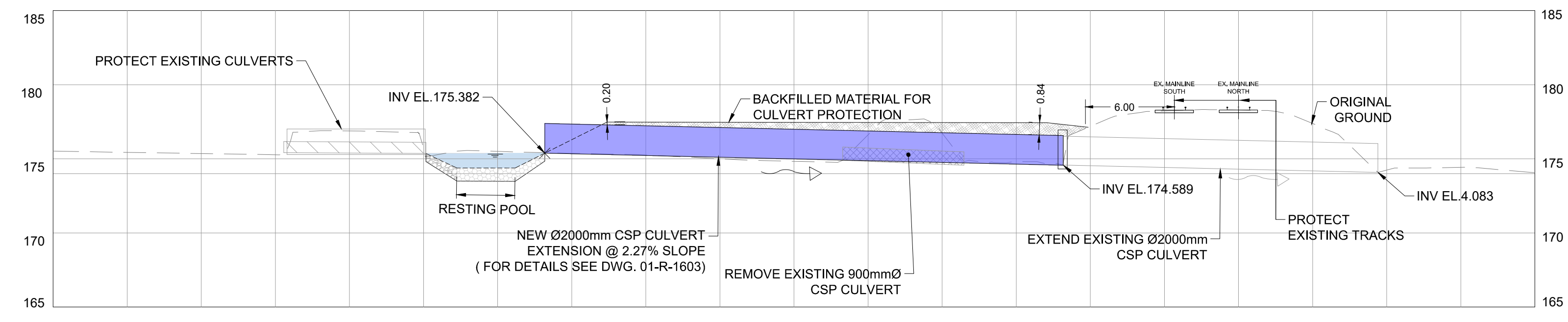
- NOTES:**
- IN-WATER WORKS MUST ONLY OCCUR DURING THE DFO IN-WATER WORKS WINDOW (I.E., NO IN-WATER WORKS BETWEEN MARCH 15 AND JUNE 30 INCLUSIVE).
  - MAINTAIN FLOW IN TRIBUTARY C FOR AS LONG AS POSSIBLE WITHOUT DISTURBANCE.
  - ALL ACTIVITIES OF MONITORING AND CONTROL OF FISH SALVAGE SHALL BE COORDINATED WITH CN ENVIRONMENTAL MONITOR.
- PHASE 1:**
- PROTECT EXISTING LIVE TRACKS, TRACKS SHOULDER AND EXISTING TRACKS BED.
  - CONSTRUCT CULVERT EXTENSION .DURING CONSTRUCTION THE CULVERT EXTENSION WATER FLOW WILL BE PUMPED AT THE EXISTING CULVERT OUTLET.
  - CONSTRUCT SECTION 1 OF CULVERT 7 AND CAP BOTH ENDS OF NEW SECTION UNTIL THE EXISTING TRACKS ARE DIVERTED AND THE WORK OF THE NEXT PHASE IS COMMENCED.
  - REFER TO DRAWING 01-R-1603 FOR THE COMPLETE DETAILS OF THE NEW CULVERT 7 AND TRIBUTARY C REALIGNMENT.
  - THE GRADING LIMITS FOR THE TEMPORARY STAGE OF THE CULVERT SHOWN IN THE DRAWINGS ARE APPROXIMATE; THE CONTRACTOR MAY NEED TO ADJUST THOSE GRADING LIMITS TO ENSURE POSITIVE DRAINAGE AT ALL TIMES.

**PLAN - PHASE 1 : INSTALLATION OF TEMPORARY CULVERT EXTENSION AND INSTALLATION OF FIRST SECTION OF CULVERT 7**



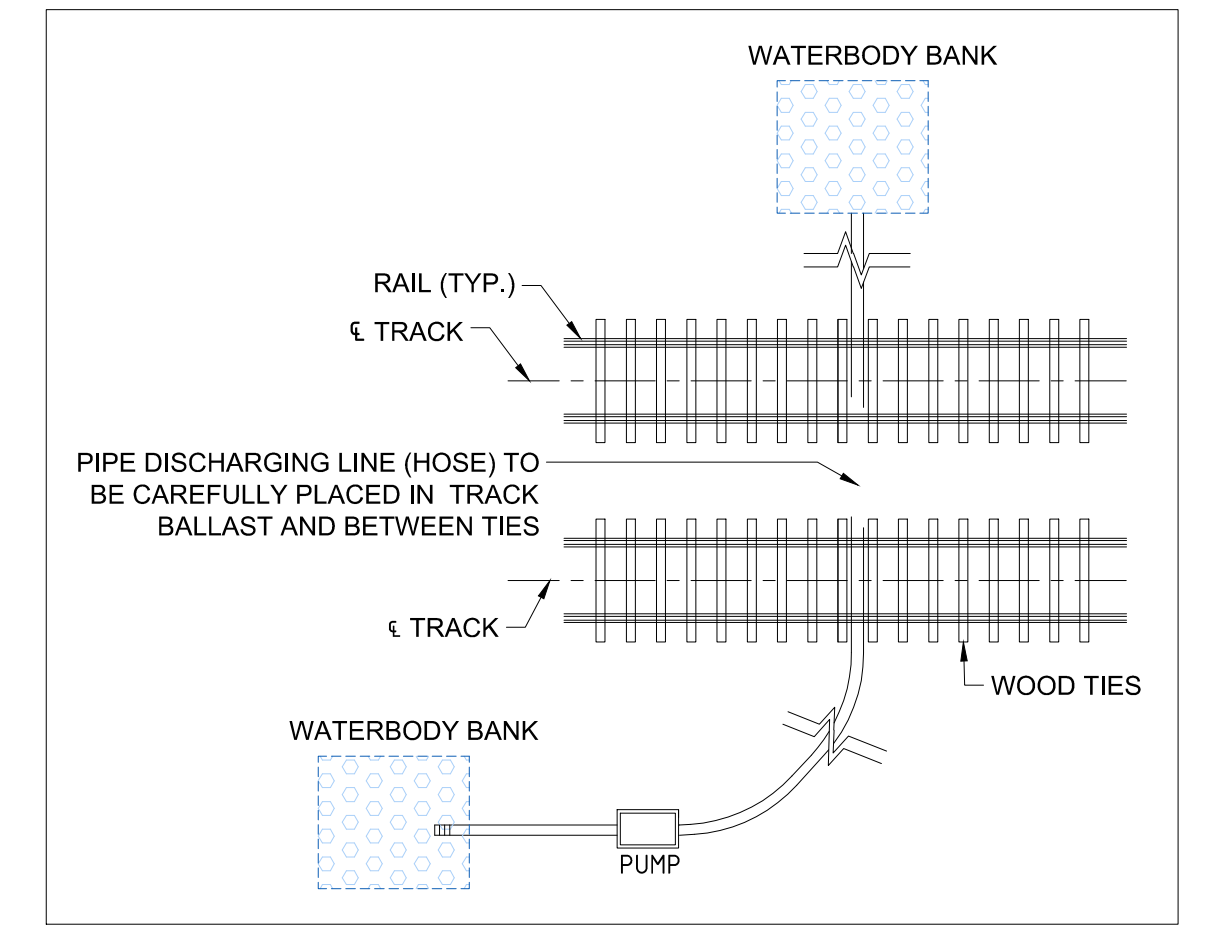
**SECTION A-A PHASE 1- INSTALLATION OF FIRST SECTION OF CULVERT 7**

STA: 65+532.320  
Mi. 40.72



**SECTION B-B PHASE 1 - INSTALLATION OF TEMPORARY CULVERT EXTENSION**

STA: 65+505.81



**DETAIL FOR HOSE ACROSS LIVE TRACKS**  
SCALE 1:NTS

- LEGEND:**
- TEMPORARY GRADING AND DRAINAGE
  - FINAL GRADING AND DRAINAGE
  - GRADING AND DRAINAGE CONSTRUCTED UNDER PREVIOUS PHASES
  - TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR

<b>CN</b>	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.		CN DRAWING NO.	
-		-	

**CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1 GENERAL DRAWINGS EROSION AND SEDIMENT CONTROL PLANS CULVERT 7 INSTALLATION AND TRIBUTARY C REALIGNMENT - PHASE 1**

PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
60579933	G-1019	B

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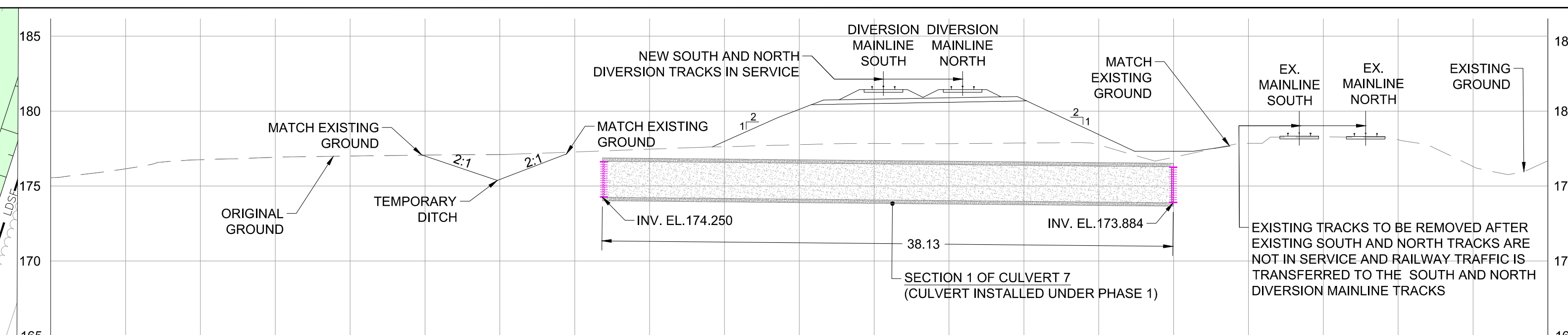
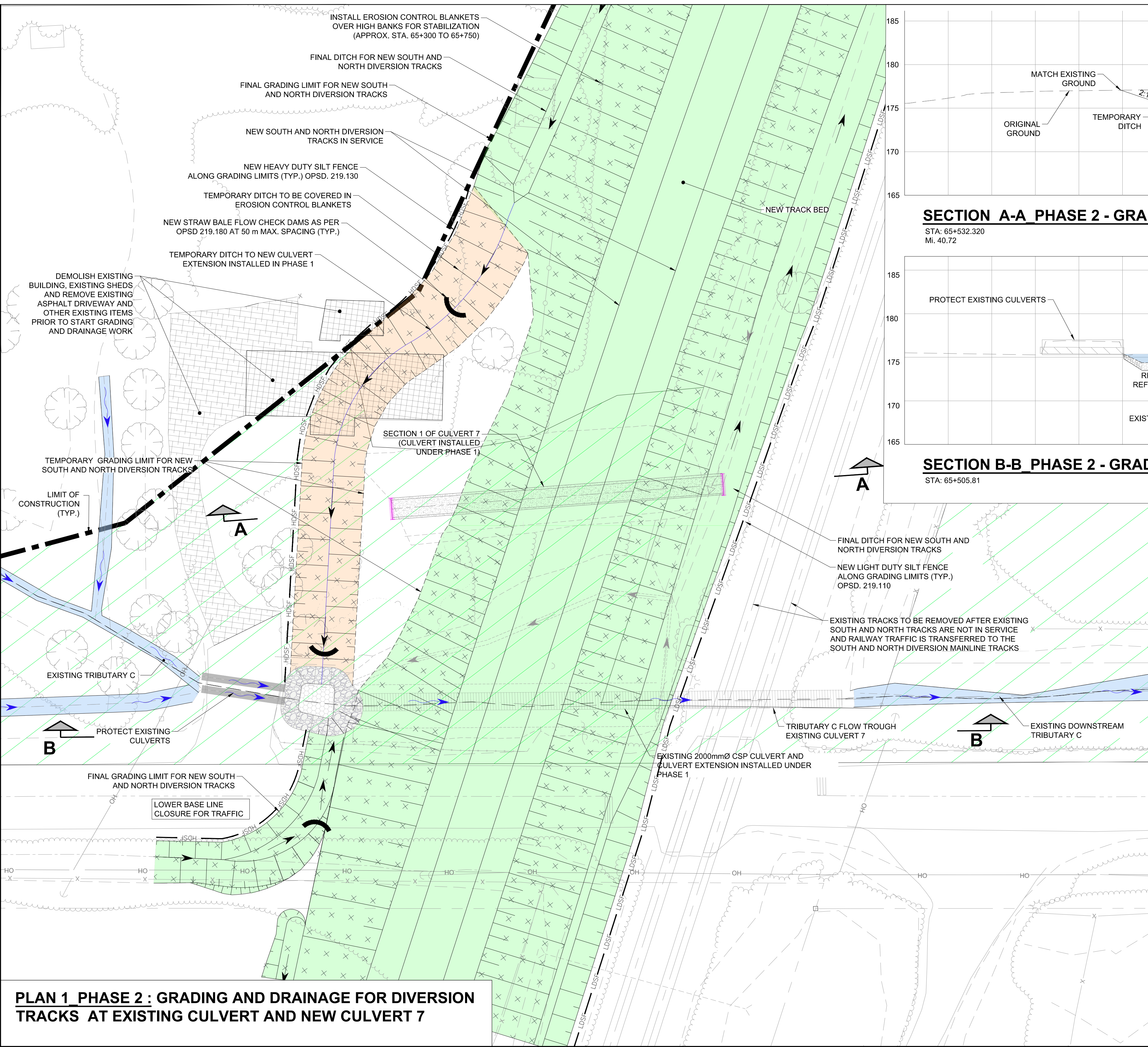
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A	21/04/30	ISSUED FOR TENDER	LP	AS	LP				



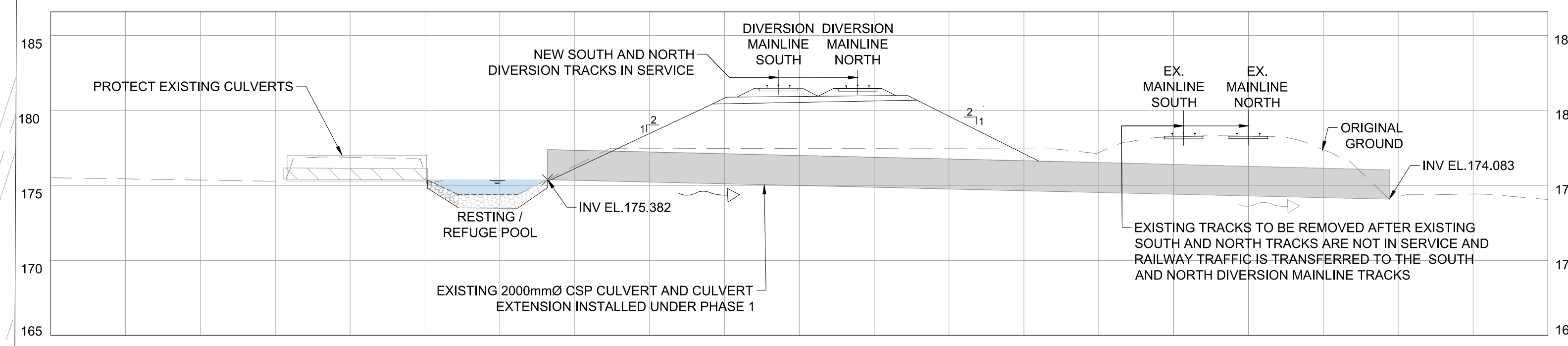
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**SECTION A-A PHASE 2 - GRADING AND DRAINAGE FOR DIVERSION TRACKS AT NEW CULVERT 7**  
 STA: 65+532.320  
 MI. 40.72



**SECTION B-B PHASE 2 - GRADING AND DRAINAGE FOR DIVERSION TRACKS AT EXISTING CULVERT**  
 STA: 65+505.81

- NOTES:**
1. IN-WATER WORKS MUST ONLY OCCUR DURING THE DFO IN-WATER WORKS WINDOW (I.E., NO IN-WATER WORK BETWEEN MARCH 15 AND JUNE 30 INCLUSIVE).
  2. MAINTAIN FLOW IN TRIBUTARY C FOR AS LONG AS POSSIBLE WITHOUT DISTURBANCE.
  3. ALL ACTIVITIES OF MONITORING AND CONTROL OF FISH SALVAGE SHALL BE COORDINATED WITH CN ENVIRONMENTAL MONITOR.
- PHASE 2:**
- a. LOWER BASELINE CLOSURE FOR TRAFFIC
  - b. CONSTRUCT FINAL AND TEMPORARY GRADING AND DRAINAGE FOR NEW DIVERSION MAINLINE TRACKS.
  - c. DURING THIS CONSTRUCTION STAGE THE EXISTING TRIBUTARY C FLOW WILL BE THROUGH THE EXTENDED EXISTING CULVERT INSTALLED DURING PHASE 1
  - d. AFTER GRADING AND DRAINAGE HAVE BEEN / ARE COMPLETED AND NEW DIVERSION TRACKS ARE IN SERVICE REMOVE EXISTING TRACKS AND START PHASE 3 OF CULVERT 7 INSTALLATION
  - e. THE GRADING LIMITS FOR THE TEMPORARY STAGE OF THE CULVERT SHOWN IN THE DRAWINGS ARE APPROXIMATE; THE CONTRACTOR MAY NEED TO ADJUST THOSE GRADING LIMITS TO ENSURE POSITIVE DRAINAGE AT ALL TIMES.

**LEGEND:**

	TEMPORARY GRADING AND DRAINAGE
	FINAL GRADING AND DRAINAGE
	GRADING AND DRAINAGE CONSTRUCTED UNDER PREVIOUS PHASES
	EROSION CONTROL BLANKETS ON SLOPES (65+300 TO 65+750 OUTSIDE LOWER BASE LINE)
	TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR

**PLAN 1 PHASE 2 : GRADING AND DRAINAGE FOR DIVERSION TRACKS AT EXISTING CULVERT AND NEW CULVERT 7**

	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.		CN DRAWING NO.	
-		-	

PROFESSIONAL SEALS

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B	21/06/18	ISSUED FOR ADDENDUM 2	LP	AS	LP			
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**CN**

**MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1**

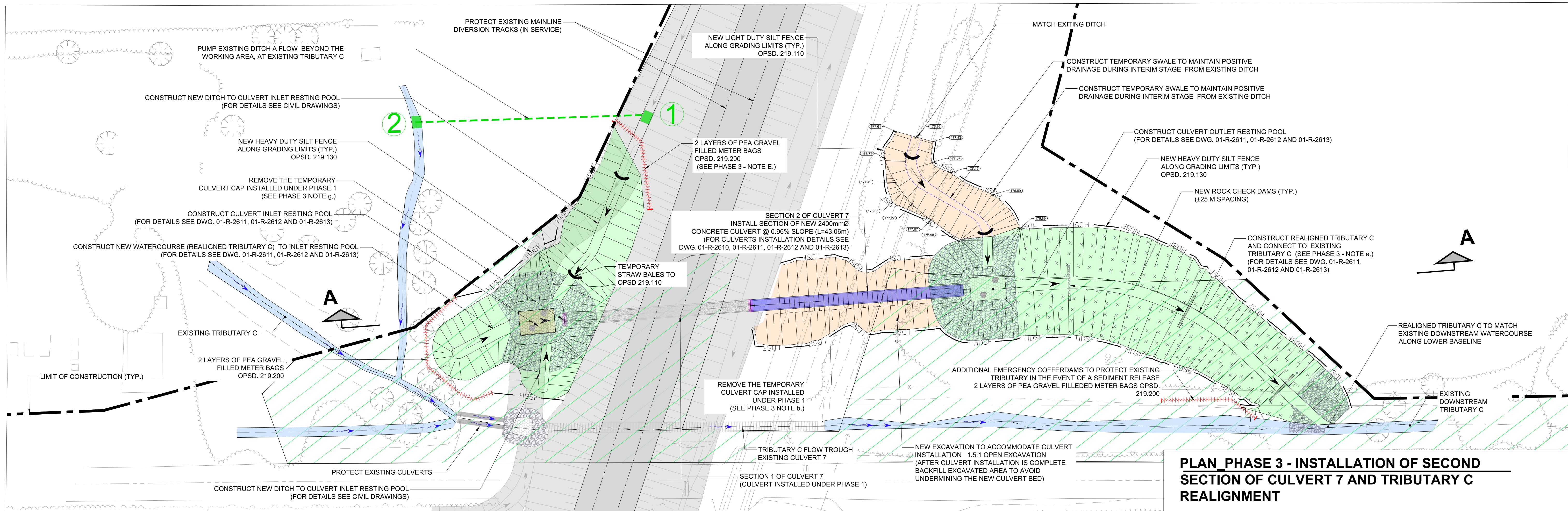
**GENERAL DRAWINGS**

**EROSION AND SEDIMENT CONTROL PLANS**

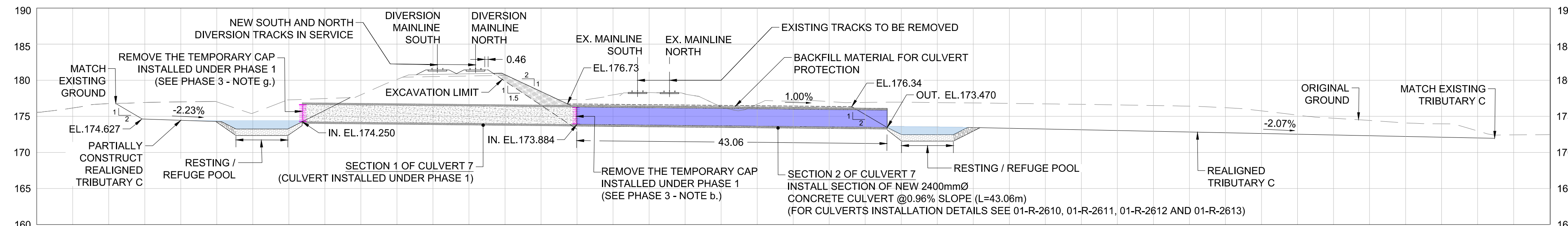
**CULVERT 7 INSTALLATION AND TRIBUTARY C REALIGNMENT - PHASE 2**

PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
60579933	G-1020	B

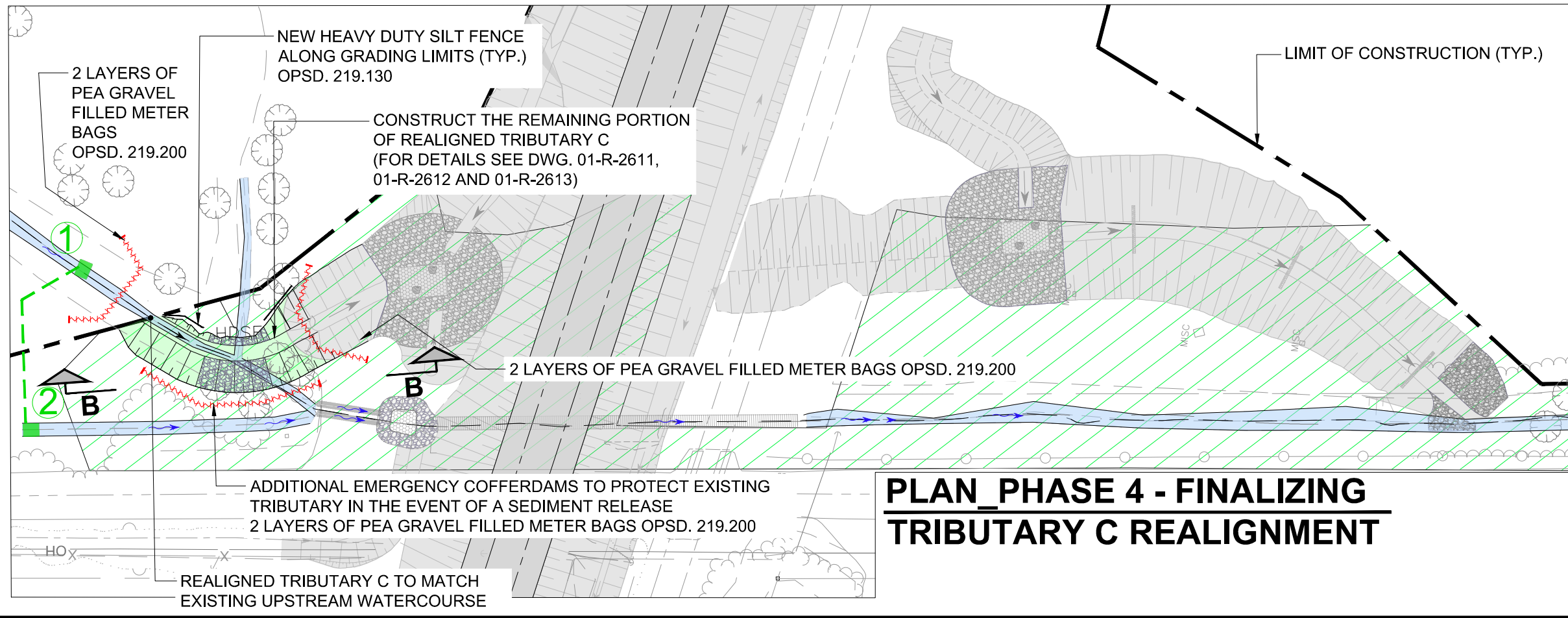
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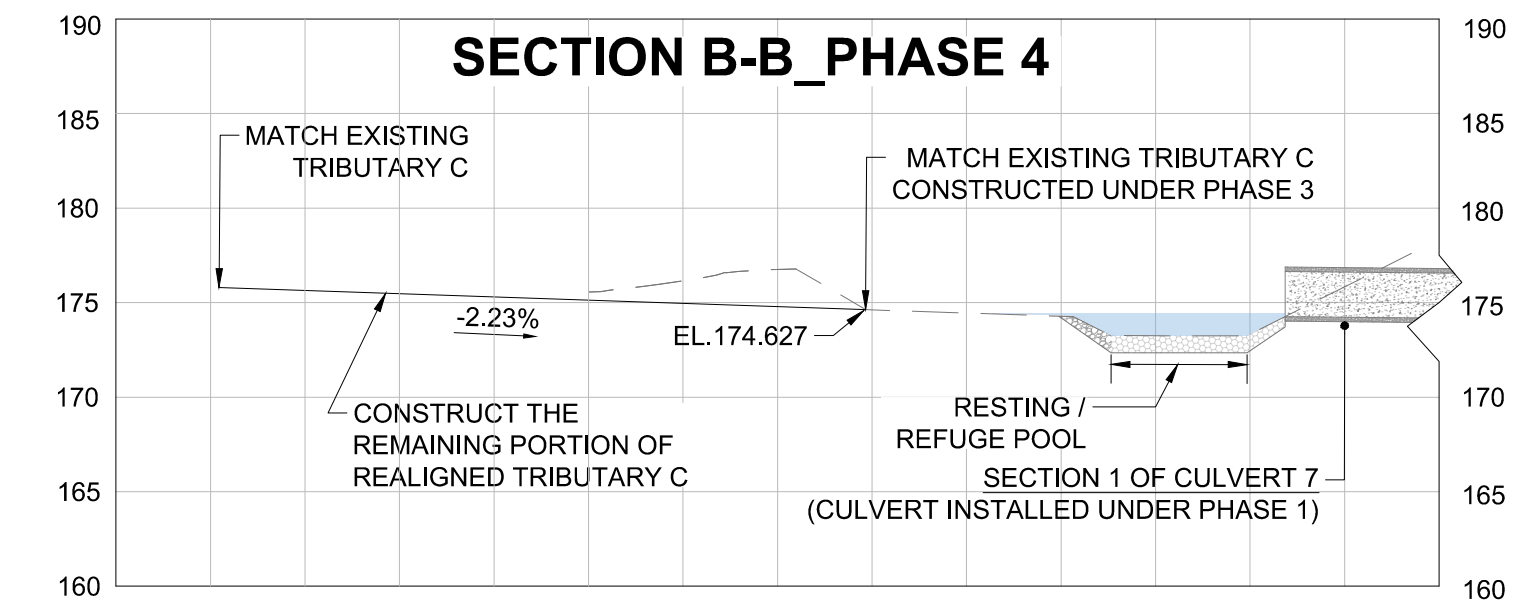
**PLAN PHASE 3 - INSTALLATION OF SECOND SECTION OF CULVERT 7 AND TRIBUTARY C REALIGNMENT**



**SECTION A-A\_PHASE 3**



**PLAN PHASE 4 - FINALIZING TRIBUTARY C REALIGNMENT**



**SECTION B-B\_PHASE 4**

**LEGEND:**

- TEMPORARY GRADING AND DRAINAGE
- GR. AND DRAINAGE CONSTRUCTED UNDER PREVIOUS PHASES
- FINAL GRADING AND DRAINAGE
- EROSION CONTROL BLANKETS OVER NEW CHANNEL SLOPES
- TEMPORARILY PROTECTED AREA - WORK PERMITTED WITH CONDITIONS AND APPROVAL OF CN ENVIRONMENTAL MONITOR

- GENERAL NOTES:**
1. IN-WATER WORKS MUST ONLY OCCUR DURING THE DFO IN-WATER WORKS WINDOW (I.E., NO IN-WATER WORK BETWEEN MARCH 15 AND JUNE 30 INCLUSIVE).
  2. MAINTAIN FLOW IN TRIBUTARY C FOR AS LONG AS POSSIBLE WITHOUT DISTURBANCE.
  3. ALL ACTIVITIES OF MONITORING AND CONTROL OF FISH SALVAGE SHALL BE COORDINATED WITH CN ENVIRONMENTAL MONITOR.
- NOTES PHASE 3:**
- a. LOWER BASE LINE CLOSURE FOR TRAFFIC.
  - b. REMOVE EXISTING OUTLET CAP FROM EXISTING SECTION 1 OF CULVERT 7 INSTALLED UNDER PHASE 1.
  - c. CONSTRUCT SECTION 2 OF CULVERT 7 WITH OUTLET RESTING POOL.
  - d. CONSTRUCT FINAL AND TEMPORARY GRADING AND DRAINAGE THAT CONNECT TO CULVERT 7 OUTLET RESTING POOL TRACKS.
  - e. CONSTRUCT REALIGNED TRIBUTARY C THE AND CONNECT IT TO EXISTING TRIBUTARY C.
  - f. REFER TO DRAWING RAIL DRAWINGS FOR THE COMPLETE DETAILS OF THE NEW CULVERT 7 AND TRIBUTARY C REALIGNMENT.
  - g. REMOVE EXISTING INLET CAP FROM EXISTING SECTION 1 OF CULVERT 7 INSTALLED UNDER PHASE 1.
  - h. CONSTRUCT CULVERT 7 INLET RESTING POOL.
  - i. PARTIALLY CONSTRUCT REALIGNED TRIBUTARY C, TEMPORARY AND FINAL GRADING AND DRAINAGE TO CULVERT 7 INLET.
  - j. AFTER GRADING AND DRAINAGE TO CULVERT 7 INLET IS COMPLETED, REMOVE THE PEA GRAVEL FILLED METER BAGS TO ALLOW FINAL NEW DITCH FLOW INTO CULVERT 7.
  - k. INSTALL TEMPORARY SHORING
  - l. DURING CONSTRUCTION OF PHASE 3, THE EXISTING TRIBUTARY C FLOW WILL BE THROUGH THE EXISTING CULVERT INLET (CULVERT EXTENSION INSTALLED UNDER PHASE 1
  - m. THE GRADING LIMITS FOR THE TEMPORARY STAGE OF THE CULVERT SHOWN IN THE DRAWINGS ARE APPROXIMATE; THE CONTRACTOR MAY NEED TO ADJUST THOSE GRADING LIMITS TO ENSURE POSITIVE DRAINAGE AT ALL TIMES.
- NOTES PHASE 4**
- a) CONSTRUCT THE FINAL TIE-IN OF NEW TRIBUTARY C CHANNEL TO BOTH SIDES OF EXISTING / ALREADY BUILT CHANNEL ; DIVERT TRIBUTARY C THROUGH NEWLY CONSTRUCTED CULVERT 7.

DO NOT SCALE THIS DOCUMENT. ALL MEASUREMENTS MUST BE OBTAINED FROM STATED DIMENSIONS.

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PROFESSIONAL SEALS

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	REGION	SUBDIVISION	MILE
	-	HALTON	38.72 - 40.98
CN PROJECT NO.		CN DRAWING NO.	
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<b>CN MILTON LOGISTICS HUB - HALTON SUBDIVISION - PHASE 1</b>		
<b>GENERAL DRAWINGS</b>		
<b>EROSION AND SEDIMENT CONTROL PLANS</b>		
<b>CULVERTS 7 INSTALLATION AND TRIBUTARY C REALIGNMENT - PHASES 3 &amp; 4</b>		
PROJECT NUMBER	DRAWING NUMBER	ISSUE/REVISION
<b>60579933</b>	<b>G-1021</b>	<b>A</b>