

# ESSEX-WINDSOR REGIONAL LANDFILL CELL 5 NORTH CONSTRUCTION CONTRACT NO: 9-2024



KEY PLAN  
SCALE N.T.S.

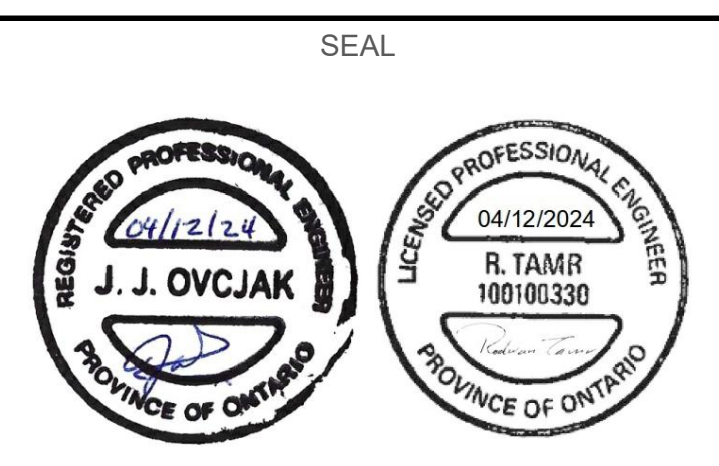
LEGEND

---	APPROVED LIMIT OF LANDFILL (FUTURE WASTE PLACEMENT)
- - - - -	APPROXIMATE LIMIT OF EXISTING LANDFILL (WASTE LIMIT)
.....	BOUNDARY BETWEEN CELLS
---	PROPERTY LINE
---	EXISTING GROUND CONTOUR AT 1m INTERVAL
---	EXISTING GROUND CONTOUR AT 5m INTERVAL
---	EXISTING CHAINLINK FENCE
---	EXISTING EDGE OF ASPHALT ROAD
---	EXISTING EDGE OF GRAVEL ROAD
---	EXISTING RIP RAP
---	EXISTING SWALE/DITCH
---	LEACHATE COLLECTOR/PERFORATED PIPE
---	LEACHATE COLLECTOR/FORCEMAIN SOLID WALL PIPE
---	EXISTING STORMWATER DRAIN
---	EXISTING SANITARY SEWER
---	EXISTING TELEPHONE LINE
---	EXISTING ELECTRICAL LINE
---	EXISTING OVERHEAD HYDRO LINE
---	EXISTING POTABLE WATER LINE
---	EXISTING NATURAL GAS LINE
---	EXISTING LANDFILL GAS SUBHEADER/LATERAL (ON GROUND SURFACE OR BURIED)
---	EXISTING LANDFILL GAS HEADER C/W CONDENSATE FORCEMAIN AND COMPRESSED AIR LINE
---	EXISTING TREELINE
---	EXISTING CULVERT
---	EXISTING CONCRETE BOX CULVERT
---	GRAVITY DRAIN TRAP (LANDFILL GAS)
---	PUMPED DRAIN TRAP (LANDFILL GAS)
---	EXISTING LANDFILL GAS WELL
---	EXISTING LANDFILL GAS FLOW CONTROL ASSEMBLY
---	EXISTING CLEANOUT CHAMBER
---	EXISTING LEACHATE SYSTEM MANHOLE
---	EXISTING VALVE CHAMBER
---	EXISTING VALVE
---	EXISTING OBSERVATION WELL
---	EXISTING LAMP POST
---	EXISTING HYDRO POLE
---	EXISTING HYDRO POLE/TRANSFORMER
---	EXISTING TRAFFIC LIGHT
---	EXISTING ELECTRICAL HANDHOLE
---	EXISTING TRAFFIC SIGN OR OTHER SIGN
---	EXISTING BIRD WIRE POLE
---	EXISTING 25mm SQUARE STANDARD IRON BAR
---	EXISTING VACUUM BREAKER (BIOREACTOR SYSTEM)
---	EXISTING SANITARY SEWER CLEANOUTS
---	EXISTING GROUND SPOT ELEVATION
---	EXISTING CULVERT END INVERT ELEVATION
---	EXISTING SLUDGE PIT BOUNDARY
---	EXISTING CELL 5N BOREHOLE
---	EXISTING REVERSE OSMOSIS CONCENTRATE LINE
---	EXISTING PUMP STATION
---	EXISTING MONITORING WELL

LIST OF DRAWINGS		
DRAWING NO.	DRAWING SHEET TITLE	REVISION NO.
0	TITLE SHEET	B
C01	EXISTING CONDITIONS (WEST SIDE)	B
C02	EXISTING CONDITIONS (EAST SIDE)	B
C03	PROPOSED STAGING AND STOCKPILE AREAS	B
C04	PROPOSED REMOVALS	B
C05	PROPOSED CLAY ACCESS ROAD AND SLUDGE PIT GRADING	B
C06	PROPOSED BOTTOM OF CELL 5N EXCAVATION	B
C07	PROPOSED CELL 5N TOP OF DRAINAGE LAYER	B
C08	CELL 5N CROSS-SECTIONS	B
C09	CELL 5N TYPICAL DETAILS	B
C10	MANHOLE DETAILS	B
C11	PROPOSED FINAL COVER AREA	B
C12	PROPOSED ACCESS ROADS	B
C13	WASTE HAUL ROAD NORTH AND SOUTH ENDINGS	B
C14	WASTE HAUL ROAD PLAN AND PROFILE (STATION 0+000 TO 0+470)	B
C15	WASTE HAUL ROAD PLAN AND PROFILE (STATION 0+470 TO 0+940)	B
C16	WASTE HAUL ROAD PLAN AND PROFILE (STATION 0+940 TO 1+320)	B
C17	WASTE HAUL ROAD CROSS-SECTIONS	B
C18	3M WIDE ROAD PLAN AND PROFILE (STATION 0+000 TO 0+280)	B
C19	ROAD 'E' WIDENING PLAN AND PROFILE (STATION 0+000 TO 0+360)	B
C20	ROAD 'E' WIDENING PLAN AND PROFILE (STATION 0+360 TO 0+659)	B
C21	ROAD 'C' AND 'D' RESURFACING PLAN	B
C22	PROPOSED MAINTENANCE BUILDING PAVED AREA	B
C23	TYPICAL ROAD DETAILS	B
C24	TYPICAL LITTER FENCE AND PAVING DETAILS	B
C25	PROPOSED TRUCK CLEANOUT AREA	B
S1	PUSH WALL GENERAL NOTES	B
S2	PUSH WALL PLAN AND DETAIL	B
E01	PROPOSED ELECTRICAL WORKS	B
E02	LEGEND, ELECTRICAL SCHEMATICS, PANEL SCHEDULES AND DETAILS	B

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



CLIENT

CONSULTANT

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

TITLE  
TITLE SHEET

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 0 of 29 DRAWING 0

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

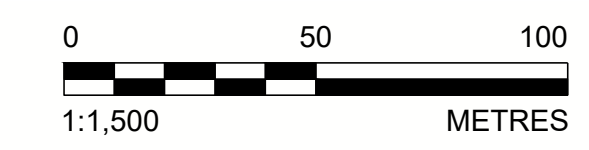


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LAYOUT CONTROL POINTS INFORMATION				
CONTROL POINT #	DESCRIPTION	UTM COORDINATE NORTH	UTM COORDINATE EAST	ELEVATION
<b>HISTORIC CONTROL POINTS</b>				
500	RIB - CL BERM OF COMPOST PAD AND STORMWATER POND	4661236.862	345810.887	188.048
502	RIB - BERM NORTH WEST CORNER COMPOST PAD	4661369.562	345735.267	188.194
503	RIB - CORNER OF FENCE	4661643.600	345756.028	187.845
504	RIB - CORNER OF FENCE	4661711.829	345822.479	188.243
505	RIB - ON FENCELINE	4661697.459	346056.335	188.525
506	RIB - ON FENCELINE	4661676.334	346398.796	189.034
507	RIB - ON FENCELINE	4661099.058	346367.343	187.819
508	RIB - ON FENCELINE	4661113.012	346145.109	187.421
509	CC - ON MANHOLE HATCH	4661167.815	345722.145	187.444
510	CC - ON NORTH EAST CORNER TRUCK WASH STATION	4661166.603	345581.473	187.410
511	CLIP ON BIRD WIRE POLE	4661691.313	345568.583	188.073
<b>CONTROL POINTS ESTABLISHED BY BASE MAPPING LTD.</b>				
1	PINK CROSS PAINTED ON TOP OF MANHOLE AT CENTER	4661816.538	344869.851	187.871
1A	MEASUREMENT TAKEN ON TOP OF MANHOLE 0.628m EAST OF POINT #1	4661816.361	344870.444	187.667
2	PINK CROSS PAINTED ON GROUND AT CENTER OF POST	4661697.506	346663.416	189.243
3	PINK CROSS PAINTED ON NAIL AND STICKER IN MIDDLE OF CONCRETE BOX CULVERT	4661009.007	346626.710	188.442
3A	SW CORNER CONCRETE BOX CULVERT	4661007.332	346624.298	188.436
4	EAST FACE OF WOOD UTILITY POLE	4661170.977	344742.485	185.896

**NOTE(S)**  
 1. EXISTING CONTOURS ARE BASED ON DRONE SURVEY COMPLETED BY SMC GEOMATICS INC. ON MAY 2, 2023.



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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED



  
 CONSULTANT  
  
 WSP CANADA INC.  
 1821 PROVINCIAL ROAD, SUITE 100  
 WINDSOR, ONTARIO N8W 5V7  
 CANADA  
 [+1] (226) 826 0702

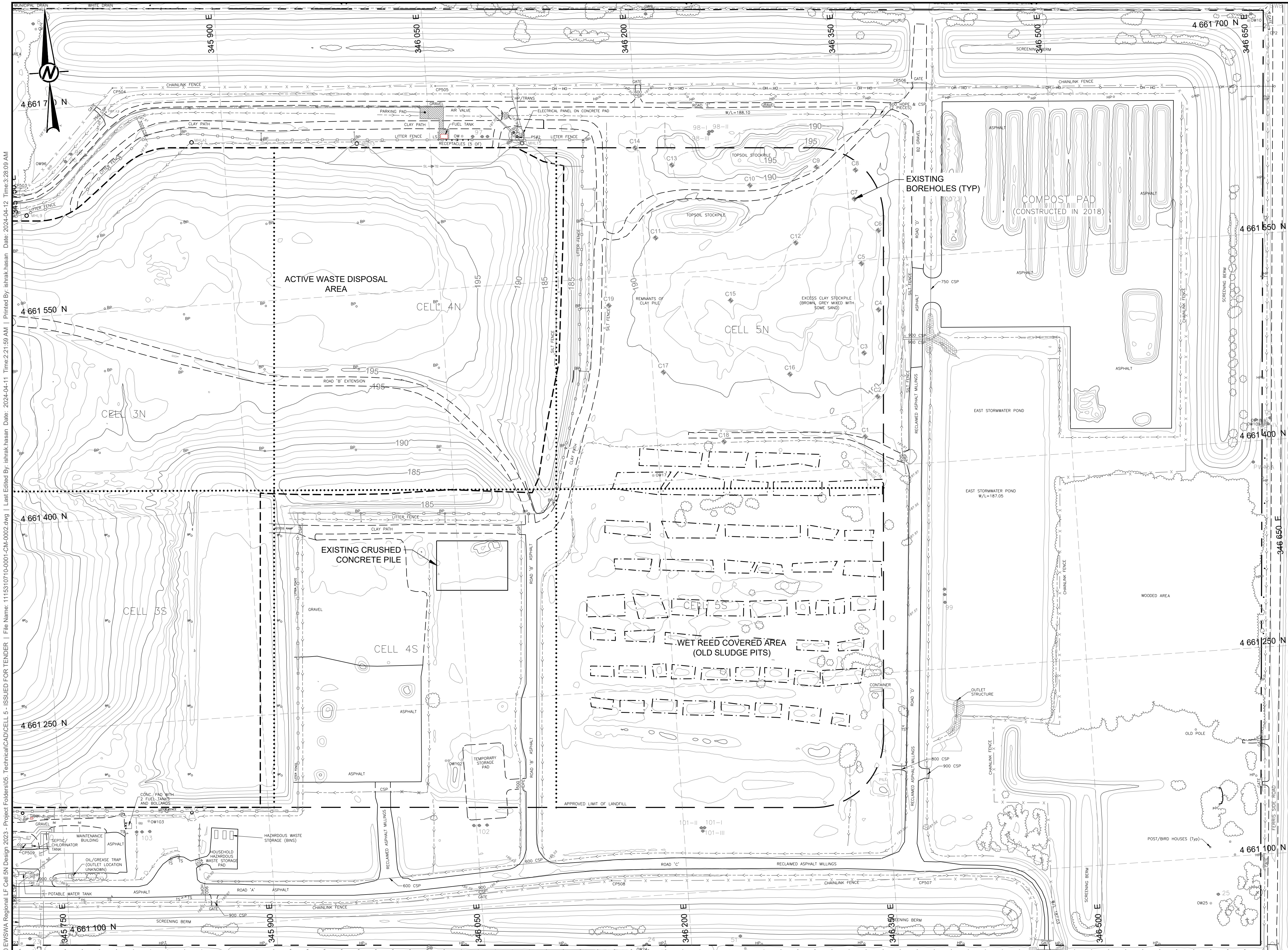
PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION**

TITLE  
**EXISTING CONDITIONS (WEST SIDE)**

PROJECT NO.	CONTROL	REV.	1 of 29	DRAWING
111-53107-10	2001	B		<b>C01</b>

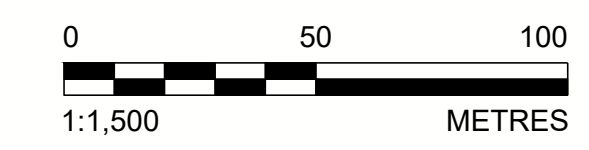
25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D





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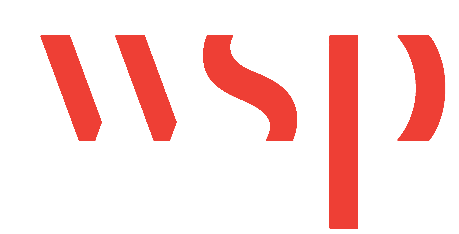
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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED



CONSULTANT



WSP CANADA INC.  
 1821 PROVINCIAL ROAD, SUITE 100  
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 CANADA  
 [+1] (226) 826 0702

PROJECT  
 ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION

TITLE  
 EXISTING CONDITIONS (EAST SIDE)

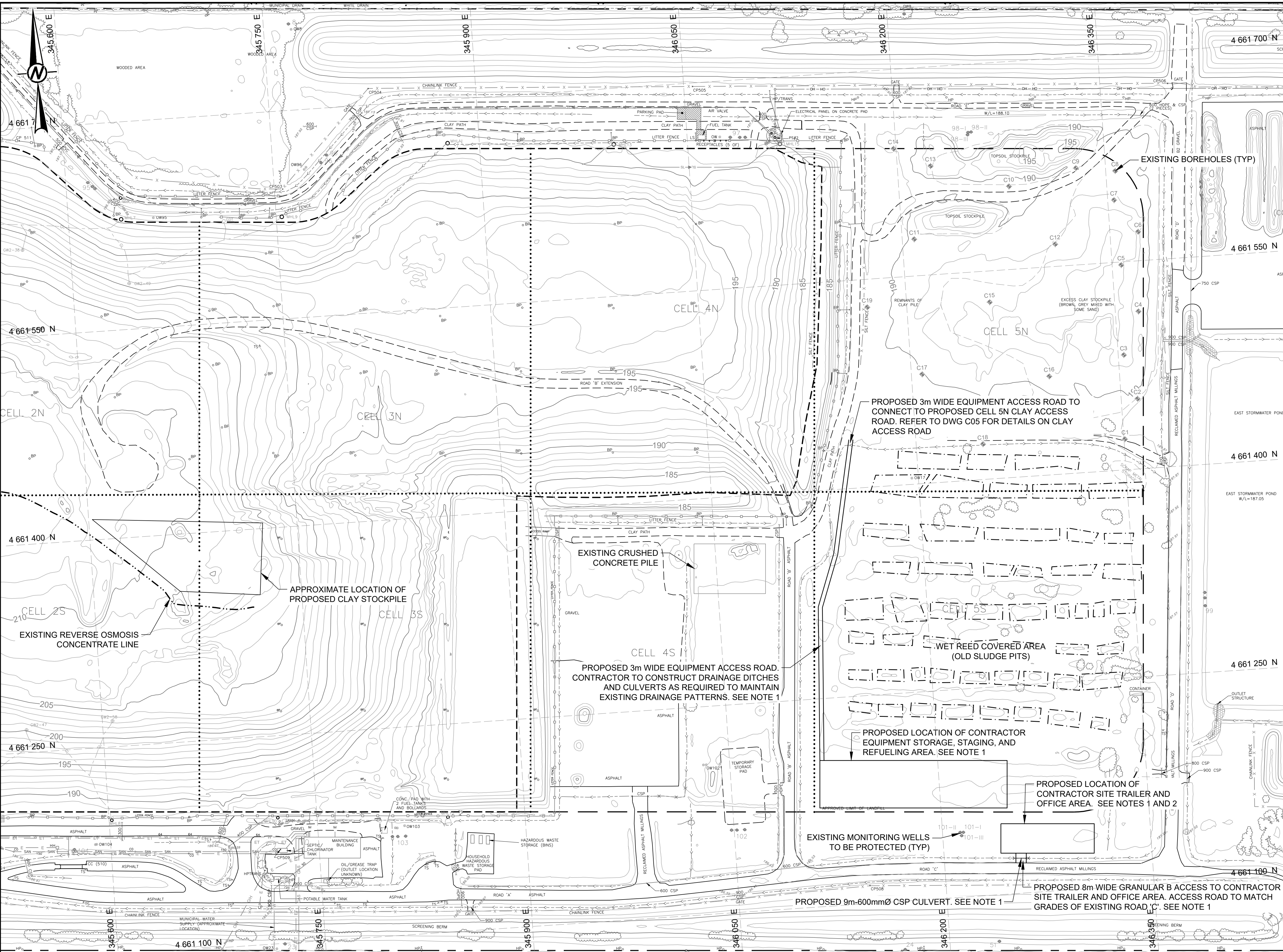
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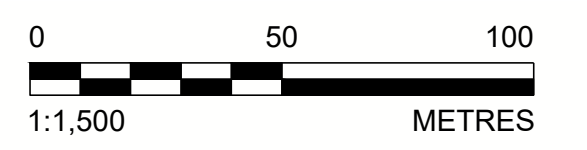
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



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- NOTE(S)**
- PROPOSED LOCATION OF CONTRACTOR SITE TRAILER AND OFFICE; EQUIPMENT STORAGE, STAGING, AND REFUELING AREA; ACCESS ROADS; AND CULVERTS ARE FOR REFERENCE ONLY. CONTRACTOR MAY MODIFY THE LOCATIONS IF THEY CHOOSE TO DO SO, WITH APPROVAL FROM THE ENGINEER AND OWNER.
  - CONTRACTOR SITE TRAILER AND OFFICE SHALL BE PLACED ON A GRANULAR BASE. MINIMUM 300mm GRANULAR B PLACED ON TOP OF NONWOVEN GEOTEXTILE (TERRAFIX 270R OR APPROVED EQUIVALENT).
  - EXISTING CONTOURS ARE BASED ON DRONE SURVEY COMPLETED BY SMC GEOMATICS INC. ON MAY 2, 2023.



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 CONSULTANT  
  
 WSP CANADA INC.  
 1821 PROVINCIAL ROAD, SUITE 100  
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 CANADA  
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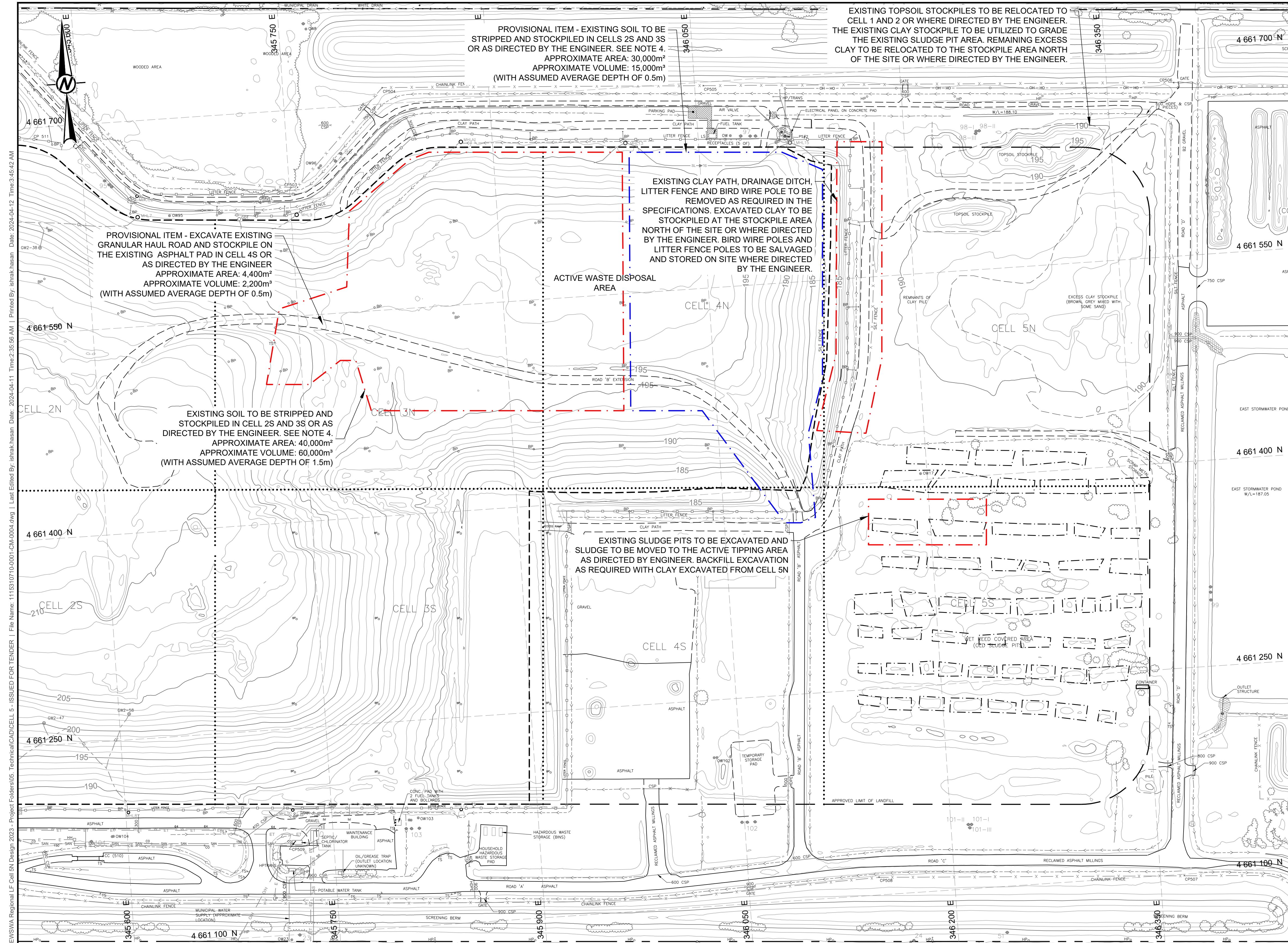
PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION**

TITLE  
**PROPOSED STAGING AND STOCKPILE AREAS**

PROJECT NO. 111-53107-10    CONTROL 2001    REV. B    3 of 29    DRAWING C03

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D





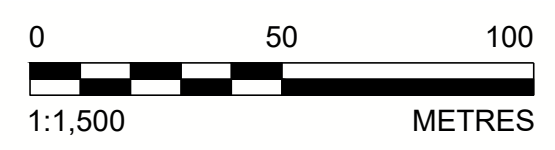
**LEGEND**

--- REMOVALS BOUNDARY

--- PROVISIONAL REMOVALS BOUNDARY

**NOTE(S)**

- EXISTING CONTOURS ARE BASED ON DRONE SURVEY COMPLETED BY SMC GEOMATICS INC. ON MAY 2, 2023.
- ALL MATERIAL EXCAVATED TO BE SEGREGATED BY TYPE OF MATERIAL (i.e. TOPSOIL, BROWN CLAY, BLUE CLAY, ETC.) AND STOCKPILED ON SITE AS DIRECTED BY THE ENGINEER.
- ALL QUANTITIES TO BE CONFIRMED PRIOR TO CONSTRUCTION.
- AREAS FOR SOIL STRIPPING SHOWN ON THIS DRAWING ARE APPROXIMATE. ACTUAL LIMITS FOR SOIL STRIPPING TO BE CONFIRMED BY THE PRE-CONSTRUCTION SURVEY. EXISTING COVER SOIL WILL BE PRE-EXCAVATED BY THE OWNER PRIOR TO THE PRE-CONSTRUCTION SURVEY.



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SEAL CLIENT

**EW SWA**

CONSULTANT

**WSP**

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION**

TITLE  
**PROPOSED REMOVALS**

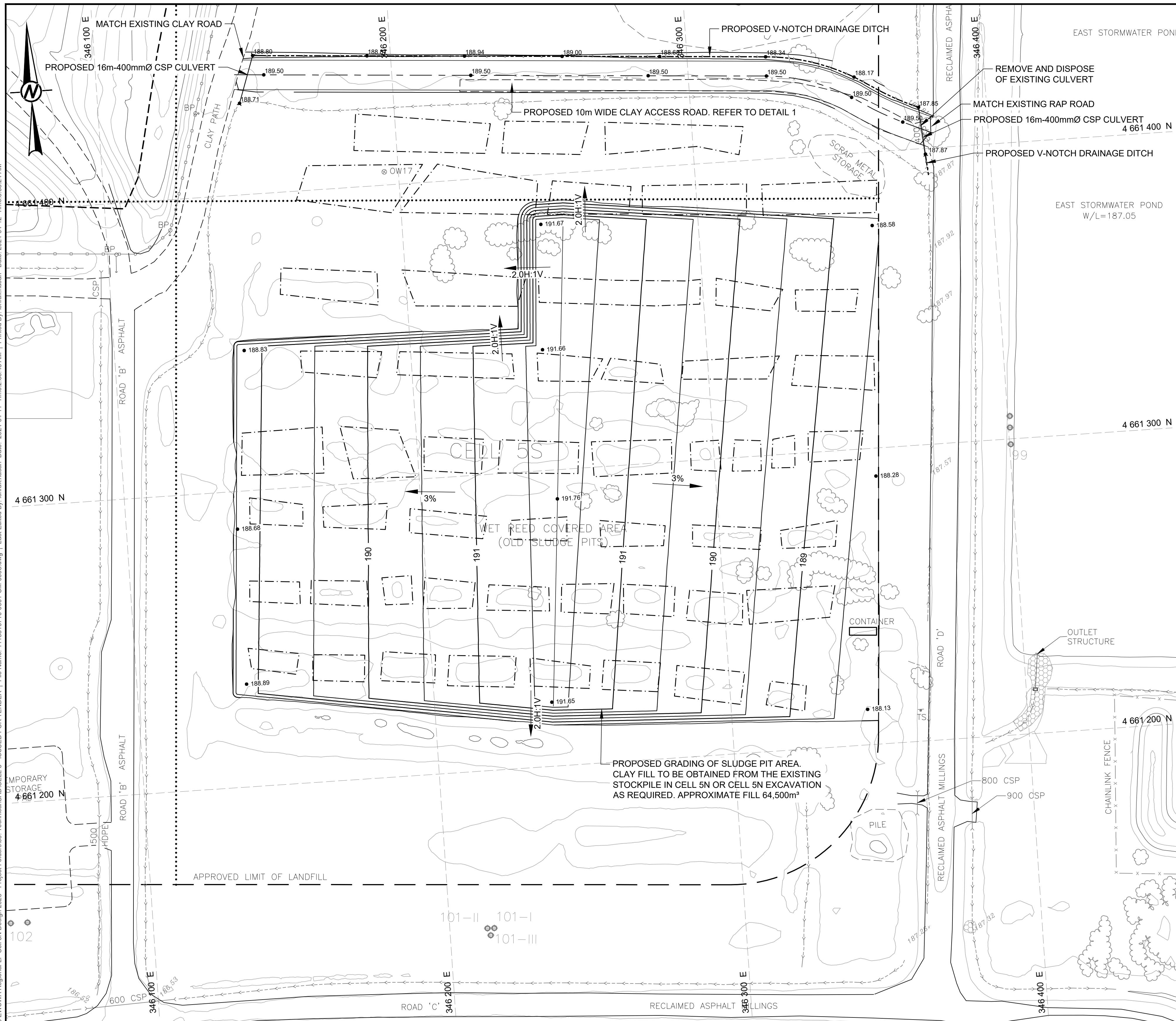
PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 4 of 29 DRAWING C04

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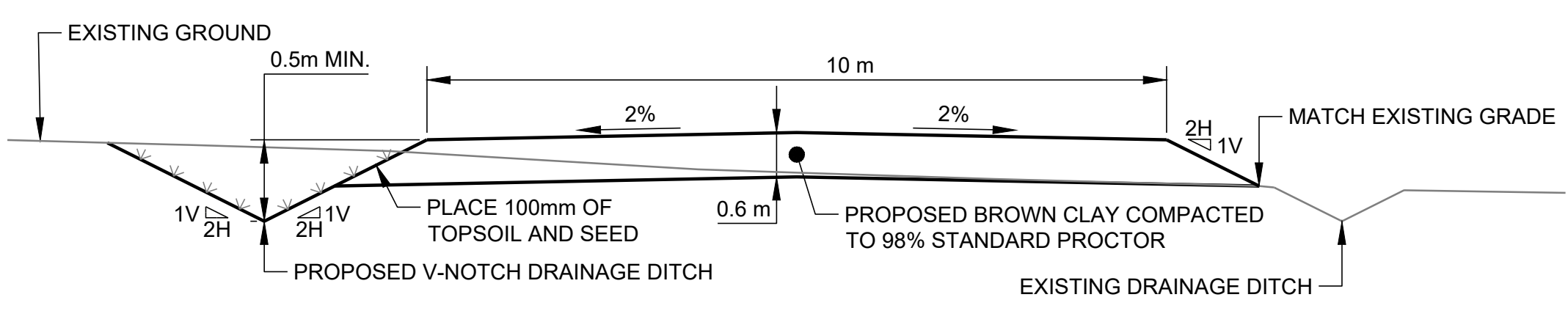


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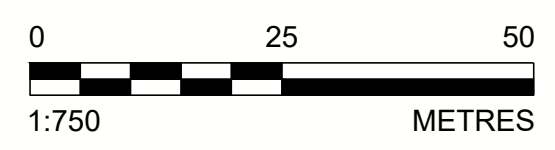
- PROPOSED V-NOTCH DRAINAGE DITCH
- PROPOSED POINT ELEVATION

**NOTE(S)**

- RAP = RECLAIMED ASPHALT PAVEMENT



SCALE N.T.S. **1** CLAY ACCESS ROAD DETAIL  
C05



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
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SEAL CLIENT

**EW SWA**

CONSULTANT

**WSP**

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION**

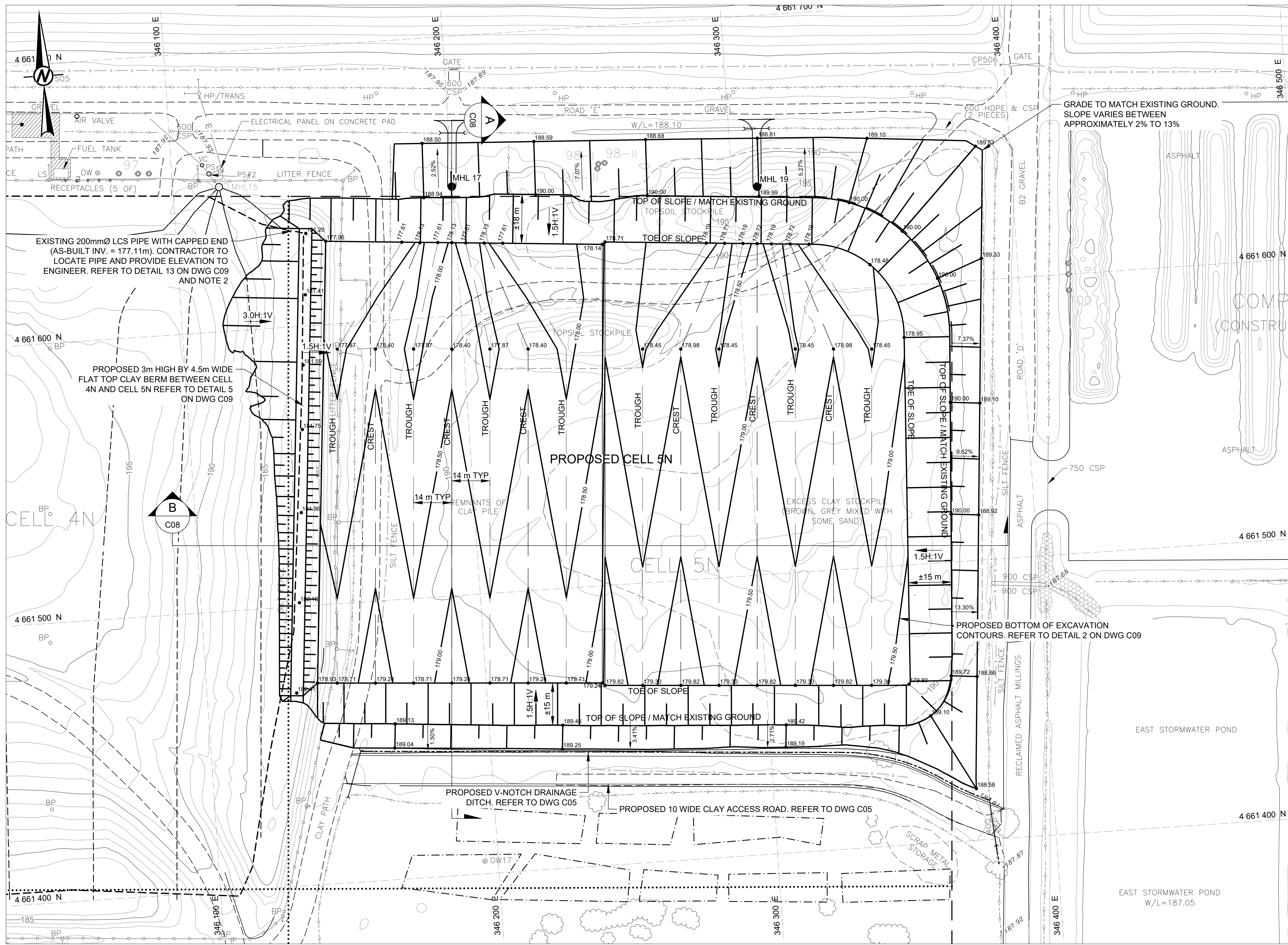
TITLE  
**PROPOSED CLAY ACCESS ROAD AND SLUDGE PIT GRADING**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 5 of 29 DRAWING C05

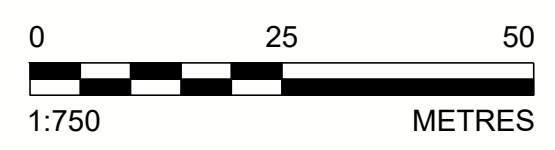
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D 25 mm



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- NOTE(S)**
1. REFER TO DWG C04 FOR REMOVALS ASSOCIATED WITH CELL 5N EXCAVATION.
  2. AS EARLY AS POSSIBLE DURING CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND EXPOSE THE EXISTING LEACHATE COLLECTION PIPE NEAR PROPOSED MANHOLE MH17. RECORD PIPE POSITION INCLUDING INVERT ELEVATION AND REPORT TO ENGINEER. ENGINEER WILL VERIFY WHETHER PROPOSED BASE REQUIRES ANY ADJUSTMENT. DECISION IN THIS MATTER WILL BE COMMUNICATED TO THE CONTRACTOR AS QUICKLY AS POSSIBLE.
  3. IF SAND IS ENCOUNTERED AT OR BELOW LANDFILL BASE FLOOR, IT SHALL BE OVER EXCAVATED BY 500mm VERTICALLY BELOW DESIGN BASE OF SAND LAYER (1000mm MAXIMUM DEPTH) AND AT LEAST 500mm HORIZONTALLY BEYOND EXTENT OF SAND. SAND SHALL BE REPLACED WITH APPROVED CLAY LINER TO DESIGN BASE GRADE. IF SAND IS ENCOUNTERED WITHIN SIDE SLOPES THE PROCEDURE IS THE SAME EXCEPT THAT MAXIMUM DEPTH OF REMOVAL IS INCREASED TO 2000mm. REFER TO DETAIL 11 ON DWG C09.



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**PROJECT**  
 ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION

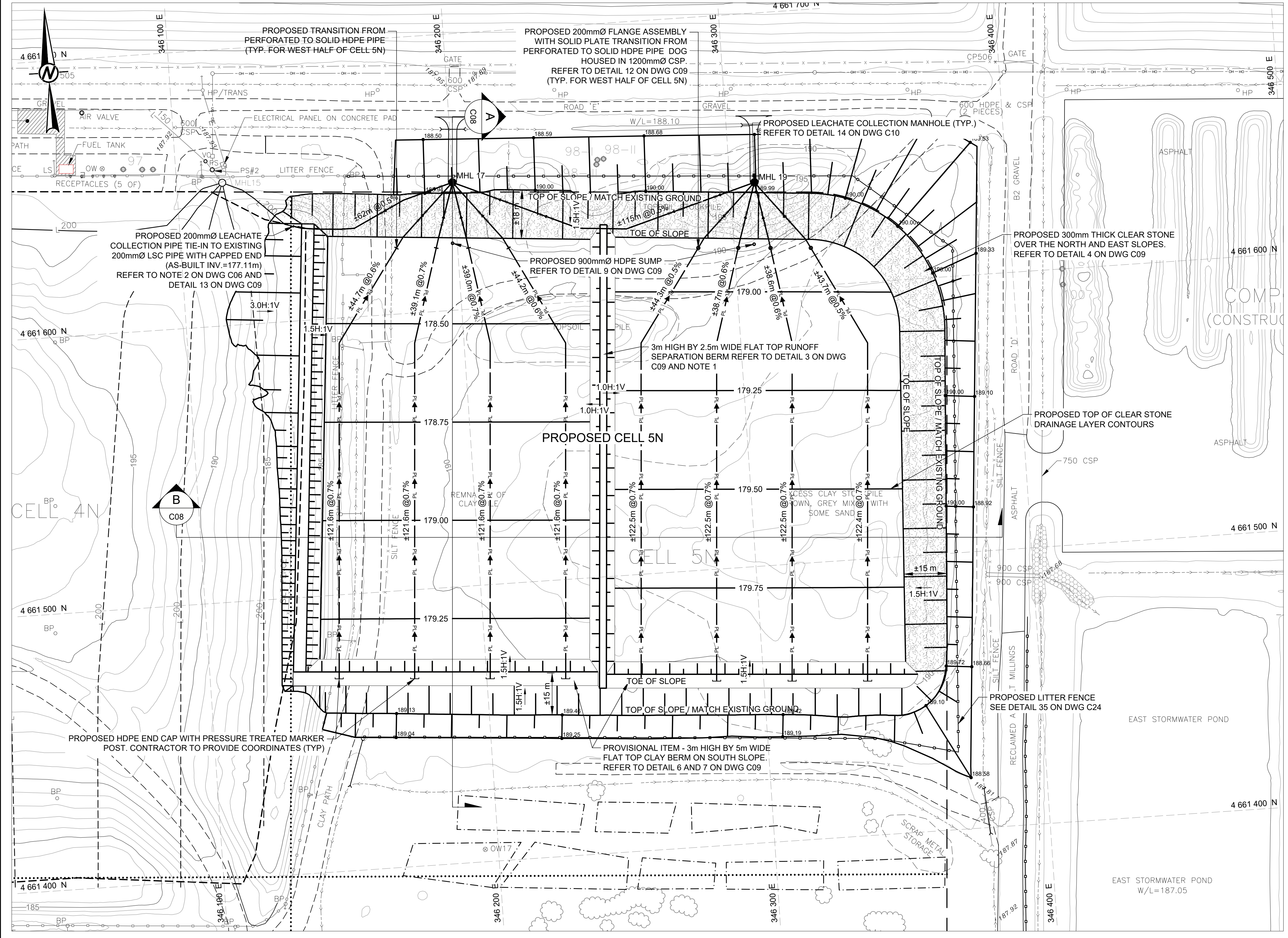
**TITLE**  
 PROPOSED BOTTOM OF CELL 5N EXCAVATION

PROJECT NO. 111-53107-10	CONTROL 2001	REV. B	6 of 29 DRAWING C06
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25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



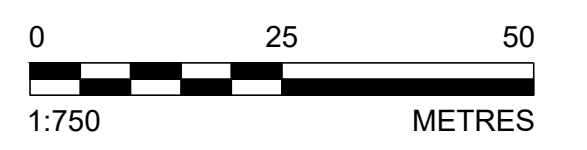
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- LEGEND**
- PROPOSED 200mmØ SOLID HDPE DR11 PIPE
  - PROPOSED 200mmØ PERFORATED HDPE DR11 PIPE
  - 179.00 PROPOSED TOP OF DRAINAGE LAYER CONTOURS
  - PROPOSED LITTER FENCE

**NOTE(S)**

- CONTACTOR TO PROVIDE A MINIMUM OF 10m WIDE GOETEXTILE AND A WINDROW OF CLEAR STONE DRAINAGE GRAVEL ALONG THE EAST SIDE OF THE RUNOFF SEPARATION BERM TO FILL IN THE GAP ONCE BERM IS REMOVED. REFER TO DETAIL 3 ON DWG C09. THE OWNER SHALL CONNECT THE GOETEXTILE AND CLEAR STONE DRAINAGE GRAVEL ONCE THE BERM IS REMOVED.



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



SEAL CLIENT

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 CANADA  
 [+1] (226) 826 0702

PROJECT  
 ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5N NORTH CONSTRUCTION

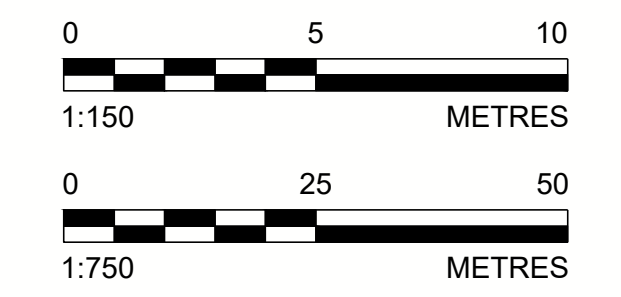
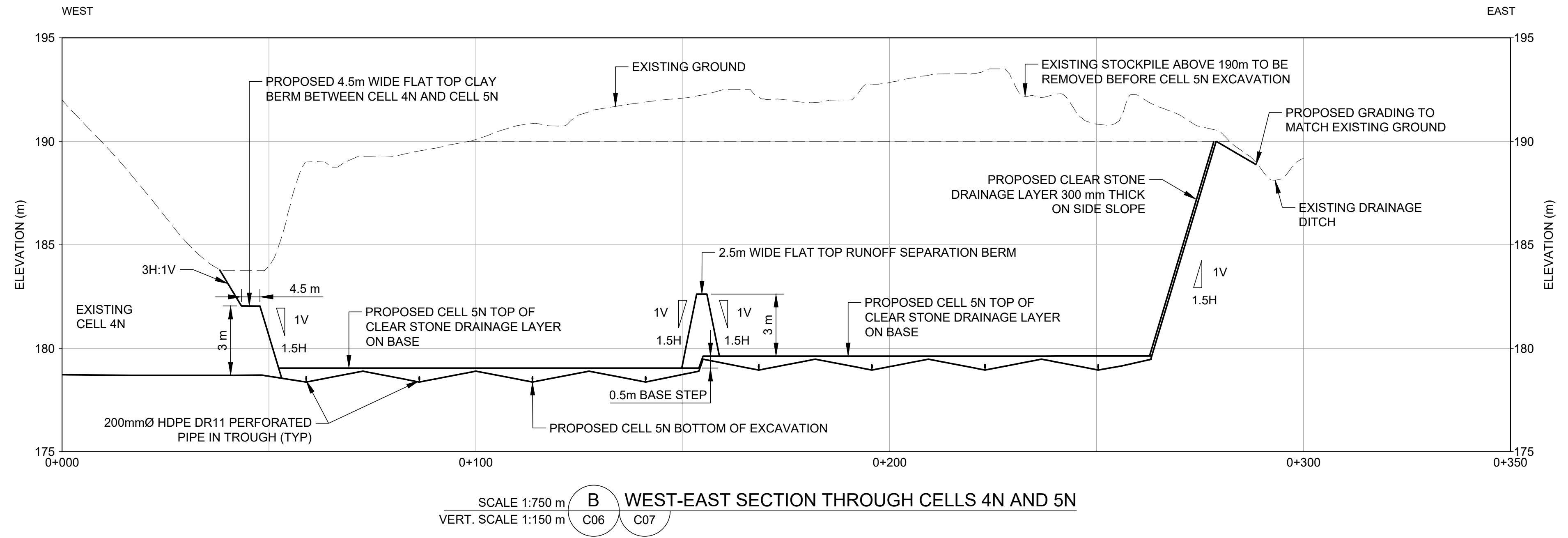
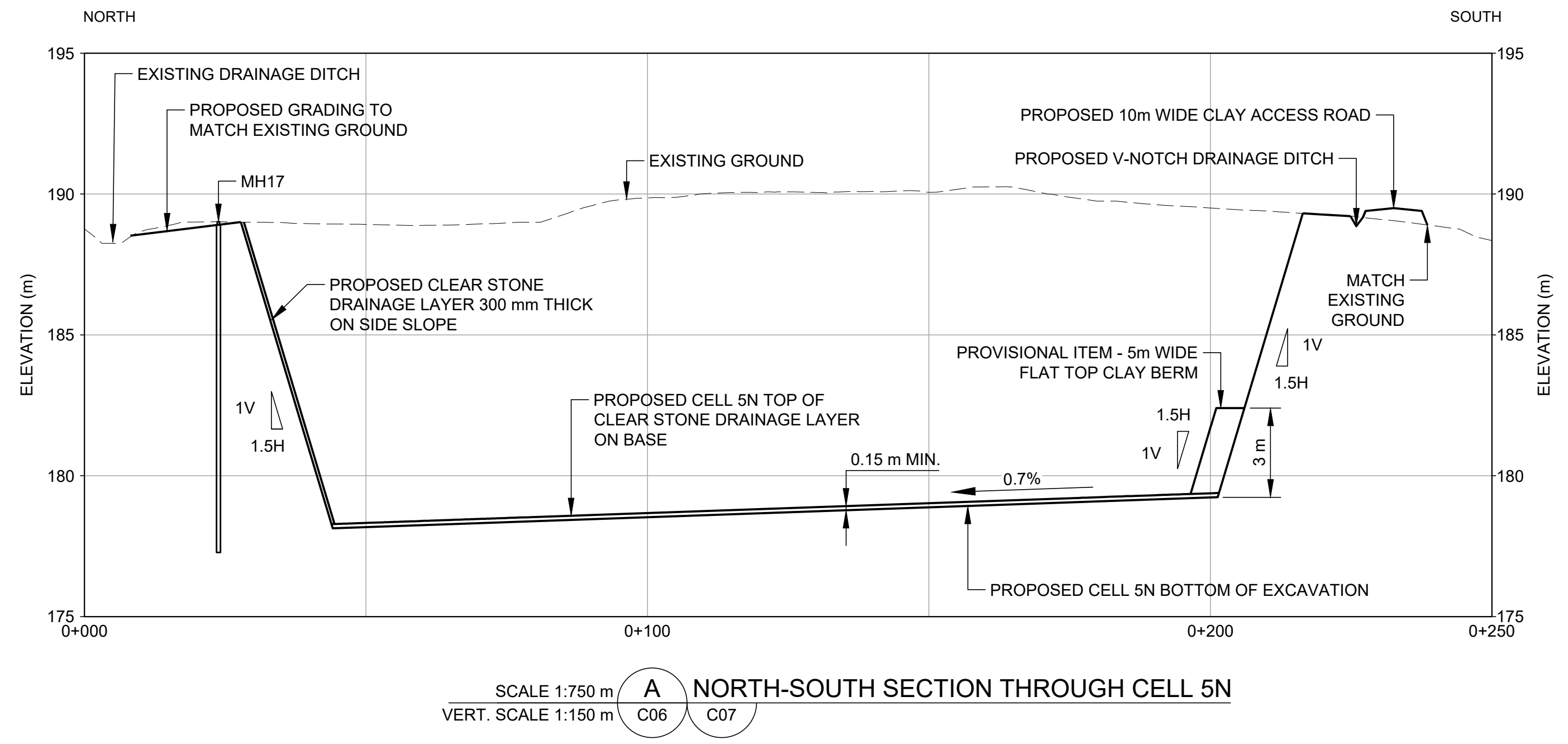
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PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 7 of 29 DRAWING C07

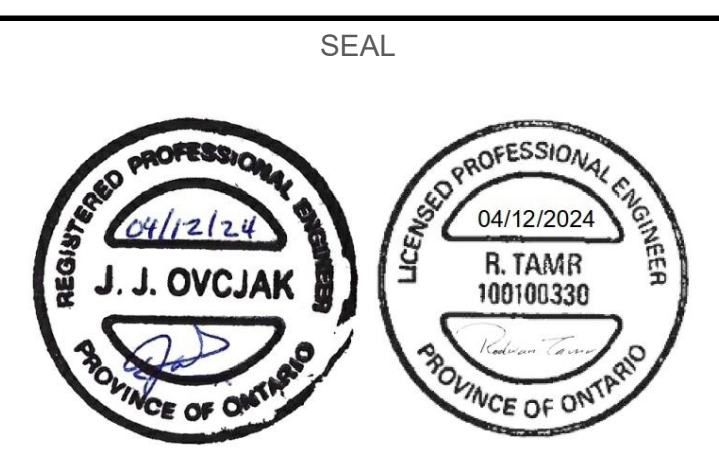
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B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
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PROJECT  
 ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION

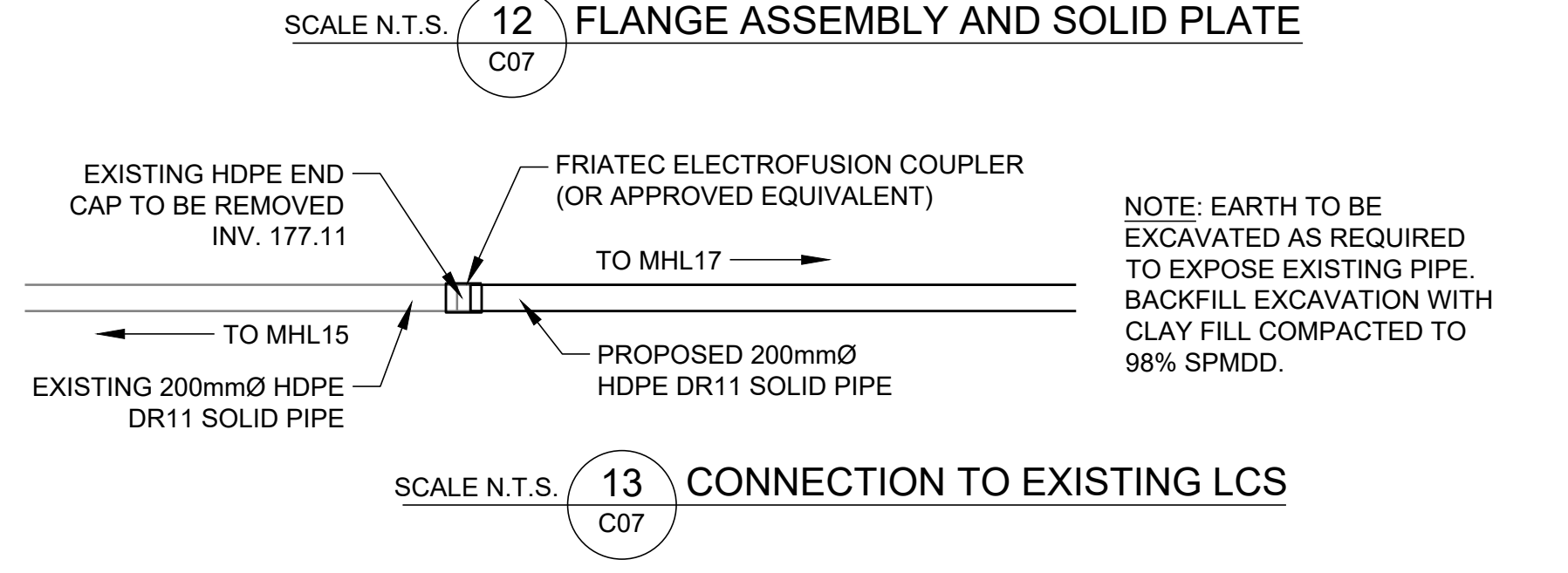
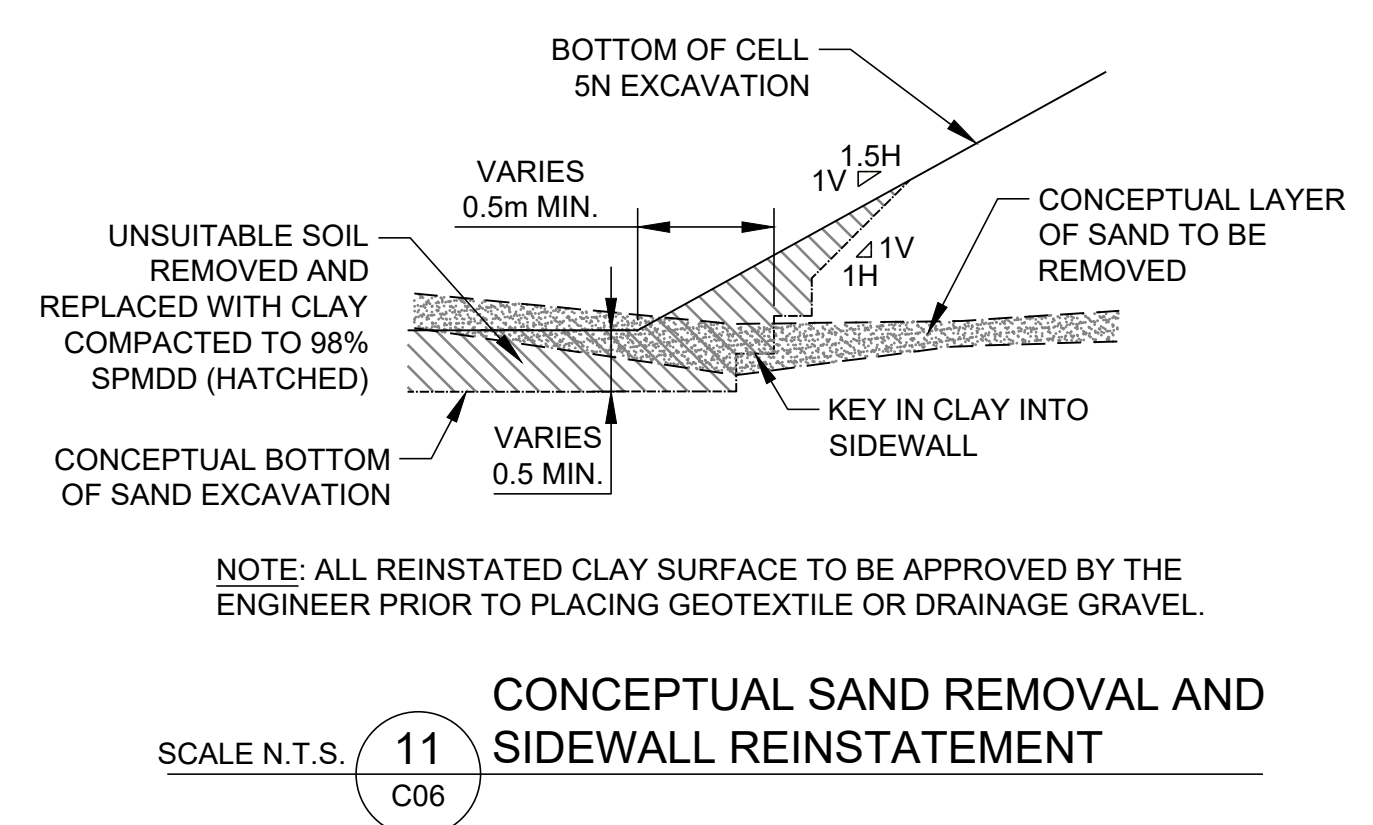
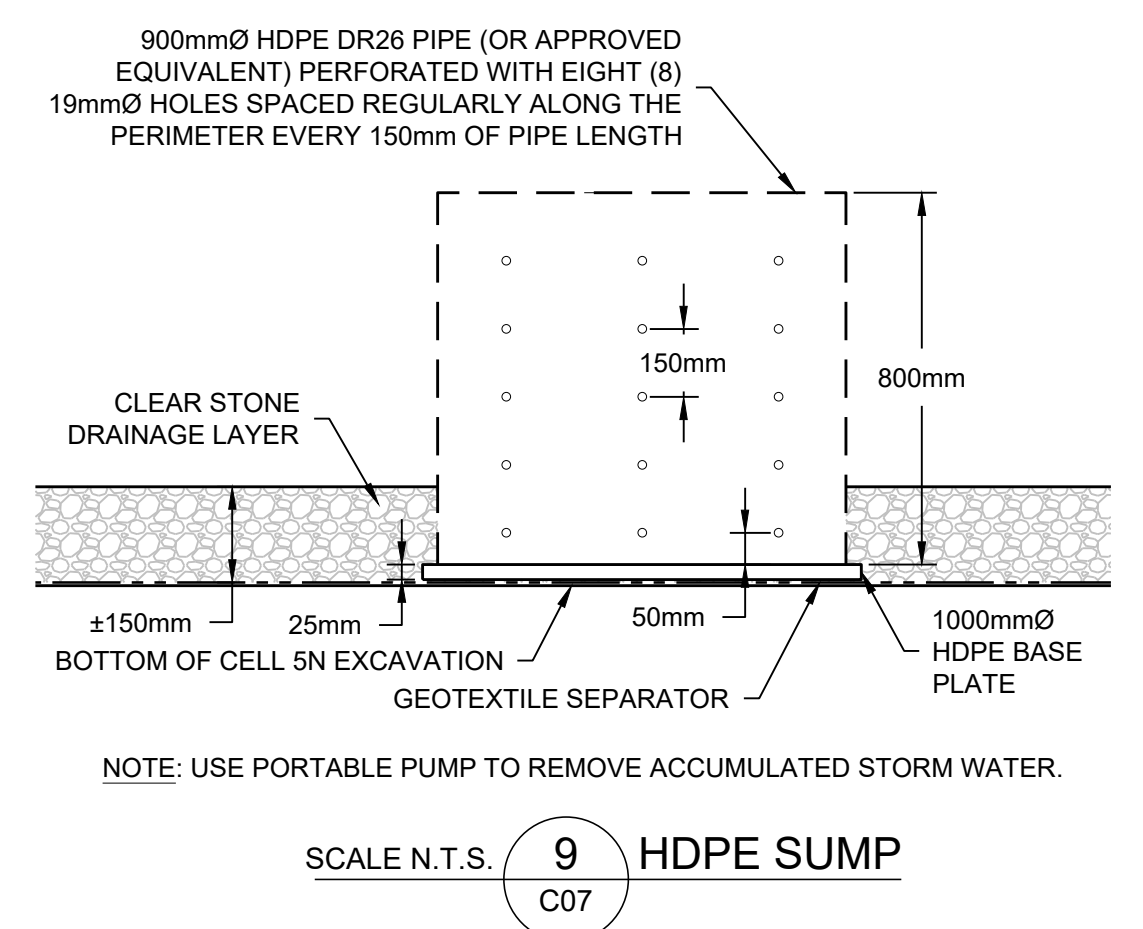
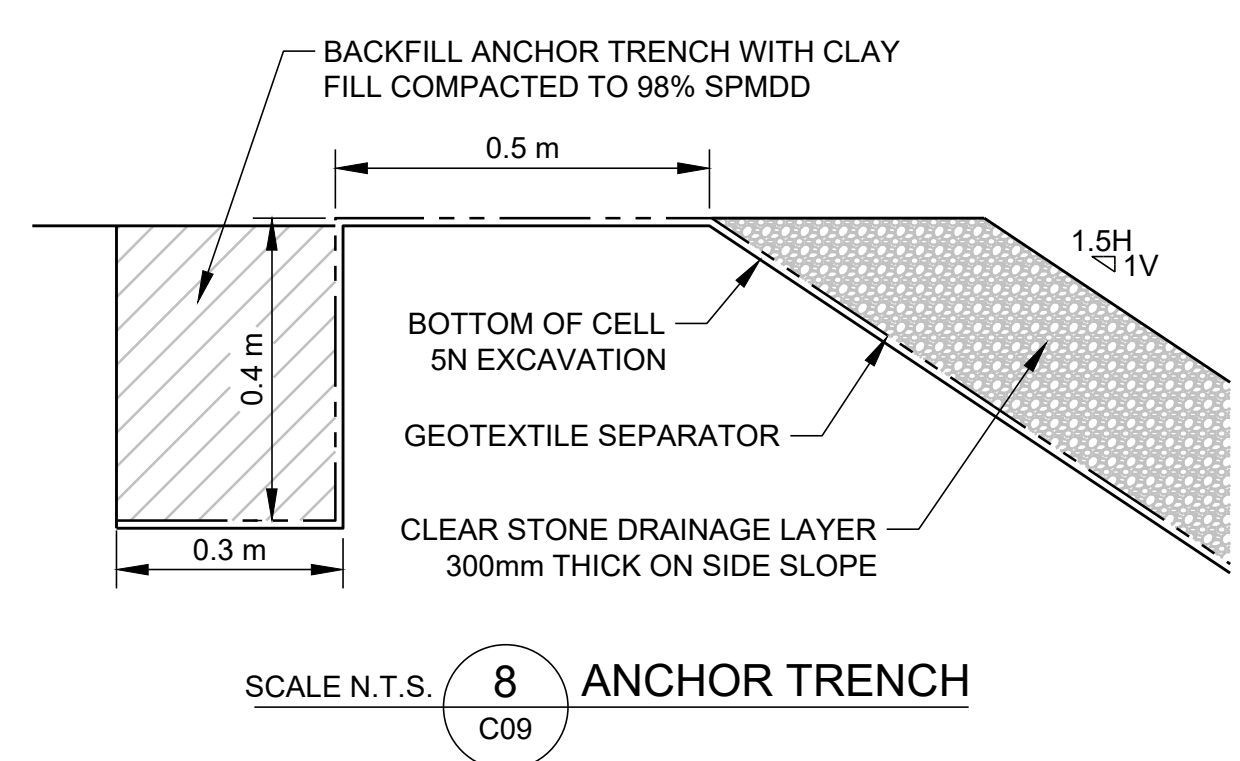
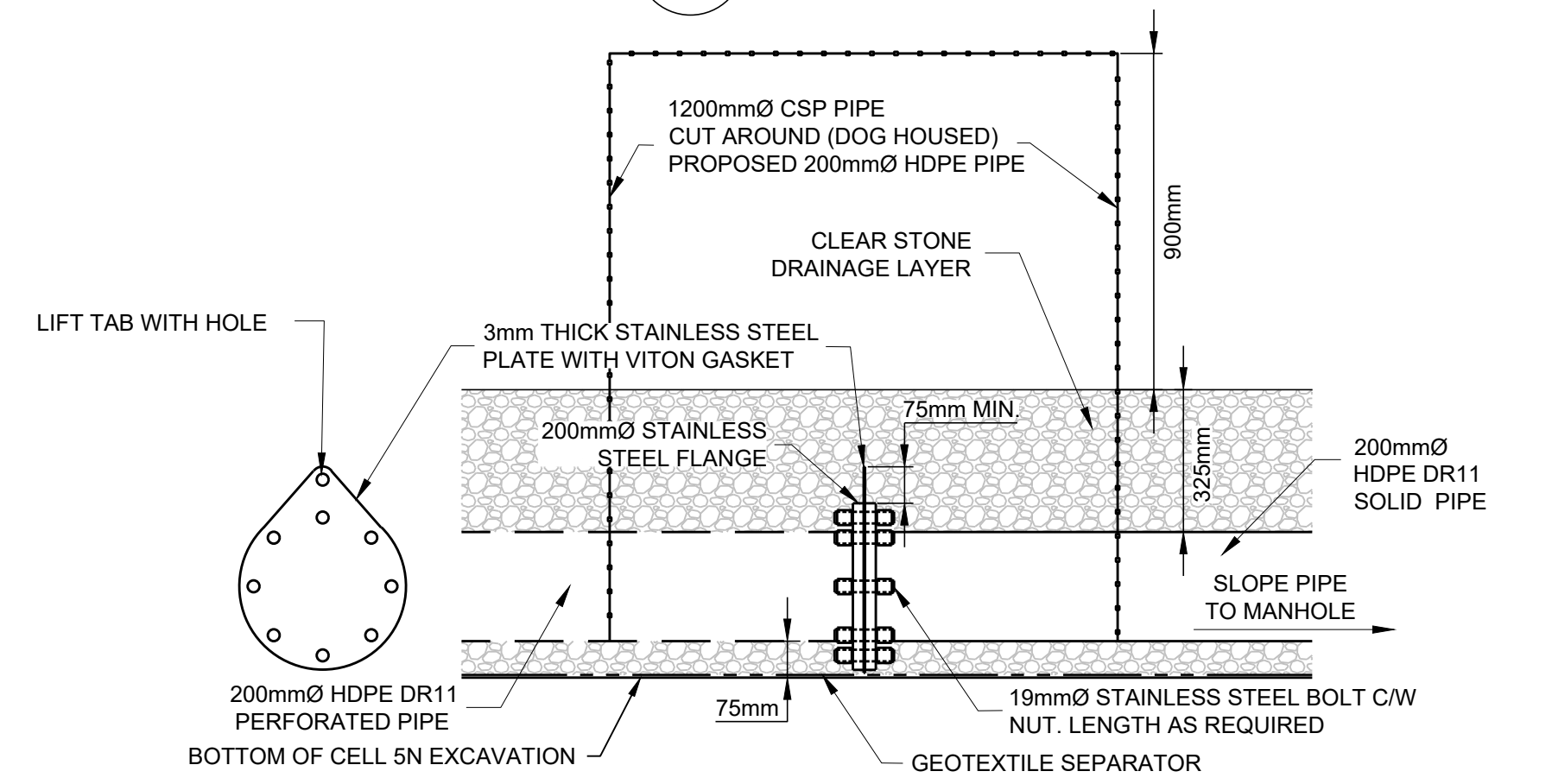
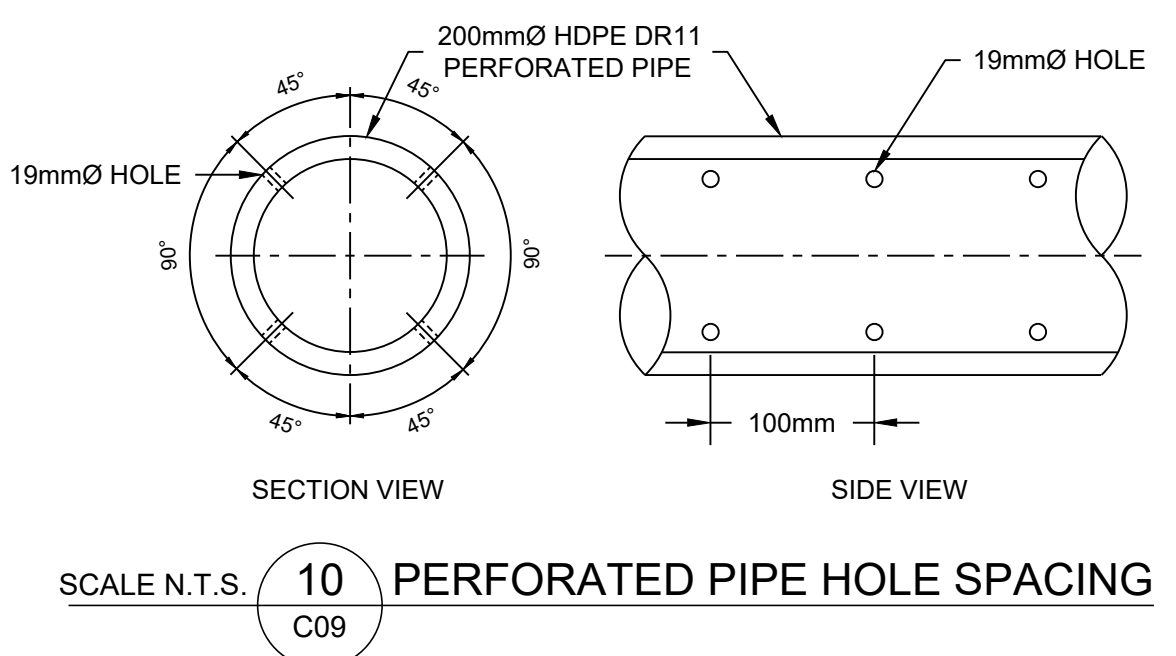
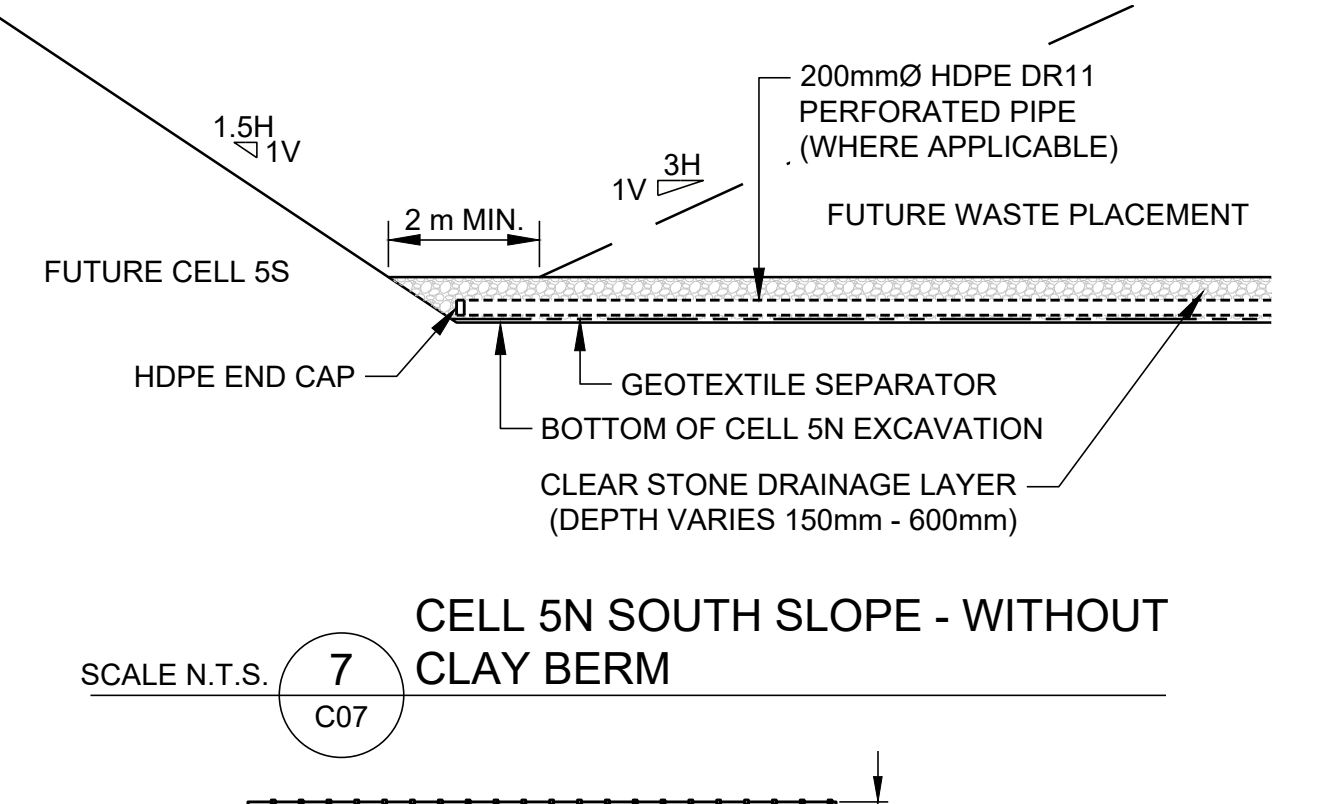
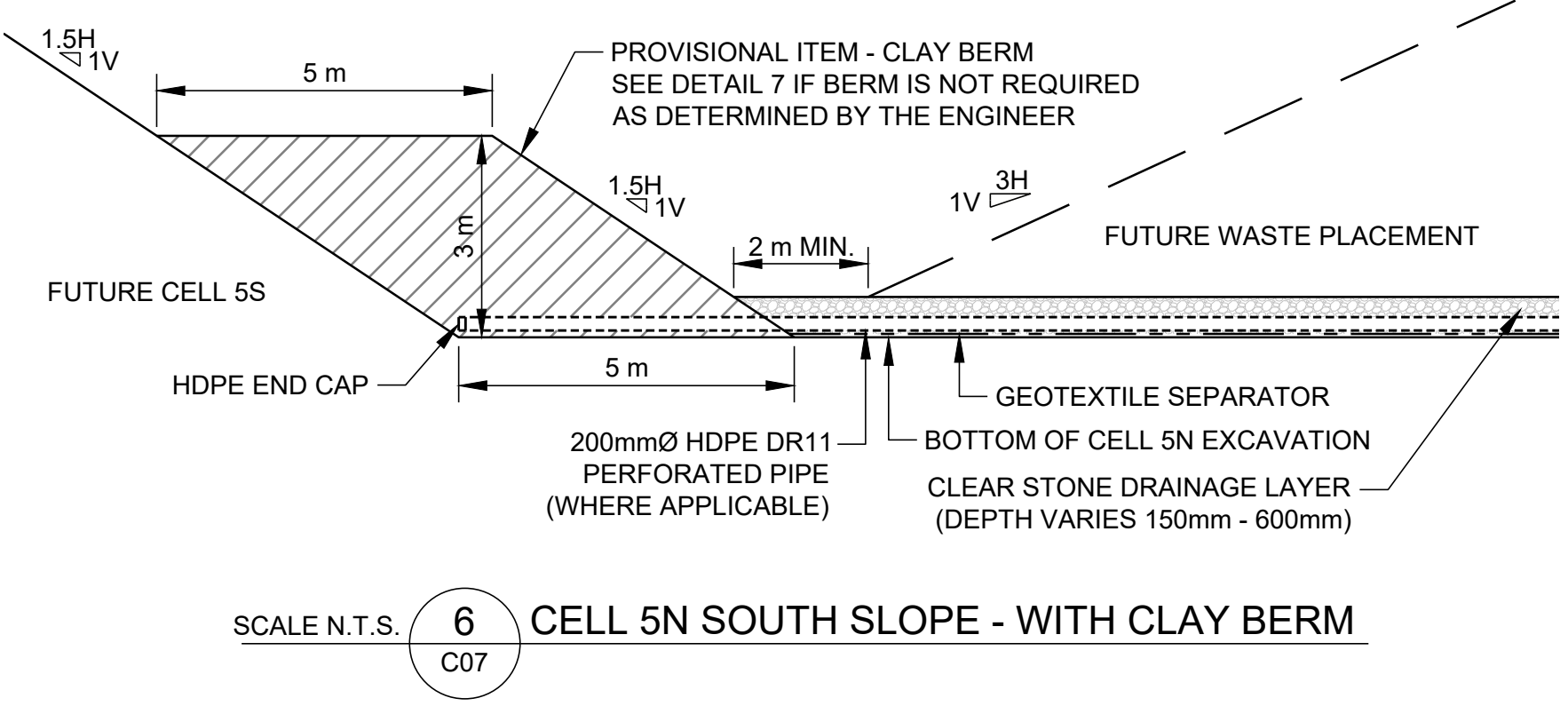
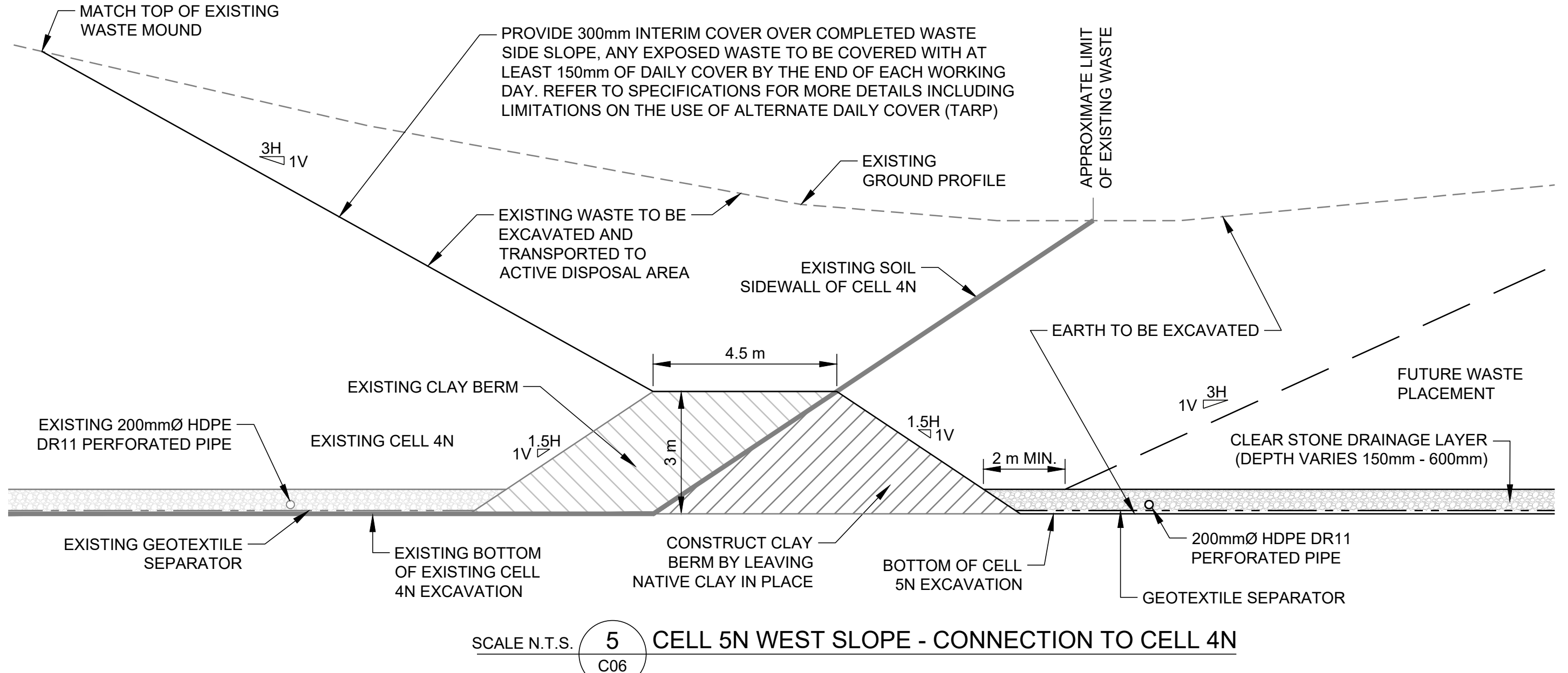
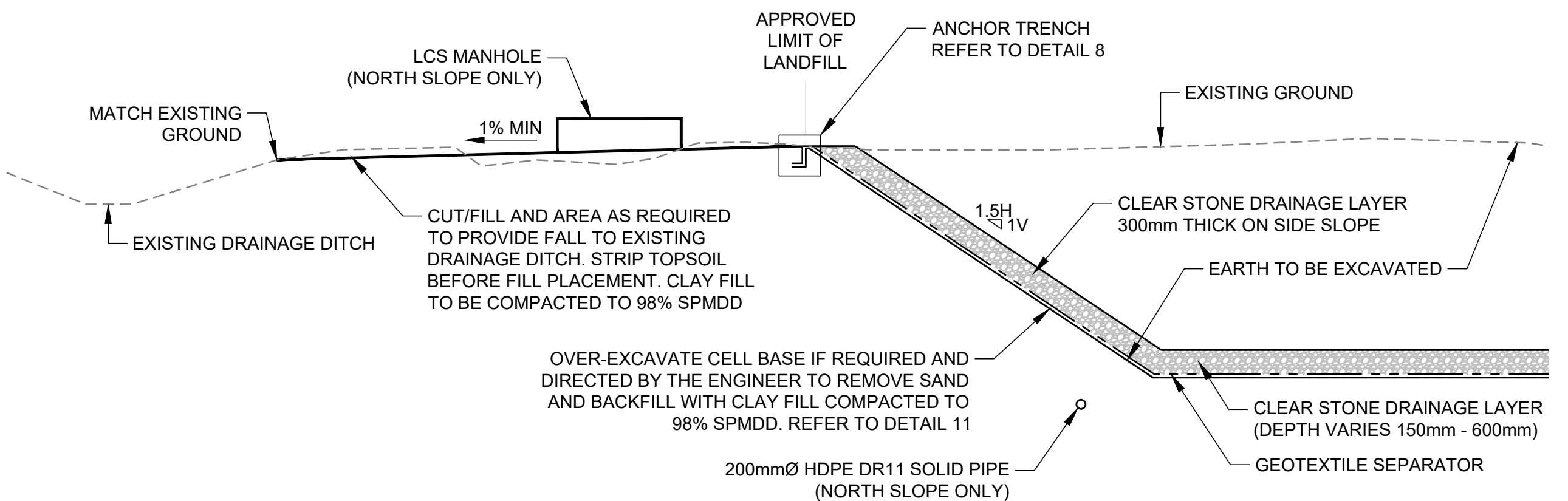
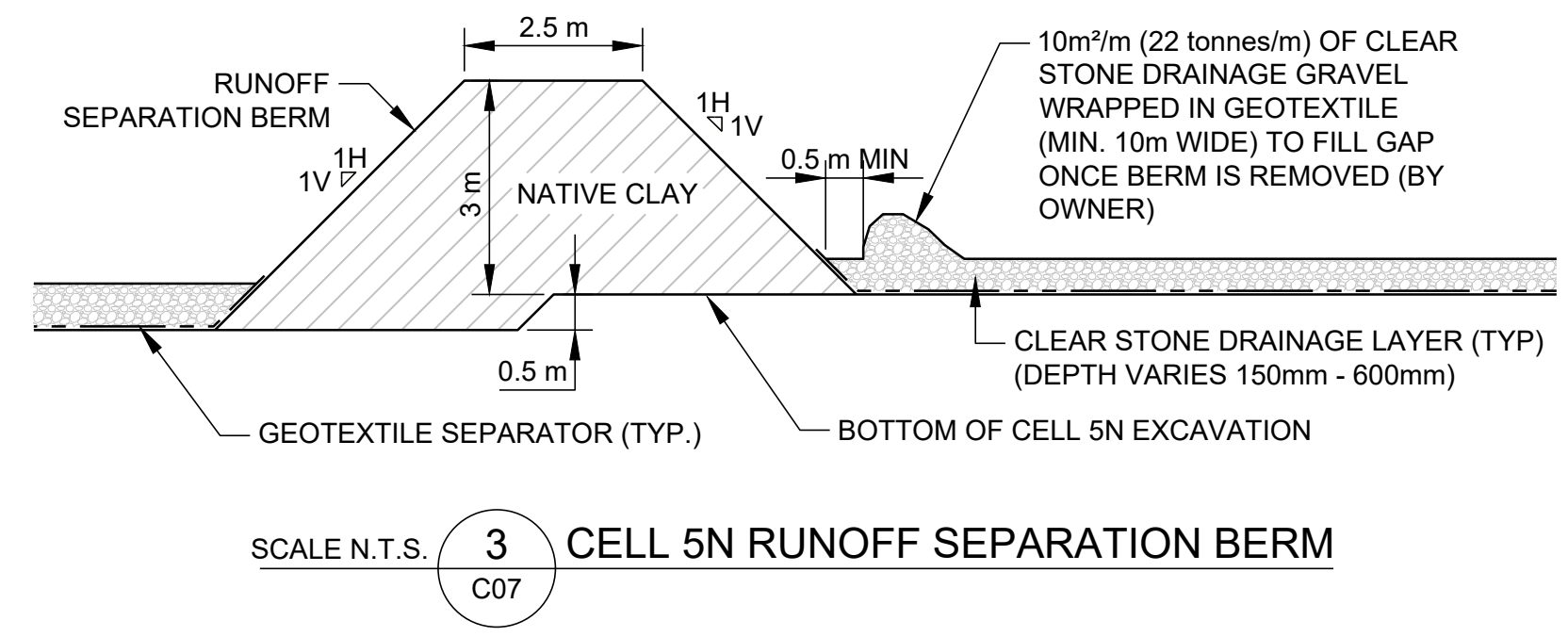
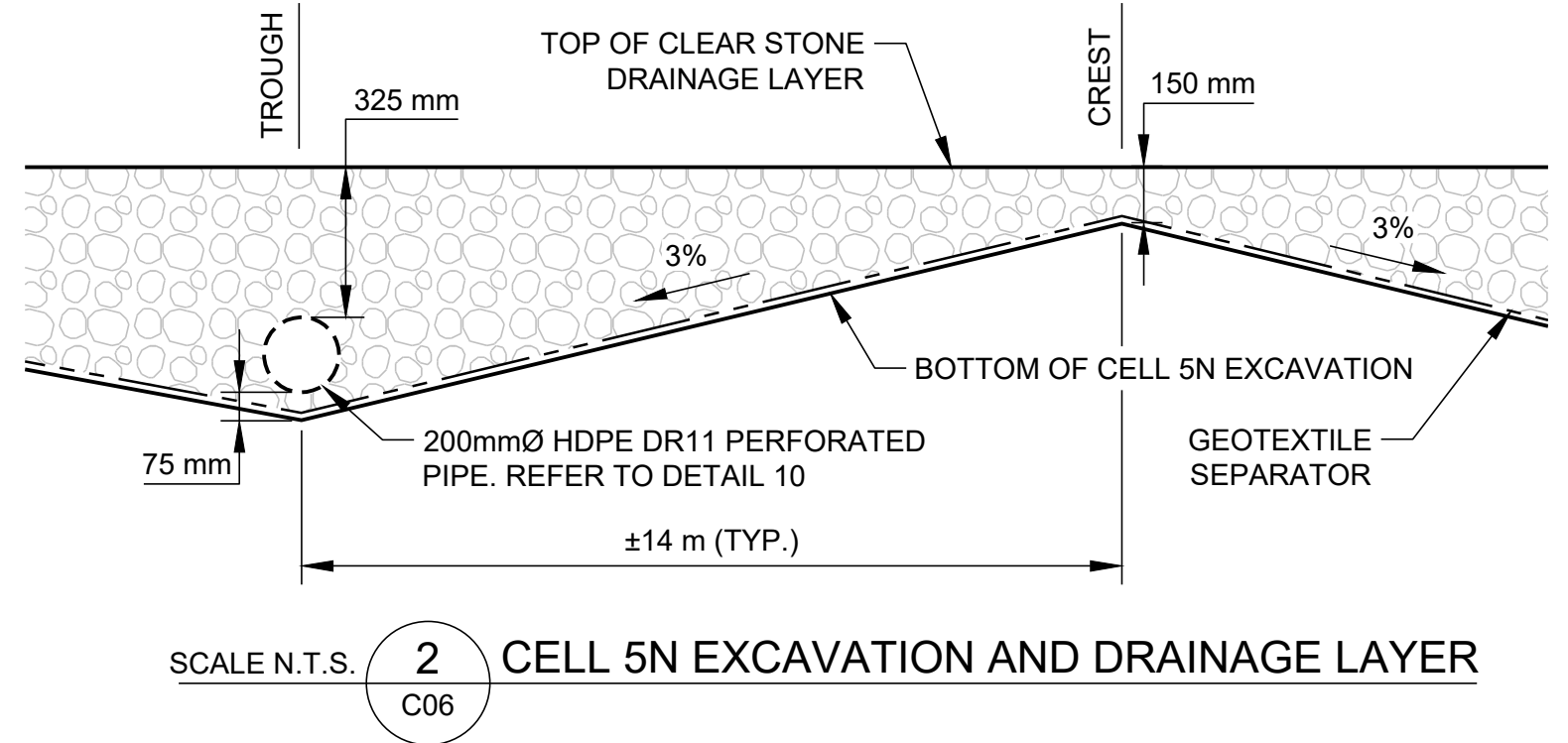
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**CELL 5N CROSS-SECTIONS**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 8 of 29 DRAWING C08

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



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A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



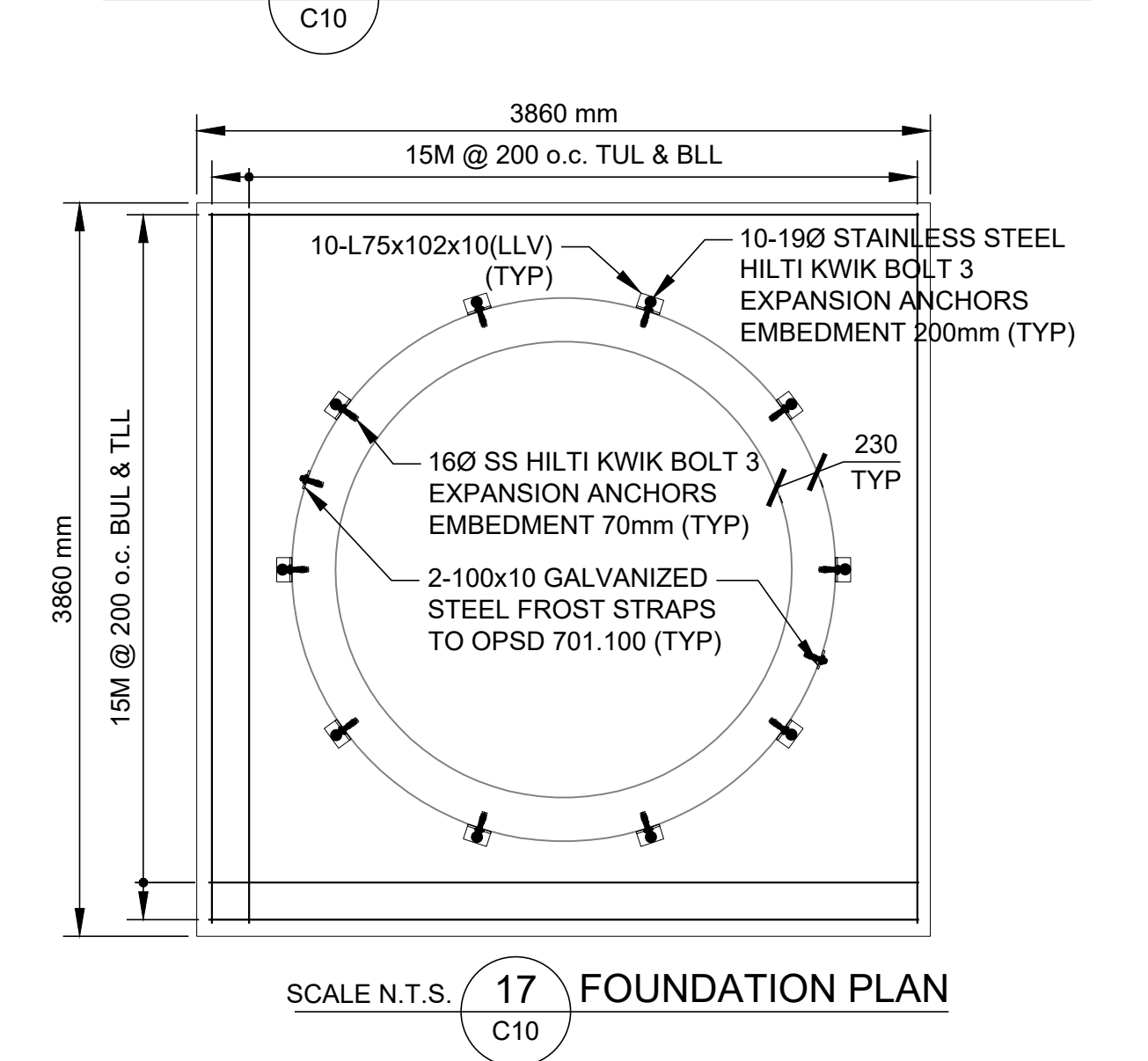
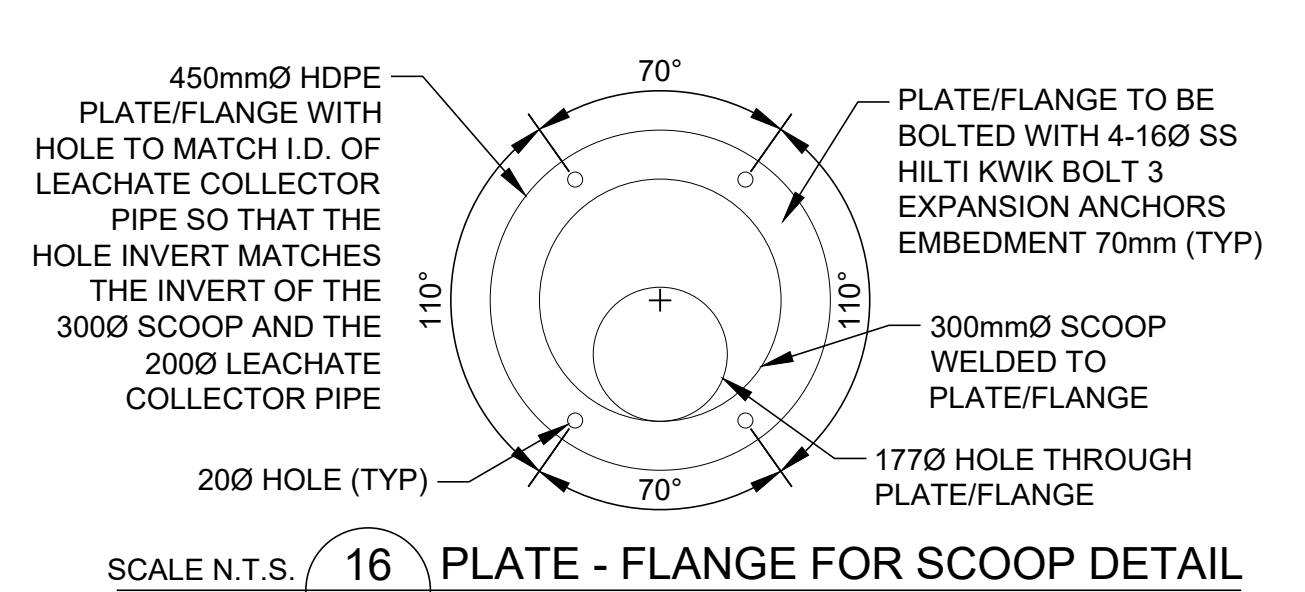
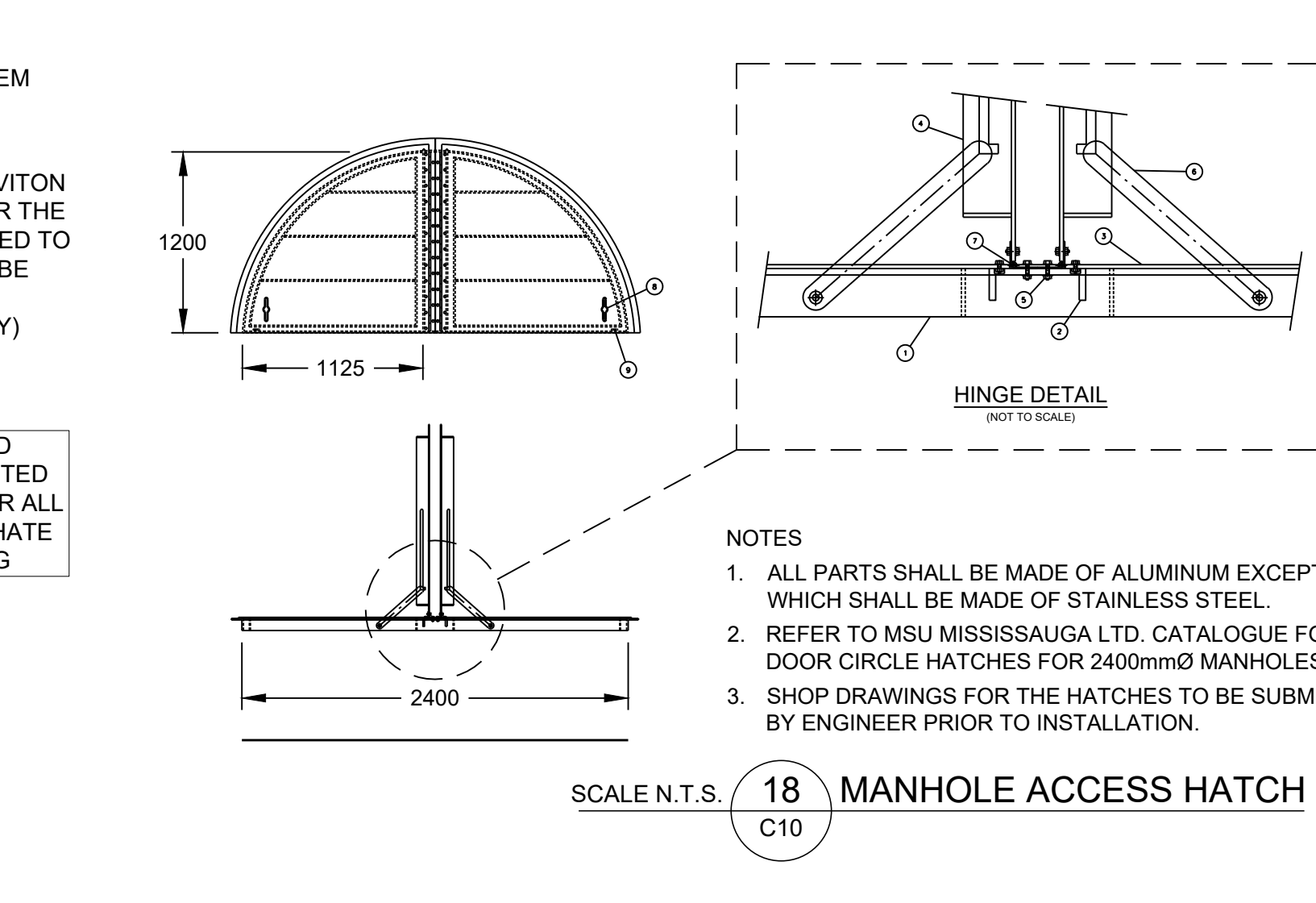
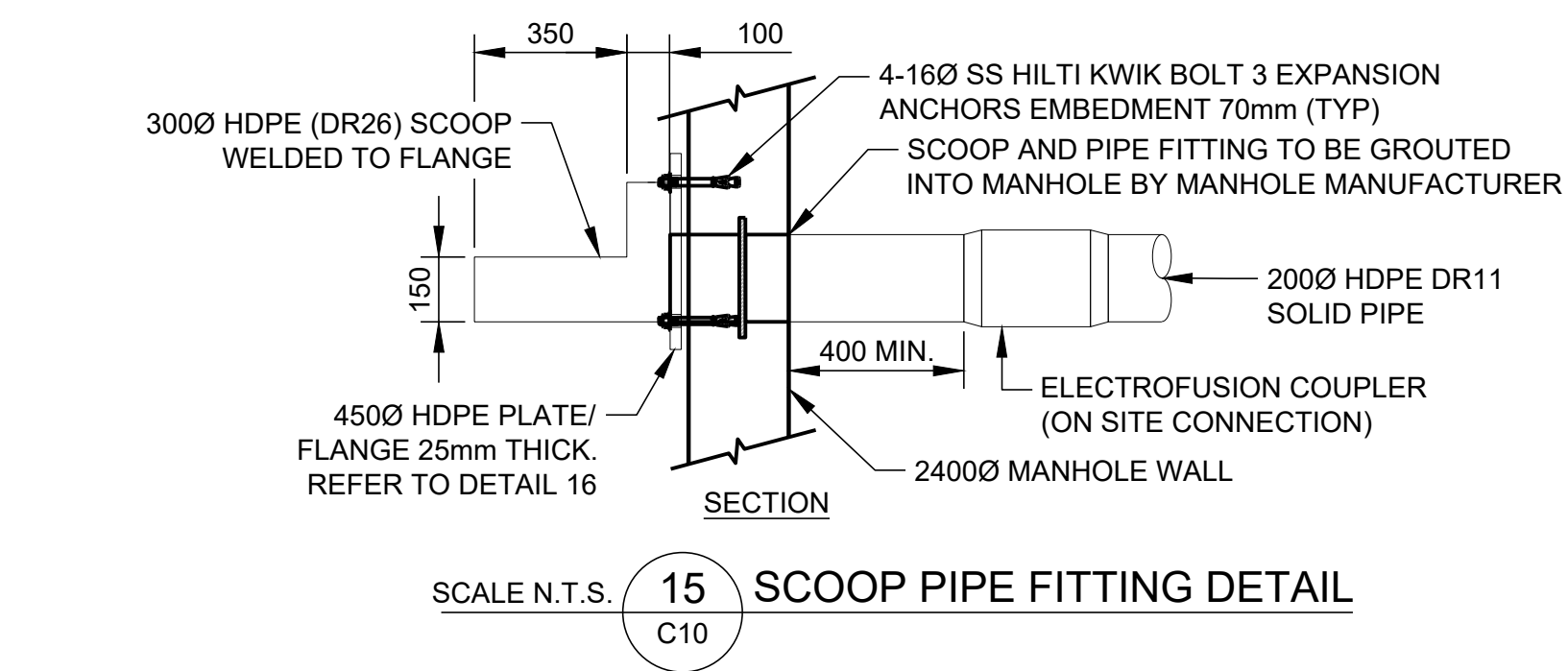
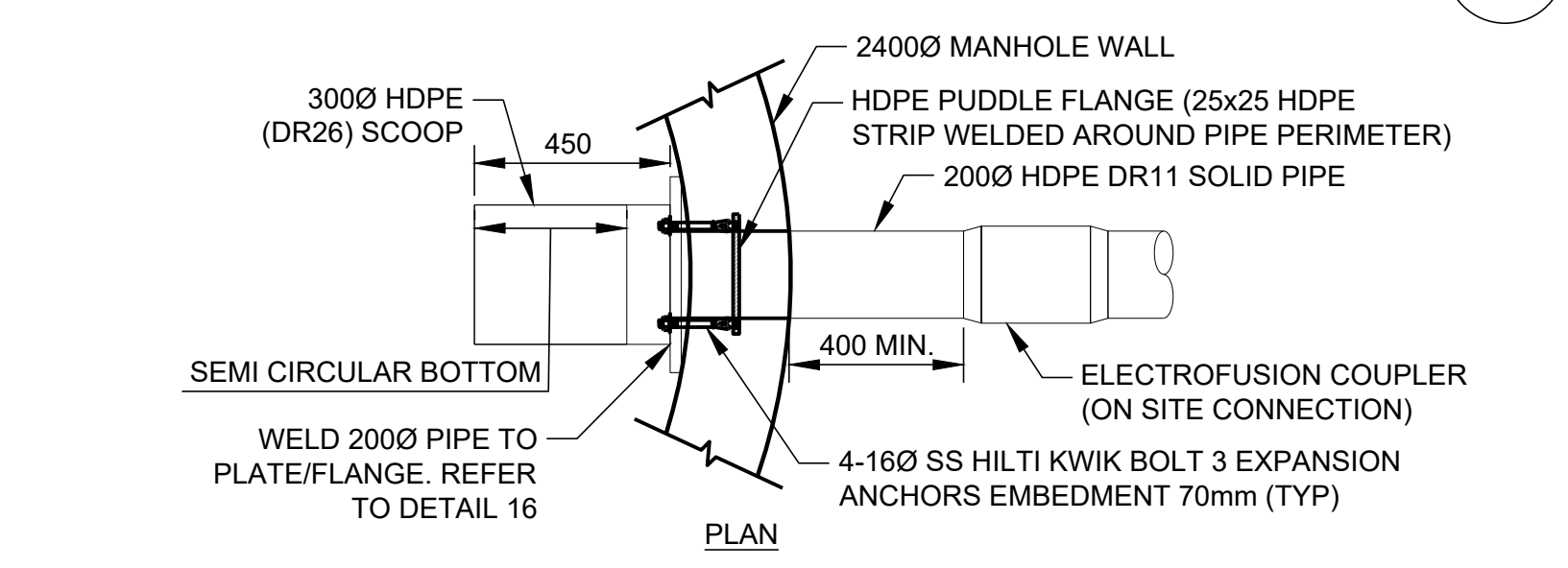
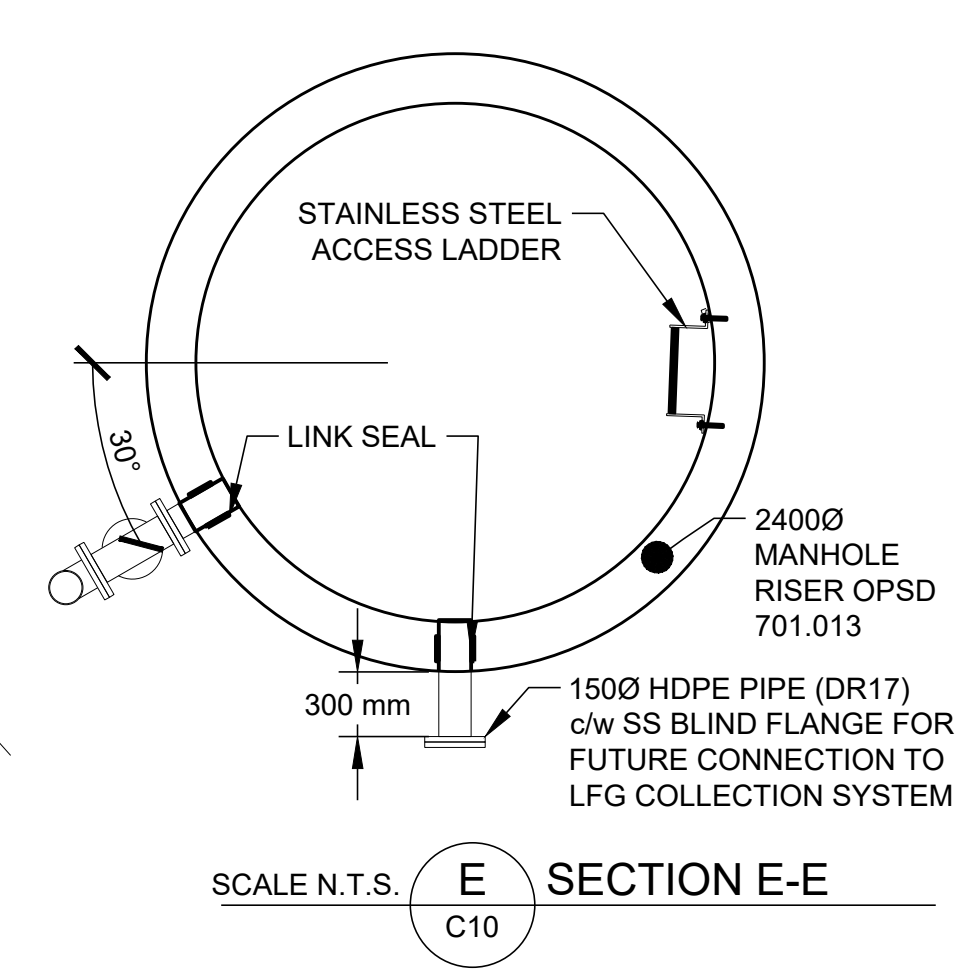
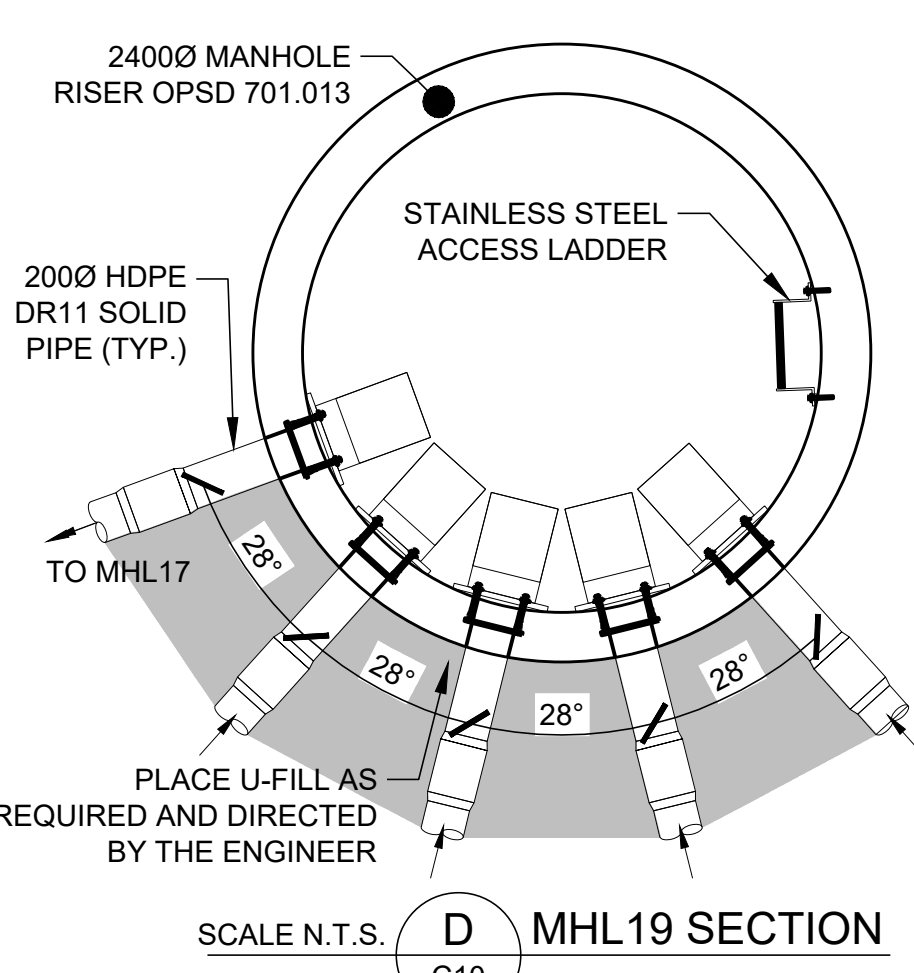
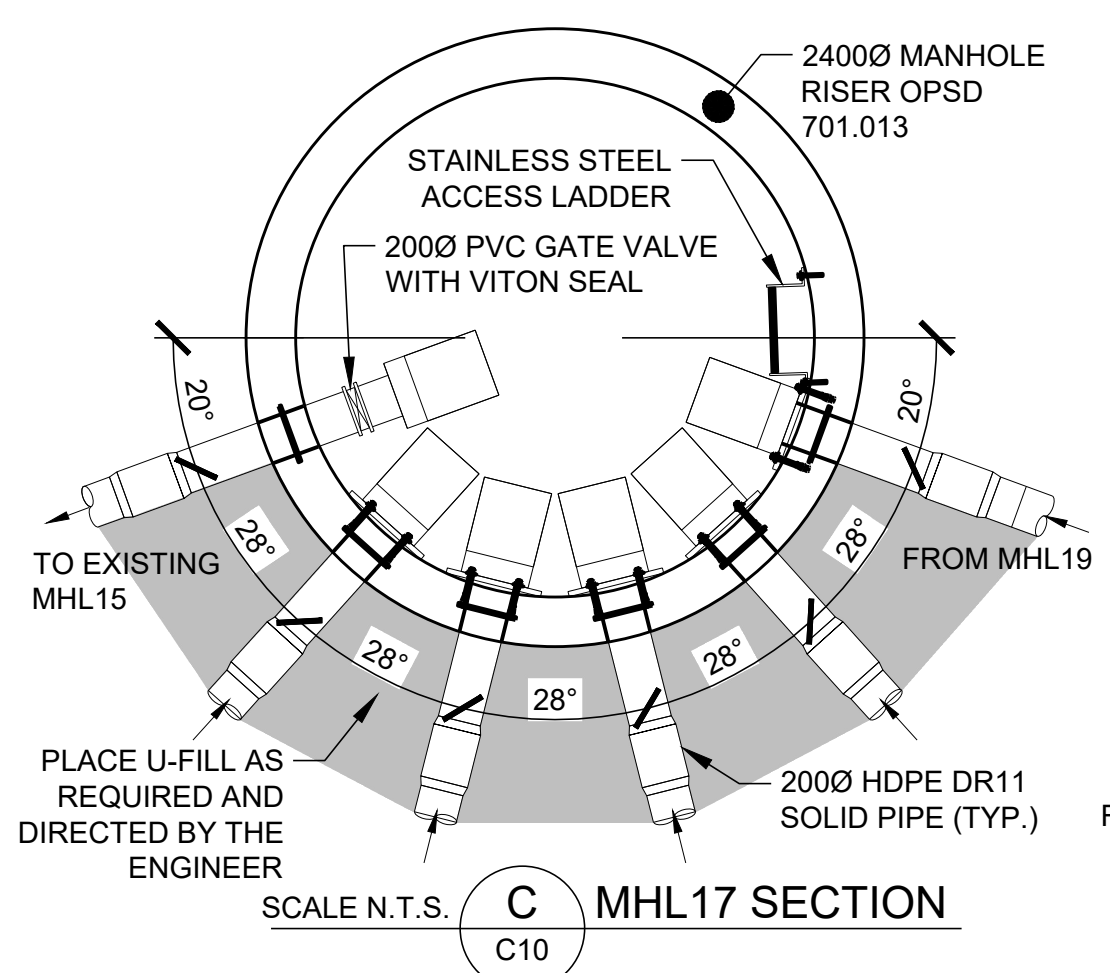
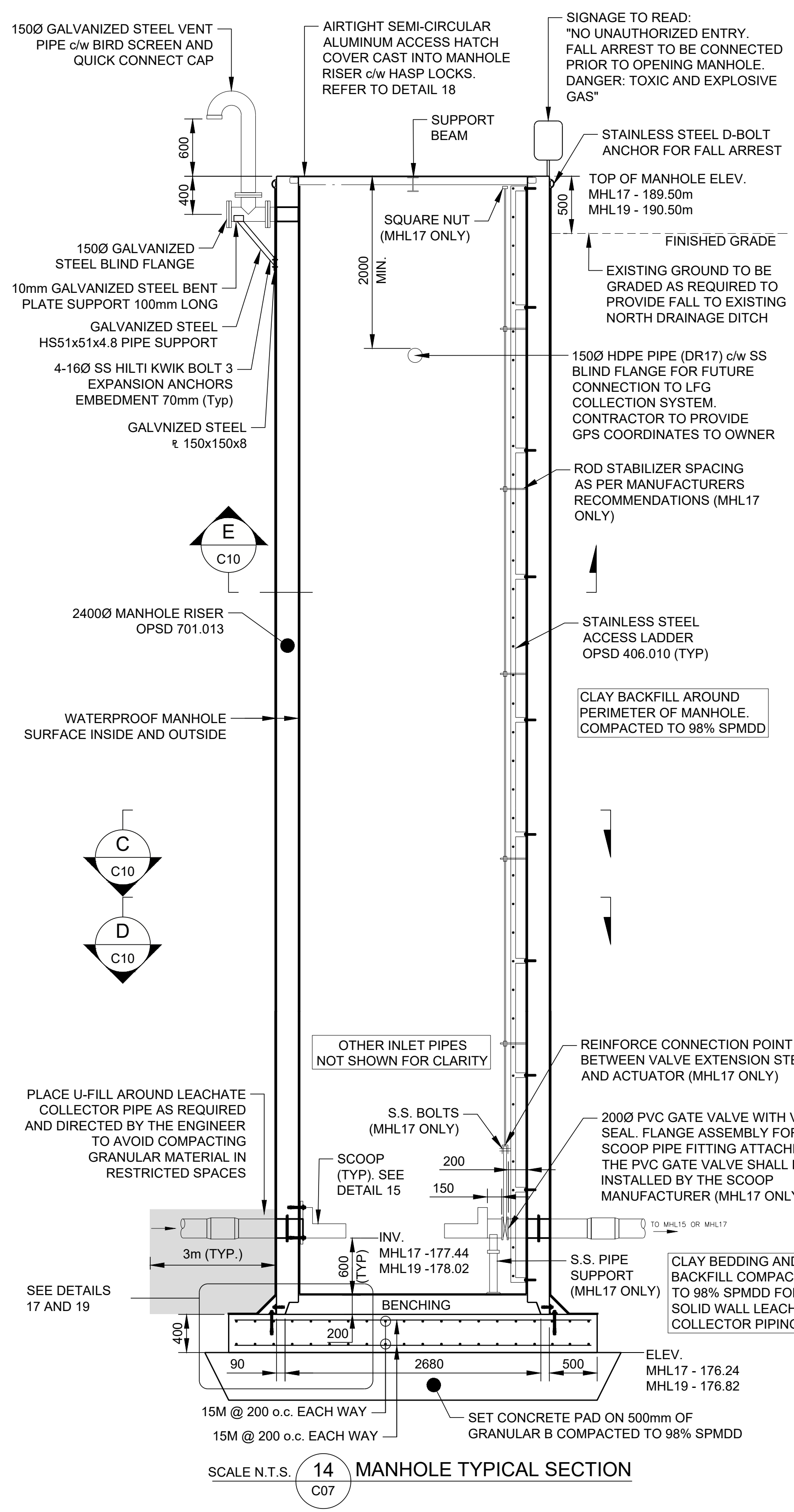
SEAL CLIENT  
**EW**  
 SWA  
 CONSULTANT  
**WSP**  
 WSP CANADA INC.  
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PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION**  
 TITLE  
**CELL 5N TYPICAL DETAILS**  
 PROJECT NO. CONTROL REV. 9 of 29 DRAWING  
 111-53107-10 2001 B 9 of 29 **C09**

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



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ITEM	QUANTITY	MATERIAL
1	1	76mm x 76mm x 10mm ANGLE FRAME
2	1	150mm x 50mm x 7.2mm C-CHANNEL
3	2	6mm TREAD PLATE
4	2	6mm x 76mm REINFORCING FRAME
5	AS REQ.	HEX BOLT 1/4" x 1 1/4" WITH FLAT WASHER HEX NUT
6	2	90° HOLD OPEN ARM
7	2	ALUMINUM HINGE
8	2	RECESSED HANDLE
9	2	LOCK TAB FOR HASP LOCKS

**GENERAL NOTES**

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS.
- NOTIFY CONSULTANT IF ANY DISCREPANCY WAS FOUND BETWEEN THESE NOTES AND THE SPECIFICATIONS.
- ALL WORK IS TO CONFORM WITH LATEST EDITION OF THE O.B.C. AND WITH ALL APPLICABLE CODES AND BYLAWS.
- IN CASE OF CONFLICTING INFORMATION BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN OR CONTRACTOR MUST SEEK CLARIFICATION IN WRITING FROM ENGINEER.
- ALL DIMENSIONS GIVEN ON STRUCTURAL DRAWINGS ARE IN METRIC UNLESS OTHERWISE NOTED. DO NOT SCALE THESE DRAWINGS.
- THE CONTRACTOR WILL FACILITATE ALL MATERIAL TESTING REQUIRED BY THE ARCHITECT AND ENGINEER, OWNER TO COVER COST AND GENERAL CONTRACTOR TO ORGANIZE AND CO-ORDINATE
- UNLESS OTHERWISE STATED, ALL PIPES, FITTINGS, AND RELATED APPURTENANCE ARE TO BE CONSTRUCTED OF STAINLESS STEEL.
- LOCATION OF ACCESS HATCH AND LADDER RUNGS TO BE CONFIRMED WITH ENGINEER PRIOR TO FABRICATION.

**DESIGN INFORMATION AND LOADING**

- BUILDING CODE:** ONTARIO BUILDING CODE 2006, PART 4.
- FROST:** FROST DEPTH: SEE SOILS REPORT AND STRUCTURAL DWGS. FOR DEPTH FOUNDING BOTTOM OF FOOTING. WATER TABLE: HIGH WATER TABLE ASSUMED AT GROUND SURFACE.

**FOUNDATION NOTES**

- FOOTING ELEVATIONS GIVEN ON THE STRUCTURAL DRAWINGS ARE FOR ASSUMED DESIGN CONDITIONS. IF ACTUAL SOIL CONDITIONS VARY FROM THOSE ASSUMED WRITTEN DIRECTIONS MUST BE OBTAINED FROM THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- PLACE FOOTINGS ON SOUND, CLEAN AND INTACT SOIL OR CONCRETE (AS INDICATED ON DRAWINGS). REMOVE ALL LOOSE ROCK AND OTHER DEBRIS. FOUNDATION BEARING AREA TO BE INSPECTED BY A GEOTECHNICAL ENGINEER AND TO BE PROTECTED FROM COLLECTION OF WATER AND FREEZING IMMEDIATELY PRIOR TO PLACING OF REINFORCING STEEL AND CONCRETE. SLOPE SHOULD NOT EXCEED GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. CIVIL CONTRACTOR SHALL COORDINATE ALL WORK WITH OWNER PRIOR TO EXCAVATION, PLACING CONCRETE AND BACKFILLING.
- FOOTINGS SUBJECT TO FROST ACTION DURING CONSTRUCTION SHALL BE PROTECTED BY A MINIMUM OF 1500 OF EARTH OR ITS EQUIVALENT SUFFICIENT TO PREVENT FREEZING. ENSURE ALL FOOTINGS HAVE 1500 (MINIMUM) FROST COVER TO FINISHED EXTERIOR GRADE.

**STRUCTURAL CONCRETE NOTES**

**GENERAL NOTES**

- THE CONCRETE STRENGTH NOTED IS TO BE THE COMPRESSIVE STRENGTH OF CONCRETE IN PLACE AT 28 DAYS. ALL CONCRETE TO MEET THE REQUIREMENTS OF CSA A23.1-04 AND CSA A23.2-04

**MATERIALS**

- NOMINAL SIZE OF COARSE AGGREGATE = 20mm
- CONCRETE MIX DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO CASTING CONCRETE.

LOCATIONS AND/OR MEMBERS	COMPRESSIVE STRENGTH	SLUMP	ENTRAINED AIR LOCATION / %	CLASS OF EXPOSURE	TYPE
ALL BENCHING	35 MPa	75 ± 25	5 - 8%	A-1	50
ALL FOOTINGS	35 MPa	75 ± 25	NOT REQUIRED	A-1	50

**EXECUTION**

- NOTIFY THE CONSULTANT 48 HOURS PRIOR TO PLACING CONCRETE.
- CONSTRUCT FORMWORK, SHORING AND BRACING TO MEET DESIGN CODE AND CSA-A23.1
- THREE CONCRETE TEST CYLINDERS AND ONE SLUMP TEST SHALL BE TAKEN FOR EVERY 23.0 C.M. OF EACH CLASS OF CONCRETE PLACED OR FOR EACH DAY OF CONCRETE PLACEMENT IF THE LATTER IS LESS THAN 23.0 C.M.. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH CSA-A23.2 LATEST EDITION.
- WATER-CEMENT RATIO SHALL CONFORM TO CSA-A23.1. MAXIMUM SLUMP FOR ALL CONCRETE SHALL BE 75mm, ±25mm PRIOR TO THE ADDITION OF ANY SUPERPLASTICIZER.
- USE VIBRATORS FOR PLACEMENT OF CONCRETE. DO NOT PLACE CONCRETE FOR SLABS IF CHANCE OF RAIN IS FORECASTED TO BE MORE THAN 30% WITHIN 12 HOURS OF PLACEMENT.
- FOR COLD WEATHER CONCRETING, ALL ICE, SNOW AND FROST SHALL BE REMOVED FROM FORMWORK AND THE TEMPERATURE OF ALL CONTACT SURFACES SHALL BE RAISED ABOVE 10°C FOR 24 HOURS PRIOR TO CASTING CONCRETE. CONCRETE SHALL BE NOT LESS THAN 10°C NOR MORE THAN 30°C WHEN DEPOSITED. CONCRETE SHALL BE ENCLOSED AND THIS AREA HAVE A TEMPERATURE OF NOT LESS THAN 10°C FOR 3 DAYS AND 5°C FOR AN ADDITIONAL 4 DAYS.

**REINFORCING NOTES**

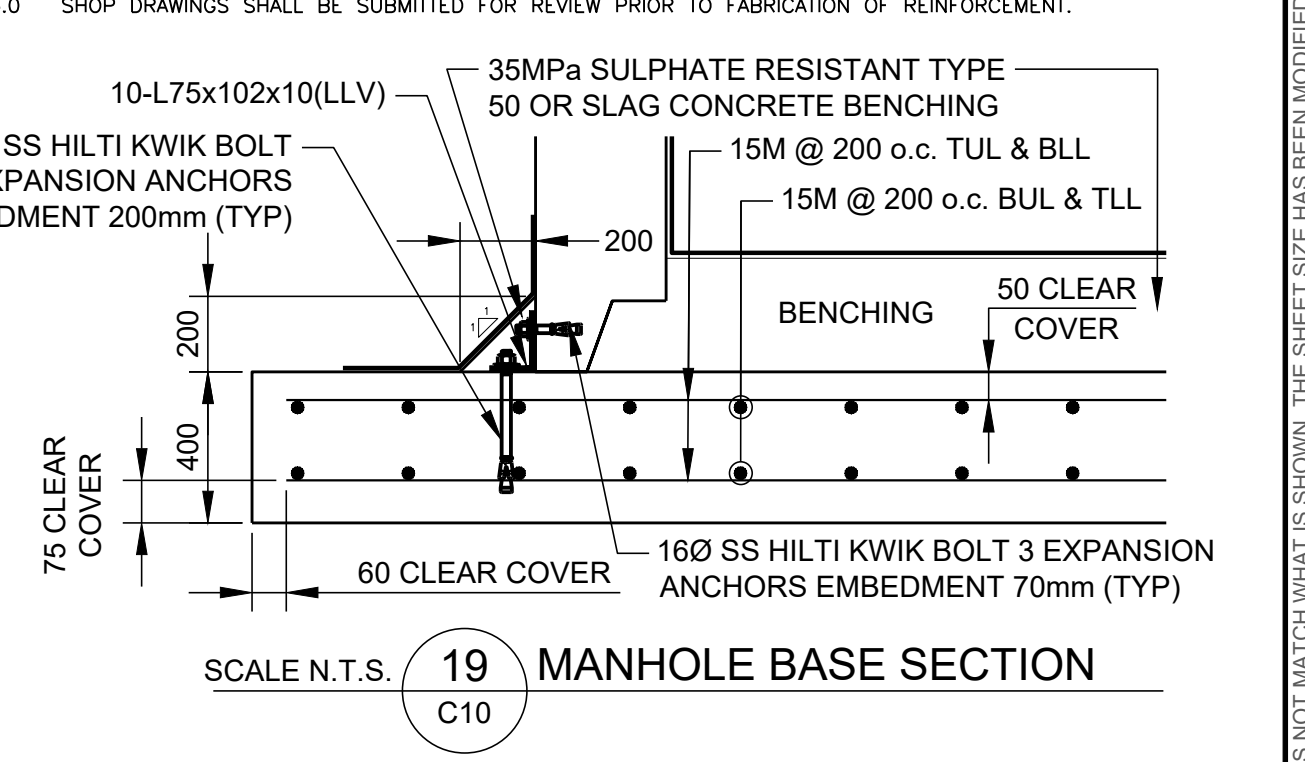
**MATERIALS**

- REINFORCING STEEL SHALL BE NEW, DEFORMED BILLET-STEEL BARS TO CSA STANDARD G30.18, LATEST EDITION, GRADE 400R.

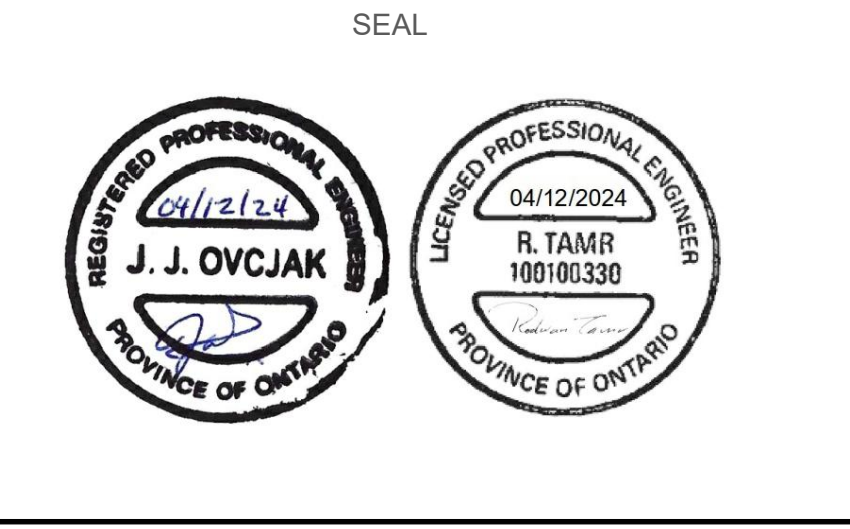
**EXECUTION**

- PERFORM CONCRETE REINFORCING WORK IN ACCORDANCE WITH CSA A23.3 LATEST EDITION.
- MINIMUM CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
  - CAST AGAINST EARTH AND PERMANENTLY EXPOSED TO EARTH: 75mm
  - EXPOSED TO CHLORIDES OR SULPHIDES: 60mm
- BEFORE PLACING ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, DIRT, OR OTHER FOREIGN COATING WHICH WOULD REDUCE THE BOND TO CONCRETE
- ALL LAP SPICE LENGTHS TO BE CLASS B(1.3 x l<sub>d</sub>), WHERE l<sub>d</sub> = TENSION DEVELOPMENT LENGTH, UNLESS OTHERWISE NOTED.

REBAR LAP & ANCHORAGE SCHEDULE			
REINFORCED CONCRETE			
ONLY FOR: 35 MPa CONCRETE; NORMAL WEIGHT 400 MPa REBAR			
BAR SIZE	LAP LENGTH (mm)	ANCHORAGE (mm)	BEND DIA. (mm)
15M	660	510	100



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CLIENT

EW SWA

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PROJECT

ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

TITLE

MANHOLE DETAILS

PROJECT NO. 111-53107-10 CONTROL 2001

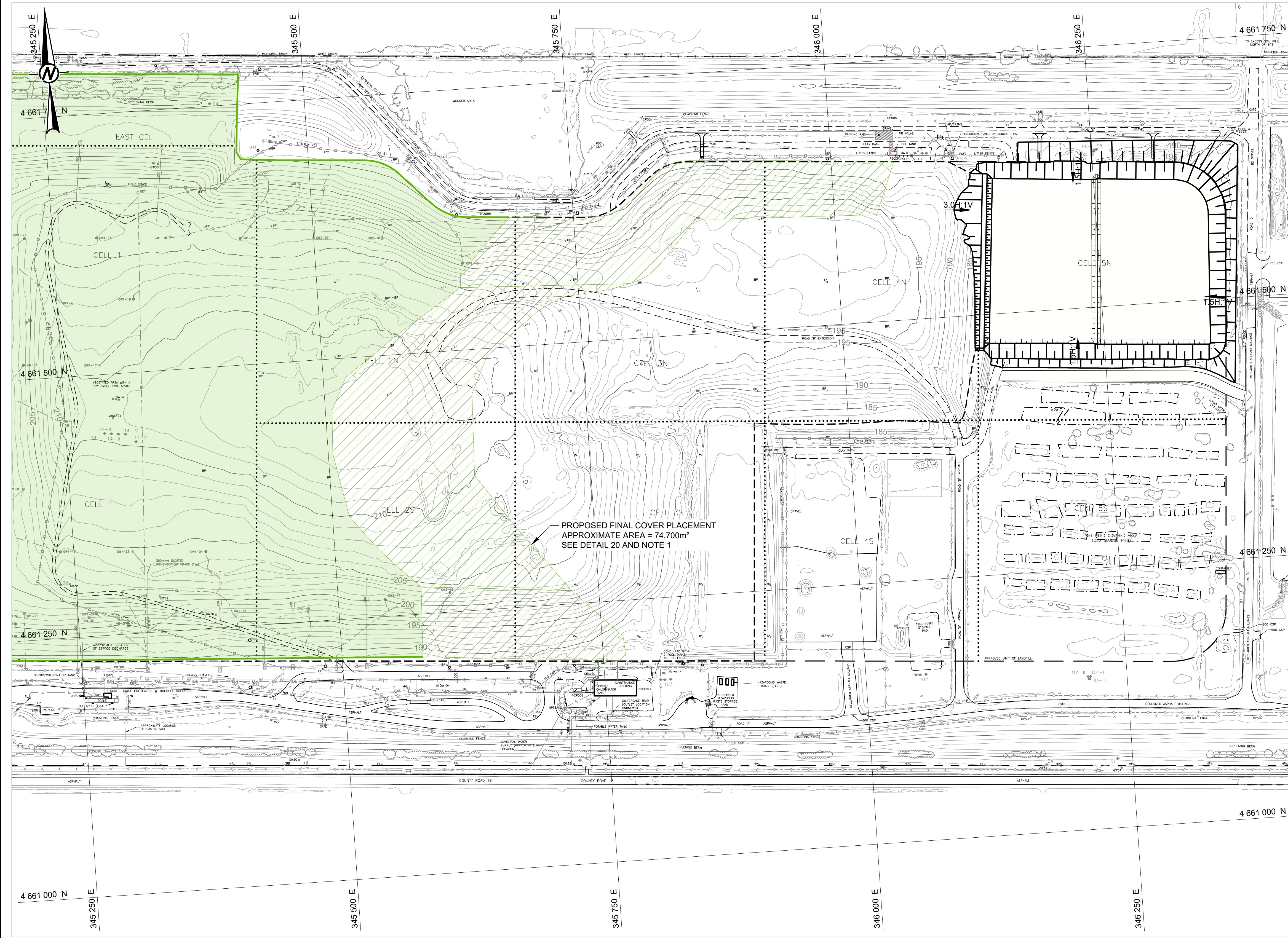
REV. B 10 of 29

DRAWING C10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



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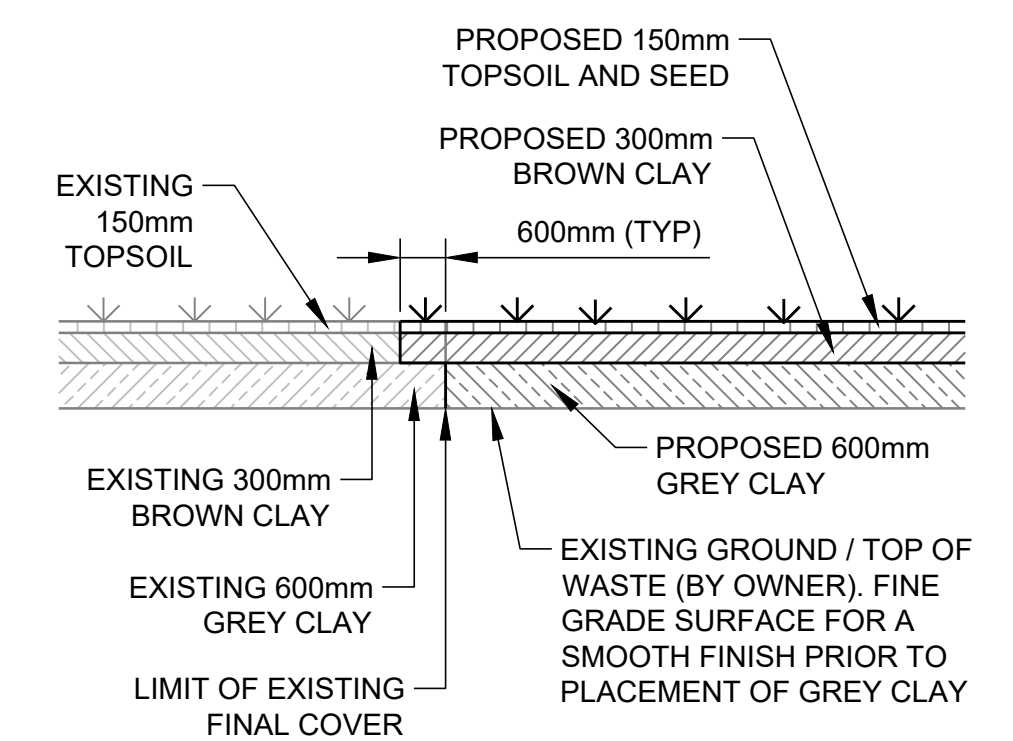


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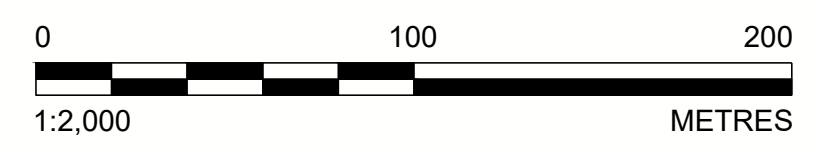
- EXISTING FINAL COVER AREA
- PROPOSED FINAL COVER AREA

**NOTE(S)**

1. LOCATION OF FINAL COVER PLACEMENT SHALL BE CONFIRMED WITH THE OWNER AND ENGINEER PRIOR TO START OF WORK. CLAY CAP SHALL BE PLACED IN 300mm MAXIMUM LIFTS AND COMPACTED TO 95% SPMD.
2. EXISTING CONTOURS ARE BASED ON DRONE SURVEY COMPLETED BY SMC GEOMATICS INC. ON MAY 2, 2023.



**FINAL COVER SCHEMATIC AND TIE-IN TO EXISTING COVER**  
 SCALE N.T.S. 20  
C11



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PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION**

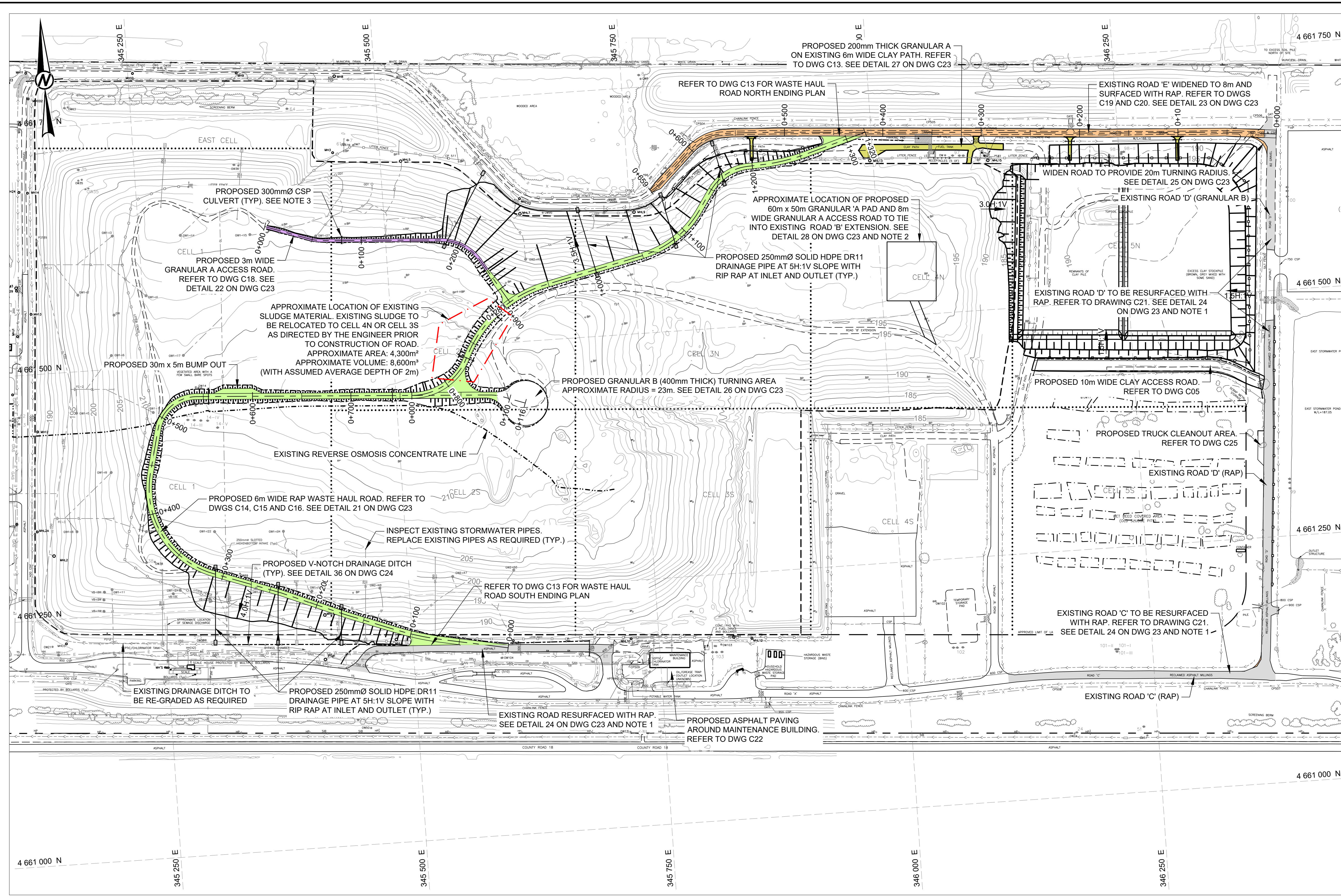
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**PROPOSED FINAL COVER**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 11 of 29 DRAWING **C11**

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



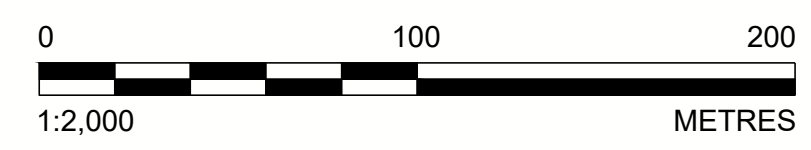
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**LEGEND**

	EXISTING ROAD RESURFACED WITH RAP
	EXISTING ROAD 'E' WIDENED TO 8m AND SURFACED WITH RAP
	PROPOSED 6m WIDE RAP WASTE HAUL ROAD
	PROPOSED 3m WIDE GRANULAR A ACCESS ROAD
	PROPOSED GRANULAR A PATH
	PROPOSED V-NOTCH DRAINAGE DITCH

- NOTE(S)**
- CONTRACTOR TO REMOVE TOP 150mm OF GRAVEL / RAP FROM EXISTING ACCESS ROADS PRIOR TO PLACEMENT OF 150mm RAP. EXISTING ROAD GRADES SHALL BE MAINTAINED.
  - AREA SHOWN FOR PROPOSED 60m x 50m GRANULAR A PAD AND 8m WIDE GRANULAR A ACCESS ROAD IS FOR REFERENCE ONLY. ACTUAL LOCATION WILL BE CONFIRMED IN THE FIELD BY THE OWNER AND ENGINEER PRIOR TO START OF WORK. ACCESS ROAD AND PAD SHALL INCLUDE 150mm OF GRANULAR A PLACED ON TOP OF 350mm OF BROWN CLAY. EXISTING GROUND TO BE GRADED TO PROVIDE A SMOOTH SURFACE PRIOR TO PLACEMENT OF BROWN CLAY.
  - LOCATION FOR PROPOSED CULVERTS ARE APPROXIMATE. ACTUAL LOCATION TO BE CONFIRMED IN THE FIELD BY THE OWNER AND ENGINEER.
- EXISTING CONTOURS ARE BASED ON DRONE SURVEY COMPLETED BY SMC GEOMATICS INC. ON MAY 2, 2023.
- RAP = RECLAIMED ASPHALT PAVEMENT



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SEAL

CLIENT

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PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

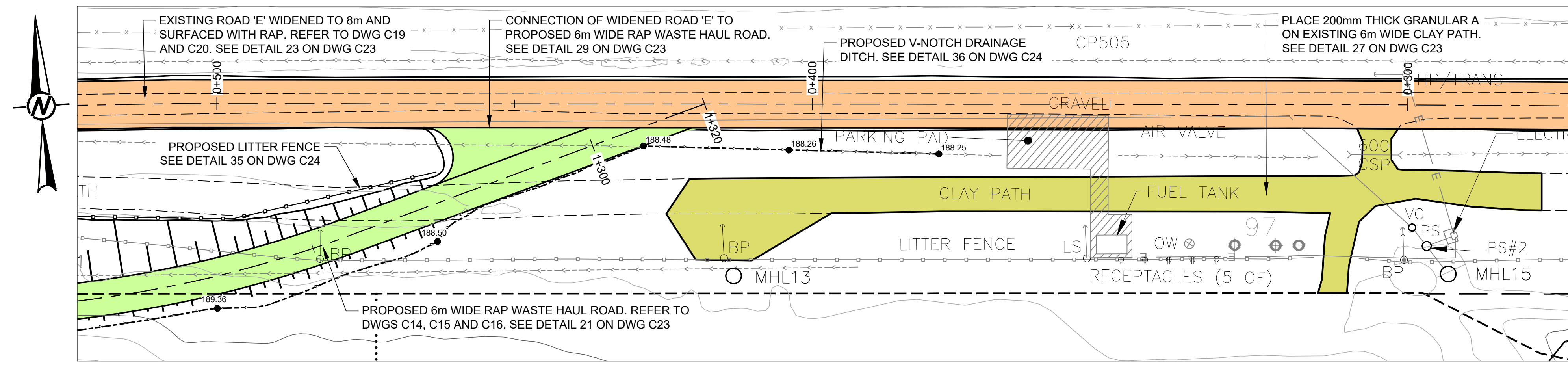
TITLE  
**PROPOSED ACCESS ROADS**

PROJECT NO.	CONTROL	REV.	12 of 29	DRAWING
111-53107-10	2001	B		C12

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



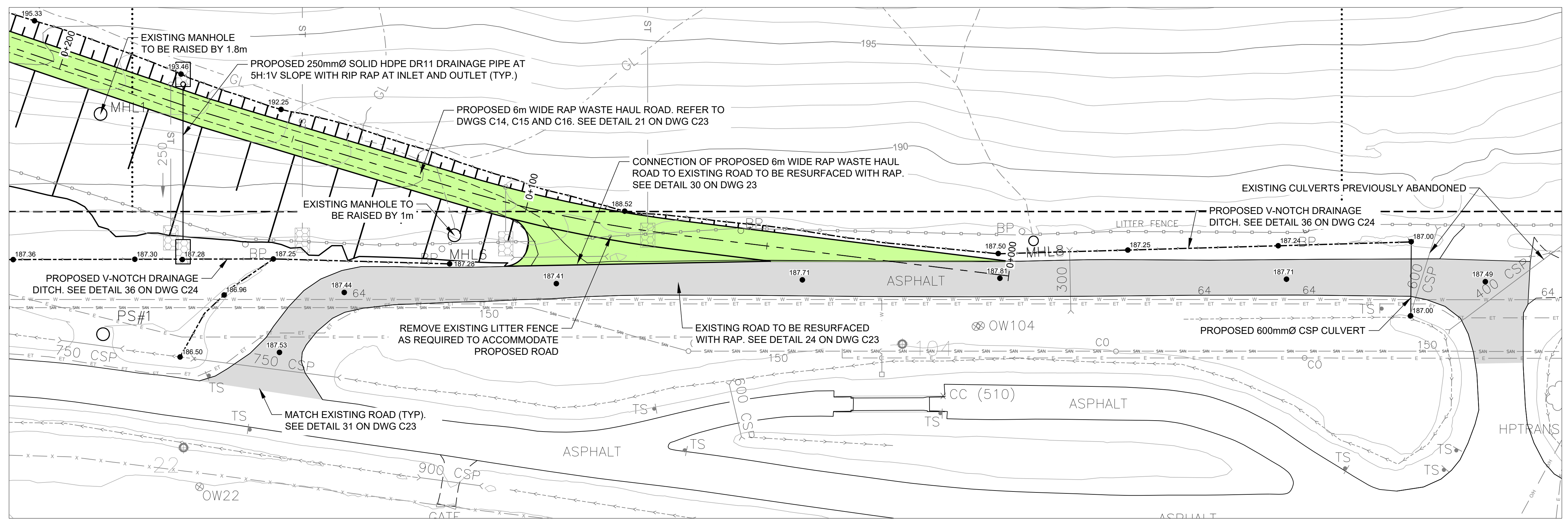
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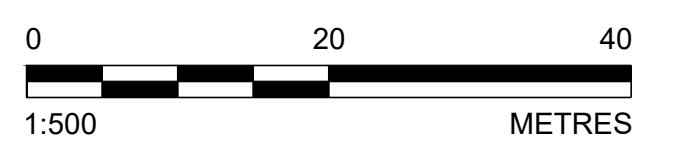
**WASTE HAUL ROAD NORTH ENDING PLAN**  
SCALE 1:500 m

- LEGEND**
- PROPOSED V-NOTCH DRAINAGE DITCH
  - PROPOSED POINT ELEVATION
  - PROPOSED LITTER FENCE

- NOTE(S)**
- RAP = RECLAIMED ASPHALT PAVEMENT



**WASTE HAUL ROAD SOUTH ENDING PLAN**  
SCALE 1:500 m



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



SEAL

CLIENT

CONSULTANT

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

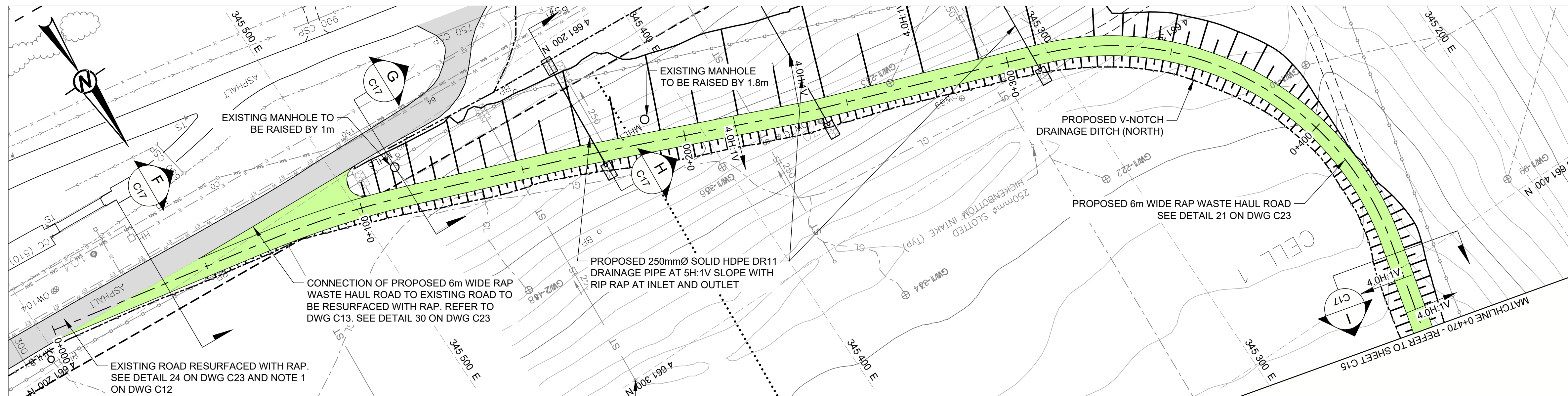
TITLE  
**WASTE HAUL ROAD NORTH AND SOUTH ENDINGS**

PROJECT NO. 111-53107-10    CONTROL 2001    REV. B    13 of 29    DRAWING C13

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

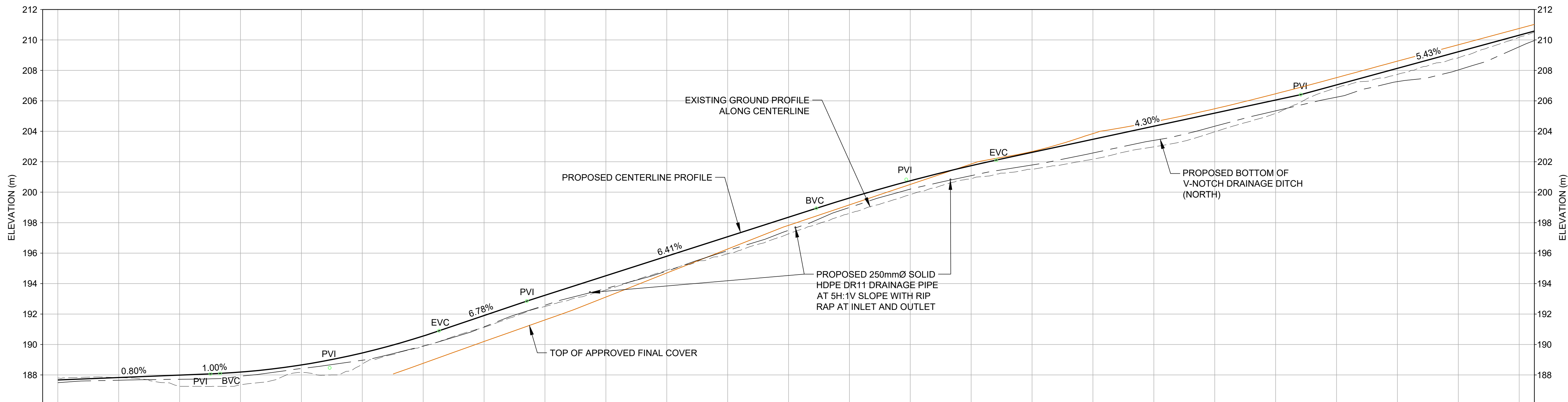


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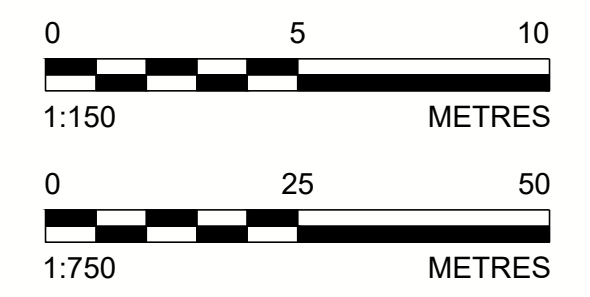
WASTE HAUL ROAD PLAN (STATION 0+000 TO 0+470)  
SCALE 1:750 m

- LEGEND**
- PROPOSED V-NOTCH DRAINAGE DITCH
- NOTE(S)**
- RAP = RECLAIMED ASPHALT PAVEMENT
  - BVP = BEGIN VERTICAL PROFILE
  - BVC = BEGIN VERTICAL TANGENT-CURVE INTERSECT
  - EVC = END VERTICAL TANGENT-CURVE INTERSECT
  - PVI = POINT OF VERTICAL INTERSECTION OF TANGENT LINES



C/L ROAD STATION	0+000.00	0+020	0+040	0+050.11 0+053.25	0+060	0+080	0+089.28	0+100	0+120	0+125.22	0+140	0+154.05 0+160	0+180	0+200	0+220	0+240	0+248.11	0+260	0+278.64 0+280	0+300	0+308.20	0+320	0+340	0+360	0+380	0+400	0+408.21	0+420	0+440	0+460	0+480	
ROAD C/L EXISTING ELEVATION	187.79	187.82	187.26		187.35	188.16	188.71	189.44	189.88	190.55	191.13	192.85	193.58	194.87	195.96	197.27	198.61	199.62	200.68 200.75	201.74	202.11	202.62	203.48	204.34	205.20	206.06	206.41	207.05	208.14	209.23	210.18	
ROAD C/L PROPOSED ELEVATION	187.87	187.83	187.99	188.07 188.10	188.18	188.65	188.98	189.44	190.55	190.90	191.90	192.85	193.23	194.51	195.80	197.08	198.36	198.94	199.62	200.68 200.75	201.74	202.11	202.62	203.48	204.34	205.20	206.06	206.41	207.05	208.14	209.23	210.31
DESCRIPTION	BVP			PVI BVC			PVI		EVC			PVI				BVC			PVI		EVC						PVI					

WASTE HAUL ROAD PROFILE (STATION 0+000 TO 0+470)  
SCALE 1:750 m  
VERT. SCALE 1:150 m



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



CLIENT

CONSULTANT

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

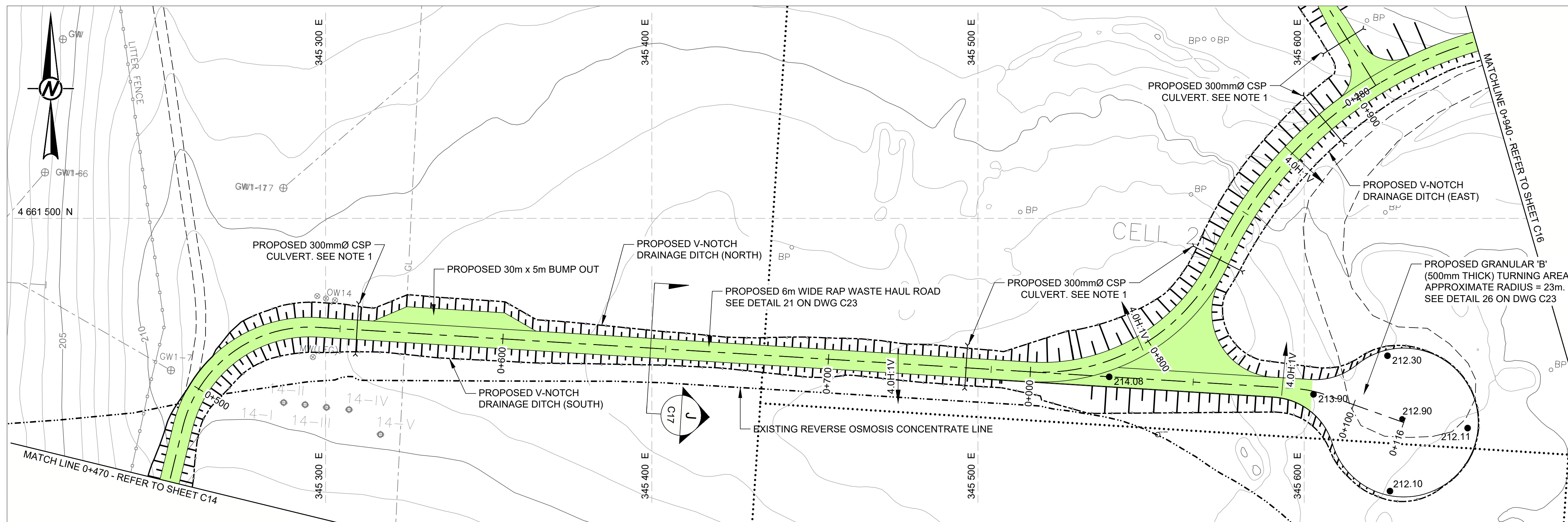
TITLE  
**WASTE HAUL ROAD PLAN AND PROFILE  
(STATION 0+000 TO 0+470)**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 14 of 29 DRAWING C14

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



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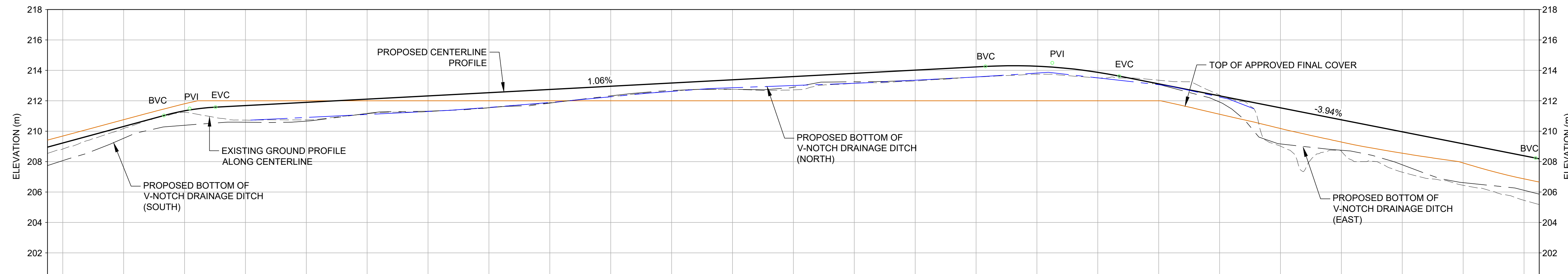


WASTE HAUL ROAD PLAN (STATION 0+470 TO 0+940)  
SCALE 1:750 m

**LEGEND**

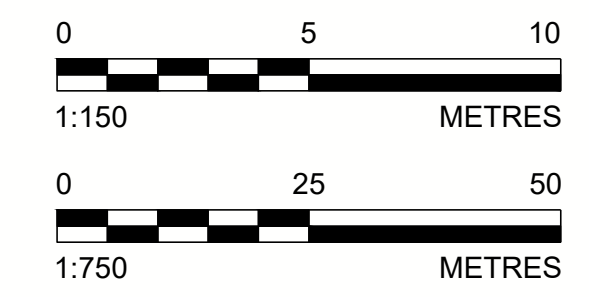
	PROPOSED V-NOTCH DRAINAGE DITCH
	PROPOSED POINT ELEVATION

- NOTE(S)**
- LOCATION FOR PROPOSED CULVERTS ARE APPROXIMATE. ACTUAL LOCATION TO BE CONFIRMED IN THE FIELD BY THE OWNER AND ENGINEER.
- RAP = RECLAIMED ASPHALT PAVEMENT
  - BVC = BEGIN VERTICAL TANGENT-CURVE INTERSECT
  - EVC = END VERTICAL TANGENT-CURVE INTERSECT
  - PVI = POINT OF VERTICAL INTERSECTION OF TANGENT LINES



C/L ROAD STATION	0+460	0+480	0+493.20	0+500	0+501.67	0+510.16	0+520	0+540	0+560	0+580	0+600	0+620	0+640	0+660	0+680	0+700	0+720	0+740	0+760	0+763.06	0+772.37	0+780	0+785.05	0+800	0+807.02	0+820	0+840	0+860	0+880	0+900	0+920	0+940
ROAD C/L EXISTING ELEVATION	209.23	210.31	211.03	211.34	211.40	211.58	211.68	211.90	212.11	212.32	212.53	212.74	212.95	213.17	213.38	213.59	213.80	214.01	214.22	214.26	214.31	214.27	214.22	213.87	213.62	213.11	212.32	211.54	210.75	209.96	209.17	208.38
ROAD C/L PROPOSED ELEVATION	209.23	210.31	211.03	211.34	211.40	211.58	211.68	211.90	212.11	212.32	212.53	212.74	212.95	213.17	213.38	213.59	213.80	214.01	214.22	214.26	214.31	214.27	214.22	213.87	213.62	213.11	212.32	211.54	210.75	209.96	209.17	208.38
DESCRIPTION			BVC	PVI	EVC														BVC	HP	PVI	EVC										BVC

WASTE HAUL ROAD PROFILE (STATION 0+470 TO 0+940)  
SCALE 1:750 m  
VERT. SCALE 1:150 m



SEAL						
CLIENT	ESSEX-WINDSOR REGIONAL LANDFILL CELL 5 NORTH CONSTRUCTION					
CONSULTANT	WSP CANADA INC. 1821 PROVINCIAL ROAD, SUITE 100 WINDSOR, ONTARIO N8W 5V7 CANADA [+1] (226) 826 0702					
PROJECT	ESSEX-WINDSOR REGIONAL LANDFILL CELL 5 NORTH CONSTRUCTION					
TITLE	WASTE HAUL ROAD PLAN AND PROFILE (STATION 0+470 TO 0+940)					
PROJECT NO.	111-53107-10	CONTROL	2001	REV.	B	15 of 29
DRAWING	C15					
REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



CLIENT: EW SWA

CONSULTANT: WSP

PROJECT: ESSEX-WINDSOR REGIONAL LANDFILL CELL 5 NORTH CONSTRUCTION

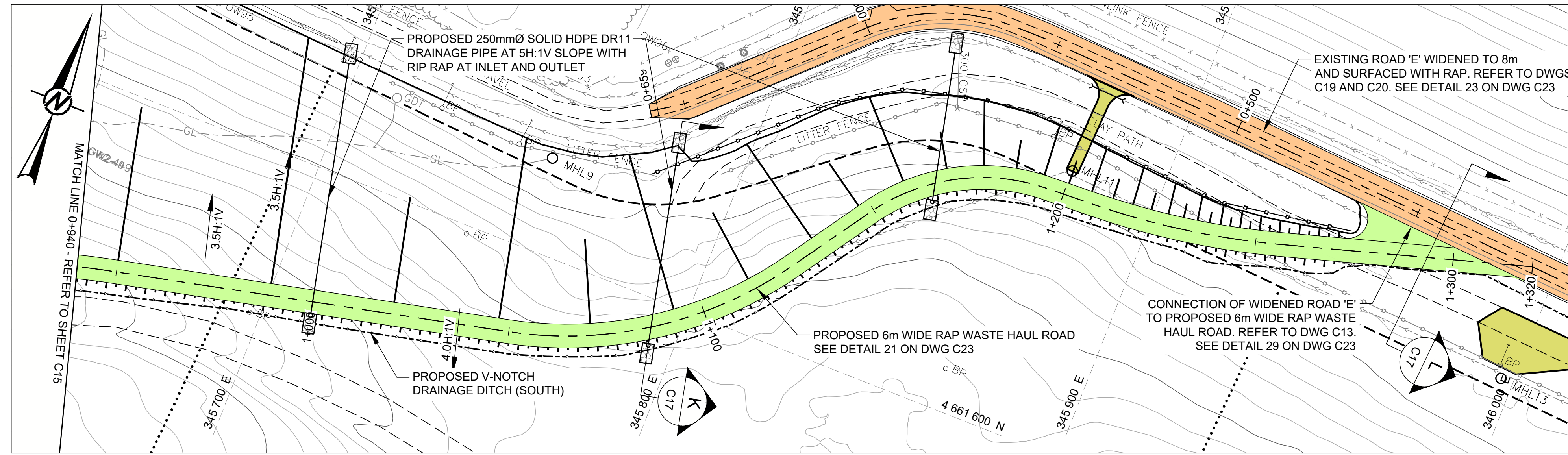
TITLE: WASTE HAUL ROAD PLAN AND PROFILE (STATION 0+470 TO 0+940)

PROJECT NO.: 111-53107-10 CONTROL: 2001 REV.: B 15 of 29 DRAWING: C15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D 25 mm



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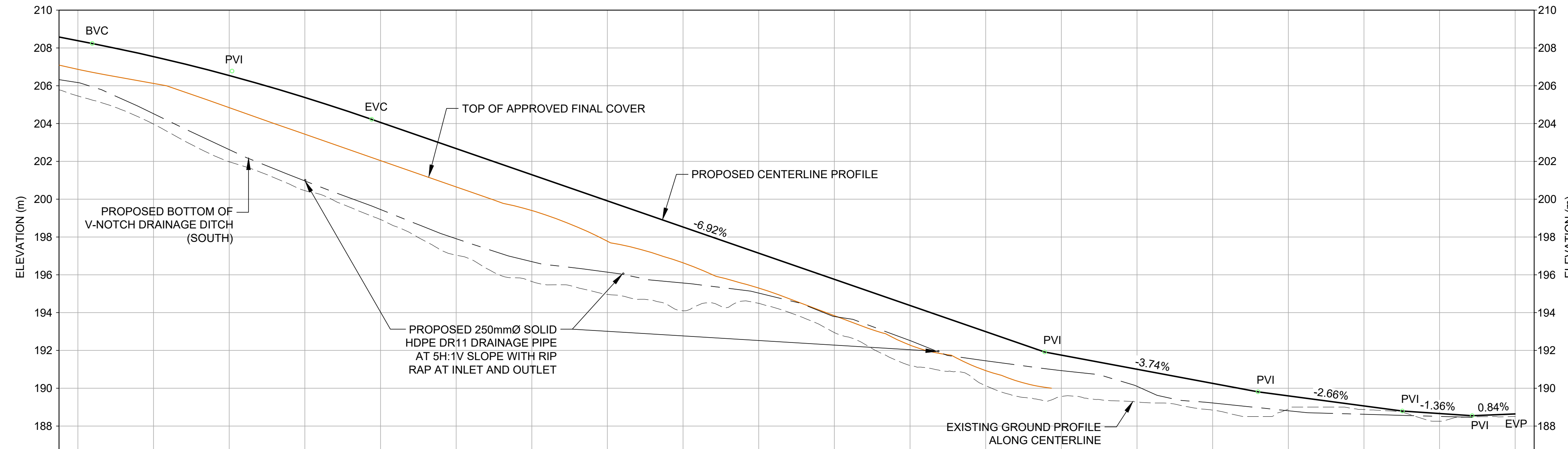


WASTE HAUL ROAD PLAN (STATION 0+940 TO 1+320)  
SCALE 1:750 m

**LEGEND**  
 - - - - - PROPOSED V-NOTCH DRAINAGE DITCH

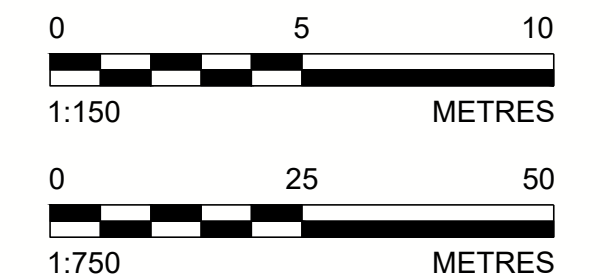
**NOTE(S)**

- RAP = RECLAIMED ASPHALT PAVEMENT
- EVP = END VERTICAL PROFILE
- BVC = BEGIN VERTICAL TANGENT-CURVE INTERSECT
- EVC = END VERTICAL TANGENT-CURVE INTERSECT
- PVI = POINT OF VERTICAL INTERSECTION OF TANGENT LINES



C/L ROAD STATION	0+940 0+943.78	0+960	0+980 0+980.75	1+000	1+017.66 1+020	1+040	1+060	1+080	1+100	1+120	1+140	1+160	1+180	1+195.57 1+200	1+220	1+240	1+251.98 1+260	1+280	1+290.13 1+300	1+308.58 1+320.07	
ROAD C/L EXISTING ELEVATION	205.46	203.97	201.98 201.50	200.45	198.92 198.06	197.03	195.64	194.96	194.09	194.49	192.94	191.20	190.13	189.55	189.27	188.84	188.90	188.87	188.25	188.54	188.64 188.64
ROAD C/L PROPOSED ELEVATION	208.38 208.23	207.54	206.54 206.50	205.38	204.22 204.06	202.68	201.29	199.91	198.53	197.14	195.76	194.38	192.99	191.92 191.75	191.00	190.26	189.81	188.59	188.06	188.79	188.66 188.54
DESCRIPTION	BVC		PVI		EVC									PVI			PVI		PVI	PVI	EVP

WASTE HAUL ROAD PROFILE (STATION 0+940 TO 1+320)  
SCALE 1:750 m  
VERT. SCALE 1:150 m



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



CLIENT

CONSULTANT

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

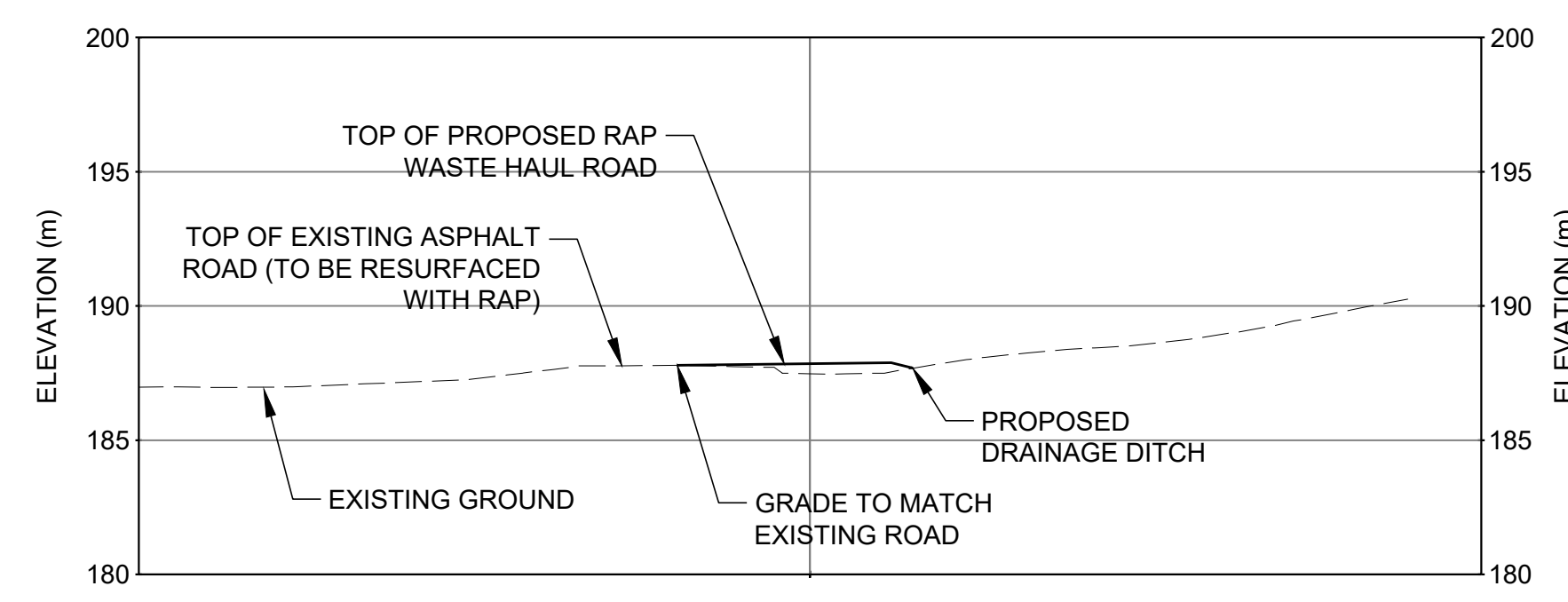
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**WASTE HAUL ROAD PLAN AND PROFILE  
(STATION 0+940 TO 1+320)**

PROJECT NO. 111-53107-10    CONTROL 2001    REV. B    16 of 29    DRAWING C16

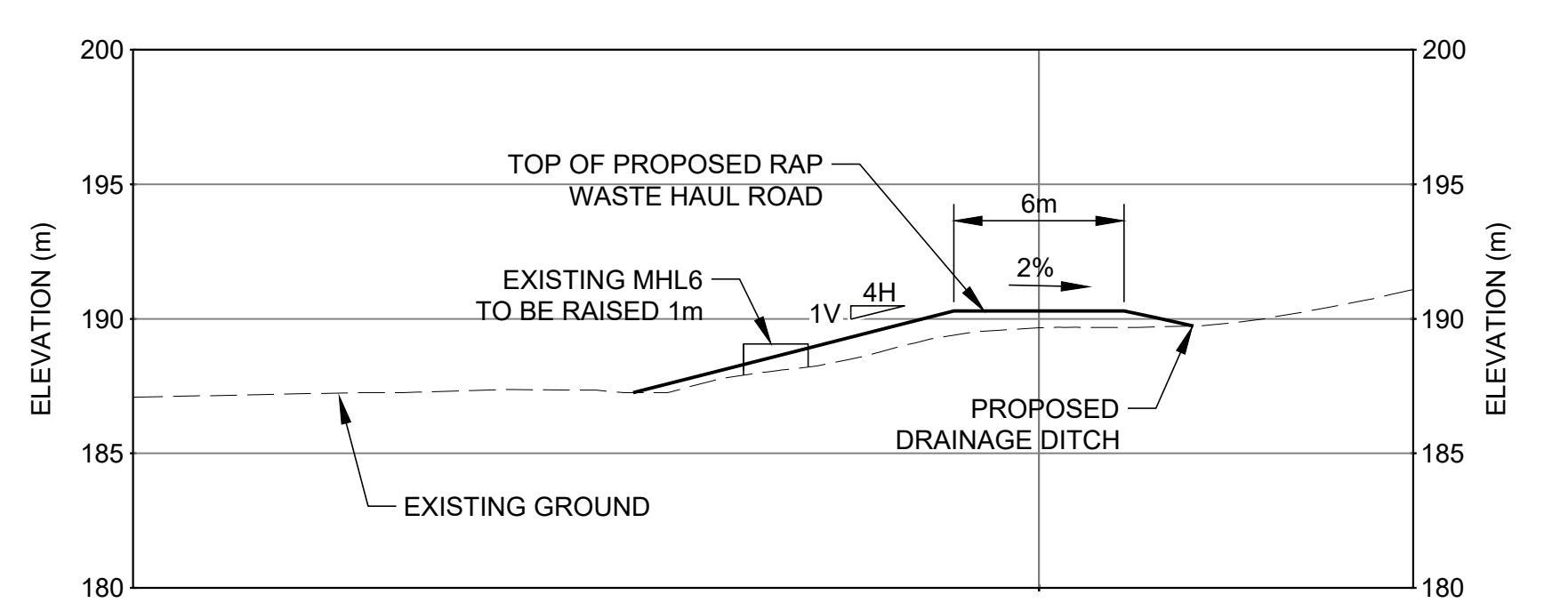
25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



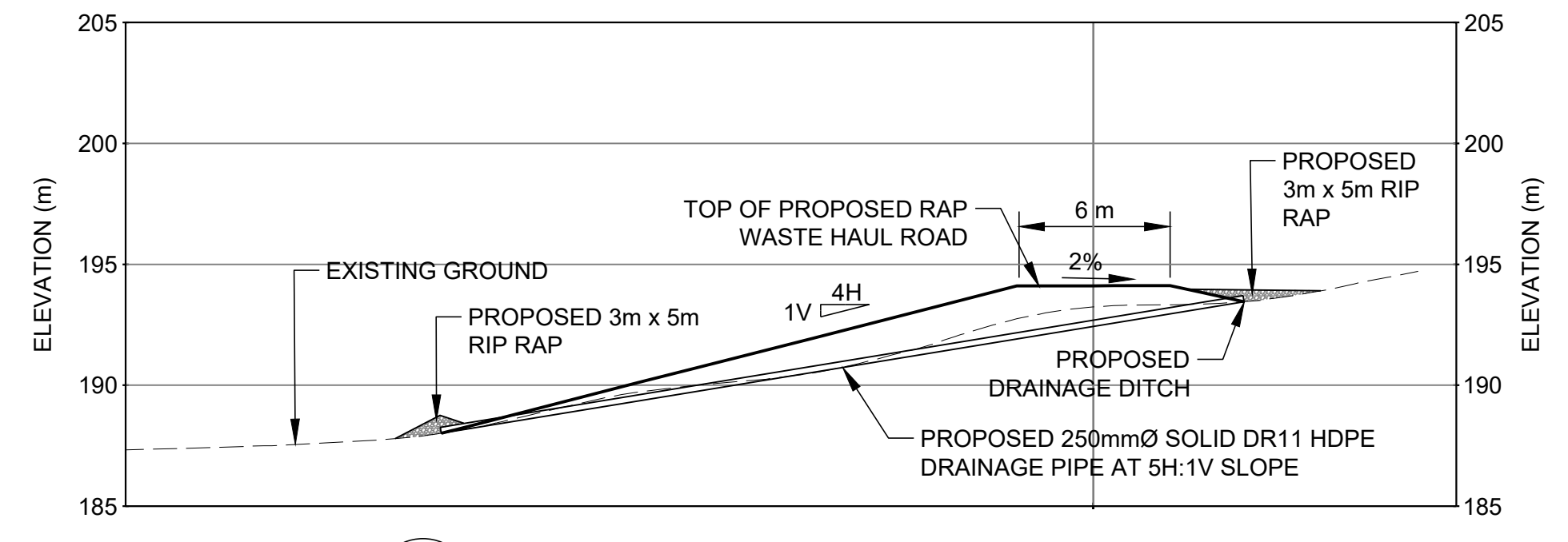
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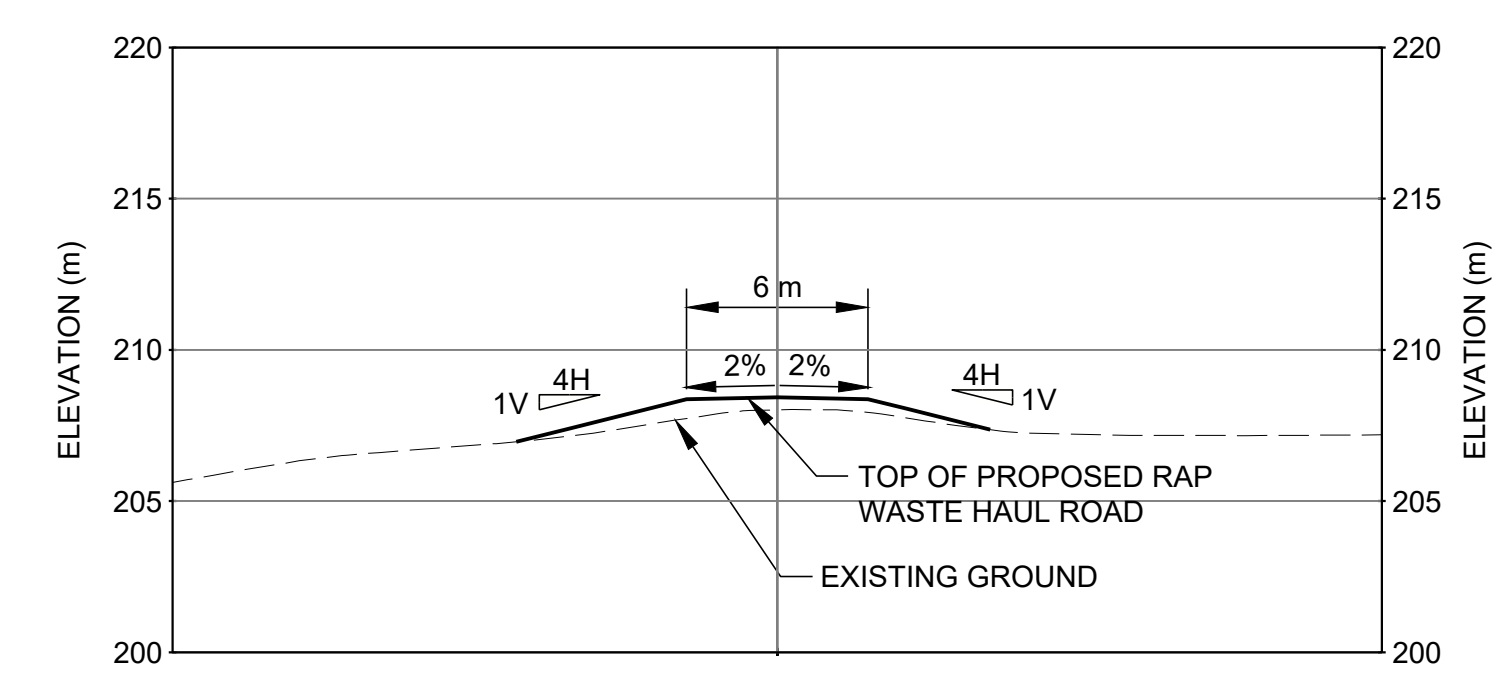
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C14



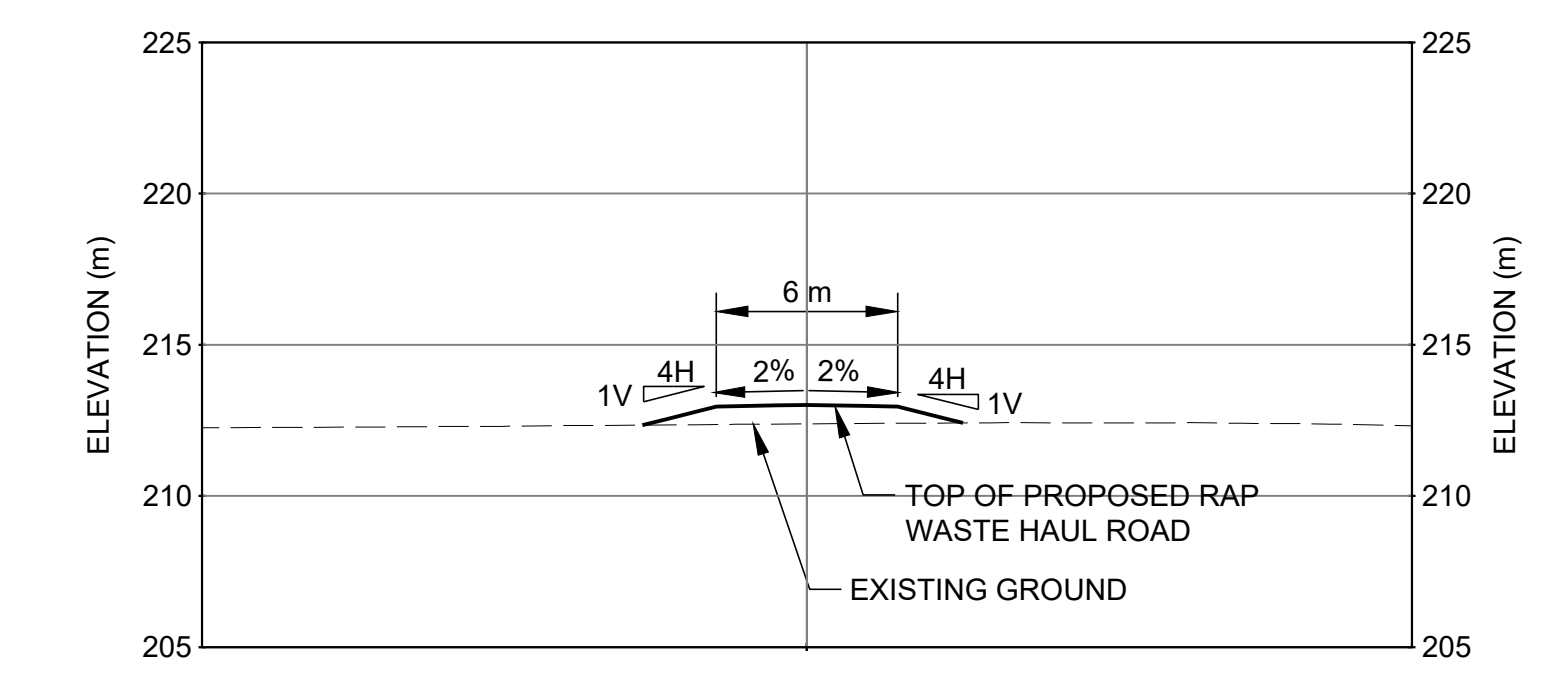
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C14



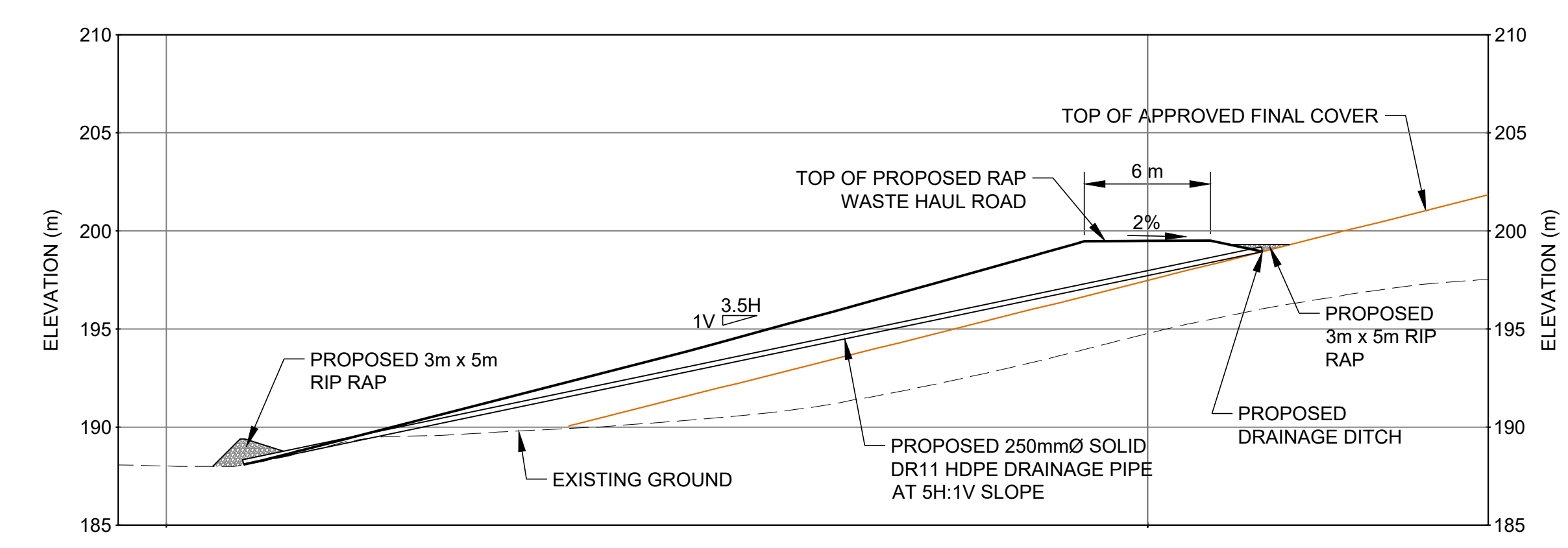
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C14



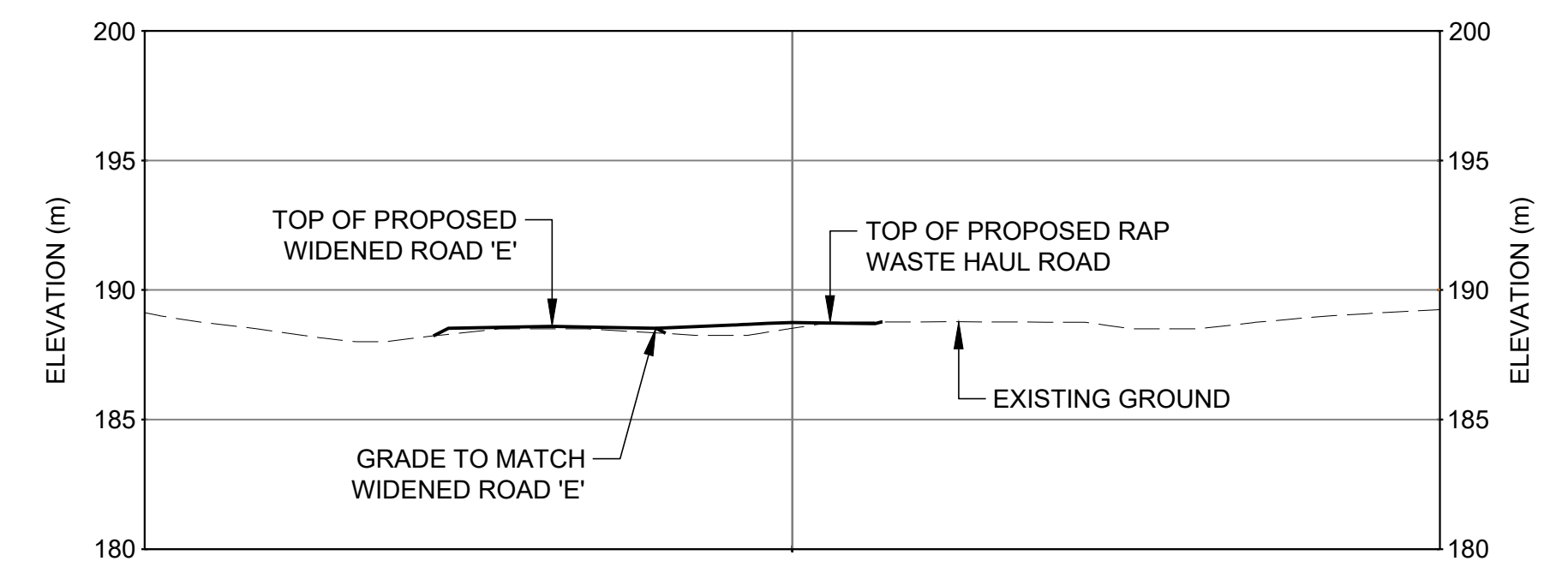
SCALE 1:250 m **I** WASTE HAUL ROAD CROSS SECTION AT STA. 0+445  
C14



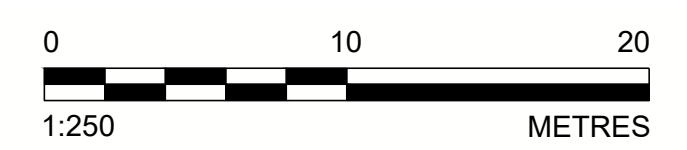
SCALE 1:250 m **J** WASTE HAUL ROAD CROSS SECTION AT STA. 0+645  
C15



SCALE 1:250 m **K** WASTE HAUL ROAD CROSS SECTION AT STA. 1+086  
C16



SCALE 1:250 m **L** WASTE HAUL ROAD CROSS SECTION AT STA. 1+293  
C16



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



SEAL

CLIENT

CONSULTANT

WSP CANADA INC.  
1821 PROVINCIAL ROAD, SUITE 100  
WINDSOR, ONTARIO N8W 5V7  
CANADA  
[+1] (226) 826 0702

PROJECT

ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

TITLE

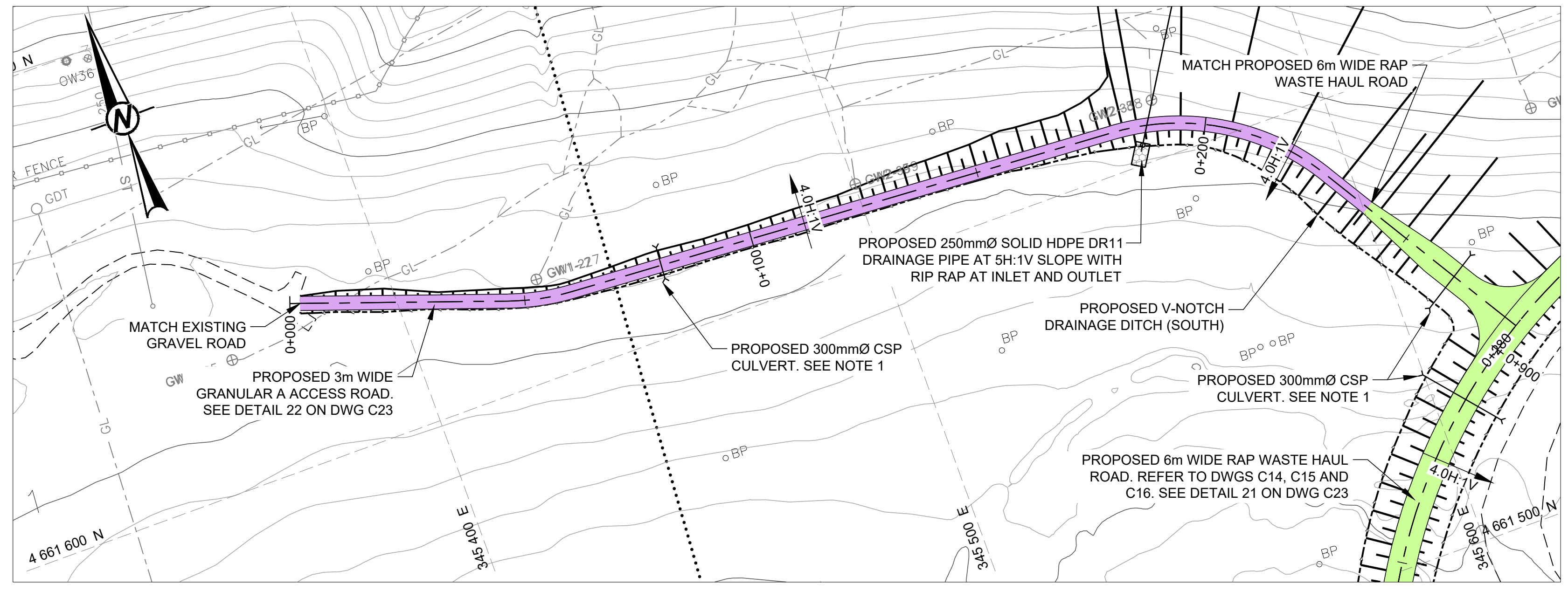
**WASTE HAUL ROAD CROSS-SECTIONS**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 17 of 29 DRAWING C17

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



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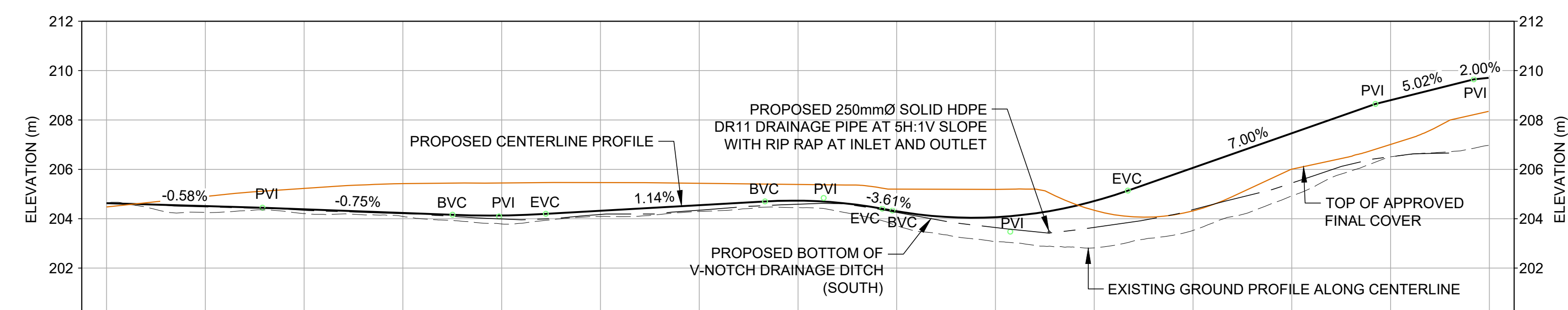
**GRANULAR A ACCESS ROAD PLAN (STATION 0+000 TO 0+280)**  
 SCALE 1:750 m

**LEGEND**

----- PROPOSED V-NOTCH DRAINAGE DITCH

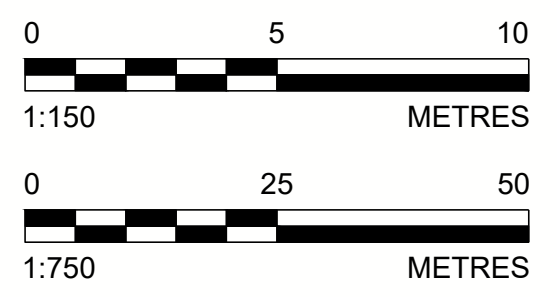
**NOTE(S)**

- LOCATION FOR PROPOSED CULVERTS ARE APPROXIMATE. ACTUAL LOCATION TO BE CONFIRMED IN THE FIELD BY THE OWNER AND ENGINEER.
- RAP = RECLAIMED ASPHALT PAVEMENT
  - BVP = BEGIN VERTICAL PROFILE
  - EVP = END VERTICAL PROFILE
  - BVC = BEGIN VERTICAL TANGENT-CURVE INTERSECT
  - EVC = END VERTICAL TANGENT-CURVE INTERSECT
  - PVI = POINT OF VERTICAL INTERSECTION OF TANGENT LINES



C/L ROAD STATION	ROAD C/L EXISTING ELEVATION	ROAD C/L PROPOSED ELEVATION	DESCRIPTION
0+000.00	204.63	204.63	BVP
0+020	204.25	204.51	
0+031.57	204.21	204.44	PVI
0+040	204.09	204.38	
0+060	204.09	204.23	BVC
0+070.04	203.79	204.16	
0+079.48	203.79	204.13	PVI
0+080	204.09	204.13	
0+088.92	204.09	204.19	EVC
0+100	204.30	204.32	
0+120	204.45	204.55	
0+133.31	203.72	204.70	BVC
0+140	203.08	204.73	
0+145.19	203.08	204.69	PVI
0+157.07	202.82	204.41	
0+159.12	202.82	204.33	EVC
0+160	203.53	204.30	
0+180	204.92	204.06	
0+182.98	204.92	204.10	PVI
0+200	206.51	204.71	
0+206.79	206.51	205.14	EVC
0+220	206.82	206.06	
0+240	206.82	207.46	
0+256.90	209.64	208.64	
0+260	209.64	208.80	PVI
0+276.82	209.70	209.64	
0+279.82	209.70	209.70	PVI EVP

**GRANULAR A ACCESS ROAD PROFILE (STATION 0+000 TO 0+280)**  
 SCALE 1:750 m  
 VERT. SCALE 1:150 m



SEAL



CLIENT



CONSULTANT



WSP CANADA INC.  
 1821 PROVINCIAL ROAD, SUITE 100  
 WINDSOR, ONTARIO N8W 5V7  
 CANADA  
 [+1] (226) 826 0702

PROJECT

ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION

TITLE

**GRANULAR A ACCESS ROAD PLAN AND PROFILE  
 (STATION 0+000 TO 0+280)**

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO

PROJECT NO.	CONTROL	REV.	18 of 29	DRAWING
111-53107-10	2001	B		C18

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



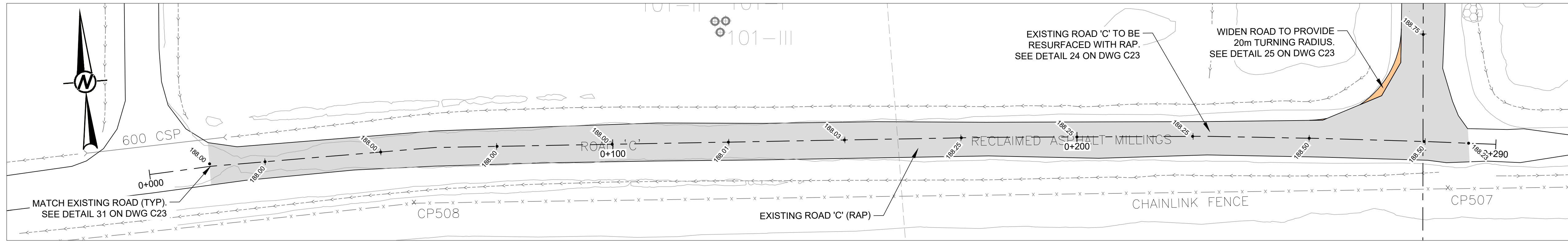








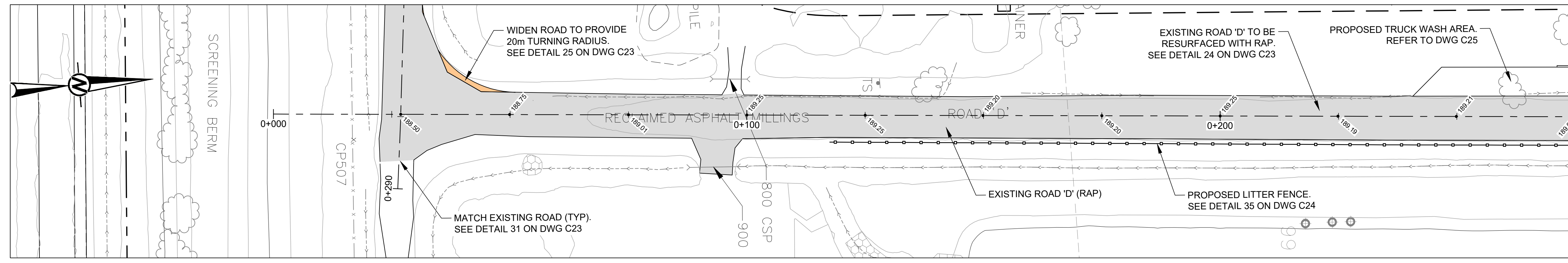
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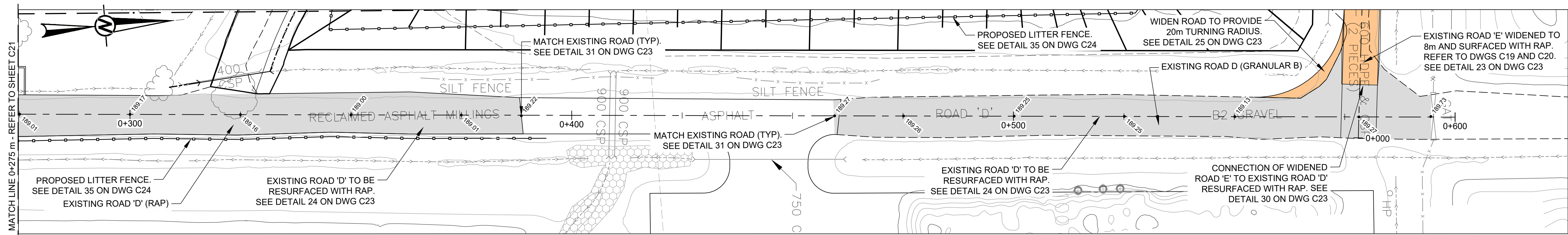
ROAD 'C' RESURFACING PLAN (STATION 0+000 TO 0+290)  
SCALE 1:500 m

- LEGEND**
- PROPOSED LITTER FENCE
  - PROPOSED POINT ELEVATION

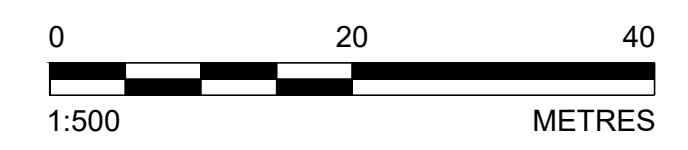
- NOTE(S)**
- RAP = RECLAIMED ASPHALT PAVEMENT



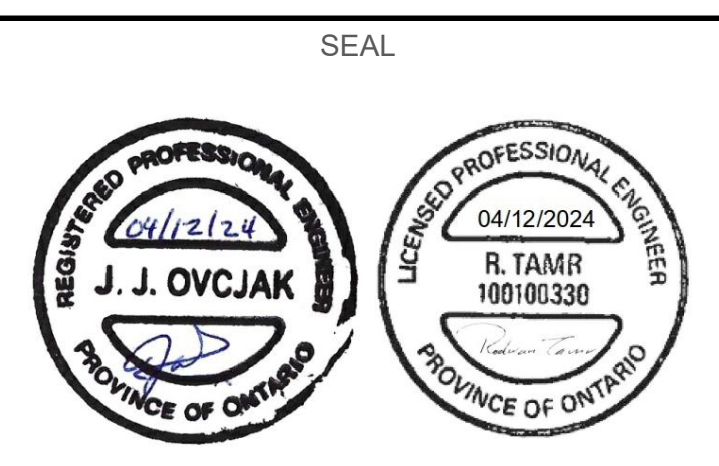
ROAD 'D' RESURFACING PLAN (STATION 0+000 TO 0+275)  
SCALE 1:500 m



ROAD 'D' RESURFACING PLAN (STATION 0+275 TO 0+600)  
SCALE 1:500 m



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



CLIENT

CONSULTANT

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PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

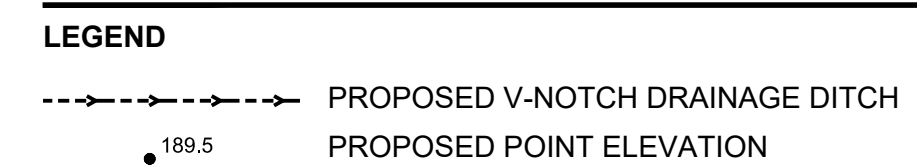
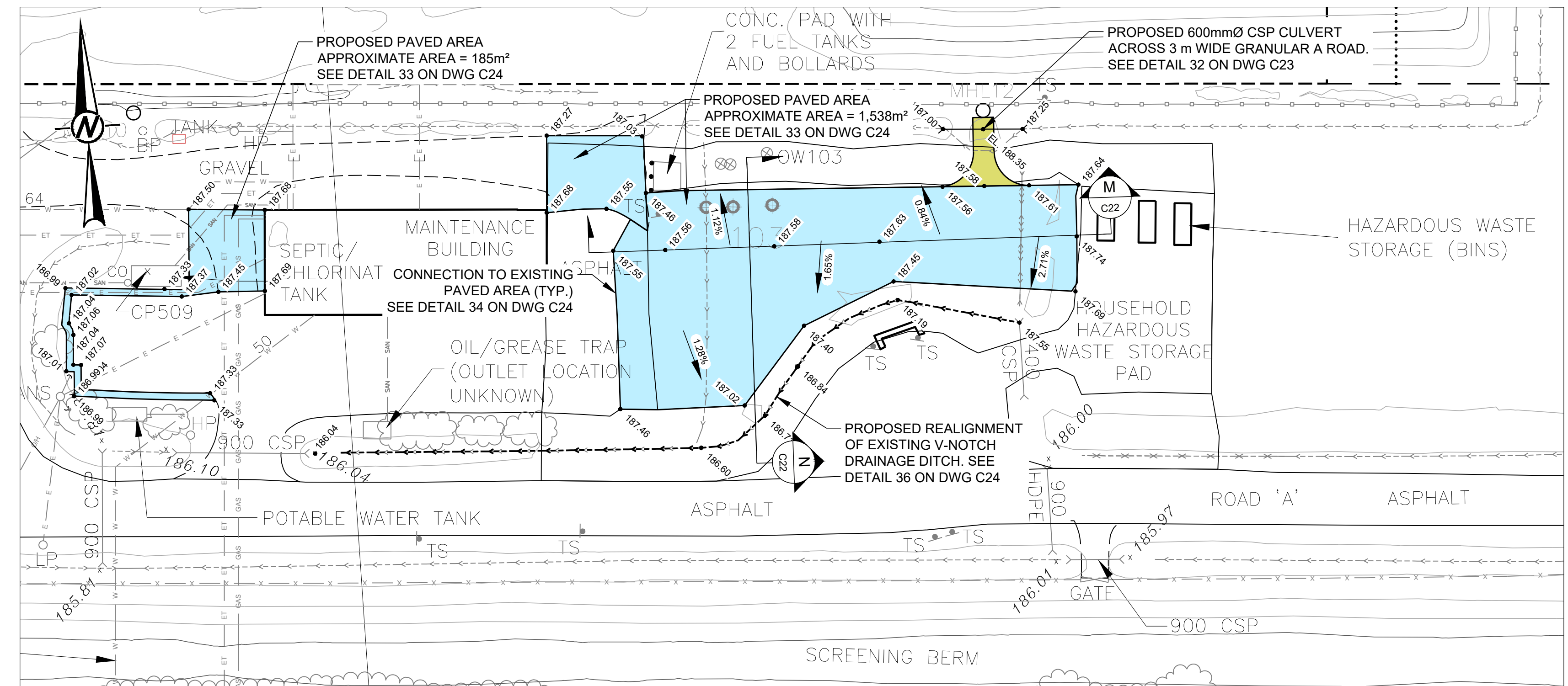
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**ROAD 'C' AND 'D' RESURFACING PLAN**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 21 of 29 DRAWING C21

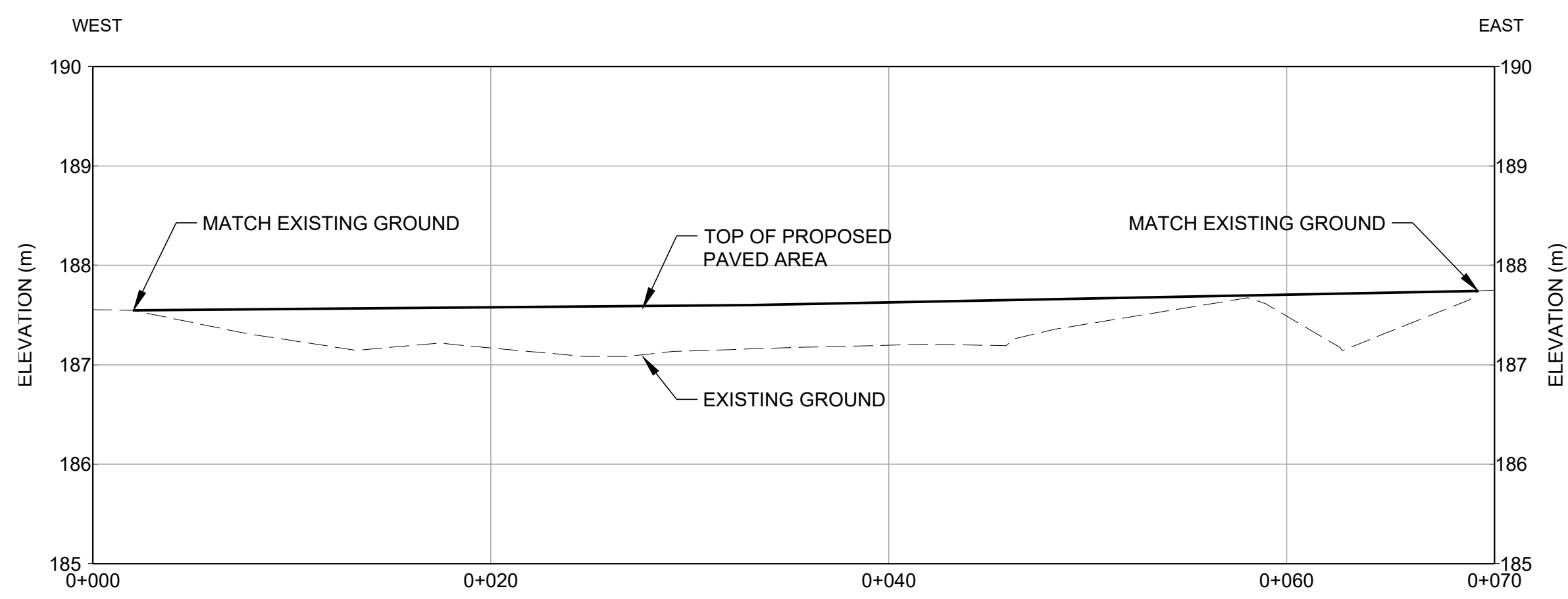
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D 25 mm



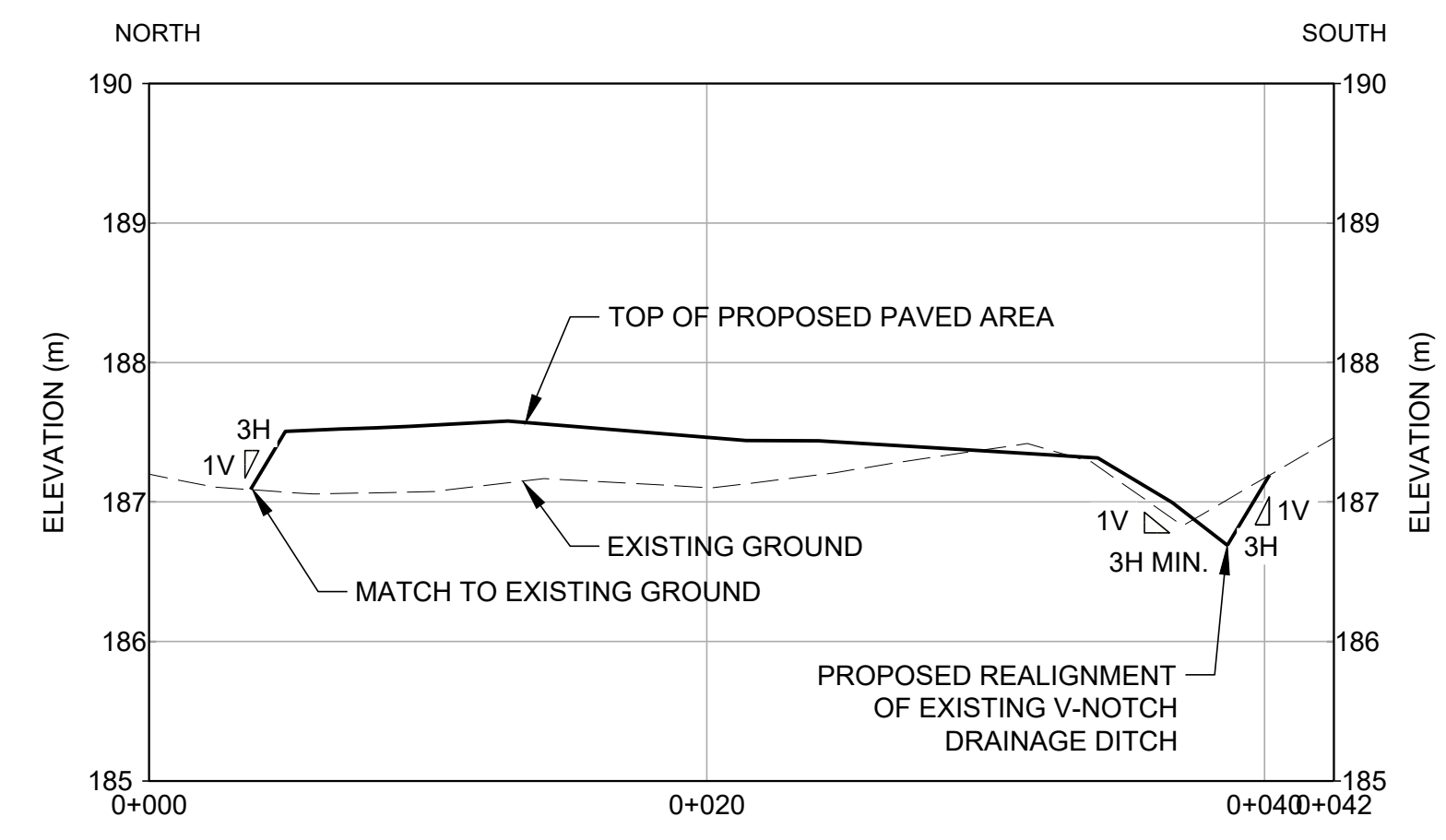
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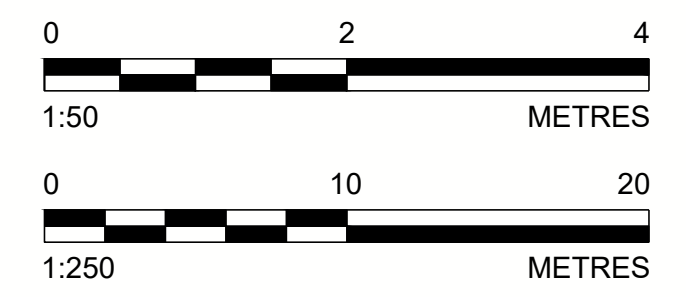
**PROPOSED MAINTENANCE BUILDING PAVED AREA**  
SCALE 1:500 m



SCALE 1:250 m  
VERT. SCALE 1:50 m  
**M WEST-EAST CROSS SECTION**  
C22



SCALE 1:250 m  
VERT. SCALE 1:50 m  
**N NORTH-SOUTH CROSS SECTION**  
C22



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



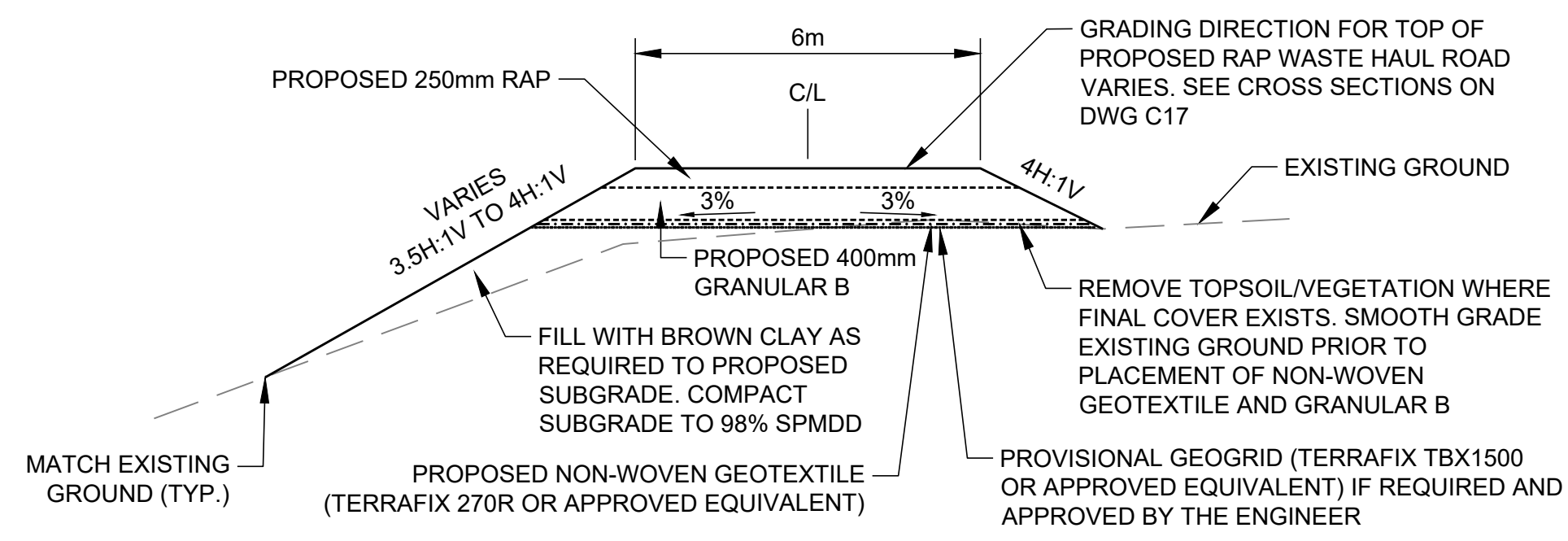
CLIENT  
  
 CONSULTANT  
  
 WSP CANADA INC.  
 1821 PROVINCIAL ROAD, SUITE 100  
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PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION**  
 TITLE  
**PROPOSED MAINTENANCE BUILDING PAVED AREA**  
 PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 22 of 29 DRAWING C22

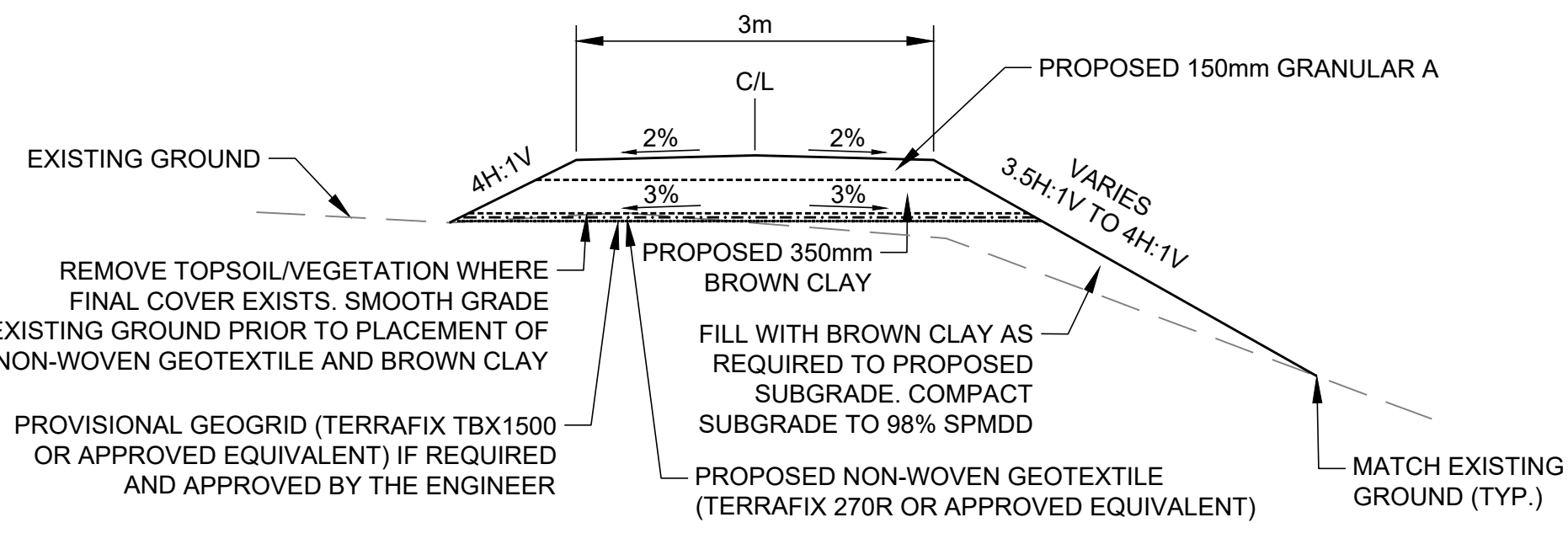
25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



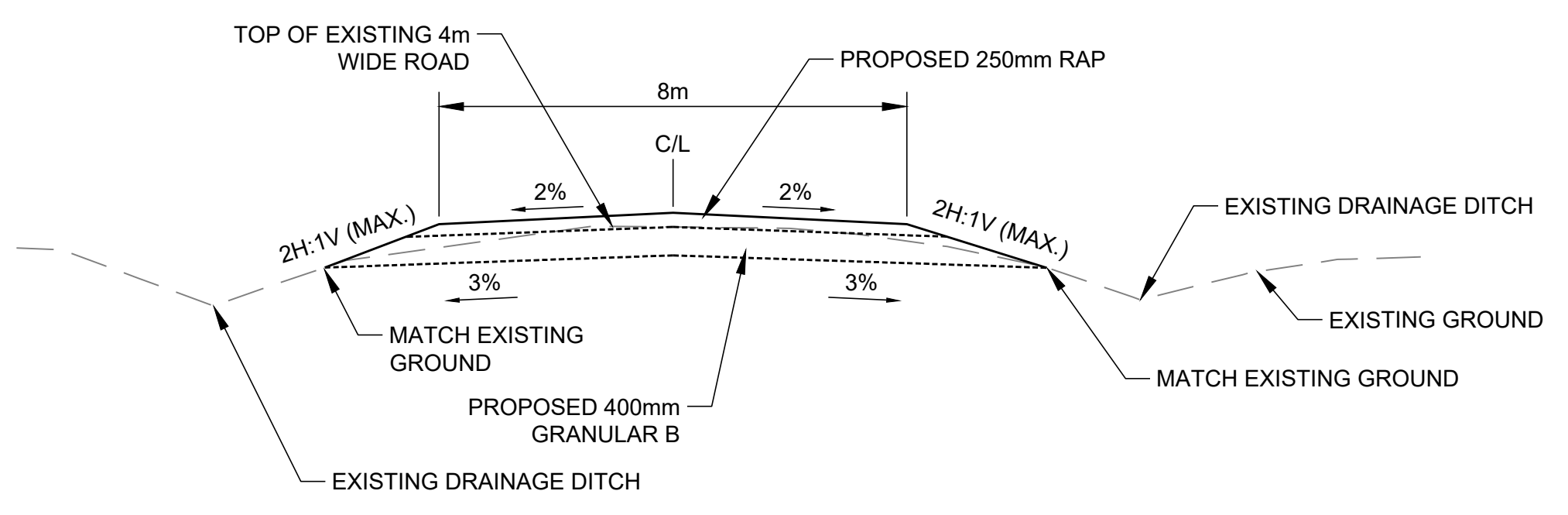
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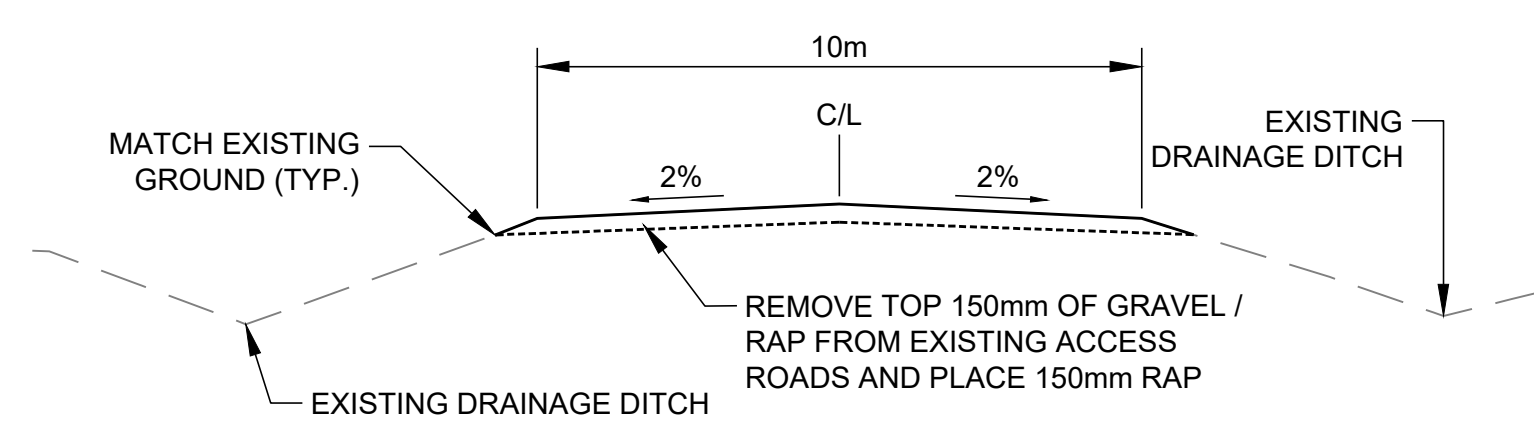
SCALE N.T.S. **21** RAP WASTE HAUL ROAD  
C12



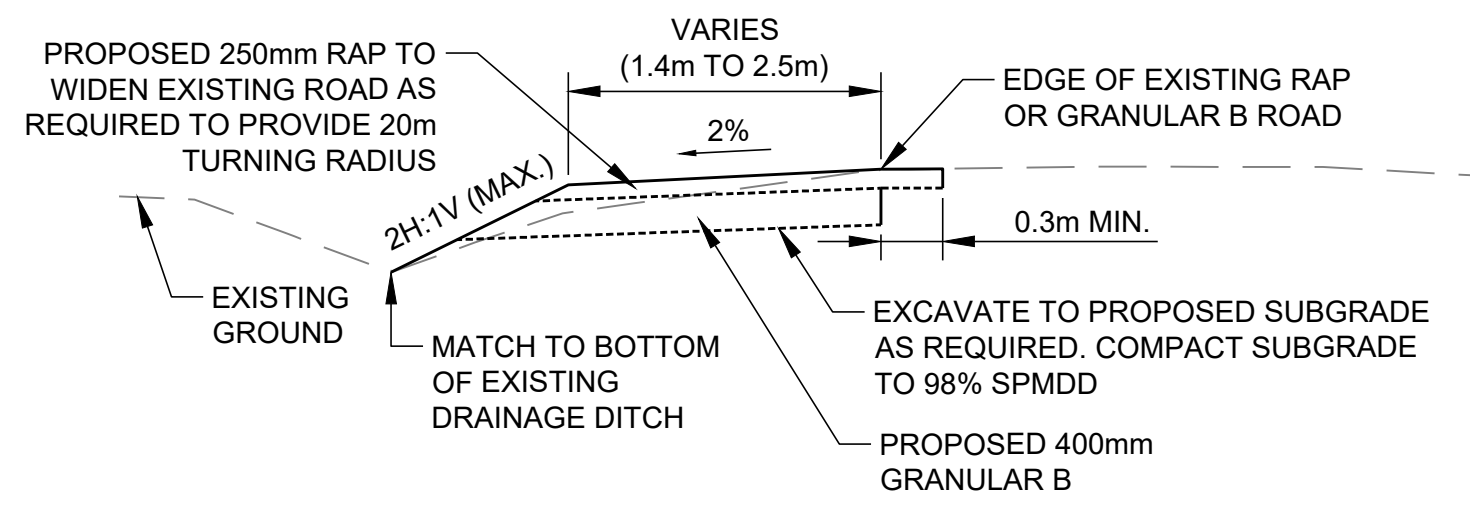
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C12



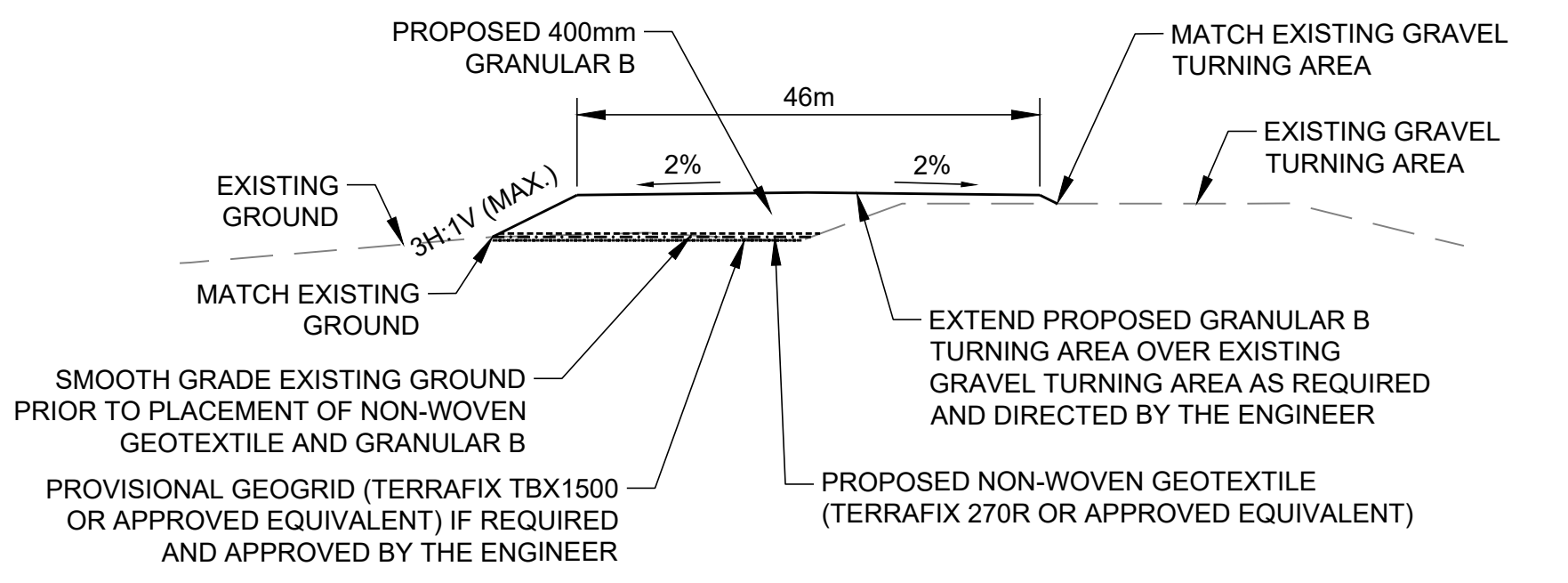
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C12



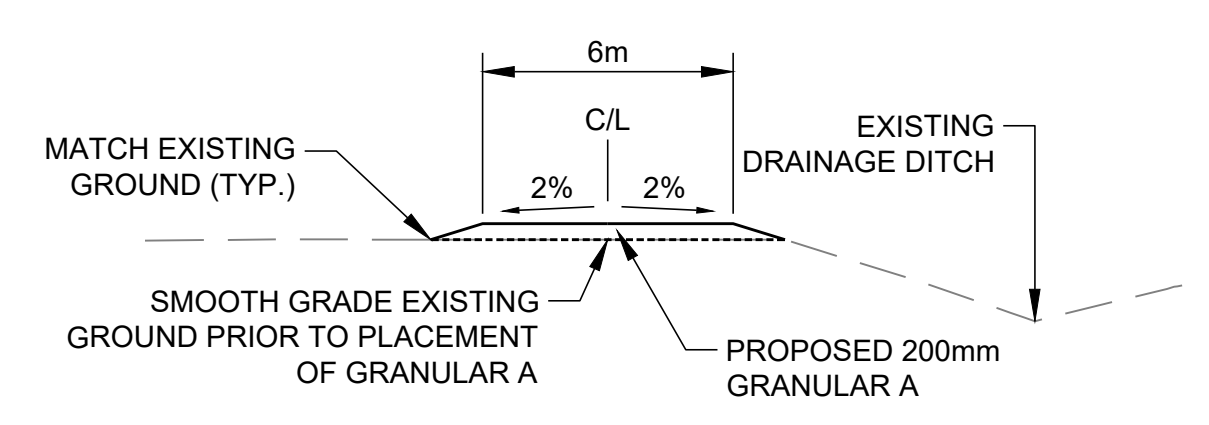
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C12



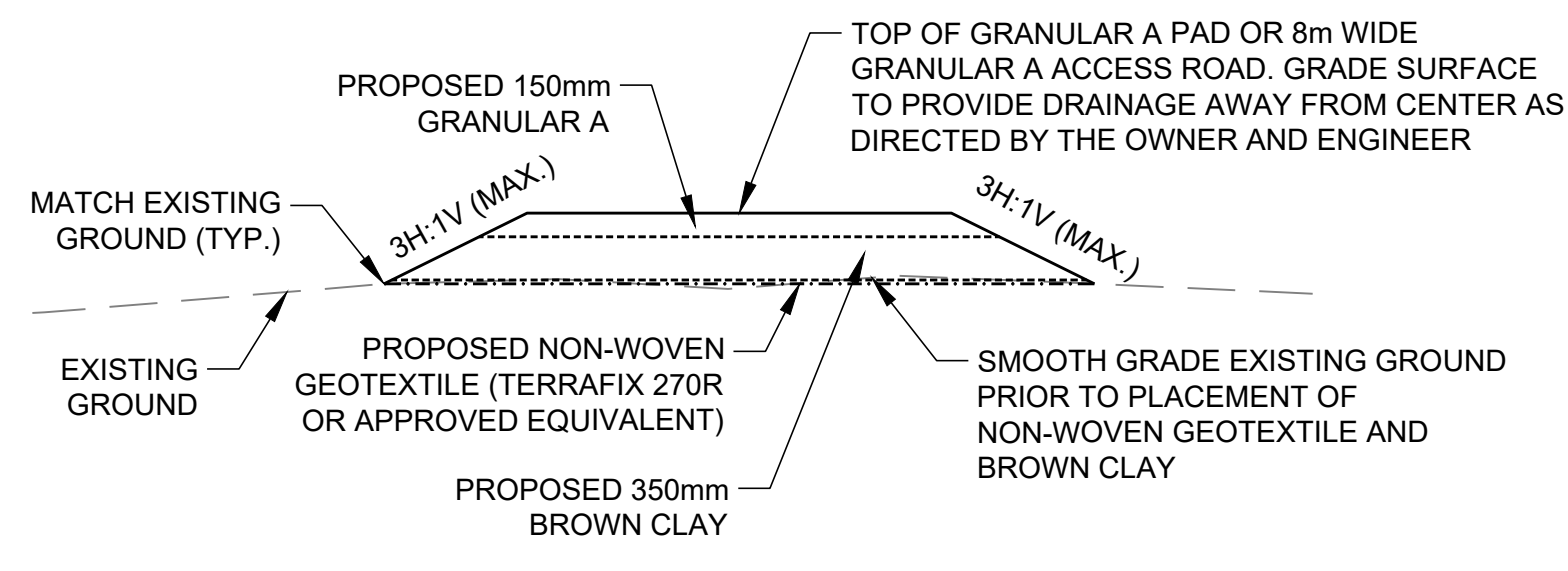
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C12



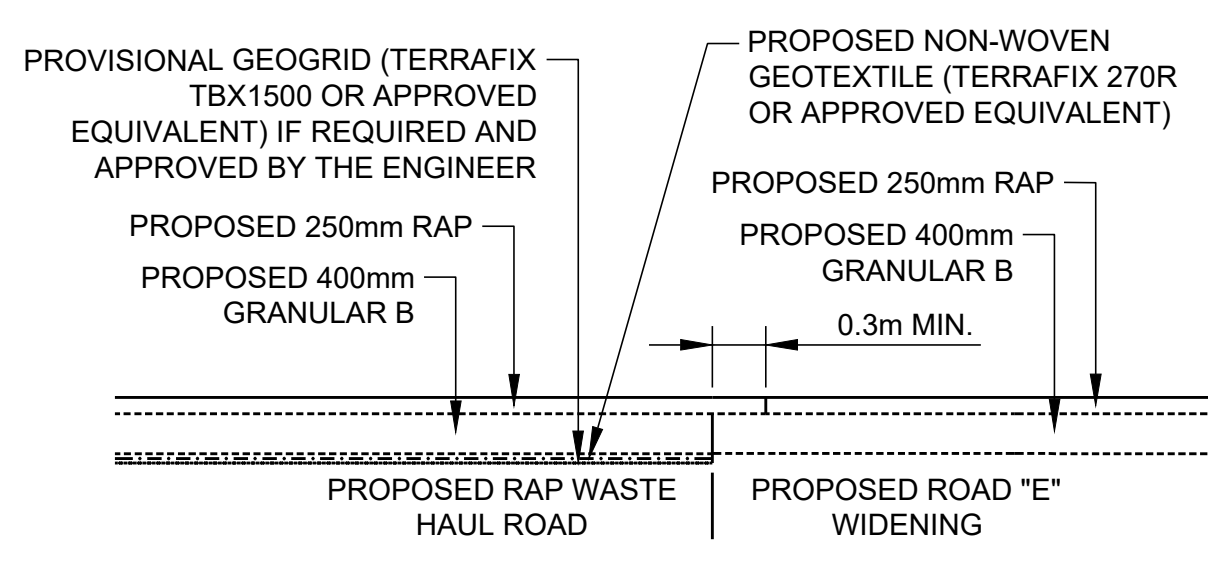
SCALE N.T.S. **26** GRANULAR B TURNING AREA  
C12



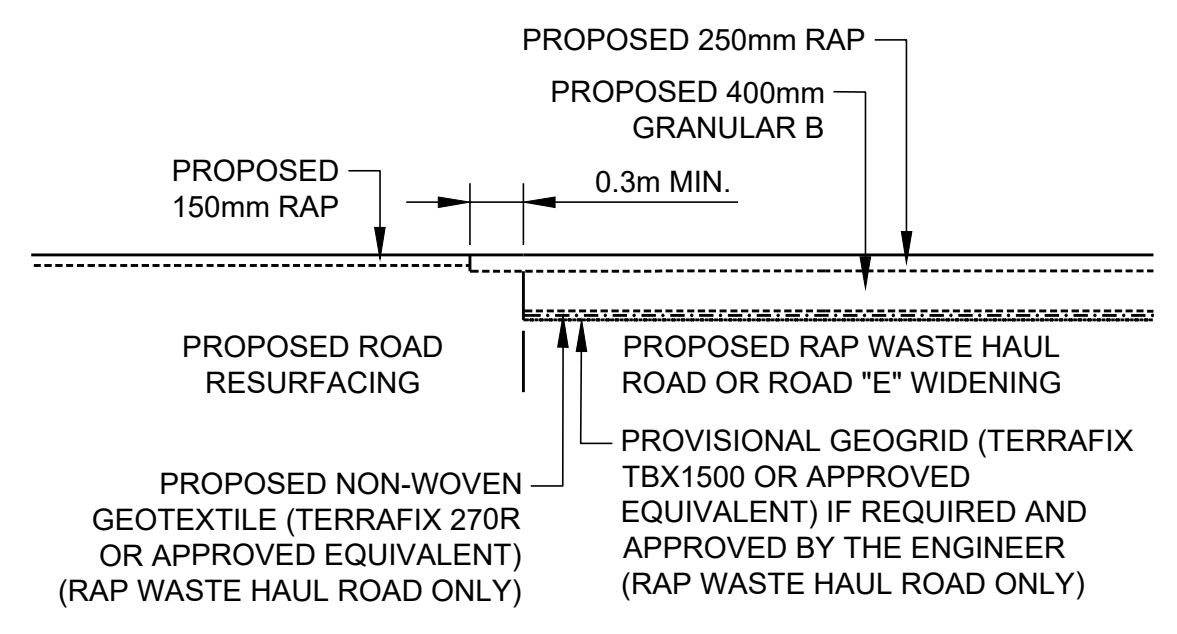
SCALE N.T.S. **27** GRANULAR A PATH  
C12



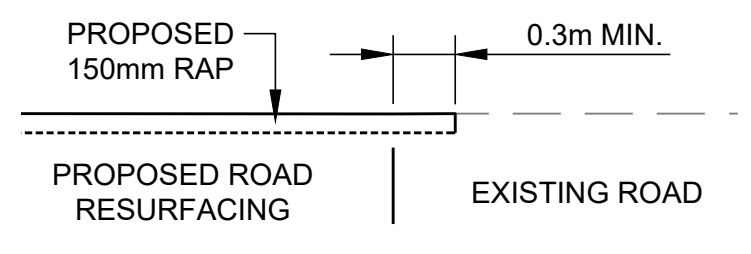
SCALE N.T.S. **28** GRANULAR A PAD AND ACCESS ROAD  
C12



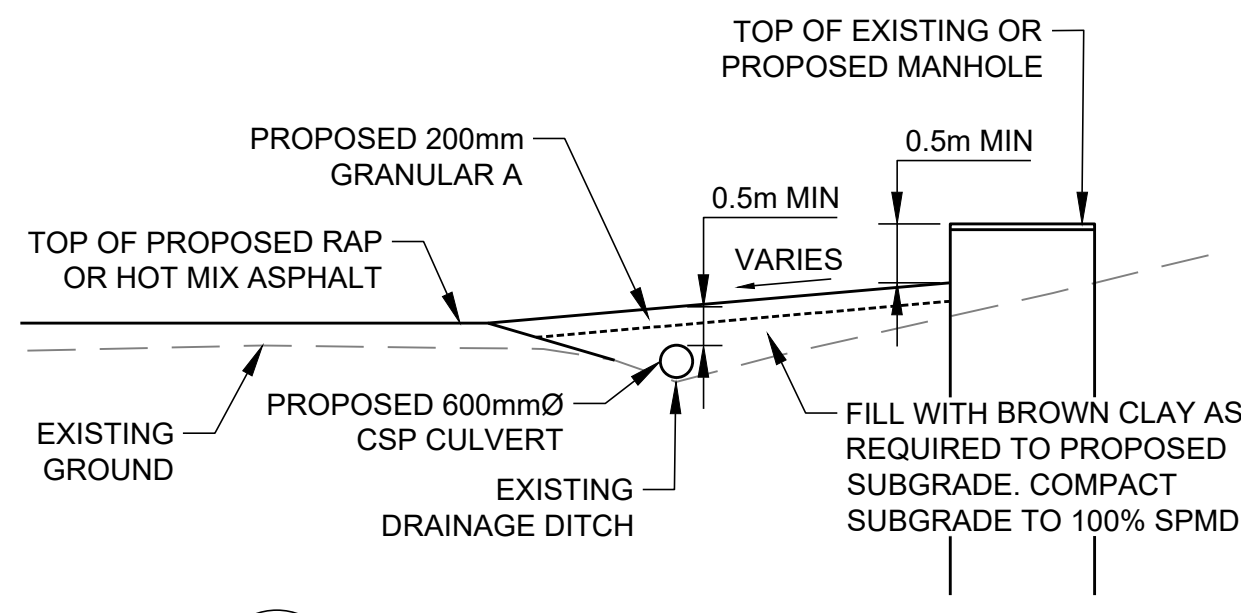
SCALE N.T.S. **29** CONNECTION OF RAP WASTE HAUL ROAD TO WIDENED ROAD "E"  
C13



SCALE N.T.S. **30** CONNECTION OF RAP WASTE HAUL ROAD OR WIDENED ROAD "E" TO RESURFACED ROAD  
C13



SCALE N.T.S. **31** CONNECTION OF RESURFACED ROAD TO EXISTING ROAD  
C21



SCALE N.T.S. **32** GRANULAR A ACCESS ROAD TO MANHOLE  
C19

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO



SEAL CLIENT

**EW SWA**

CONSULTANT

**WSP**

WSP CANADA INC.  
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CANADA  
[+1] (226) 826 0702

PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION**

TITLE  
**TYPICAL ROAD DETAILS**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 23 of 29 DRAWING **C23**

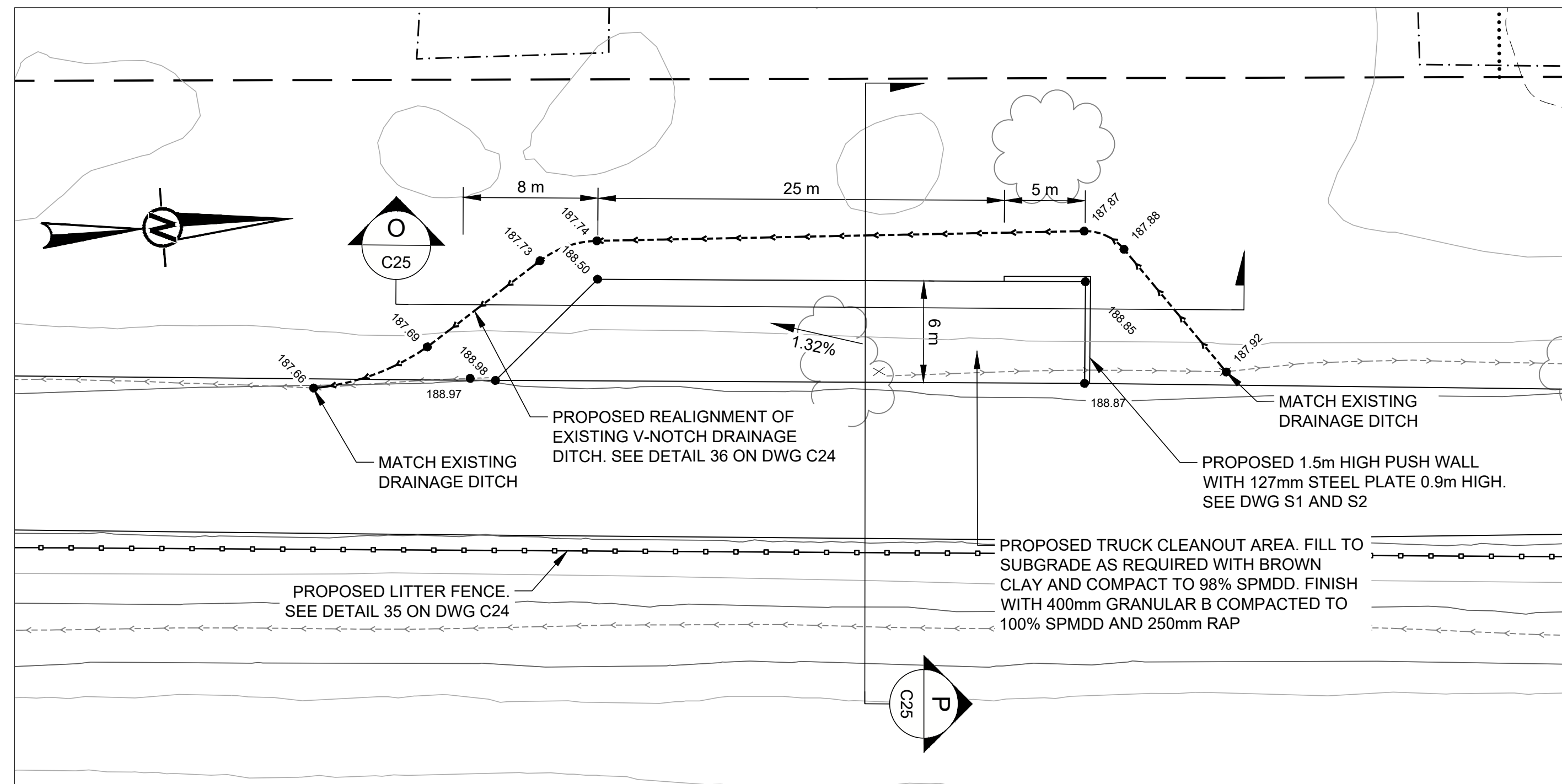
25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D







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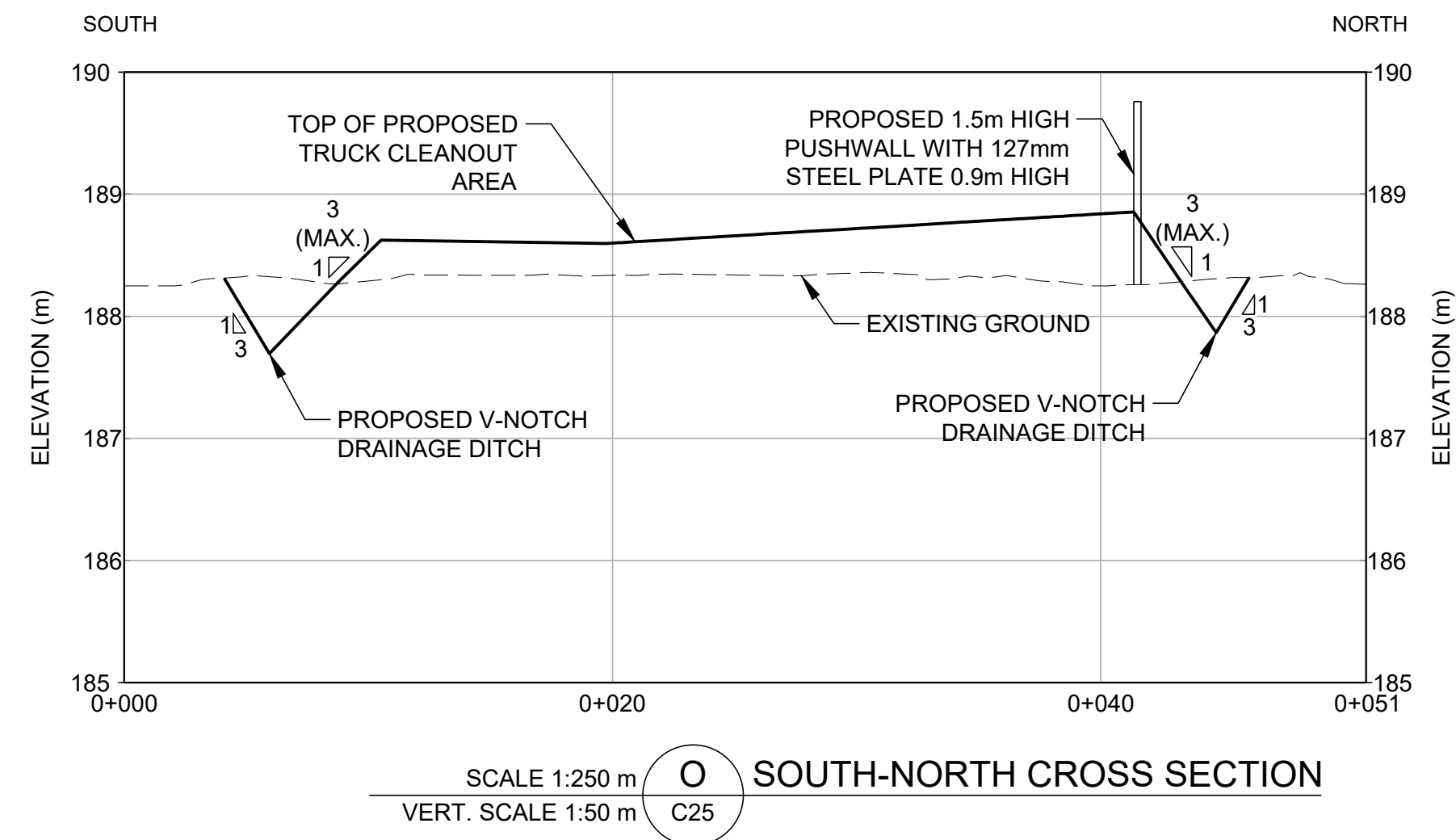
PROPOSED TRUCK CLEANOUT AREA PLAN VIEW  
SCALE 1:250 m

**LEGEND**

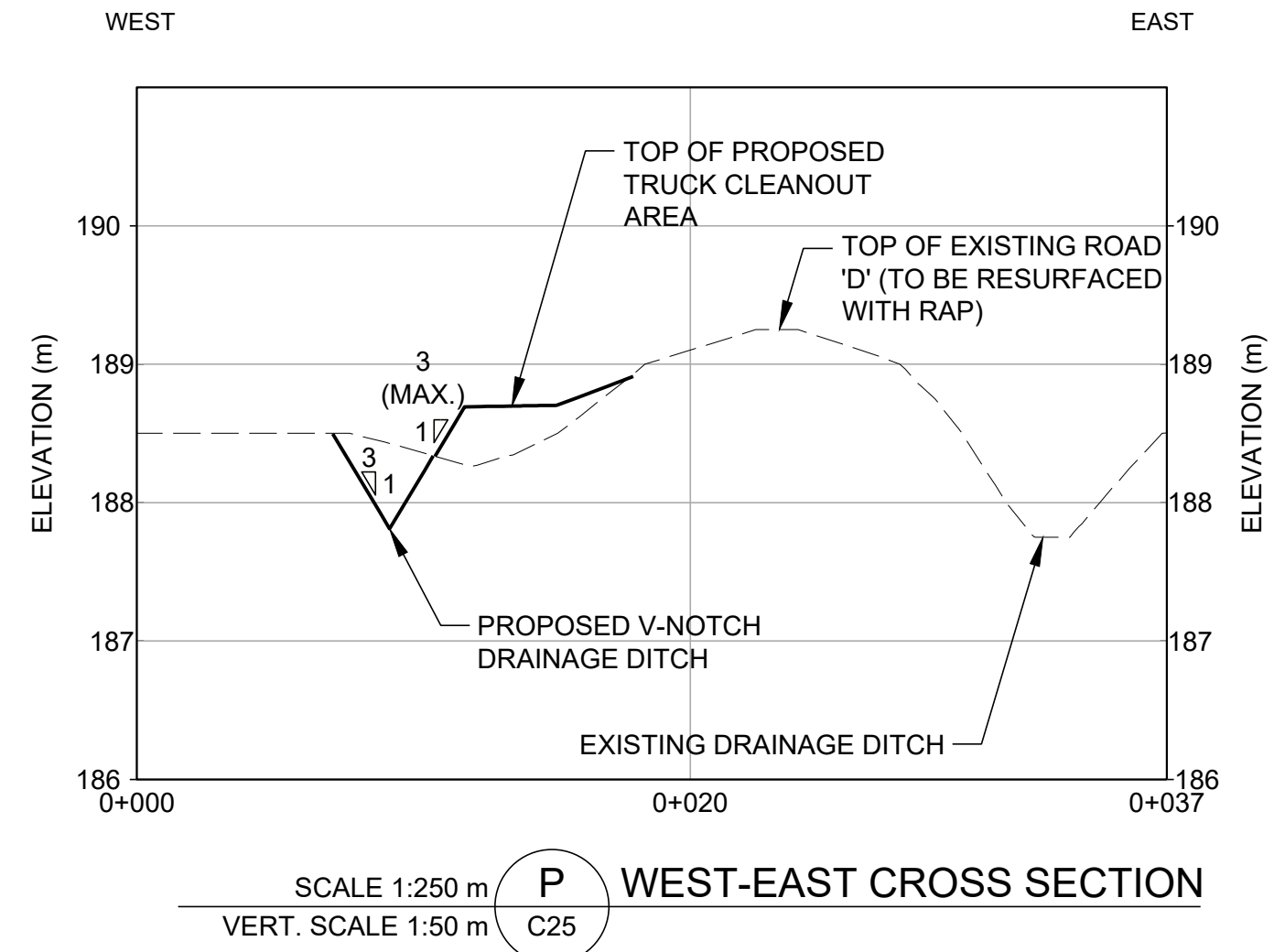
- PROPOSED V-NOTCH DRAINAGE DITCH
- 188.5 PROPOSED POINT ELEVATION
- PROPOSED LITTER FENCE

**NOTE(S)**

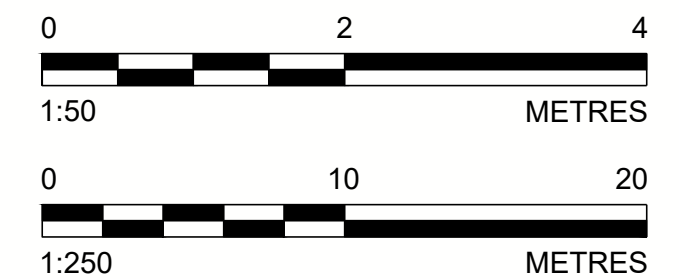
- RAP = RECLAIMED ASPHALT PAVEMENT



SOUTH-NORTH CROSS SECTION



WEST-EAST CROSS SECTION



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PROJECT  
 ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION

TITLE  
 PROPOSED TRUCK CLEANOUT AREA

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	IH	FZG	WC	JO
A	2024-03-01	ISSUED FOR CLIENT REVIEW	IH	FZG	RT	JO

PROJECT NO.	CONTROL	REV.	25 of 29	DRAWING
111-53107-10	2001	B		C25

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D



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**GENERAL STRUCTURAL NOTES:**

- 1. THE GENERAL NOTES AND STRUCTURAL STANDARD DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT.
- 2. DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE 2012 AT TIME OF TENDER. THIS CODE TO GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE FOLLOWING NOTES ARE MORE RESTRICTIVE.
- 3. PROVIDE ALL REQUIRED TEMPORARY BEARING AND SUPPORTS FOR ALL WALLS AND FRAMES. TEMPORARY BRACING AND SUPPORTS CAPABLE OF TRANSFERRING ALL IMPOSED CONSTRUCTION AND DEAD LOADS TO STRUCTURE MUST BE WITHOUT EXCEEDING SPECIFIED DESIGN LOADS.
- 4. OPENINGS LARGER THAN 200mm OR GROUPS OF OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS TO BE REVIEWED BY ENGINEER PRIOR TO CONCRETING.
- 5. BEFORE CONCRETING, ENSURE ALL EMBEDDING ITEMS, SUCH AS ANCHOR BOLTS, SLEEVES AND WATER STOPS ARE IN POSITION AND SECURELY FASTENED IN PLACE TO THE SATISFACTION OF THE ENGINEER.
- 6. ENSURE THAT THE SOIL BELOW A FOUNDATION IS NOT ALLOWED TO FREEZE, EITHER DURING OR AFTER CONSTRUCTION. UNDER NO CIRCUMSTANCES SHALL CONCRETE BE PLACED ON FROZEN SOIL.
- 7. ACCURACY OF THE SURVEY AND LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR. REMEDIAL ACTION RESULTING FROM INACCURACIES WILL BE AT THE CONTRACTOR'S OWN EXPENSE.
- 8. REINFORCING IS SHOWN ON DETAIL DRAWINGS. WHERE DETAILS OR BAR SIZING AND SPACING ARE NOT SHOWN, ALLOW FOR MINIMUM REINFORCEMENT IN ACCORDANCE WITH CAN/CSA A23.3.
- 9. ALL DIMENSIONS, ELEVATION AND SLOPES SHALL BE CHECKED AND VERIFIED WITH THE DRAWINGS AND EXISTING SITE CONDITIONS PRIOR TO COMMENCING CONSTRUCTION AND MATERIAL FABRICATION. DO NOT SCALE DRAWINGS.
- 10. CONFIRM LOCATION OF ALL SUB-GRADE SERVICES PRIOR TO COMMENCING SITE WORK.
- 11. NOTIFY THE STRUCTURAL ENGINEER 48 HOURS IN ADVANCE FOR INSPECTION OF REINFORCEMENT BEFORE EACH CONCRETE POUR.
- 12. DRAWINGS SHOW COMPLETE STRUCTURES ONLY, CONTRACTOR TO DESIGN AND PROVIDE TEMPORARY FALSEWORK AND BRACING FOR CONSTRUCTION LOADING CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR SAFETY ON JOB SITE.
- 13. SHOP DRAWINGS AS REQUIRED SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.
- 14. ALL CODE REFERENCES ARE TO THE LATEST EDITIONS.

**STEEL PLATE:**

- 1. STEEL ARMOR PLATE TO CONFORM TO ASTM514, AR400F.

**REINFORCEMENT NOTES:**

- 1. REINFORCEMENT STEEL: NEW DEFORMED BARS TO CSA G30.18. "BILLET" STEEL BARS FOR CONCRETE REINFORCEMENT, WITH MINIMUM YIELD STRENGTH OF 400MPa. PLACE REBAR TO CSA - A23.1.
- 2. PROVIDE CLEAR CONCRETE COVER OVER REBAR AS FOLLOWS U.N.O:  
CONCRETE PLACED DIRECTLY ON GROUND 75mm  
FORMED SURFACES EXPOSED TO COMPOST 80mm  
OTHER FORMED SURFACES 60mm
- 3. REBAR SPLICE LENGTHS (UNLESS NOTED OTHERWISE):  
LENGTHS SHOWN ARE IN mm. USE CLASS B LAP TYP. U.N.O.

TENSION DEVELOPMENT LENGTHS  $l_d$  FOR GRADE 400 INDIVIDUAL BLACK BAR IN NORMAL DENSITY CONCRETE

BAR SIZE	f <sub>c</sub> = 25		f <sub>c</sub> = 30		f <sub>c</sub> = 35		f <sub>c</sub> = 40		f <sub>c</sub> = 50		f <sub>c</sub> = 60	
	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP
10	300 (12")	380 (15")	300 (12")	350 (14")	300 (12")	320 (13")	300 (12")	300 (12")	300 (12")	300 (12")	300 (12")	300 (12")
15	440 (17")	570 (23")	400 (16")	520 (21")	370 (14")	480 (19")	350 (14")	450 (18")	310 (12")	400 (16")	300 (12")	370 (14")
20	580 (23")	750 (30")	530 (21")	690 (27")	490 (19")	640 (25")	460 (18")	600 (24")	410 (16")	530 (21")	380 (15")	490 (19")
25	900 (36")	1170 (46")	830 (32")	1070 (42")	770 (30")	990 (39")	720 (28")	930 (37")	640 (25")	830 (33")	590 (23")	760 (30")
30	1080 (43")	1410 (55")	990 (39")	1290 (51")	920 (36")	1190 (47")	860 (34")	1110 (44")	770 (30")	1000 (39")	700 (28")	910 (36")
35	1260 (50")	1640 (65")	1160 (46")	1500 (60")	1070 (42")	1390 (55")	1000 (40")	1300 (52")	900 (35")	1160 (46")	820 (32")	1060 (42")
45	1620 (64")	2110 (83")	1480 (59")	1930 (76")	1370 (54")	1780 (71")	1290 (51")	1670 (66")	1150 (46")	1490 (59")	1050 (42")	1360 (54")
55	1980 (78")	2580 (102")	1810 (72")	2350 (93")	1680 (66")	2180 (86")	1570 (62")	2040 (81")	1410 (56")	1820 (72")	1280 (51")	1670 (66")

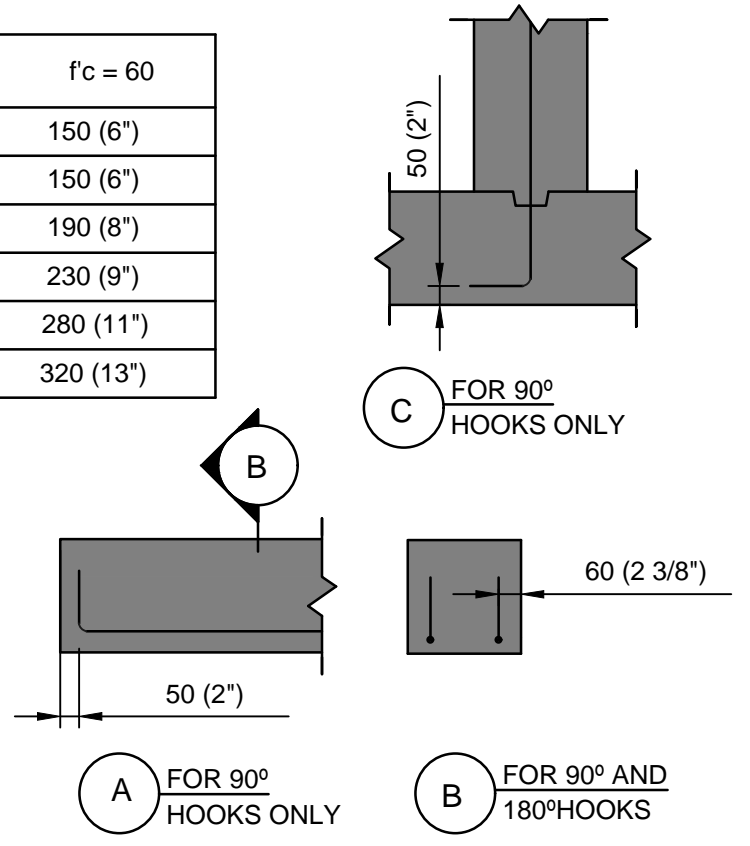
CLASS B TENSION LAP SPLICE LENGTHS FOR GRADE 400 INDIVIDUAL BLACK BAR IN NORMAL DENSITY CONCRETE

BAR SIZE	f <sub>c</sub> = 25		f <sub>c</sub> = 30		f <sub>c</sub> = 35		f <sub>c</sub> = 40		f <sub>c</sub> = 50		f <sub>c</sub> = 60	
	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP	BOTTOM	TOP
10	390 (16")	490 (19")	390 (16")	450 (18")	390 (16")	420 (17")	390 (16")	390 (16")	390 (16")	390 (16")	390 (16")	390 (16")
15	570 (23")	740 (29")	520 (21")	670 (27")	480 (19")	620 (25")	450 (18")	580 (23")	400 (16")	520 (20")	390 (16")	480 (19")
20	750 (29")	980 (39")	690 (27")	890 (35")	640 (25")	830 (33")	600 (24")	770 (30")	530 (21")	690 (27")	490 (19")	630 (25")
25	1170 (46")	1530 (61")	1070 (42")	1390 (55")	990 (39")	1290 (51")	930 (37")	1210 (48")	830 (33")	1080 (43")	760 (30")	990 (39")
30	1410 (56")	1830 (72")	1290 (51")	1670 (66")	1190 (47")	1550 (61")	1110 (44")	1450 (57")	1000 (39")	1300 (51")	910 (36")	1180 (46")
35	1640 (65")	2130 (84")	1500 (60")	1950 (77")	1390 (55")	1800 (72")	1300 (52")	1690 (67")	1160 (46")	1510 (59")	1060 (42")	1380 (54")

- FOR EPOXY BARS MULTIPLY VALUES IN TABLE BY 1.5 EXCEPT THAT A MULTIPLIER OF 1.2 CAN BE USED WHEN CLEAR COVER IS MORE THAN 3x BAR DIAMETER AND CLEAR SPACING BETWEEN BARS IS MORE THAN 6x BAR DIAMETER.  
- FOR SEMI LOW DENSITY CONCRETE (1850 < c 2150 kg/m<sup>3</sup>) MULTIPLY VALUES IN TABLE BY 1.2. FOR LOW DENSITY CONCRETE ( c 1850 kg/m<sup>3</sup>) MULTIPLY VALUES IN TABLE BY 1.3.  
- FOR BUNDLED BARS, MULTIPLY VALUES IN TABLE BY 1.1 FOR A TWO BAR BUNDLE, 1.2 FOR A THREE BAR BUNDLE AND 1.33 FOR A FOUR BAR BUNDLE  
- "TOP" MEANS THAT THERE IS MORE THAN 300 (12") OF CONCRETE BELOW, HORIZONTAL BAR WITHIN THE INDIVIDUAL CONCRETE POUR. ALL HORIZONTAL BARS IN WALLS TO BE CONSIDERED "TOP".  
- ALL VERTICAL BARS ARE CONSIDERED "BOTTOM"

MINIMUM TENSION EMBEDMENT LENGTHS WITH STANDARD END HOOKS  $l_{dh}$ , FOR GRADE 400 BAR IN NORMAL DENSITY CONCRETE

BAR SIZE	f <sub>c</sub> = 25	f <sub>c</sub> = 30	f <sub>c</sub> = 35	f <sub>c</sub> = 40	f <sub>c</sub> = 50	f <sub>c</sub> = 60
10	150 (6")	150 (6")	150 (6")	150 (6")	150 (6")	150 (6")
15	210 (8")	200 (8")	180 (7")	170 (7")	150 (6")	150 (6")
20	280 (11")	260 (10")	240 (10")	230 (9")	190 (8")	190 (8")
25	350 (14")	320 (13")	300 (12")	280 (11")	240 (9")	230 (9")
30	420 (17")	390 (16")	360 (14")	340 (14")	290 (11")	280 (11")
35	490 (20")	450 (18")	420 (17")	390 (16")	340 (13")	320 (13")



- FOR EPOXY BARS MULTIPLY VALUES IN TABLE BY 1.2  
- FOR LOW DENSITY CONCRETE ( c 1850 kg/m<sup>3</sup>) MULTIPLY VALUES IN TABLE BY 1.3  
- FOR HOOKS WITH COVER LESS THAN SHOWN IN DETAILS 'A', 'B' AND 'C' MULTIPLY VALUES IN TABLE BY 1.5

- 4. DOWELS SHALL BE PLACED BEFORE CONCRETE IS POURED. TEMPLATES SHALL BE USED TO ENSURE CORRECT PLACEMENT OF DOWELS. DOWELS TO MATCH VERTICAL BARS UNLESS NOTED.
- 5. BEFORE PLACEMENT OF CONCRETE, ENSURE THE REINFORCING STEEL AND FORMS ARE CLEAN, FREE OF LOOSE SCALE, DIRT AND OTHER FOREIGN MATERIALS WHICH WOULD REDUCE THE BOND BETWEEN THE REINFORCING STEEL AND THE CONCRETE.

**CONCRETE NOTES:**

- 1. PERFORM CONCRETE WORKS TO CAN/CSA A23.1
- 2. TEST CONCRETE IN ACCORDANCE WITH CAN/CSA A23.2
- 3. CONCRETE MIXES SHALL BE PROPORTIONED TO MEET THE FOLLOWING REQUIREMENTS AND CAN/CSA A.23.1 TABLE 2

LOCATION	56 DAY COMPRESSIVE STRENGTH (MPa)	CEMENT TYPE	AIR %	SLUMP	NOMINAL COARSE SIZE AGG. mm	EXP. COND.
FOUNDATIONS PADS AND PUSH WALL	35	GU	5-8	60-100	20	C-1

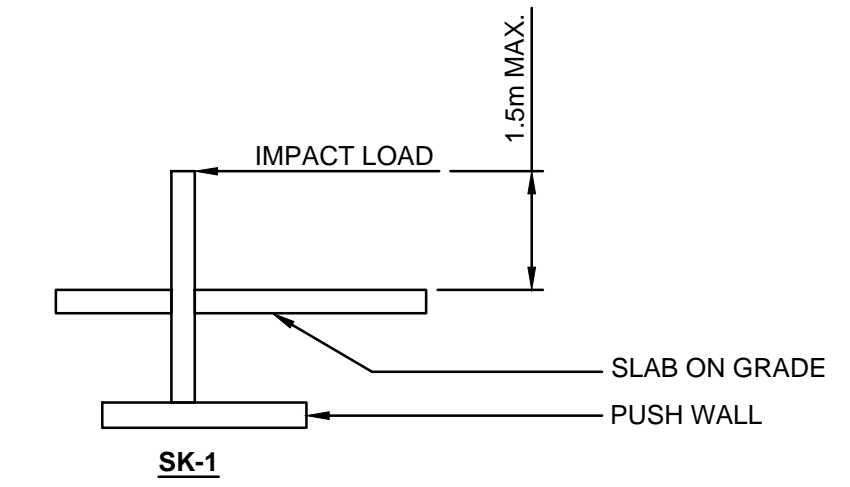
- LOWER SLUMP MAY BE REQUIRED FOR BENCHING
- WHERE SPECIFIED STRENGTH EXCEEDS THOSE IMPLIED BY EXPOSURE CLASS, SPECIFIED STRENGTH GOVERNS.
- ALL CONCRETE TO BE NORMAL DENSITY 2400 kg/m<sup>3</sup>.
- MIX DESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- SUPPLEMENTAL FLYASH TO A MAXIMUM OF 20% MAY BE PERMITTED AT THE DISCRETION OF THE ENGINEER.
- 4. PLACE REINFORCEMENT BARS SYMMETRICALLY OVER SUPPORTS AND SYMMETRICALLY IN SPANS UNLESS NOTED OTHERWISE.
- 5. UNLESS OTHERWISE NOTED, EDGE OF ALL SLABS SHALL HAVE 2-15M CONT. LAPPED 600mm
- 6. PROVIDE SUFFICIENT CHAIRS AND SUPPORT BARS TO MAINTAIN CONCRETE PROTECTION AS SPECIFIED AND TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE PLACEMENT.
- 7. STRENGTH OF CONCRETE TO BE DETERMINED BY FIELD-CURED CYLINDERS. ALTERNATE METHODS, IF ACCEPTABLE TO THE STRUCTURAL DESIGN ENGINEER, MAY BE USED.
- 8. TEMPORARY FALSEWORK, BRACING AND SHORING TO BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.
- 9. LOCATIONS AND DETAILS OF CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 10. ALL EXPOSED CONCRETE CORNERS TO HAVE A 20x20 CHAMFER.
- 11. ABOVE GRADE PORTIONS OF PUSH WALLS AND RETAINING WALLS SHALL BE SACK RUB FINISH.

**EXCAVATION AND BACKFILL NOTES:**

- 1. REFER TO GEOTECHNICAL ASSESSMENT REPORT PROJ. NO. 18M-01541-04, DATED NOV 08, 2019, LETTER "GEOTECHNICAL ENGINEERING SERVICE - PLATE LOAD TEST", DATED OCT 07, 2022, AND "GEOTECHNICAL MEMORANDUM R1", DATED JAN 10, 2023, PREPARED BY WSP ASSOCIATES FOR DETAILS OF EXISTING GROUND CONDITIONS AND GEOTECHNICAL RECOMMENDATIONS.
- 2. ENSURE THE BOTTOM OF EXCAVATION IS UNDISTURBED SOIL, LEVEL AND FREE OF ALL LOOSE, SOFT OR ORGANIC MATTER AND IS PROTECTED AND KEPT DRY UNTIL THE CONCRETE IS PLACED. THOROUGHLY COMPACT THE BASE OF THE EXCAVATION PRIOR TO FOUNDATION CONSTRUCTION TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
- 3. USE HAND-OPERATED COMPACTION EQUIPMENT FOR BACKFILL COMPACTION WITHIN 1m OF WALLS AND FOOTINGS.
- 4. BACKFILLING MAY BE CARRIED OUT AFTER FOUR (4) DAYS. PLACE BACKFILL ON ALTERNATING SIDES IN SUCH MANNER THAT THERE IS NEVER AN ELEVATION DIFFERENCE GREATER THAN 600 BETWEEN BOTH SIDES OF THE WALL .
- 5. THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED A MINIMUM OF 48 HRS. BEFORE COMMENCEMENT OF EXCAVATION. SOIL CONDITIONS SHALL BE INSPECTED BY A GEOTECHNICAL ENGINEER DURING EXCAVATION AND PRIOR TO CONSTRUCTION OF FORMWORK FOR FOUNDATIONS.

**DESIGN LOADS/ ASSUMPTIONS**

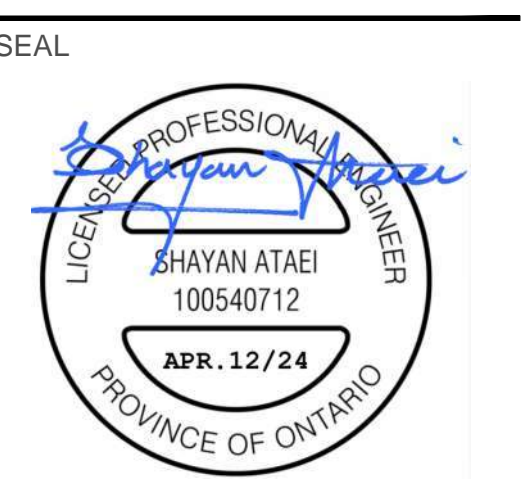
- 1. CONCRETE STRUCTURES ARE DESIGNED TO CSA A23.3-19 AND CSA S6-19.
- 2. ALLOWABLE BEARING PRESSURE (SLS/ULS) ASSUMED IN THE DESIGN: 120 kPa/180 kPa UNDERNEATH PUSH WALL FOOTING TO BE VERIFIED ON SITE BY GEOTECHNICAL ENGINEER. ANY DISCREPANCY SHALL REPORT TO DESIGN ENGINEER IMMEDIATELY
- 2. SNOW LOAD DATA: GROUND SNOW LOADING 1.04 kPa (S<sub>s</sub>=0.8 S<sub>r</sub>=0.4)
- 3. WIND LOAD DATA: 1/50 YEAR PRESSURE: 0.47 kPa
- 4. SEISMIC DESIGN DATA: PGA = 0.0643g  
THE INCREASE OF TOTAL EARTH PRESSURES DUE TO SEISMIC ACTIVITY ARE NEGLIGIBLE FOR PGA VALUES BELOW 0.4g AND HAVE THEREFORE NOT BEEN CONSIDERED IN THE DESIGN OF THE PUSH WALL.
- 5. LOAD FACTORS: DEAD LOAD FACTOR = 1.25  
SUPERIMPOSED DEAD LOAD FACTOR = 1.25  
LIVE LOAD FACTOR = 1.5 FOR PRINCIPLE AND 1.0 FOR COMPANION  
SUPERIMPOSED SOIL AND COMPOST LOAD FACTOR = 1.5  
SNOW LOAD FACTOR = 1.5 FOR PRINCIPLE AND 0.5 FOR COMPANION  
VEHICLE LIVE LOAD WITH DYNAMIC IMPACT EFFECT = 1.5 x 1.2 = 1.8
- 6. PUSH WALL LOADING (SEE SK-1):  
LOADER WEIGHT UNDER FULL BUCKET LOAD = 188.5 kN  
LOADER BUCKET WIDTH = 3.0 m  
LOADER SPEED (1ST GEAR) = 7 km/h  
SLOW DOWN DISTANCE = 0.1m  
STOPPING TIME = 0.1 second  
FRICTION COEFFICIENT OF RUBBER ON WET CONCRETE SLAB = 0.6  
FORCE REQUIRED TO BRING TO HALT = 341 kN (FACTORED)  
IMPACT FORCE ACTS AT HEIGHT FROM TOP OF SLAB = 1.5m MAX.
- 7. AREA LIVE LOADS: MAXIMUM COMPOST FILL HEIGHT = 1500 mm  
FILL DENSITY = 12.5 kN/m<sup>3</sup>
- 8. IMPORTANCE CATEGORY = NORMAL



**ABBREVIATIONS**

DWG	DRAWING
EX.	EXISTING
EF	EACH FACE
EW	EACH WAY
C/W	COMPLETE WITH
TYP.	TYPICAL
HORZ.	HORIZONTAL
T&B	TOP AND BOTTOM
Ø	DIAMETER
MIN.	MINIMUM
MAX.	MAXIMUM
F.V.	FIELD VERIFY
FRP	FIBRE REINFORCED POLYMER
U/S	UNDERSIDE
T/O	TOP OF
B/O	BOTTOM OF
S.S.	STAINLESS STEEL
B/S	BOTH SIDES
TRANS.	TRANSVERSE
LONGT.	LONGITUDINAL

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	SA	ML	RL	RT
A	2024-04-02	ISSUED FOR CLIENT REVIEW	SA	ML	RL	RT



CLIENT: EW SWA  
CONSULTANT: WSP  
WSP CANADA INC.  
1821 PROVINCIAL ROAD SUITE 100  
WINDSOR, ON  
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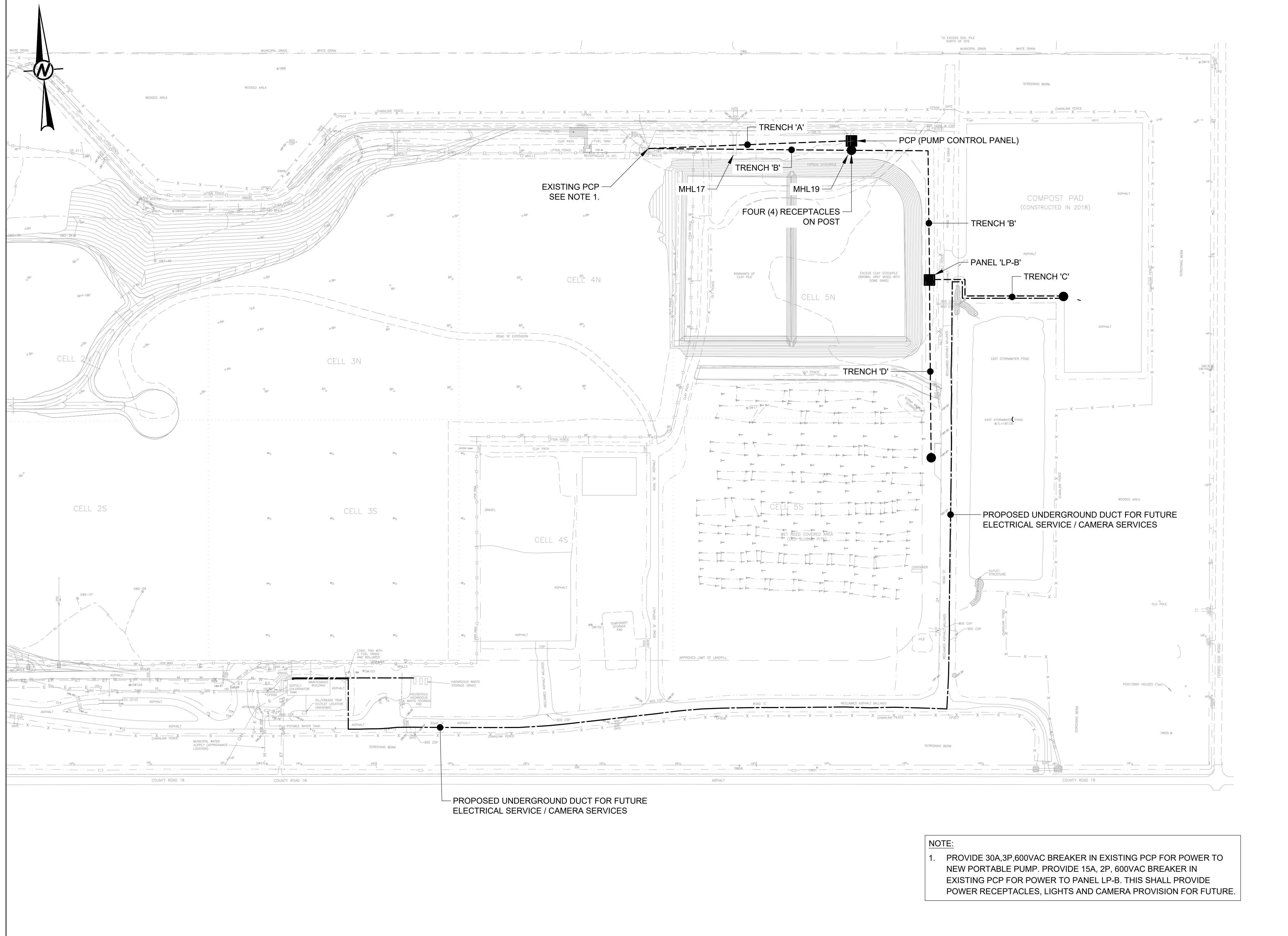
PROJECT: ESSEX-WINDSOR REGIONAL LANDFILL CELL 5 NORTH CONSTRUCTION  
TITLE: PUSH WALL GENERAL NOTES  
PROJECT NO. 111-53107-10  
CONTROL 2001  
REV. B 26 of 29  
DRAWING S1







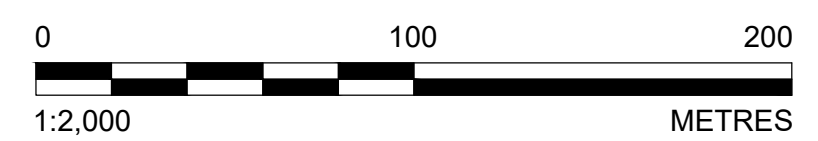
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**LEGEND**

- PROPOSED ELECTRICAL PANEL
- PROPOSED POWER OUTLET
- - - - PROPOSED UNDERGROUND DUCT AND WIRING
- - - - PROPOSED UNDERGROUND 4 INCH FIBER CONDUIT

**NOTE:**  
 1. PROVIDE 30A, 3P, 600VAC BREAKER IN EXISTING PCP FOR POWER TO NEW PORTABLE PUMP. PROVIDE 15A, 2P, 600VAC BREAKER IN EXISTING PCP FOR POWER TO PANEL LP-B. THIS SHALL PROVIDE POWER RECEPTACLES, LIGHTS AND CAMERA PROVISION FOR FUTURE.



REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	MN	MK	MN	MN
A	2023-02-28	ISSUED FOR CLIENT REVIEW	MN	MK	MN	MN

SEAL

M. N. BADANA  
100089066  
PROVINCE OF ONTARIO

CLIENT

CONSULTANT

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PROJECT  
**ESSEX-WINDSOR REGIONAL LANDFILL  
 CELL 5 NORTH CONSTRUCTION**

TITLE  
**PROPOSED ELECTRICAL WORKS**

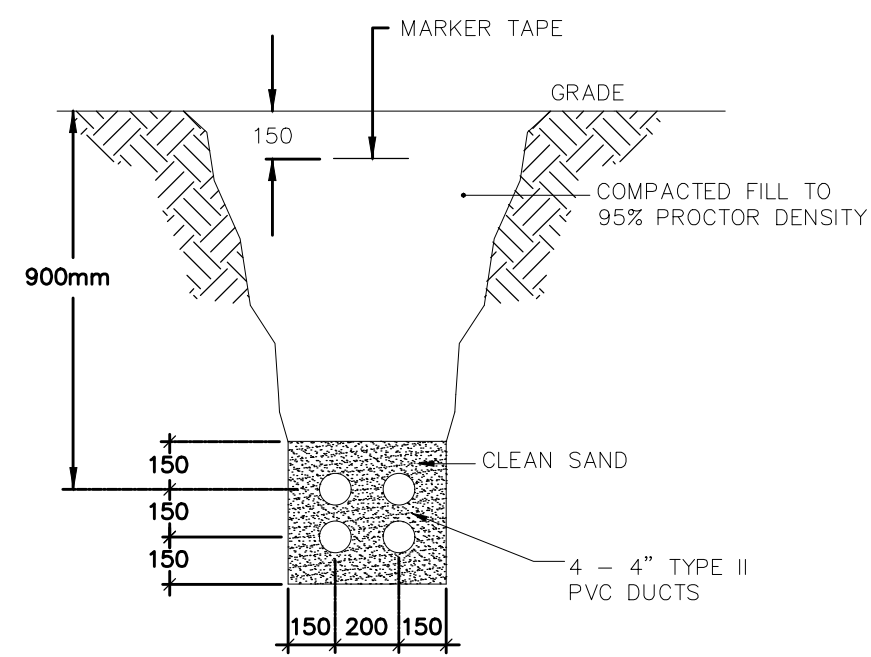
PROJECT NO. 111-53107-10	CONTROL 2001	REV. B	28 of 29	DRAWING E01
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25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

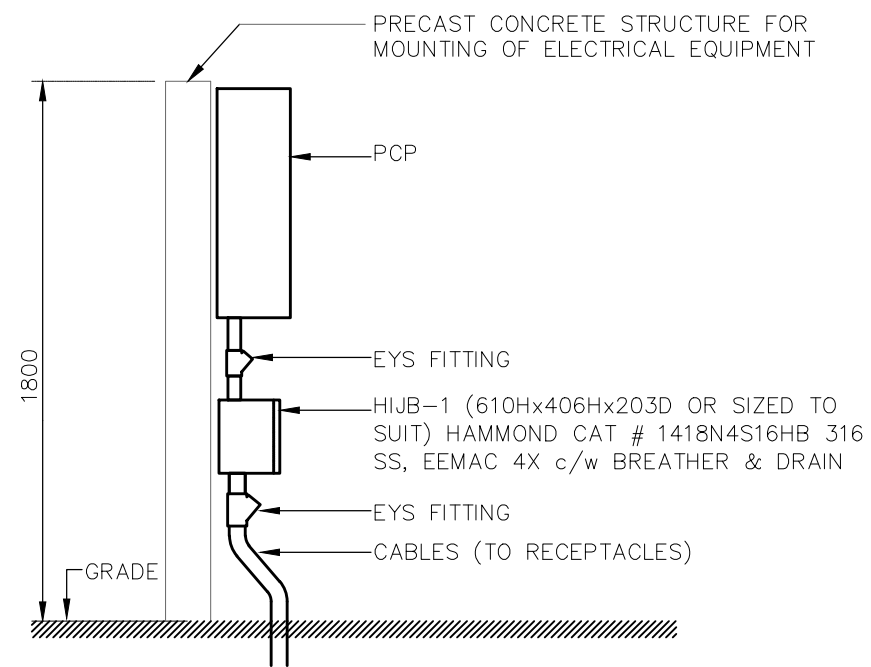


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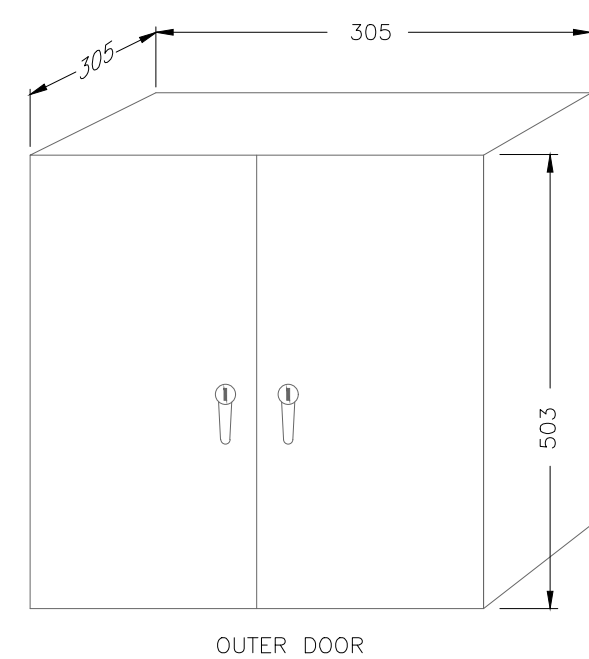
- NOTES:
1. PCP (PUMP CONTROL PANEL) SHALL BE SUPPLIED BY PUMP MANUFACTURER.
  2. ALL CABLES ENTERING THE PANEL FROM THE WET SHALL BE EGROSS WITH EYS SEALS.
  3. PCP SHALL BE ADEQUATELY VENTILATED FOR SUMMER AND WINTER TEMPERATURES.
  4. THE TEMPERATURE INSIDE THE PCP SHALL BE MAINTAINED FOR PROPER FUNCTIONING OF THE EQUIPMENT INSIDE THE PANEL.



**SECONDARY DUCT BEDDING**  
N.T.S.



**PUMP STATION PS3 MOUNTING DETAILS**  
N.T.S.



**ELECTRICAL PANEL PCP-3**  
N.T.S.  
SIZED TO SUIT, EEMAC 4X, 316 S.S.

PANELBOARD DESIGNATION LP-A LOCATION PCP 3 MIN. INTERRUPTING CAPABILITY 5 KA RMS SYMMETRICAL  
SERVICE 600VAC VOLTS, 3 PHASE, 4 WIRE, MOUNTING PANEL FLUSH, SURFACE        IN MCC  
100 AMP MAIN LUGS, 40 AMP MAIN BREAKER

CIRCLE AROUND CIRCUIT No. INDICATES HANDLE LOCKING DEVICE  
\* INDICATES SHUNT TRIP

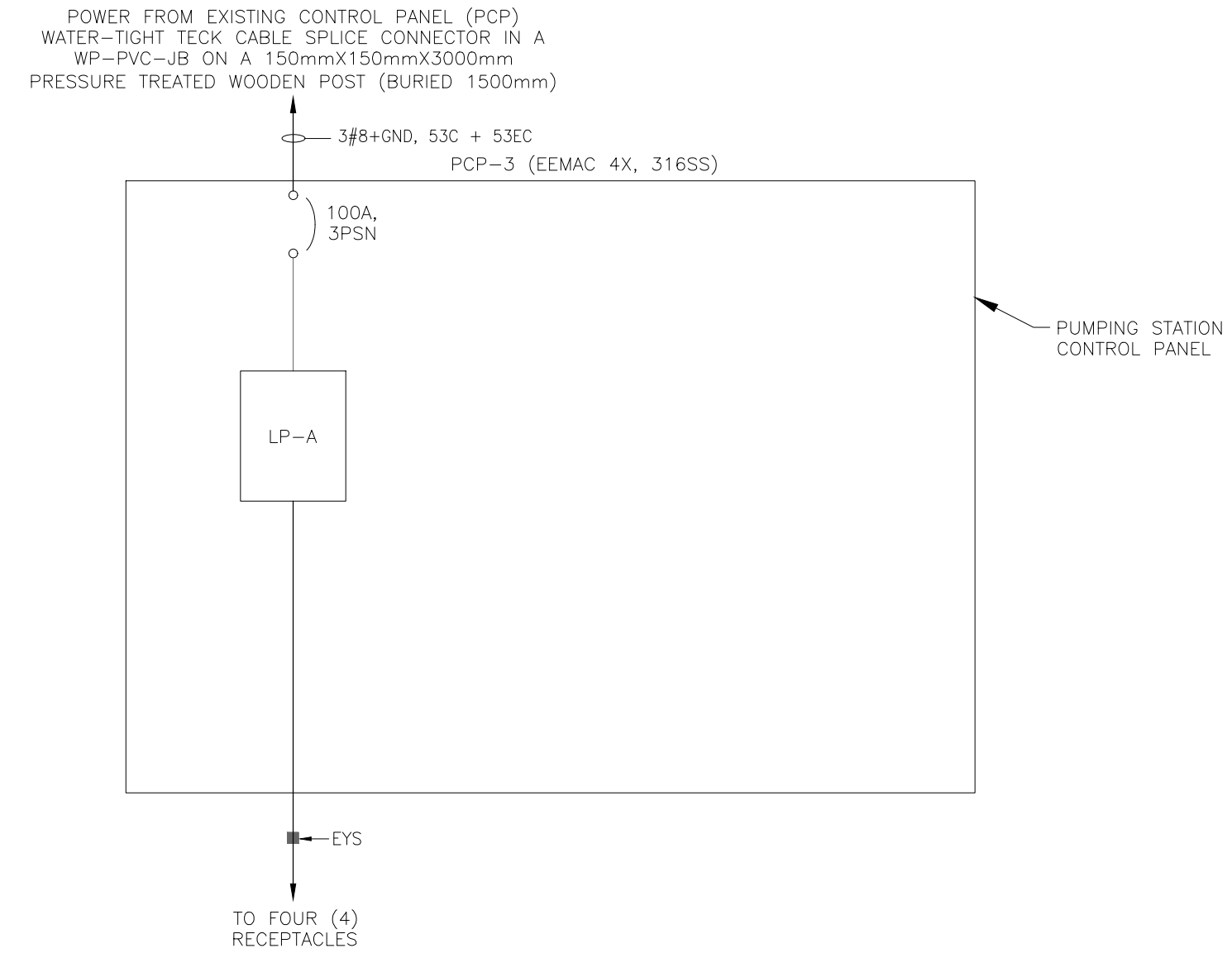
CCT	DESCRIPTION	VOLT-AMPERES			POLE	AMP	WIRE SIZE	AMP	POLE	VOLT-AMPERES			DESCRIPTION	CCT
		A	B	C						A	B	C		
1	RECEPTACLE FOR PORTABLE PUMP	200			3	15	12	12	15	1	200			2
3	RECEPTACLE 1		200					12	15	1	200			4
5	RECEPTACLE 1			200				12	15	1	200			6
7	SPARE				1	15	12	12	15	1				8
9	SPARE				1	15	12	12	15	1				10
11	SPARE				1	15	12	12	15	1				12
13	SPACE													14
15	SPACE													16
17	SPACE													18
19	SPACE													20
21	SPACE													22
23	SPACE													24
SUB-TOTAL VA		200	200	200			600				600	200	200	200
GRAND TOTAL VA 1650		DEMAND FACTOR 90 %									TOTAL AMPERES 4.5A			

PANELBOARD DESIGNATION LP-B LOCATION PANEL (LP-B) MIN. INTERRUPTING CAPABILITY 5 KA RMS SYMMETRICAL  
SERVICE 240/120 VOLTS, 1 PHASE, 3 WIRE, MOUNTING PANEL FLUSH, SURFACE        IN MCC  
100 AMP MAIN LUGS, 40 AMP MAIN BREAKER

CIRCLE AROUND CIRCUIT No. INDICATES HANDLE LOCKING DEVICE  
\* INDICATES SHUNT TRIP

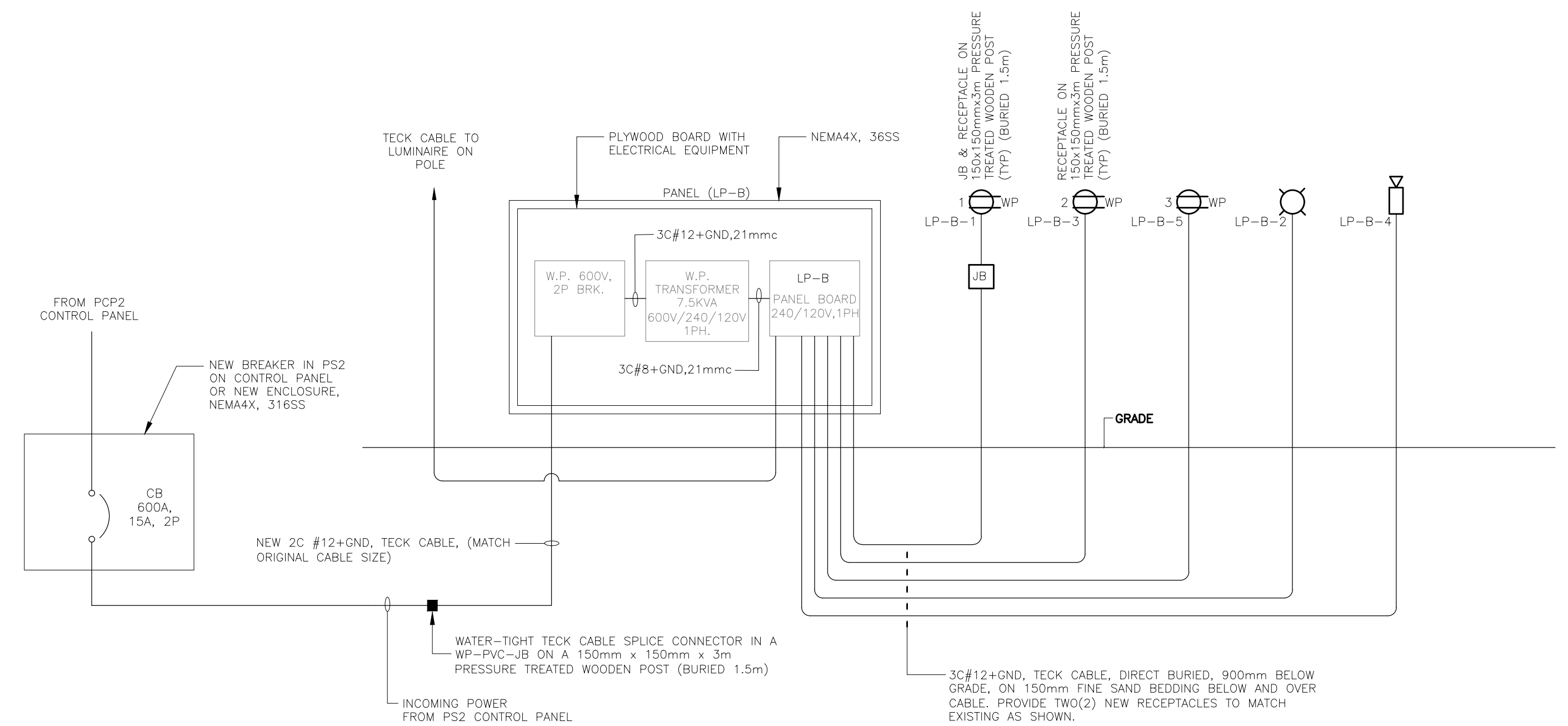
CCT	DESCRIPTION	VOLT-AMPERES			POLE	AMP	WIRE SIZE	AMP	POLE	VOLT-AMPERES			DESCRIPTION	CCT
		A	B	C						A	B	C		
1	RECEPTACLE	100			1	15	12	12	15	1	100			2
3	RECEPTACLE		100		1	15	12	12	15	1	100			4
5	RECEPTACLE			100	1	15	12	12	15	1	100			6
7	SPARE				1	15	12	12	15	1				8
9	SPARE				1	15		12	15	1				10
11	SPARE				1	15								12
13	SPACE													14
15	SPACE													16
17	SPACE													18
19	SPACE													20
21	SPACE													22
23	SPACE													24
SUB-TOTAL VA		200	100	300			300				200	100		
GRAND TOTAL VA 1650		DEMAND FACTOR 90 %									TOTAL AMPERES 4.5A			

**PANELBOARD SCHEDULES**  
N.T.S.



**PCP 3 SINGLE LINE DIAGRAM**  
N.T.S.

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	CEILING OR WALL MOUNTED INCANDESCENT/H.I.D.
	FIXTURE SINGLE POLE LIGHT SWITCH 120V,15A
	INTRINSICALLY SAFE RELAY
	LIMIT SWITCH - LOW
	LIMIT SWITCH - HIGH
	START/STOP-LOCK OFF/PILOT LIGHT CONTROL STATION
	120 VOLT SINGLE PHASE OUTLET FOR DIRECT CONNECTION
	CIRCUIT BREAKER
	HAZARD ISOLATION JUNCTION BOX
	UNINTERRUPTED POWER SUPPLY
	PROGRAMMABLE LOGIC CONTROLLER
	LIGHTING PANEL
	TRANSIENT VOLTAGE & SURGE SUPPRESSOR
	LIGHTNING ARRESTER
	SOFT STARTER



**BLOCK WIRING DIAGRAM FOR RECEPTABLES FOR VEHICLE BLOCK HEATERS RELOCATION**  
N.T.S.

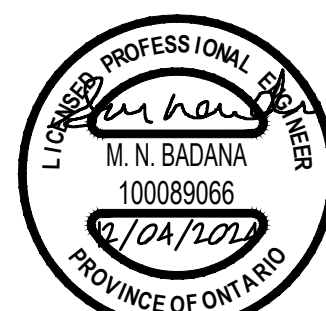
NOTES:

1. CONTRACTOR SHALL REUSE EXISTING CIRCUIT BREAKERS IN EXISTING PANELBOARD AS REQUIRED.
2. REMOVE EXISTING TECK CABLES AND POSTS FOR EXISTING RECEPTABLES. EXISTING TECK CABLE (THAT IS TO BE REMOVED) SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SUPPLY AND INSTALL NEW TECK CABLE AS SHOWN.
3. ALL EQUIPMENT SHALL BE CSA APPROVED AND INSPECTED BY ESA.
4. CONTRACTOR TO USE EXISTING MAIN BREAKER, TRANSFORMER AND PANEL. CONTRACTOR TO PROVIDE CABLES AND CONDUITS.
5. NEW TECK CABLE SHALL BE DIRECT BURIED TO A MINIMUM DEPTH OF 900mm WITH 150mm OF SAND BEDDING ABOVE AND BELOW CABLE. REMAINING BACKFILL TO BE EXCAVATED TRENCH MATERIAL.

LEGEND :

- DUPLEX 15A, 125 VOLT RECEPTACLE IN WP ENCLOSURE. REMOVE AND PROVIDE NEW PRESSURE TREATED POSTS AS SHOWN. WP DESIGNATED WEATHER PROOF.
- WATER-TIGHT JUNCTION BOX. REMOVE AND RELOCATE ON NEW POST AS SHOWN.
- POLE MOUNTED LUMINAIRE
- POLE MOUNTED CAMERA

SEAL



CLIENT



CONSULTANT



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PROJECT  
ESSEX-WINDSOR REGIONAL LANDFILL  
CELL 5 NORTH CONSTRUCTION

TITLE  
**LEGEND, ELECTRICAL SCHEMATICS,  
PANEL SCHEDULES AND DETAILS**

PROJECT NO. 111-53107-10 CONTROL 2001 REV. B 29 of 29 DRAWING E02

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
B	2024-04-12	ISSUED FOR TENDER	MN	MK	MN	MN
A	2023-02-28	ISSUED FOR CLIENT REVIEW	MN	MK	MN	MN

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D