

**METRIC**  
DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES UNLESS  
OTHERWISE SHOWN. STATIONS  
IN KILOMETRES + METRES

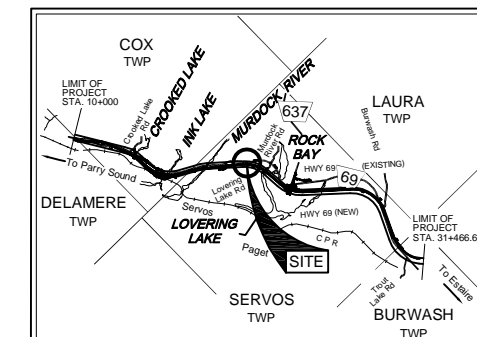
CONT No  
GWP No 5379-02-00



SHEET

**HIGHWAY 69**  
HIGHWAY 69 FOUR-LANING FOR 21.5 km  
From 4.5km North of Hwy 64 to 8.7km North of Hwy 637  
SWAMP 401, STA. 12+950 TO 13+310 SERVOS TWP  
**BOREHOLE LOCATIONS**

**PML Peto MacCallum Ltd.**  
CONSULTING ENGINEERS



**KEY PLAN**  
SCALE  
0 2 4 6 km

**LEGEND**

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J / blow)
- CONE Blows/0.3m (60° Cone, 475 J / blow)
- W L at time of investigation Nov 2006 and Feb-Mar 2007 (N12 Series Mar 2004)
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
401-1	218.4	12+950	19.0m Lt.
401-2	223.9	12+950	19.0m Rt.
401-3	201.3	12+975	58.8m Lt.
401-4	219.3	12+975	CL
401-5	219.4	12+975	28.5m Rt.
401-6	210.3	13+000	19.0m Lt.
401-7	218.8	13+000	18.8m Rt.
401-8	201.0	13+025	58.1m Lt.
401-9	214.7	13+025	CL
401-10	217.1	13+025	28.5m Rt.
401-11	210.3	13+050	19.0m Lt.
401-12	217.4	13+050	19.0m Rt.
401-13	201.0	13+075	55.5m Lt.
401-14	216.3	13+075	CL
401-15	219.2	13+075	10.5m Rt.

(Legend Continues)

**NOTE -**

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 411-206

HWY No	69	DIST	SUDBURY
SUBWD	GD	CHECKED GD	DATE JULY 30, 2007 SITE
DRAWN	NA	CHECKED CN	APPROVED BRG DWG 401-1

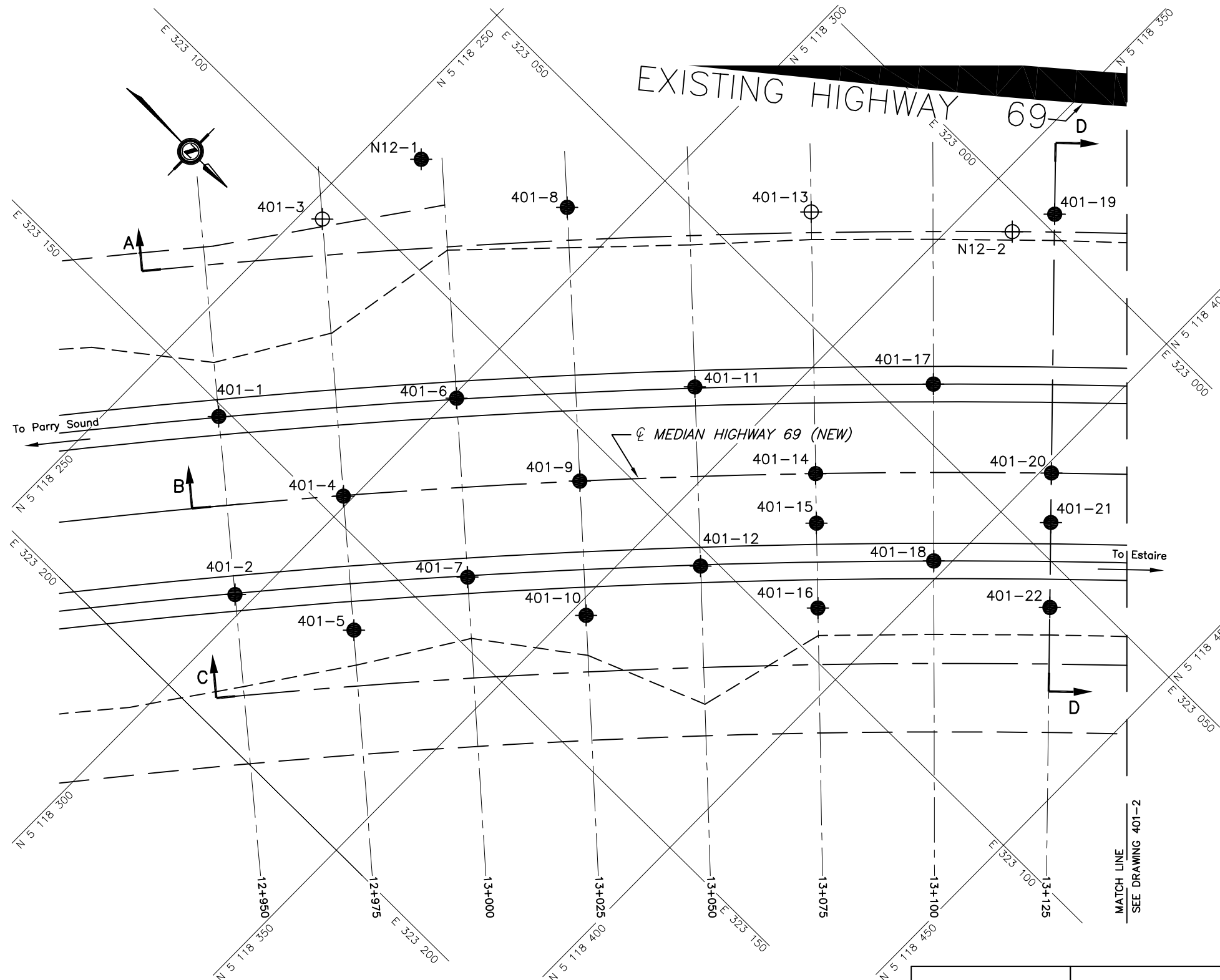
(Legend Continued)

BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
401-16	224.9	13+075	28.5m Rt.
401-17	207.4	13+100	18.8m Lt.
401-18	225.2	13+100	18.8m Rt.
401-19	200.2	13+125	54.9m Lt.
401-20	217.6	13+125	CL
401-21	222.8	13+125	10.5m Rt.
401-22	226.4	13+125	28.5m Rt.

(Legend Continued)

BH No	ELEVATION	CO-ORDINATES NORTH	EAST
N12-1	201.0	5 118 260	323 083
N12-2	200.5	5 118 360	323 006

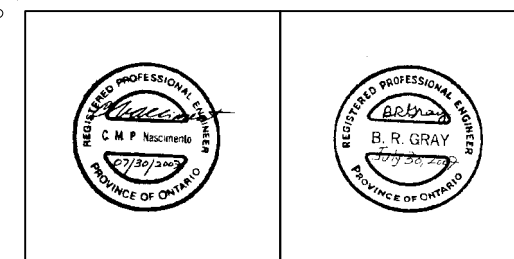
(Legend Continues on Drawing 401-2)



**PLAN**  
SCALE  
10 0 10 20m

**NOTES:**









- REFER TO DRAWING 401-2 FOR CONTINUATION OF NORTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 401-3 TO 401-6 FOR SECTIONS A-A, B-B, C-C AND D-D.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.



REF No. 471\_Preferred\_Plan\_PDR\_FINAL1.dwg;  
2m\_Contours\_nad83.dwg;  
471\_ph\_base\_nad83\_z12.dwg;

DIMENSIONS ARE IN METRES  
AND/OR MILLIMETRES UNLESS  
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IN KILOMETRES + METRES

**HIGHWAY 69**  
HIGHWAY 69 FOUR-LANING FOR 21.5 km  
From 4.5km North of Hwy 64 to 8.7km North of Hwy  
SWAMP 401, STA. 12+950 TO 13+310 SERVOS TWP  
**BOREHOLE LOCATIONS**

LEGEND	
	Borehole
	Dynamic Cone Penetration Test (Cone)
	Borehole & Cone
N	Blows/0.3m (Std. Pen Test, 475 J / blow)
CONE	Blows/0.3m (60° Cone, 475 J / blow)
	W L at time of investigation Nov 2006 and Feb-Mar 2007 (N12 Series Mar 2004)
	Head
	ARTESIAN WATER
	Encountered
	PIEZOMETER

BH No	ELEVATION	STA SERVOS TWP	o/s CL M
401-37	207.5	13+275	CL
401-38	208.9	13+275	37.3m R
401-39	207.3	13+300	19.0m L
401-40	211.7	13+300	19.0m R
401-41	202.0	13+310	53.6m L
401-42	211.6	13+310	CL
401-43	213.8	13+310	40.5m R

BH No	ELEVATION	CO-ORDINATES	
		NORTH	EAST
N12-3	201.6	5 118 472	322 900

BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
(Legend Continued)			
401-23	209.8	13+150	18.8m Lt.
401-24	224.1	13+150	19.0m Rt.
401-25	200.9	13+175	54.9m Lt.
401-26	217.6	13+175	CL
401-27	221.1	13+175	10.5m Rt.
401-28	223.9	13+175	28.5m Rt.
401-29	211.2	13+200	18.8m Lt.
401-30	219.8	13+200	18.8m Rt.
401-31	201.5	13+225	54.3m Lt.
401-32	211.3	13+225	CL
401-33	216.3	13+225	28.5m Rt.
401-34	203.7	13+250	18.8m Lt.
401-35	208.9	13+250	18.8m Rt.
401-36	201.7	13+275	54.3m Lt.

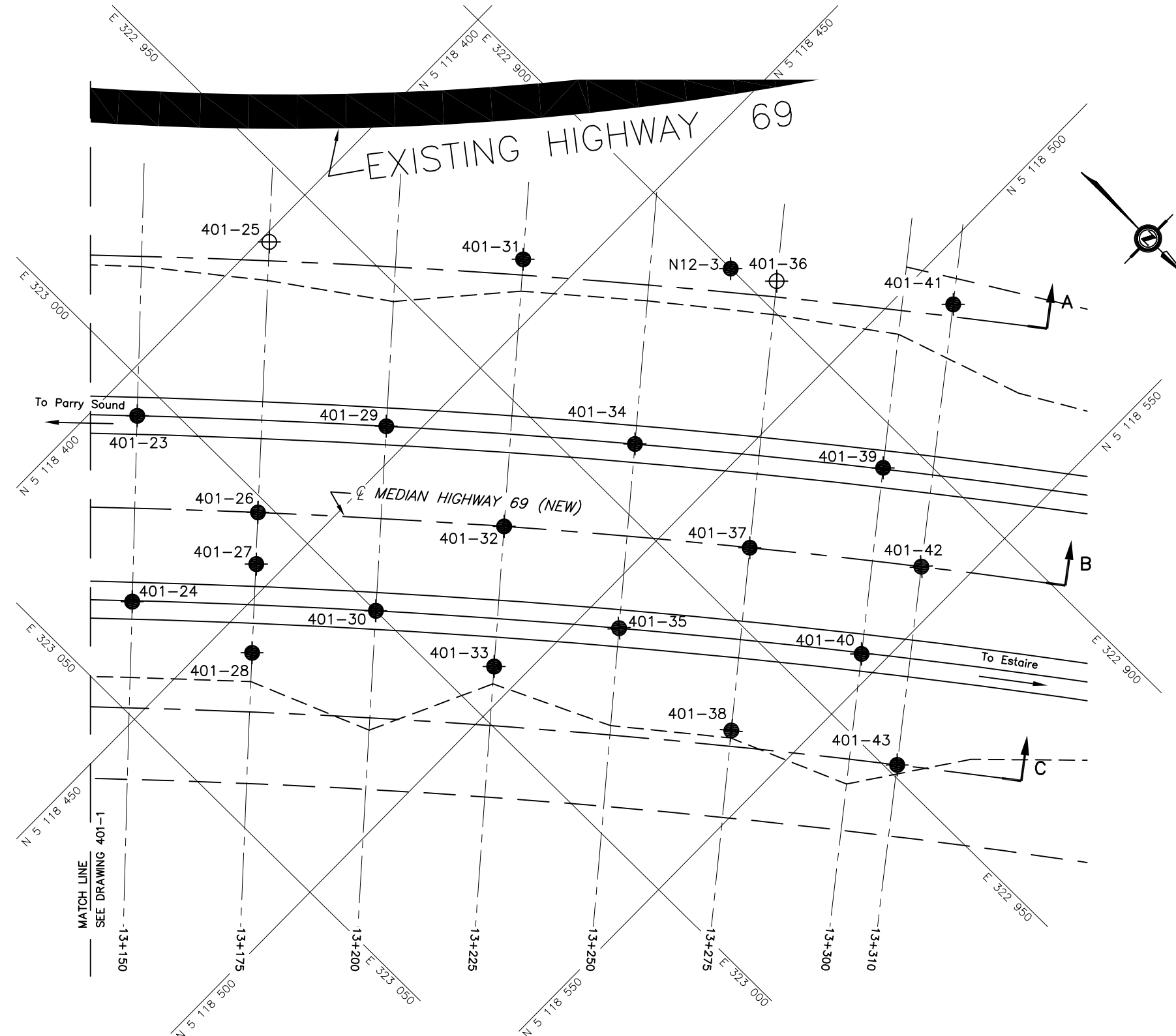
- NOTE -

The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

REVISIONS			
DATE	BY	DESCRIPTION	

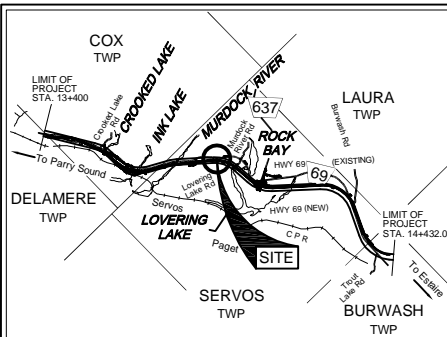
HWY No 69				DIST	SUDBURY
SUBM'D	GD	CHECKED	GD	DATE	JULY 30, 2007
DRAWN	NA	CHECKED	CN	APPROVED	BRG
				DWG	401-2

REF No. 471\_Preferred\_Plan\_PDR\_FINAL1.dwg;  
2m\_Contours\_nad83.dwg;  
471\_ph\_base\_nad83\_z12.dwg;



1. REFER TO DRAWING 401-1 FOR CONTINUATION OF SOUTH SIDE BOREHOLE LOCATIONS PLAN AND DRAWINGS 401-3 TO 401-6 FOR SECTIONS A-A, B-B, C-C AND D-D.
2. THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.





LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J / blow)		
CONE	Blows/0.3m (60° Cone, 475 J / blow)		
	W L at time of investigation Nov 2006 and Feb-Mar 2007 (N12 Series Mar 2004)		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		

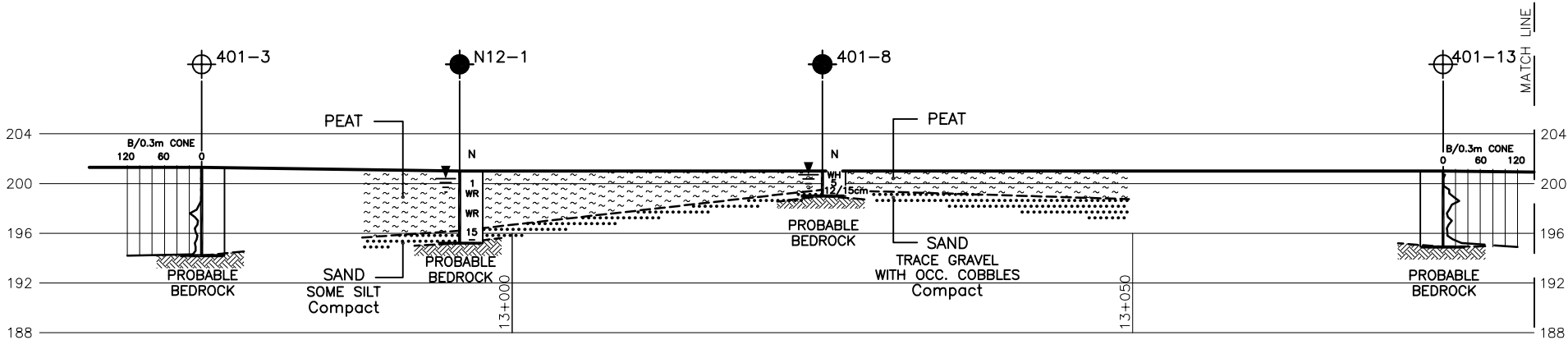
BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
SEE DRAWINGS 401-1 AND 401-2 FOR DETAILS.			

NOTE  
The boundaries between soil strata have been established only at Borehole locations. Between Boreholes the boundaries are assumed from geological evidence.

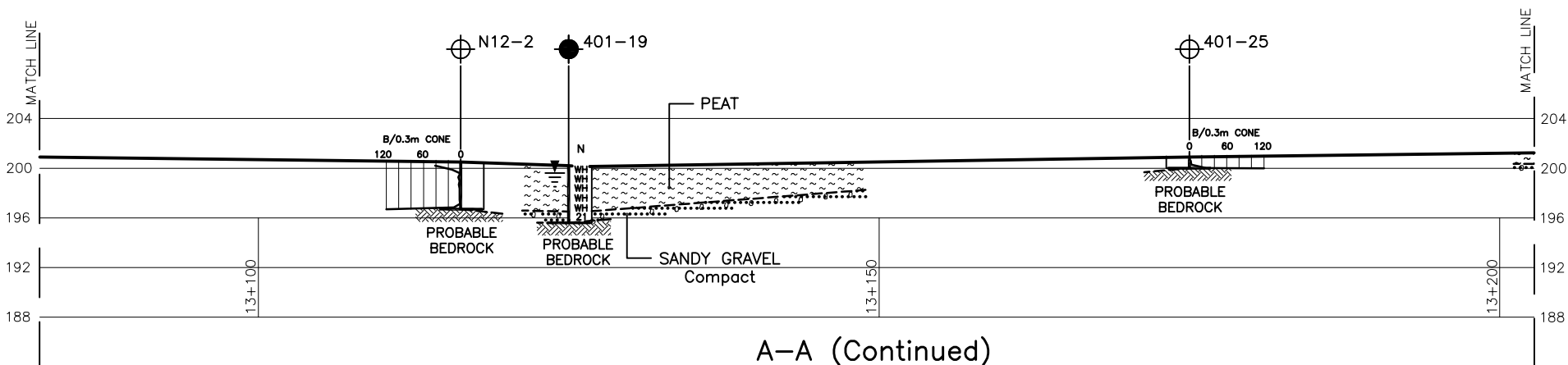
REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 411-206

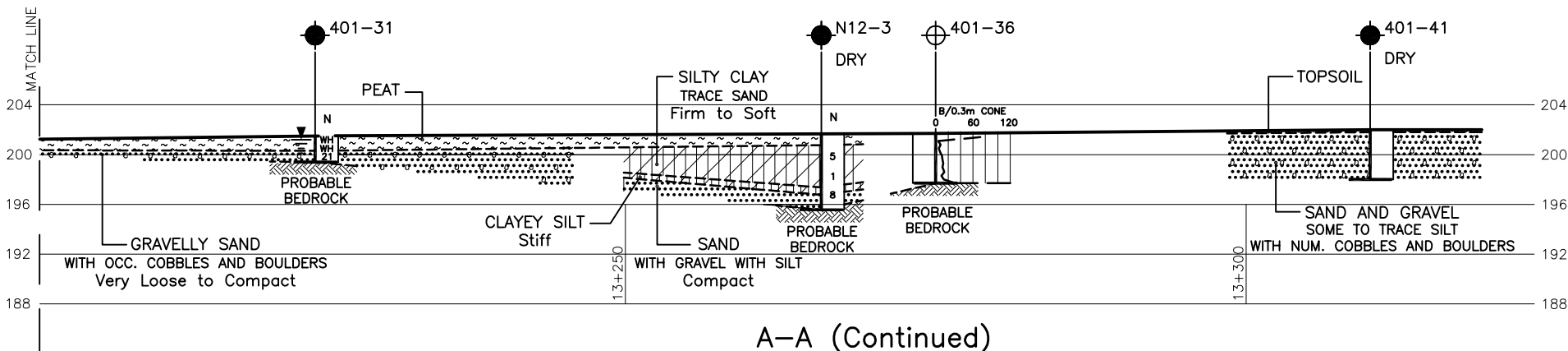
Hwy No	69	DIST	SUDBURY
SUBM'D	GD	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JULY 30, 2007	APPROVED	BRG
SITE	---	DWG	401-3



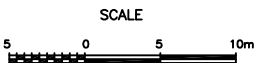
A-A



A-A (Continued)



A-A (Continued)



NOTES:

- REFER TO DRAWINGS 401-1 AND 401-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 401-4 TO 401-6 FOR SECTIONS B-B, C-C AND D-D.
- THIS DRAWING IS FOR SUBSURFACE INFORMATION ONLY. SURFACE DETAILS AND FEATURES ARE FOR CONCEPTUAL ILLUSTRATION.
- THE EMBANKMENT HEIGHT VARIES FROM -9.0M (CUT) TO 9.0M FOR NBL AND FROM 2.0M TO 21.0M FOR SBL WITHIN THE LIMIT OF SWAMP.



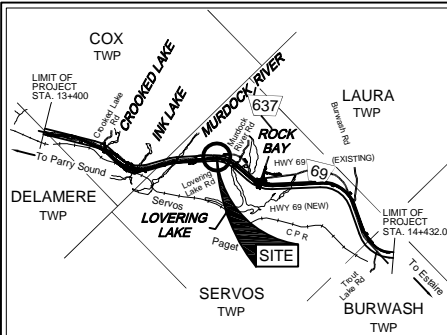
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2m\_Contours\_nad83.dwg;  
471\_ph\_base\_nad83\_z12.dwg;

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CONT No  
GWP No 5379-02-00

HIGHWAY 69  
HIGHWAY 69 FOUR-LANING FOR 21.5 km  
From 4.5km North of Hwy 64 to 8.7km North of Hwy 637  
SWAMP 401, STA. 12+950 TO 13+310 SERVOS TWP  
SOIL STRATA

SHEET



KEY PLAN  
SCALE  
0 2 4 6 km

LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J / blow)
- CONE Blows/0.3m (60° Cone, 475 J / blow)
- W L at time of investigation Nov 2006 and Feb-Mar 2007 (N12 Series Mar 2004)
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
SEE DRAWINGS 401-1 AND 401-2 FOR DETAILS.			

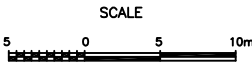
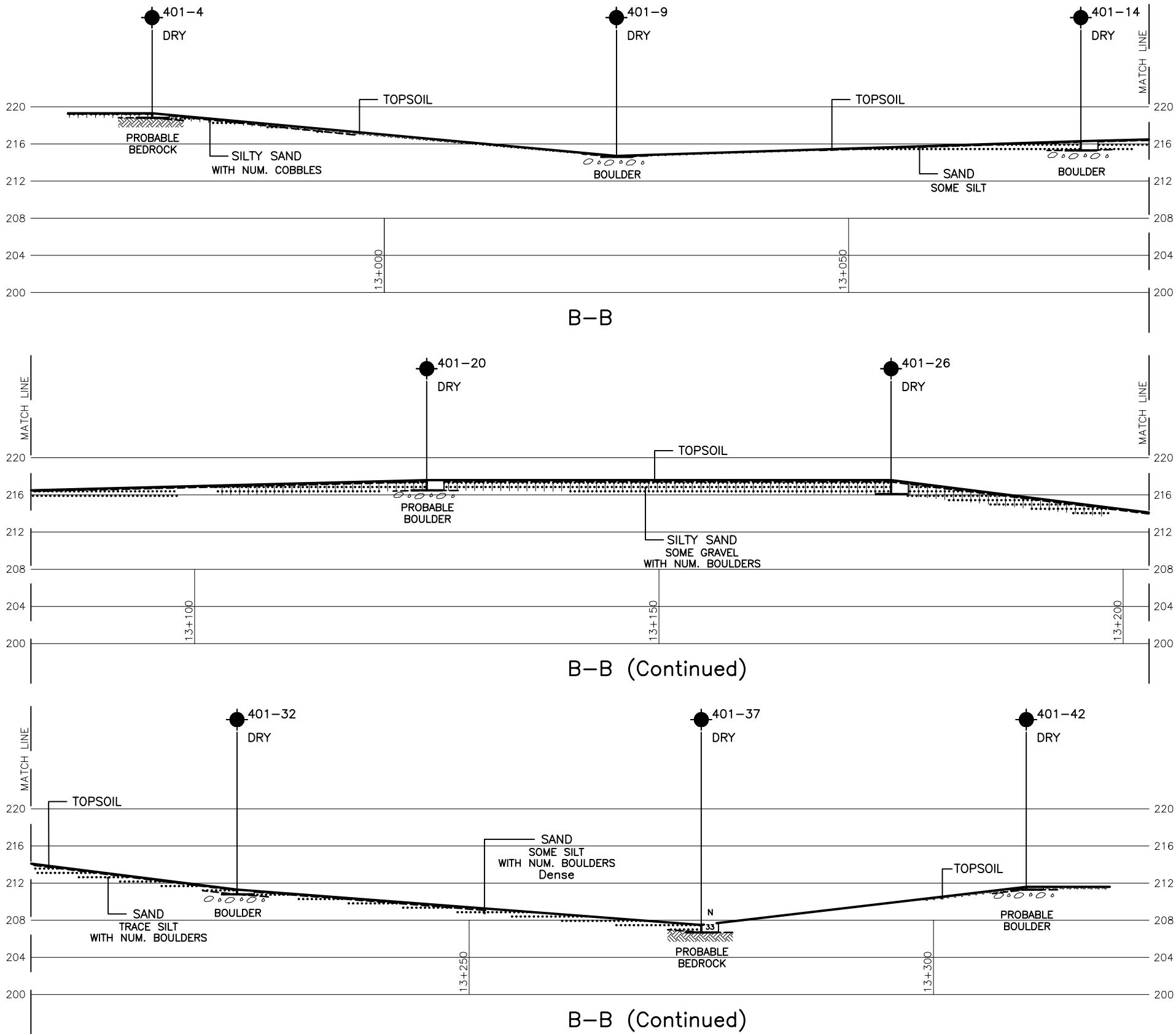
NOTE

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REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 411-206

Hwy No	69	DIST	SUDBURY
SUBM'D	GD	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JULY 30, 2007	APPROVED	BRG
SITE	---	DWG	401-4



NOTES:

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REF No. 471\_Preferred\_Plan\_PDR\_FINAL1.dwg;  
2m\_Contours\_nad83.dwg;  
471\_ph\_base\_nad83\_z12.dwg;



METRIC

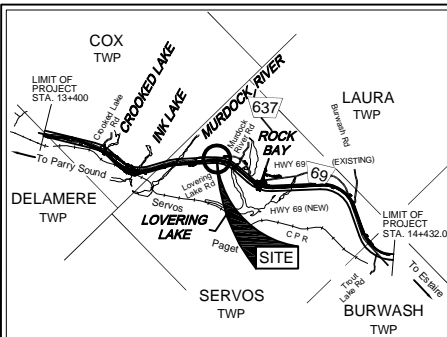
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CONT No  
GWP No 5379-02-00

HIGHWAY 69  
HIGHWAY 69 FOUR-LANING FOR 21.5 km  
From 4.5km North of Hwy 64 to 8.7km North of Hwy 637  
SWAMP 401, STA. 12+950 TO 13+310 SERVOS TWP  
SOIL STRATA

SHEET

PMI Peto MacCallum Ltd  
CONSULTING ENGINEERS



KEY PLAN  
SCALE  
2 0 2 4 6 km

LEGEND

- Borehole
- Dynamic Cone Penetration Test (Cone)
- Borehole & Cone
- N Blows/0.3m (Std. Pen Test, 475 J / blow)
- CONE Blows/0.3m (60° Cone, 475 J / blow)
- W L at time of investigation Nov 2006 and Feb-Mar 2007 (N12 Series Mar 2004)
- Head
- ARTESIAN WATER Encountered
- PIEZOMETER

BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
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SEE DRAWINGS 401-1 AND 401-2 FOR DETAILS.

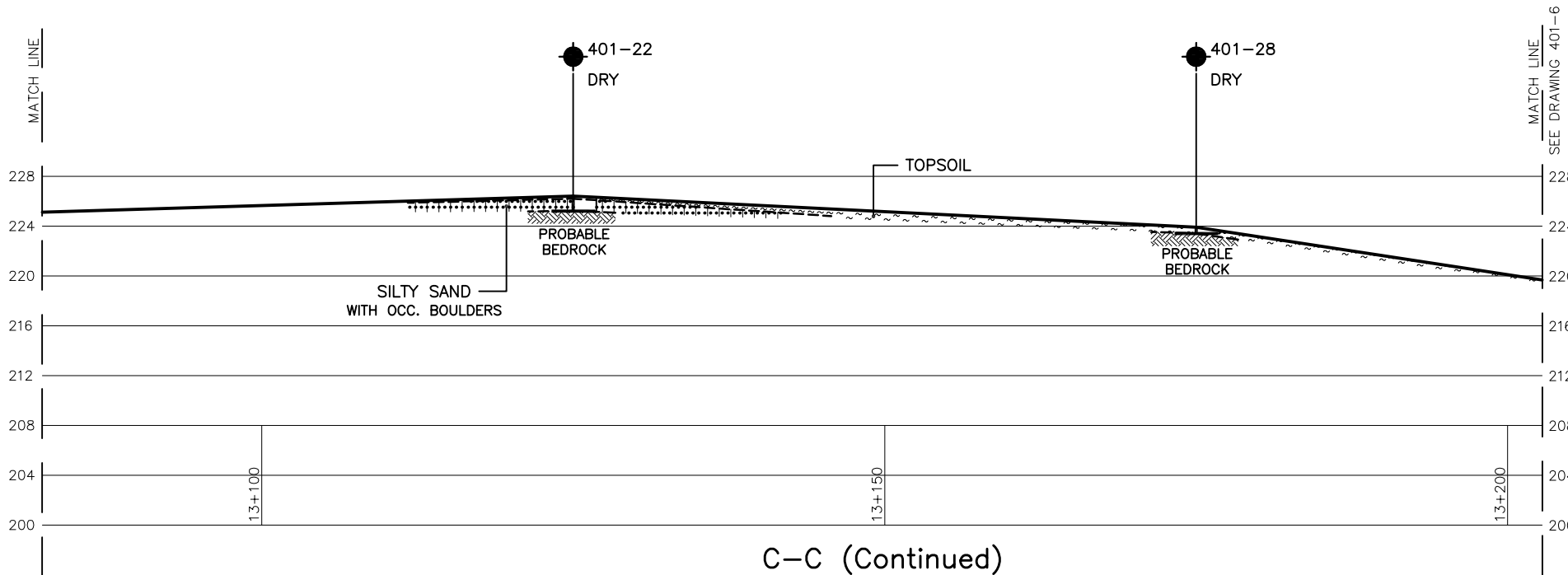
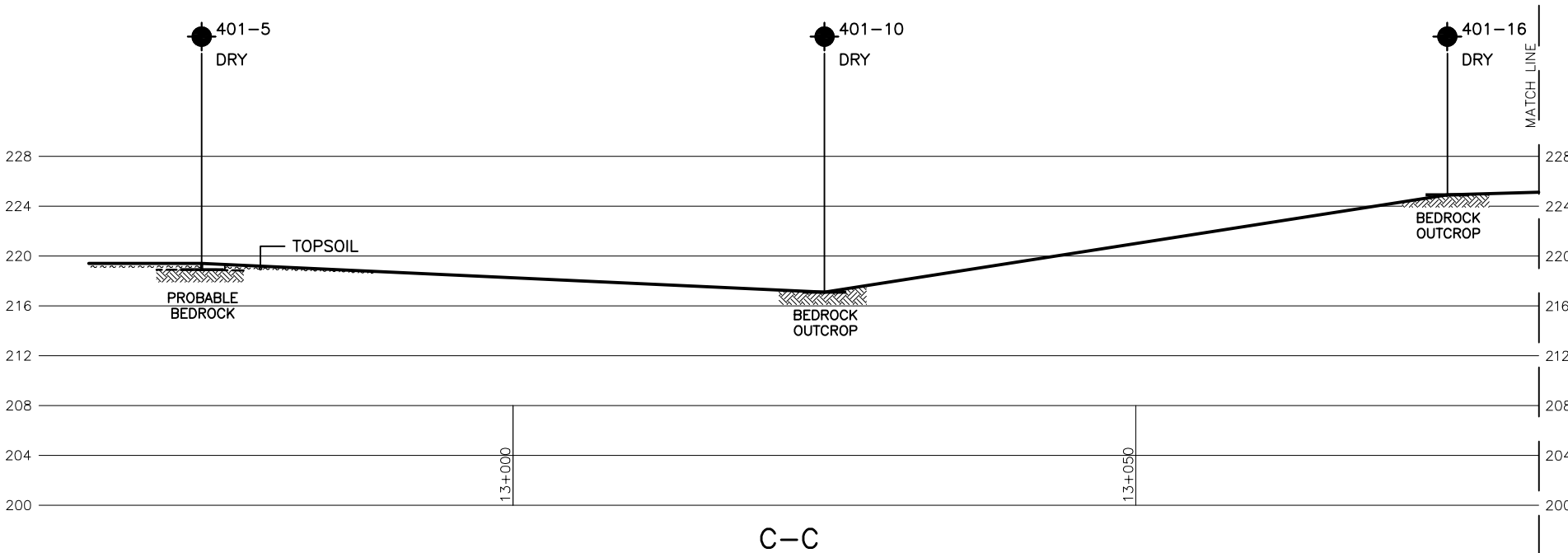
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REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 411-206

HWY No	69	DIST	SUDBURY
SUBM'D	GD	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JULY 30, 2007	APPROVED	BRG
SITE	---	DWG	401-5

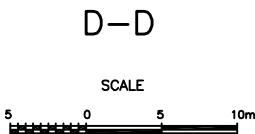
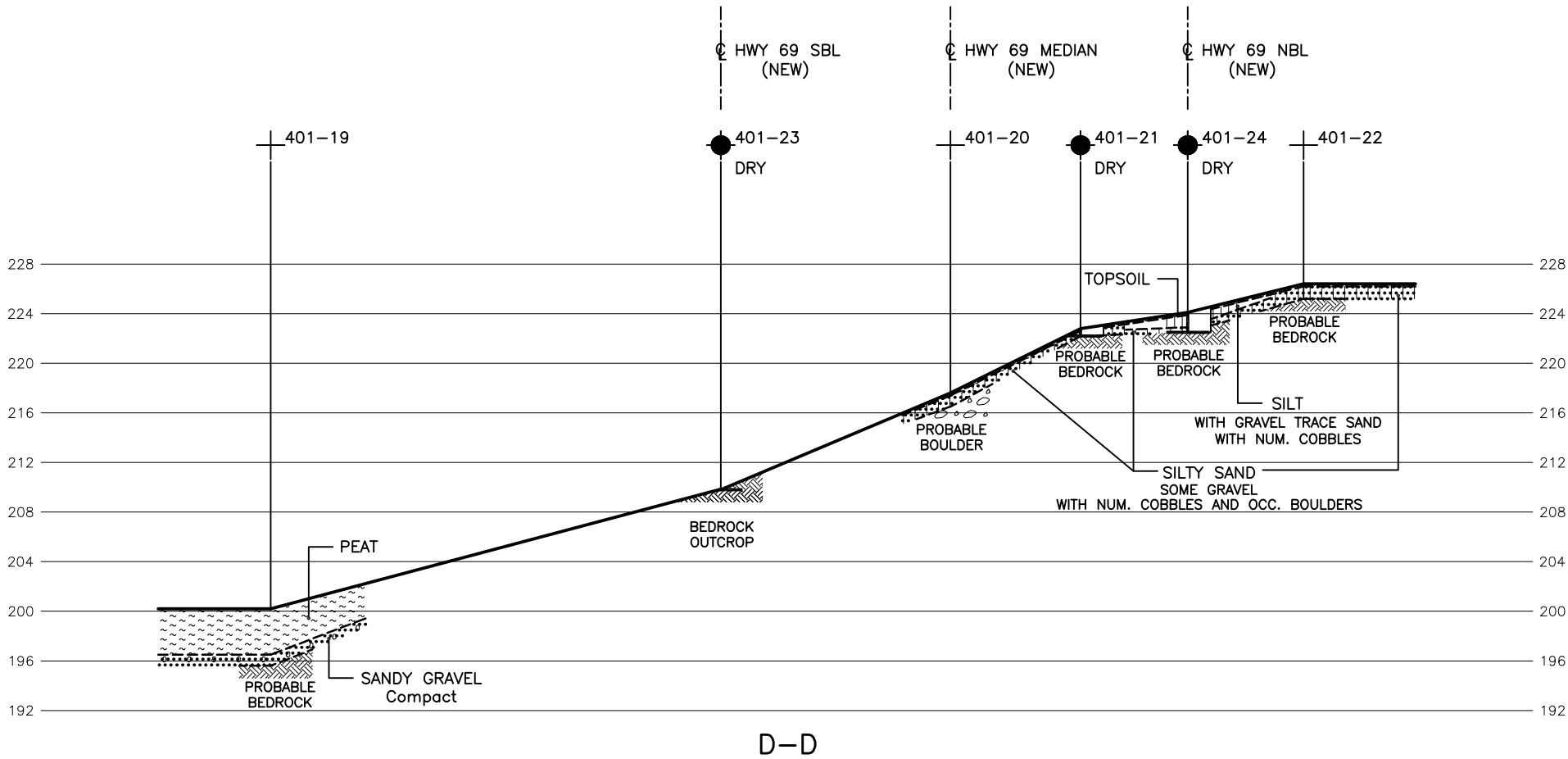
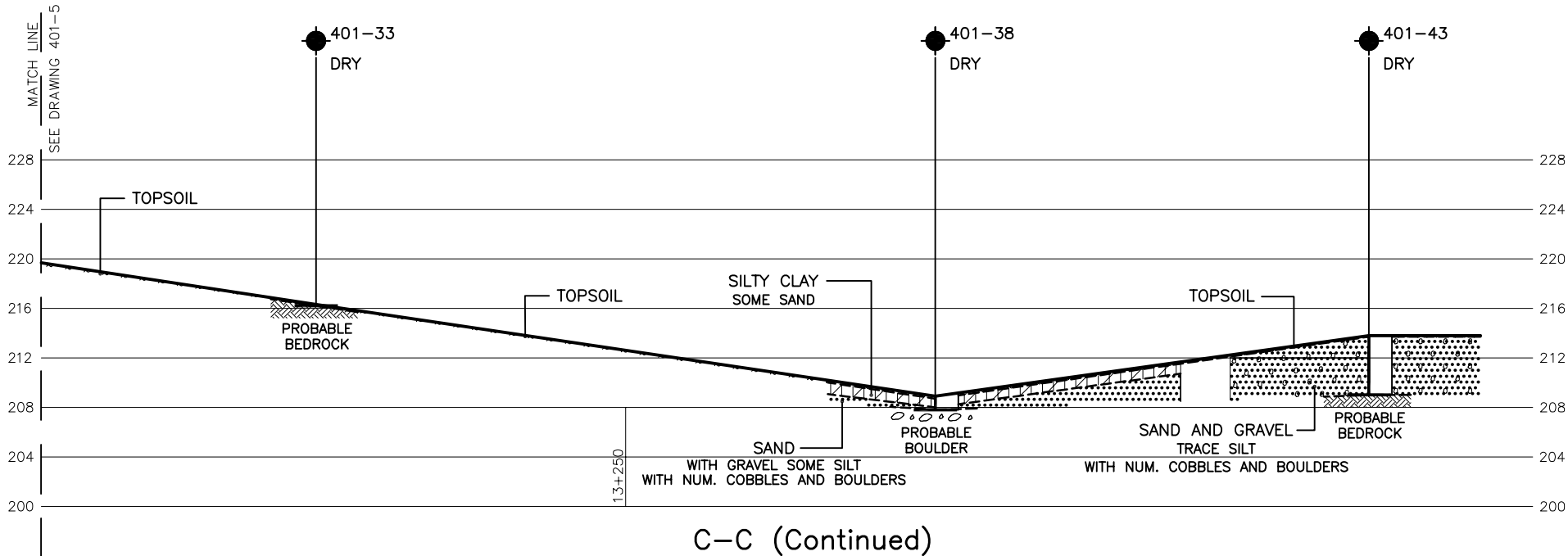
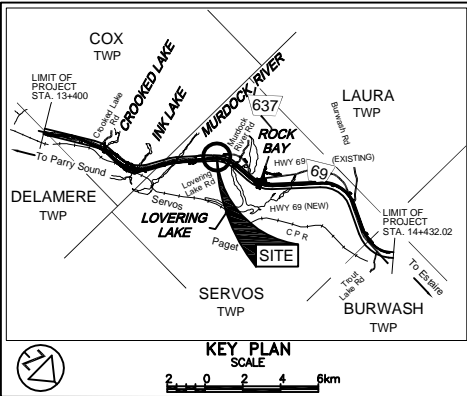


NOTES:

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REF No. 471\_Preferred\_Plan\_PDR\_FINAL1.dwg;  
2m\_Contours\_nad83.dwg;  
471\_ph\_base\_nad83\_z12.dwg;



NOTES:

1. REFER TO DRAWINGS 401-1 AND 401-2 FOR BOREHOLE LOCATIONS PLAN AND DRAWINGS 401-3 TO 401-5 FOR SECTIONS A-A, B-B AND C-C(CONTINUED).
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471\_ph\_base\_nad83\_z12.dwg;



LEGEND			
	Borehole		
	Dynamic Cone Penetration Test (Cone)		
	Borehole & Cone		
N	Blows/0.3m (Std. Pen Test, 475 J / blow)		
CONE	Blows/0.3m (60° Cone, 475 J / blow)		
	W L at time of investigation Nov 2006 and Feb-Mar 2007 (N12 Series Mar 2004)		
	Head		
	ARTESIAN WATER		
	Encountered		
	PIEZOMETER		
BH No	ELEVATION	STA SERVOS TWP	o/s CL MED
SEE DRAWINGS 401-1 AND 401-2 FOR DETAILS.			

NOTE

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REVISIONS	DATE	BY	DESCRIPTION

Geocres No. 411-206

HWY No	69	DIST	SUDBURY
SUBM'D	GD	CHECKED	GD
DRAWN	NA	CHECKED	CN
DATE	JULY 30, 2007	APPROVED	BRG
SITE	---	DWG	401-6