

B3-10 Mid complex void(s) backfilling

Conceptual Mitigation Plan Revision 1 – February 7, 2014



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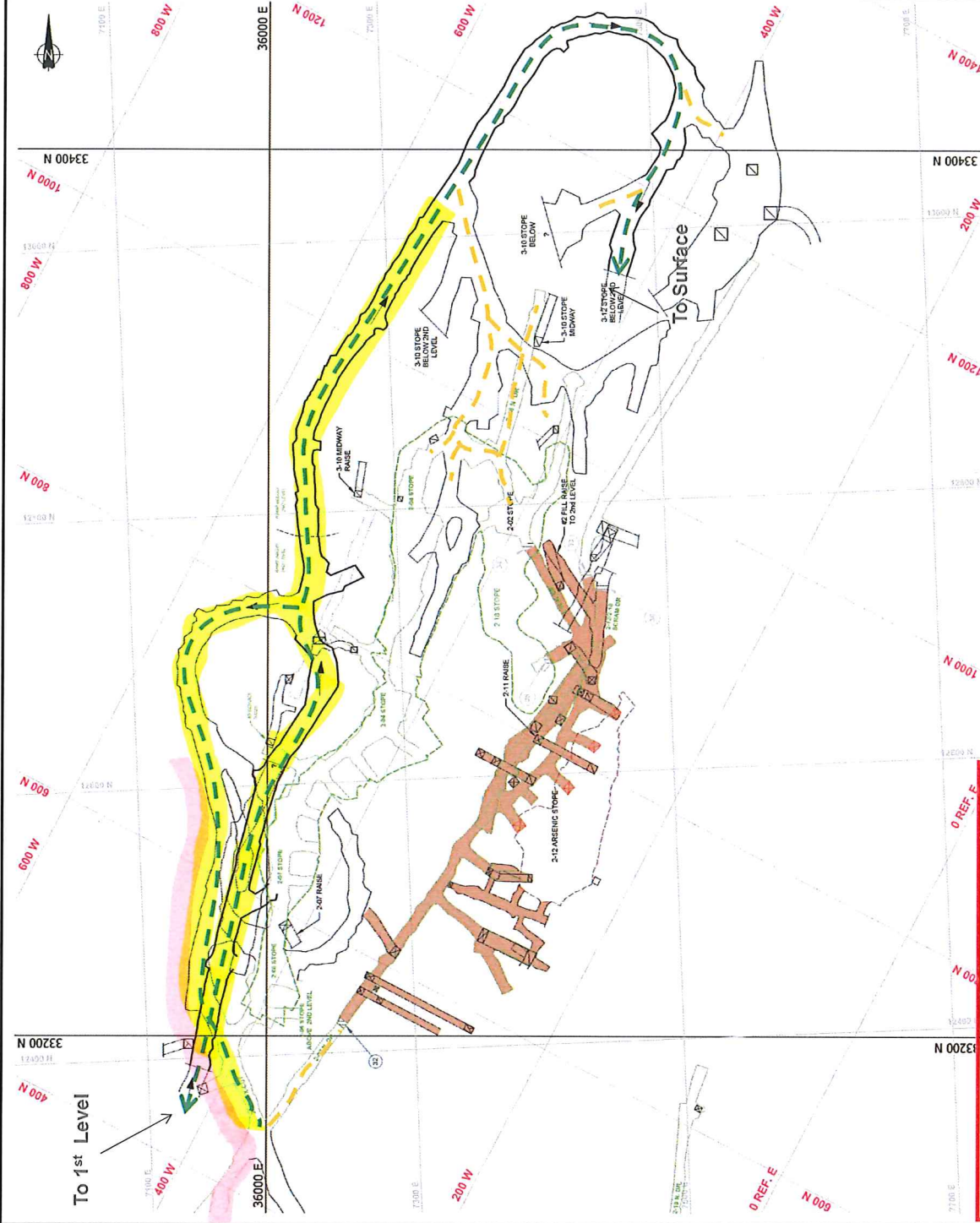
Note: Level plans shown are for illustrative purposes only, Use full size level plans and 3D digital model for planning purposes.

PROJECT	PMVGS GIANT MINE INTERIM U/G STABILIZATION PROJECT YELLOWKNIFE, NWT						
TITLE	B3-10Mid Stope Complex Conceptual Mitigation Plan						
	PROJECT No.	13-4252-0010	PHASE No.	5000			
	DESIGN	PM	ISSUED	SCALE	N.T.S.	REV.	1
	DATE	24-JAN-14	DATE	24-JAN-14	DATE	24-JAN-14	
	REVISION	DTX	24-JAN-14				

Underground Development Access - Legend

- DCNJV main travel way / work areas
- Not regularly travelled by DCNJV. Discuss entry procedures with DCNJV
- Hazard(s) present. Discuss entry procedures with DCNJV
- Major hazard(s) present. Discuss entry procedures with DCNJV

Note: Underground development access notes are for planning purposes only, Care and Maintenance Contractor Determines Safety of Access to Giant Mine Underground.



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PROJECT	PWGSC GIANT MINE INTERIM U/G STABILIZATION PROJECT YELLOWKNIFE, NWT		
TITLE	B3-10 Mid Stope Complex Underground Access - 2 nd Level		
PROJECT No.	13-1425-01D	PHASE No.	5000
DESIGN	FM	DS/JANT4	SCALE
DRAWN	FM	DS/JANT4	N.T.S.
CHECK	DTK	ZS/JANT4	REV. 1
REVIEW	DTK	ZS/JANT4	

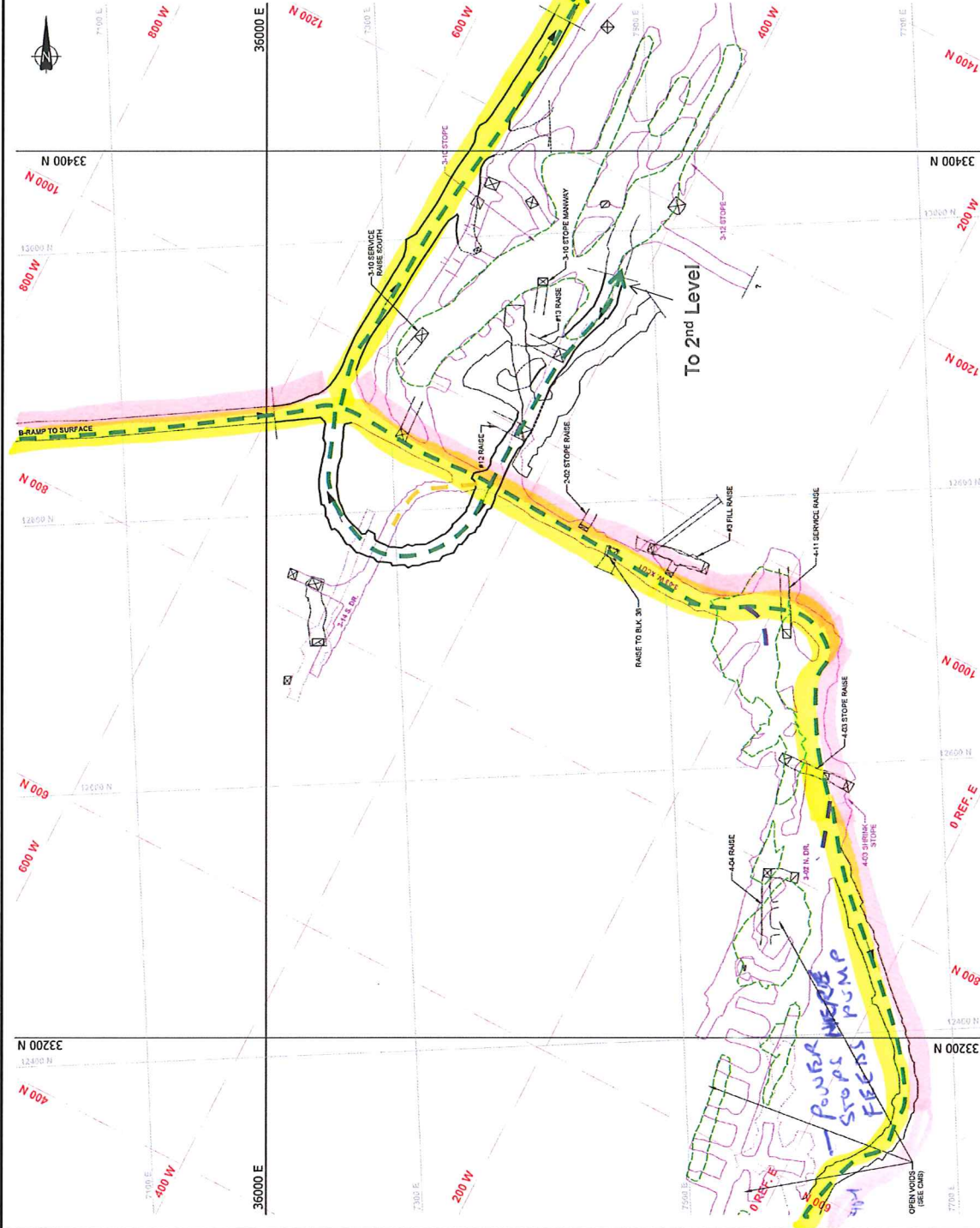


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Underground Development Access - Legend

- DCNJV main travel way / work areas
- Not regularly travelled by DCNJV. Discuss entry procedures with DCNJV
- Hazard(s) present. Discuss entry procedures with DCNJV
- Major hazard(s) present. Discuss entry procedures with DCNJV

Note: Underground development access notes are for planning purposes only, Care and Maintenance Contractor Determines Safety of Access to Giant Mine Underground



PROJECT		PMWGSC
GIANT MINE INTERIM U/G STABILIZATION PROJECT		
YELLOWKNIFE, NWT		
TITLE		
B3-10Mid Stope Complex		
Underground Access - 3rd Level		
PROJECT NO.	15-055-0010	PROJECT NO.
DESIGN	EN	SCALE
CHECK	DTL	24JAN14
REVIEW	DTL	24JAN14
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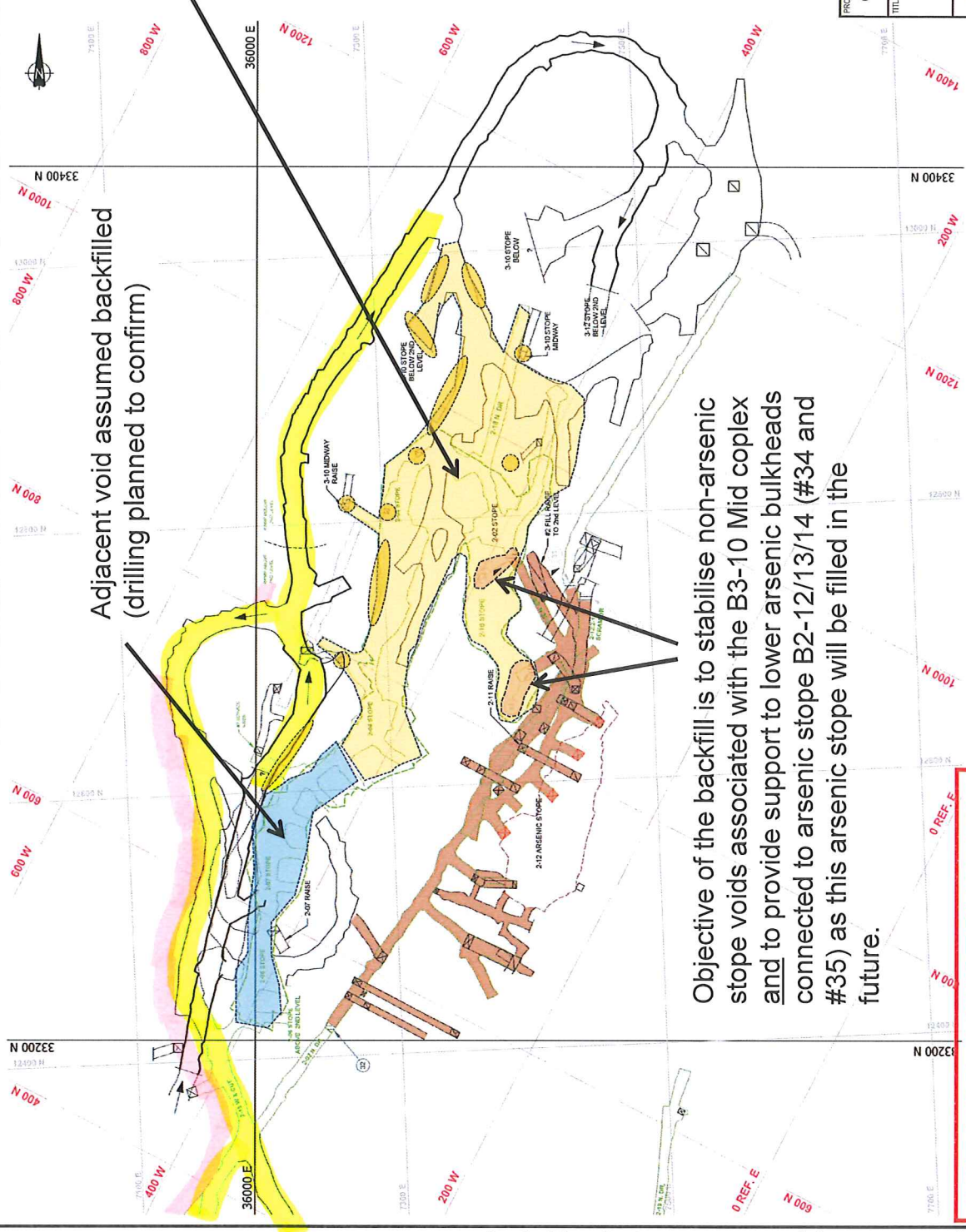
Target Area to be Backfilled

Consists of several inter-connected partially backfilled voids.

Void volume is not tightly constrained

Connections to lower levels (3rd and 4th level) exist which could allow paste backfill to escape. These include partially filled stopes (e.g. fill not tight to moderate dipping hangingwalls), sub-vertical raises and manways, etc.

Position of possible exit voids ●



Adjacent void assumed backfilled (drilling planned to confirm)

Objective of the backfill is to stabilise non-arsenic stope voids associated with the B3-10 Mid coplex and to provide support to lower arsenic bulkheads #34 and #35) as this arsenic stope will be filled in the future.

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PROJECT		PWGSC	
GIANT MINE INTERIM U/G STABILIZATION PROJECT		YELLOWKNIFE, NWT	
TITLE			
B3-10 Mid Stope Complex			
Void Volumes and Exit Points – 2 nd Level			
PROJECT No.	13-1252-010	PHASE No.	5000
DESIGN	PA	ISSUANCE	SCALE
CHECK	BY	DATE	N.T.S. / REV. 1
REVIEW	BY	DATE	24-AN14
Golder Associates			Page 4




Isometric view of 3D Model – Looking East-Southeast

B3-10 Mid void volume below base of 2nd level: 6,000m³

B3-10 Mid void volume above base of 2nd level: 11,000m³

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PROJECT	PMWGSC GIANT MINE INTERIM U/G STABILIZATION PROJECT YELLOWKNIFE, NWT				
TITLE	B3-10 Mid Slope Complex Void Volumes				
 Golder Associates	PROJECT No.	13-14252-010	PHASE No.	5000	
	DESIGN	PM	05/JAN/14	SCALE	N.T.S.
	CHECK	DTK	24/JAN/14		
	REVIEW	DTK	24/JAN/14		
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Mandatory Blockages and Fill Volume Containment Points - Legend



Mandatory paste blockage point

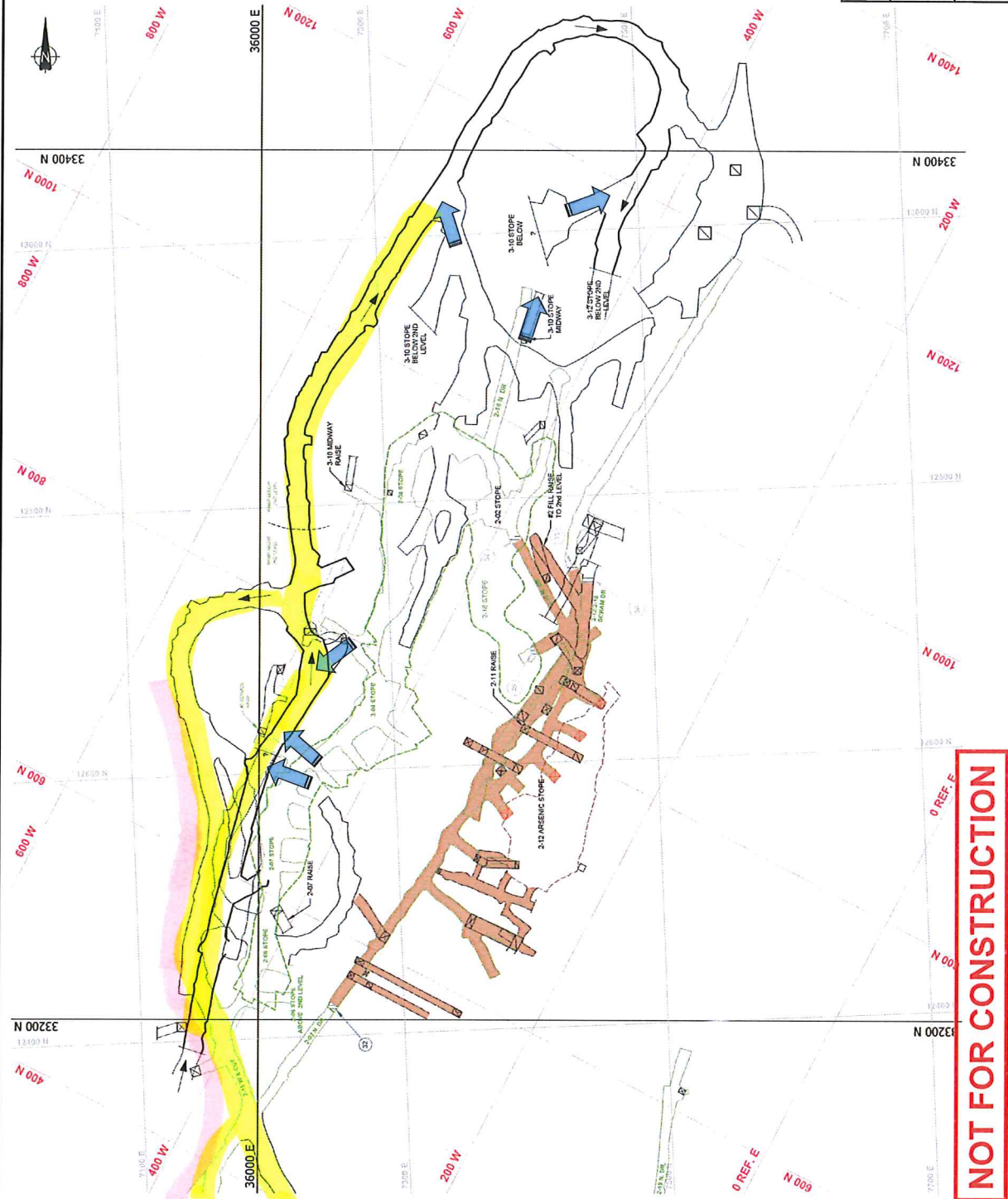


Volume constraint point - man-entry



Volume constraint point - no entry

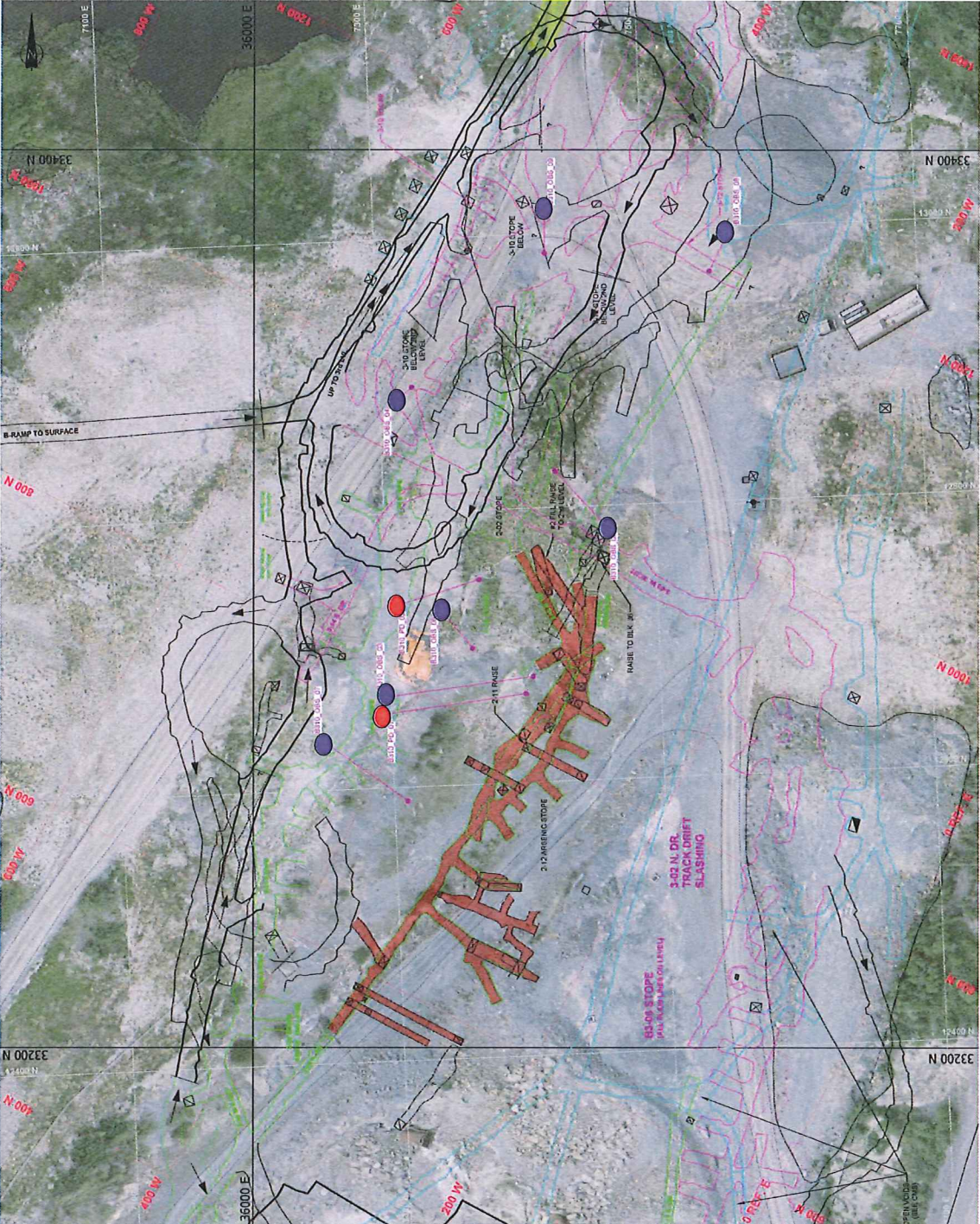
Note: mandatory paste blockage points are required where known and obvious exit points from the target void to be backfilled are connected to critical mine development openings (e.g. access ramp or a ventilation shaft, etc.).



PROJECT	PWGSSC
GIANT MINE INTERIM U/G STABILIZATION PROJECT	
YELLOWKNIFE, NWT	
TITLE	B3-10 Mid Stope Complex
Mandatory Blockages and Fill Volume	
Containment Points - 2nd Level	
PROJECT NO.	13-1420-0010
PHASE NO.	5000
DESIGN	EM
DATE	05 JAN 14
CHECK	DTK
24 JAN 14	
REVIEW	DTK
24 JAN 14	
Golder Associates	
SCALE	N.T.S.
REV.	REV. 1
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Surface Borehole Collar - Legend

- Sub-vertical high slump bulk fill delivery borehole
- Sub-vertical low slump fill or foam delivery borehole
- Observation / breather / contingency high slump bulk fill delivery borehole
- Borehole drilled from underground



PROJECT: PWGSSC
GIANT MINE INTERIM U/G STABILIZATION PROJECT
YELLOWKNIFE, NWT


TITLE: B3-10Mid Stope Complex
Surface Borehole Collars

PROJECT No.	10-245-0010	FIGURE No.	800
DESIGN DRAWING No.	245-0010-019	SCALE	N.T.S.
CHECKED BY	DJK	DATE	24-JAN-14
REVIEWED BY	DJK	DATE	24-JAN-14

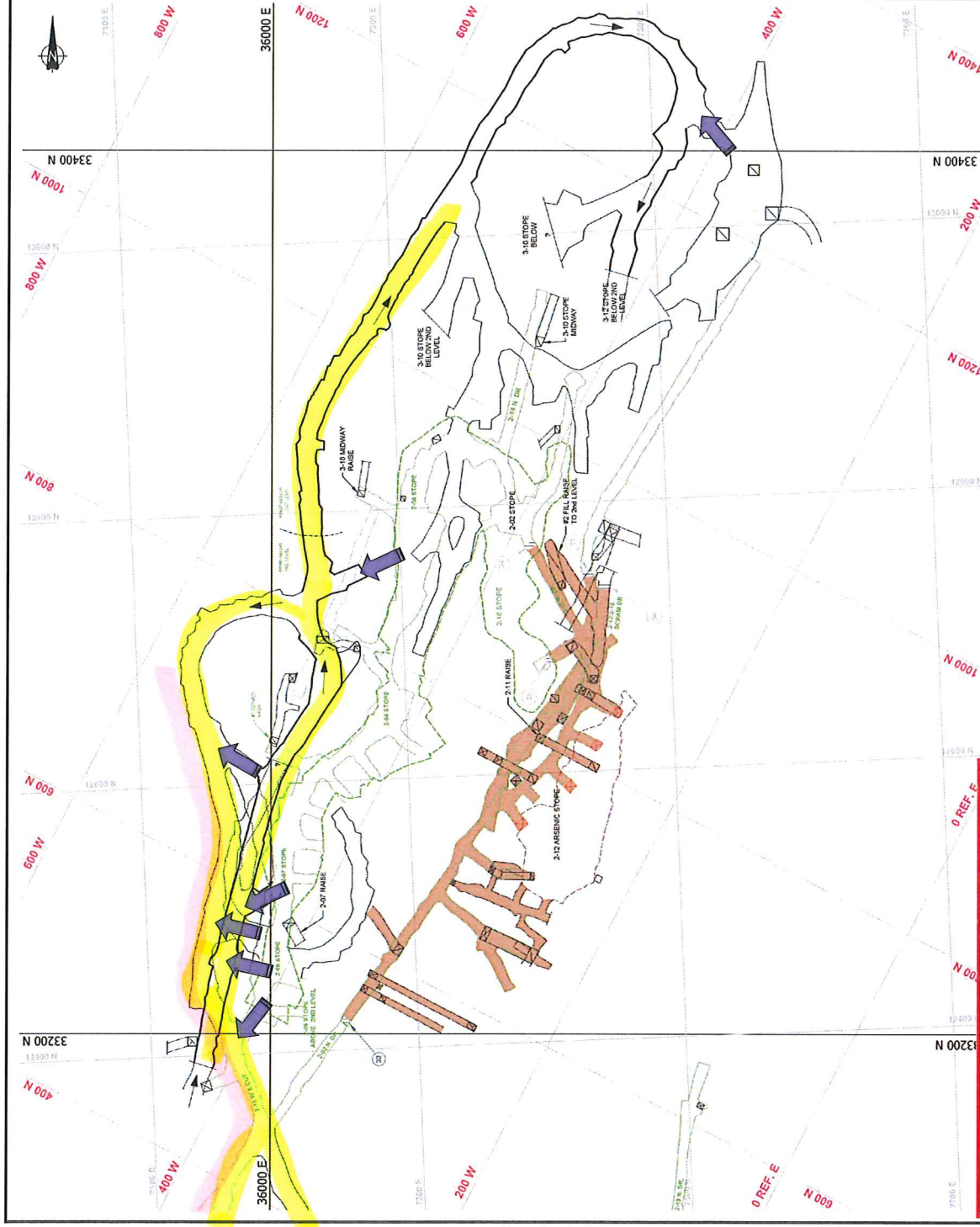
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Possible Paste Backfill Leakage Points To Be Monitored - Legend

-  Possible paste exit point to be monitored – man-entry
-  Possible paste exit point to be monitored – no entry

Note: These points show areas where paste may flow from the targeted void to be backfilled. These exit points must be monitored. Barricades or a change in paste delivery approach in the targeted void would be required to stop the leak.



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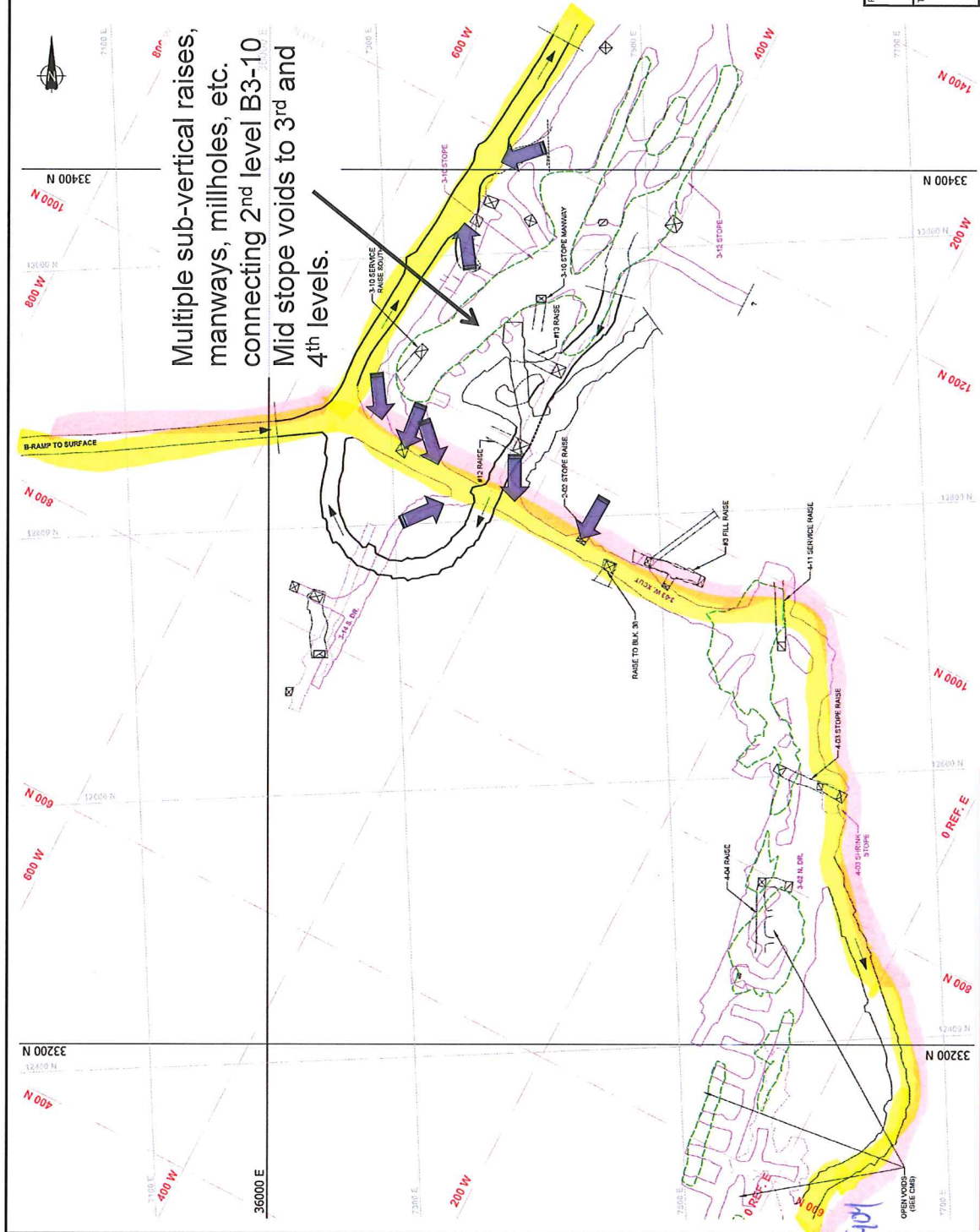
PROJECT		PWGSC GIANT MINE INTERIM U/G STABILIZATION PROJECT YELLOWKNIFE, NWT	
TITLE		B3-10Mid Stope Complex Possible Paste Exit Points To Be Monitored – 2nd Level	
DESIGN	FM	DESIGN/4	SCALE
DRAW	FM	DESIGN/4	N.T.S.
CHECK	DTK	ZASANT/4	REV. 1
REVIEW	DTK	ZASANT/4	REV. 1
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Possible Paste Backfill Leakage Points To Be Monitored - Legend

-  Possible paste exit point to be monitored – man-entry
-  Possible paste exit point to be monitored – no entry

Note: These points show areas where paste may flow from the targeted void to be backfilled. These exit points must be monitored. Barricades or a change in paste delivery approach in the targeted void would be required to stop the leak.



Multiple sub-vertical raises, manways, millholes, etc. connecting 2nd level B3-10 Mid stope voids to 3rd and 4th levels.

PROJECT		PMWGSC	
GIANT MINE INTERIM U/G STABILIZATION PROJECT		YELLOWKNIFE, NWT	
TITLE		B3-10 Mid Stope Complex	
		Possible Paste Exit Points To Be Monitored – 3 rd Level	
PROJECT NO.	13-1426-0010	PHASE NO.	5000
DESIGN	PM	ISSUE NO.	05
CHECK	DTL	SCALE	N.T.S.
DATE	24-JAN-14	REV.	1
REVIEW	DTL	DATE	24-JAN-14
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