



Tablelands Explosives Pty Ltd

ABN 99 093 432 074

PO Box 6141
Lanyon Market Place
CONDOR ACT 2906
Mobile: 0418 487 121
Fax: 02 62915074

Email: Tablelandsexplosives@bigpond.com

Test Blast

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Bulk Blasting Foreman: [Redacted]
 Day: Tuesday Date: 22/3/16
 Time: 16.25 Weather Conditions: Fine
 Location of Holes: Top of hill near rear boundary fence
 Burden: _____ Spacing: _____
 Depth and Diameter: 3.0m, 89 + 76mm Ø
 Number of Holes Loaded: 94 Dets per Hole: 1 x 400ms
 Delay Dets Used: 17, 42ms
 Primer Type and Amount: 32mm Maxidrive x 1
 Type of Explosive: ANFO, 55mm Megagel Charge Rate per Hole: max 5.0kg
 N° of Wet Holes: 12 Safety Fuse _____
 Method of Firing: Electric
 Charge per Delay: max 5.0kg.
 Charge Fired: _____
 Stemming Type: Amm Aggregate Stemming Depth: _____
 Type of Rock: _____
 Depth of Over Burden: Nil Monitor Distance From Hole: _____ Blast Distance from Structure: _____
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: Nil
 Air Blast: None used
 Hazards: None apparent
 Over Breakage: Nil
 Under Breakage: yes due to overburden removal.
 Misfire: Nil
 Blasted Cubic Metres: 1344.48m³
 Other: Blast Guards in place, signs in place, All notifications given.
 Comments: Monitor Results 1.49ppv
104dB

Signed: [Redacted]

Dated: 22/3/16



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SHOT 2

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Bulk Blast Foreman: [Redacted]
 Day: Thursday Date: 24/3/16
 Time: 14:53 Weather Conditions: overcast
 Location of Holes: Behind shot 1 close to rear boundary.
 Burden: 2.4 Spacing: 2.4
 Depth and Diameter: 89mm ϕ 3m
 Number of Holes Loaded: 153
 Delay Dets Used: 17ms 42ms Dets per Hole: 1x 400ms
 Primer Type and Amount: 1x 32mm Megadrive
 Type of Explosive: ANFO 65mm Megagel
 N° of Wet Holes: _____ Charge Rate per Hole: 5.0kg
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: 5.0kg
 Charge Fired: 845kg
 Stemming Type: 4mm Aggregate Stemming Depth: 2.0m
 Type of Rock: Granite
 Depth of Over Burden: NIL Monitor Distance From Hole: _____ Blast Distance from Structure: _____
 Velocity of Detonation: 4000 - 5000 m/s
 Fly Rock: NIL
 Air Blast: Nonels used
 Hazards: None Apparent
 Over Breakage: NIL
 Under Breakage: Yes
 Misfire: NIL
 Blasted Cubic Metres: 2643.84
 Other: Signs in place, blast guards in place
All notifications given
 Comments: Monitor Results. 1.67ppv
110.3dB

Signed: [Redacted]

Dated: 24/3/16



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SHOT 3

Blasting Report

Job Site: Throsby Contractor: Group One
 Job Type: Bulk and Trench Blasting Foreman: [Redacted]
 Day: Friday Date: 1/4/16
 Time: 14:34 Weather Conditions: Fine
 Location of Holes: Below previous blasts
 Burden: Bulk 2.4m Spacing: Bulk 2.4m, Trenches 1.2m
 Depth and Diameter: 89mm bulk, 76mm trenching
 Number of Holes Loaded: 115 bulk, 47 sewer, 155 storm water 13 common trench.
 Delay Dets Used: 17ms, 42ms Dets per Hole: 1 x 400ms
 Primer Type and Amount: 1 x 32mm Maxidrive
 Type of Explosive: ANFO, 50mm Megagel
 N° of Wet Holes: 20 Charge Rate per Hole: _____
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: max 5.0kg
 Charge Fired: bulk 562.74kg 387.0kg Trenches
 Stemming Type: 12mm Aggregate Stemming Depth: 1.5 - 2.0m
 Type of Rock: Granite
 Depth of Over Burden: _____ Monitor Distance From Hole: _____ Blast Distance from Structure: _____
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: Nil
 Air Blast: Nonels used
 Hazards: None apparent

Over Breakage: NIL
 Under Breakage: Yes due to overburden material
 Misfire: NIL
 Blasted Cubic Metres: ~~1987.2~~ 1987.2m³ Bulk, 56.4m Sewer, 186m storm
 Other: Blast Guards in place, signs in place, all notifications given

Comments: Monitor Results 1.81ppv
111.7dB

Signed: [Redacted]

Dated: 1/4/16

common trench 15.6m (blasted lineal) ✓



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SHOT 4

Blasting Report

Job Site: Throssby
 Job Type: Bulk/Blast
 Day: Tuesday
 Time: 1300
 Location of Holes: _____
 Burden: 2.4m
 Depth and Diameter: 50mm, 3.0m depth
 Number of Holes Loaded: 94
 Delay Dets Used: 17ms, 25ms, 42ms Dets per Hole: 1x 400ms
 Primer Type and Amount: 1x 32mm perennite
 Type of Explosive: ANFO
 N° of Wet Holes: 0
 Method of Firing: Electric
 Charge per Delay: 5.0kg
 Charge Fired: 470kg
 Stemming Type: 12mm Aggregate
 Type of Rock: Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 255m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: Nonels Used
 Hazards: None Apparent
 Over Breakage: NIL
 Under Breakage: Yes due to overburden removal
 Misfire: _____
 Blasted Cubic Metres: 1624.32m³
 Other: Signs in place, blast guards in place, All notifications given
 Comments: Monitor Results
All clear given 13:01
1.28 ppv
106.0dB

Signed: _____

Dated: 5/4/16



Plant & Operator Declaration

PROJECT: Throsby 3

COMPANY: TABLELANDS

ASSIGNEE:

I hereby certify that all plant owned or hired by TABLELANDS is regularly serviced and maintained in accordance with the manufacturer's instructions and applicable legislative requirements.

Any operators assigned by TABLELANDS to operate plant have been properly trained and instructed, and are competent to operate the equipment in a safe manner.

TABLELANDS carry out, and record daily checks of all plant as per the manufacturer's instructions and applicable legislative requirements and ensure that any required repairs or adjustments are carried out so that the plant is safe to operate at all times.

TABLELANDS acknowledges that Group One may request at anytime documented evidence that the above statements are true and correct. TABLELANDS will not hesitate to provide the information required to Group One as requested.

Name: 

Position: OFFICE MANAGER / SHOT FIRER

Signed: 

Date: 6 / 5 / 16



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SHOT 5

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trenching Foreman: [Redacted]
 Day: Friday Date: 8/4/16
 Time: _____ Weather Conditions: Fine
 Location of Holes: Top of Hill
 Burden: _____ Spacing: 1.2m
 Depth and Diameter: 89mm, 2 - 5.5m depth
 Number of Holes Loaded: 140
 Delay Dets Used: 25ms Goldets Dets per Hole: 1 x 400ms
 Primer Type and Amount: 32mm powermite x 1
 Type of Explosive: ANFO
 N° of Wet Holes: 0 Charge Rate per Hole: _____
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: Max 7.6kg
 Charge Fired: 1060kg
 Stemming Type: 12mm Aggregate Stemming Depth: 1.8 - 2.5m
 Type of Rock: Granite
 Depth of Over Burden: 0 Monitor Distance From Hole: 145m Blast Distance from Structure: 150m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: None Used
 Hazards: None Apparent
 Over Breakage: NIL
 Under Breakage: Yes due to over burden removal
 Misfire: NIL
 Blasted ~~Side~~ Metres: ~~81.2m~~ 2-3m = 70.8m, 3-4m = 43.2m, 4-5m = 54.0m
 Other: Blast Guards in place, signs in place, all notifications given
 Comments: Monitor Result 2.17 ppr
108.1 dB

Signed: [Redacted]
Dated: 8/4/16



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Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trenching Foreman: [Redacted]
 Day: Tuesday Date: 12/4/16
 Time: 15:08 Weather Conditions: Fine
 Location of Holes: Middle of Hill
 Burden: N/A Spacing: 1.2m
 Depth and Diameter: 89mm Ø max 3.9m depth
 Number of Holes Loaded: 166
 Delay Dets Used: 25ms Galdets Dets per Hole: 1x 400ms
 Primer Type and Amount: 1x 32mm Maxidrive
 Type of Explosive: ANFO
 N° of Wet Holes: 2 Charge Rate per Hole: _____
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: max 4.0kg
 Charge Fired: 660kg
 Stemming Type: 12mm Aggregate Stemming Depth: 1.8 - 2.2m
 Type of Rock: Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 95m Blast Distance from Structure: 100m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: None used
 Hazards: None apparent
 Over Breakage: NIL
 Under Breakage: Yes due to removal of over burden
 Misfire: NIL
 Blasted ~~Cubic~~ Metres: _____
 Other: Blast guards in place, signs in place, all notifications given
 Comments: Monitor Results 5.78 ppv
108.8 dB

Signed: [Redacted]
 Dated: 12/4/16



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Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
Job Type: Trenching Foreman: [Redacted]
Day: Friday Date: 15/4/16
Time: 1400 Weather Conditions: Fine
Location of Holes: Middle of hill.
Burden: N/A Spacing: 1.2m
Depth and Diameter: 89mm Ø max 5.1m depth.
Number of Holes Loaded: 310
Delay Dets Used: 25ms Goldets 17ms, 42ms Dets per Hole: 1x 400ms
Primer Type and Amount: 32mm Powermite
Type of Explosive: ANFO
N° of Wet Holes: 0 Charge Rate per Hole: max 7.90kg
Method of Firing: Electric Safety Fuse
Charge per Delay: max 7.90kg
Charge Fired: 2440kg
Stemming Type: 2mm Aggregate Stemming Depth: 1.8 - 2.5m
Type of Rock: Dacite
Depth of Over Burden: NIL Monitor Distance From Hole: 95m Blast Distance from Structure: 100m
Velocity of Detonation: 4000-5000m/s
Fly Rock: NIL
Air Blast: None used
Hazards: None Apparent

Over Breakage: NIL
Under Breakage: Yes due to removal of overburden
Misfire:
Blasted ~~Cubic~~ Metres: 372m
Other: Blast guards in place, signs in place, all notifications given

Comments: Monitor Results 5.81ppv
108.9dB

Signe: [Redacted]

Dated: 15/4/16



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S HOT 8

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Bulk and Trenching Foreman: [Redacted]
 Day: Tuesday Date: 19/4/16
 Time: 1637 Weather Conditions: _____
 Location of Holes: Top of Hill (Common Trench) Middle of Hill (Bulk)
 Burden: 2.0 - 2.4m Bulk Spacing: 2.0 - 2.4m bulk, 1.2m trench
 Depth and Diameter: 2-3m Bulk, 0-2m Trench 76mm + 89mm Ø
 Number of Holes Loaded: 160 holes Bulk, 29 holes common trench
 Delay Dets Used: 25ms, 17ms, 42ms Dets per Hole: 1 x 400ms
 Primer Type and Amount: 1 x 32mm powermitc
 Type of Explosive: ANFO, 55mm Megagel
 N° of Wet Holes: 2 Charge Rate per Hole: Max 5.0kg
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: Max 5.0kg
 Charge Fired: _____
 Stemming Type: 12mm Aggregate Stemming Depth: 1.5 - 2.0m
 Type of Rock: _____
 Depth of Over Burden: NIL Monitor Distance From Hole: 85m Blast Distance from Structure: 90m
 Velocity of Detonation: 4000 - 5000 m/s
 Fly Rock: NIL
 Air Blast: None is used
 Hazards: None Apparent

Over Breakage: NIL
 Under Breakage: Yes due to overburden removal
 Misfire: NL
 Blasted Cubic Metres: 2245.12m³ Bulk, 34.8m Common Trench
 Other: Signs in place, Blast Guards in place, All notifications given

Comments: Blasting was delayed due to the superintendent was wanting to stop blasting, this was impossible as the shot could not be slept, this action places the job site at risk and to any persons at the site or not.

Signed: [Redacted]

Dated: 19/4/16

Monitor Results:

2.04 ppv
121.7 dB



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SHOT # 9

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
Job Type: Bulk and Trenching Foreman: [Redacted]
Day: Tuesday Date: 19/4/16
Time: 1637 Weather Conditions: _____

Location of Holes: Top of Hill (Common Trench) Middle of Hill (Bulk)

Burden: 2.0 - 2.4m Bulk Spacing: 2.0 - 2.4m bulk, 1.2m trench

Depth and Diameter: 2-3m Bulk, 0-2m Trench 76mm + 89mm Ø

Number of Holes Loaded: 160 holes Bulk, 29 holes common trench

Delay Dets Used: 25ms, 17ms, 42ms Dets per Hole: 1 x 400ms

Primer Type and Amount: 1 x 32mm powermitc

Type of Explosive: ANFO, 55mm Megagel

N° of Wet Holes: 2 Charge Rate per Hole: Max 5.0kg

Method of Firing: Electric Safety Fuse _____

Charge per Delay: Max 5.0kg

Charge Fired: _____

Stemming Type: 12mm Aggregate Stemming Depth: 1.5 - 2.0m

Type of Rock: _____

Depth of Over Burden: NIL Monitor Distance From Hole: 85m Blast Distance from Structure: 90m

Velocity of Detonation: 4000 - 5000 m/s

Fly Rock: NIL

Air Blast: None is used

Hazards: None Apparent

Over Breakage: NIL

Under Breakage: Yes due to overburden removal

Misfire: NL

Blasted Cubic Metres: 2245.12m³ Bulk, 34.8m Common Trench

Other: Signs in place, Blast Guards in place, All notifications given

Comments: Blasting was delayed due to the superintendent was wanting to stop blasting, this was impossible as the shot could not be slept, this action places the job site at risk and to any persons at the site or not.

Signed: [Redacted]

Dated: 19/4/16

Monitor Results:

2.04 ppv
121.7 dB



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Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
Job Type: Trench Foreman: [REDACTED]
Day: Friday Date: 22/4/16
Time: 9:40 Weather Conditions: overcast
Location of Holes: Trench, Middle of hill
Burden: _____ Spacing: 1.2
Depth and Diameter: 2-3.0m depth 80mm Ø
Number of Holes Loaded: 15
Delay Dets Used: 25ms Goldets Dets per Hole: 1 x 400ms
Primer Type and Amount: 32mm Maxidrive
Type of Explosive: ANFO, 55mm Meggel
N° of Wet Holes: 0 Charge Rate per Hole: 6.7kg max
Method of Firing: Electric Safety Fuse _____
Charge per Delay: 6.7kg max
Charge Fired: 100kg
Stemming Type: 12mm Aggregate Stemming Depth: 1.5-2.0m
Type of Rock: Granite Dacite
Depth of Over Burden: NIL Monitor Distance From Hole: 60m Blast Distance from Structure: 65m
Velocity of Detonation: 4000-5000m/s
Fly Rock: NIL
Air Blast: None used
Hazards: None Apparent

Over Breakage: NIL
Under Breakage: Yes due to removal of overburden
Misfire: _____
Blasted ~~Cubic~~ Metres: 18.0m
Other: Signs in place, blast guards in place, all notifications given

Comments: Monitor Results 3.14 ppv
113.0dB

Signed: [REDACTED]

Dated: 22/4/16



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SHOT 11

Blasting Report

Job Site: Throsby Estate 3 Contractor: Grab One
 Job Type: Trenching Foreman: [REDACTED]
 Day: Wednesday Date: 27 April 2016
 Time: 16 Weather Conditions: Fine
 Location of Holes: on hill behind site office
 Burden: _____ Spacing: 1.2m
 Depth and Diameter: 80mm ø 2-4m depth
 Number of Holes Loaded: 183
 Delay Dets Used: 25ms Goldets Dets per Hole: 1 x 400ms
 Primer Type and Amount: 1 x 32mm Maxidrive
 Type of Explosive: ANFO
 N° of Wet Holes: _____ Charge Rate per Hole: 6.78 kg
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: 6.78 kg
 Charge Fired: 1.24 E'
 Stemming Type: 12mm Aggregate Stemming Depth: 1 - 2.0m
 Type of Rock: Granite Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 100m Blast Distance from Structure: 107m
 Velocity of Detonation: 4000-5000 m/s
 Fly Rock: NIL
 Air Blast: NONE/LS USED
 Hazards: None apparent
 Over Breakage: NIL
 Under Breakage: Yes due to removal of overburden
 Misfire: NO
 Blasted Cubic Metres: _____
 Other: Signs in place, blast guards in place, all notifications given
 Comments: Monitor Results 2.38 ppr 113.5 dB

Signed: [REDACTED]
Dated: _____



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Shot 12

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trench Foreman: [Redacted]
 Day: Thursday Date: 28 April 2016
 Time: 13:12 Weather Conditions: Fine
 Location of Holes: Top of hill behind site sheds
 Burden: N/A Spacing: 1.2
 Depth and Diameter: 89mm Ø, 2-4m.
 Number of Holes Loaded: 156
 Delay Dets Used: 25ms Goldets Dets per Hole: 1x 400ms
 Primer Type and Amount: 1x 32mm powermite
 Type of Explosive: ANFO
 N° of Wet Holes: 1 Charge Rate per Hole: 3.20kg
 Method of Firing: Electric Safety Fuse
 Charge per Delay: 3.20kg
 Charge Fired: 500kg
 Stemming Type: 12mm Aggregate Stemming Depth: 1.5-2.0m
 Type of Rock: Granite Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 150m Blast Distance from Structure: 157m
 Velocity of Detonation: 4000-5000 m/s
 Fly Rock: NIL
 Air Blast: NO NETS USED
 Hazards: None apparent

Over Breakage: NIL
 Under Breakage: Yes due to removal of overburden
 Misfire: NIL
 Blasted Cubic Metres: _____
 Other: Signs in place, blast guards in place, all notifications given

Comments: Monitor Results 1.18ppv
118.1dB

Signed: [Redacted]

Dated: 28/4/16



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Blasting Report

Job Site: Throsby Contractor: Group One
 Job Type: Trenching Foreman: [Redacted]
 Day: Friday Date: 29 April 2016
 Time: 16:01 Weather Conditions: fine
 Location of Holes: Rear of site, canberra contractors border
 Burden: _____ Spacing: 1.2m
 Depth and Diameter: 89mm ø 2-3m depth
 Number of Holes Loaded: 174
 Delay Dets Used: 25ms Gadocts Dets per Hole: 1 x 400ms
 Primer Type and Amount: 32mm Maxidrive
 Type of Explosive: ANFO
 N° of Wet Holes: 0 Charge Rate per Hole: Max 7.5kg
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: max 7.5kg
 Charge Fired: 1.32t
 Stemming Type: 12mm Aggregate Stemming Depth: 1.5 - 2.0m
 Type of Rock: Granite Porcete
 Depth of Over Burden: NIL Monitor Distance From Hole: 250m Blast Distance from Structure: 255m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: None is used
 Hazards: None Apparent

Over Breakage: NL
 Under Breakage: yes due to overburden removal.
 Misfire: NO
 Blasted ~~Cubic~~ Metres: 208.8m
 Other: Signs in place, blast guards in place, all notifications given

Comments: Monitor Results Oppr
odB

Signed: [Redacted]

Dated: 29/4/16



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Blasting Report

Job Site: Throsby Contractor: Group One
 Job Type: Trench and Bulk Foreman: [Redacted]
 Day: Monday Date: 2/5/16
 Time: 1310 bulk, 1600 Trench Weather Conditions: fine
 Location of Holes: Trench in front of site office
 Burden: 1.5m bulk Spacing: 1.5m bulk 1.2m trench
 Depth and Diameter: 89mm trench, 76mm bulk 2.0m bulk, 2.3 trench
 Number of Holes Loaded: 33 bulk, 28 trench
 Delay Dets Used: 17, 25, 42ms Dets per Hole: 1 x 400ms
 Primer Type and Amount: 32mm Maxidrive
 Type of Explosive: ANFO
 N° of Wet Holes: 0 Charge Rate per Hole: 1.2kg bulk 3.0kg Trench
 Method of Firing: Electric Safety Fuse
 Charge per Delay: 1.2kg bulk, 3.0kg trench
 Charge Fired: 60 kg
 Stemming Type: 12 mm Aggregate Stemming Depth: 7 1.5m - 2.0m
 Type of Rock: Granite Pacific
 Depth of Over Burden: NIL Monitor Distance From Hole: 250m Blast Distance from Structure: 255m
 Velocity of Detonation: 4000-5000m/s
 Fly Rock: NIL
 Air Blast: None used
 Hazards: None Apparent
 Over Breakage: NIL
 Under Breakage: yes due to removal of overburden
 Misfire: NO
 Blasted Cubic Metres:
 Other: Signs in place, blast guards in place, all notifications given
 Comments: Monitor Results 1.80 ppr Trench 11.0 dB
0 readings bulk

Signed: [Redacted]

Dated: 2/5/16



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Blasting Report

Job Site: Throoby Estate 3 Contractor: Group One
 Job Type: Trench Foreman: [Redacted]
 Day: Tuesday Date: 3/5/16
 Time: 0900 SHOTA; 1530 SHOTB. Weather Conditions: Fire
 Location of Holes: Opposite site sheds
 Burden: _____ Spacing: 1.2m
 Depth and Diameter: 89mm 2-3m depth.
 Number of Holes Loaded: 67 SHOT A;
 Delay Dets Used: 25ms Goblets Dets per Hole: 1 x 400ms
 Primer Type and Amount: 32mm Maxitive
 Type of Explosive: ANFO
 N° of Wet Holes: NIL Charge Rate per Hole: 5.1kg Shot A+B.
 Method of Firing: Electric Safety Fuse _____
 Charge per Delay: 5.1kg Shot A+B
 Charge Fired: 340kg Shot A; 900kg Shot B.
 Stemming Type: 12mm Aggregate Stemming Depth: 2.0m
 Type of Rock: Granite Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 100m Blast Distance from Structure: 105m
 Velocity of Detonation: 4000-5000m/s
 Fly Rock: NIL
 Air Blast: None used
 Hazards: None Apparent

Over Breakage: NIL
 Under Breakage: Yes due to removal of overburden
 Misfire: NIL
 Blasted ~~Cubic~~ Metres: 804m shot A;
 Other: Signs in place, blast guards in place, all notifications given

Comments: _____ Monitor Results 2.75ppv > SHOT A
 _____ 111.7dB
 _____ 2.90 ppv > SHOT B
 _____ 111.7dB

Signed: [Redacted]

Dated: 3/5/16



Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trench Blast Foreman: [Redacted]
 Day: Wednesday Date: 4/5/16
 Time: 1601 Weather Conditions: Fine
 Location of Holes: Opposite site sheds
 Burden: N/A Spacing: 1.2m
 Depth and Diameter: 89mm Ø m depth
 Number of Holes Loaded: 159
 Delay Dets Used: 25ms Galdets Dets per Hole: 1 x 400ms
 Primer Type and Amount: 32mm Maxidrive x 1
 Type of Explosive: ANFO
 N° of Wet Holes: 0 Charge Rate per Hole: max 7.2kg
 Method of Firing: Electric Safety Fuse
 Charge per Delay: max 7.2kg
 Charge Fired: 1140kg
 Stemming Type: 12mm Aggregate Stemming Depth: 2.0 - 2.2m
 Type of Rock: Granite Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 200m Blast Distance from Structure: 205m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: Nonels used
 Hazards: None Apparent

Over Breakage: NIL
 Under Breakage: Yes due to overburden removal
 Misfire: NIL
 Blasted ~~Cable~~ Metres: 190.8.
 Other: Signs in place, blast guards in place, All notifications given

Comments: Monitor Results 3.32 ppr
108.3 dB

Signed: [Redacted]

Dated: 4/5/16



Tablelands Explosives Pty Ltd

ABN 99 093 432 074

PO Box 6141
Lanyon Market Place
CONDOR ACT 2906
Mobile: 0418 487 121
Fax: 02 62915074

Email: Tablelandsexplosives@bigpond.com

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trenching Foreman: [Redacted]
 Day: Thursday Date: 5/5/16
 Time: 16:01 Weather Conditions: fine
 Location of Holes: opposite site sheds
 Burden: N/A Spacing: 1.2m
 Depth and Diameter: 3-5 m depth 89mm Ø
 Number of Holes Loaded: 141
 Delay Dets Used: 25ms Goldets Dets per Hole: 1 x 400ms
 Primer Type and Amount: 32mm Powermite
 Type of Explosive: ANFO
 N° of Wet Holes: 0 Charge Rate per Hole: max 9.5kg
 Method of Firing: Electric Safety Fuse
 Charge per Delay: max 9.5kg
 Charge Fired: 1.34t
 Stemming Type: 12mm Aggregate Stemming Depth: 2.2 - 2.5m
 Type of Rock: Granite Pacific
 Depth of Over Burden: NIL Monitor Distance From Hole: 200m Blast Distance from Structure: 205m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: Nonels Used
 Hazards: None apparent

Over Breakage: NIL
 Under Breakage: Yes due to overburden removal
 Misfire: NO
 Blasted Cubic Metres: 169.2m
 Other: Signs in place, blast guards in place, all notifications given

Comments: Monitor Results 1.23ppv
109.7dB

Signed: [Redacted]

Dated: 5/5/16



Tablelands Explosives Pty Ltd

ABN 99 093 432 074

PO Box 6141
Lanyon Market Place
CONDOR ACT 2906
Mobile: 0418 487 121
Fax: 02 62915074

Email: Tablelandsexplosives@bigpond.com

Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trenching Foreman: [Redacted]
 Day: Friday Date: 6/5/16
 Time: 1500 Weather Conditions: Fine
 Location of Holes: Rear of site, near boundary fence
 Burden: N/A Spacing: 1.2m
 Depth and Diameter: 2-4 m depth 89mm ϕ
 Number of Holes Loaded: 201
 Delay Dets Used: 25ms Goloets Dets per Hole: 1x400ms
 Primer Type and Amount: 32mm Powermite
 Type of Explosive: ANFO
 N^o of Wet Holes: 0 Charge Rate per Hole: max 6.7kg
 Method of Firing: Electric Safety Fuse
 Charge per Delay: max 6.7kg
 Charge Fired: 1.34t
 Stemming Type: 12mm Aggregate Stemming Depth: 1.8-2.0m
 Type of Rock: Granite Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 300m Blast Distance from Structure: 305m
 Velocity of Detonation: 4000-5000 m/s
 Fly Rock: NIL
 Air Blast: Nonels used
 Hazards: None apparent
 Over Breakage: NO
 Under Breakage: Yes due to overburden removal
 Misfire: NIL
 Blasted ~~Cubic~~ Metres: 241.2m
 Other: Signs in place, blast guards in place, all notifications given

Comments: Monitor Results FFV
dB
No Reading

Signed: [Redacted]

Dated: 6/5/16



Blasting Report

Job Site: Throsby Estate 3 Contractor: Group One
 Job Type: Trench Blast Foreman: [Redacted]
 Day: Tuesday Date: 21/5/16
 Time: 15:32 Weather Conditions: Fine
 Location of Holes: Road behind Canberra Contractors Site
 Burden: 3m Spacing: 1.2m
 Depth and Diameter: 3.0m 89mm
 Number of Holes Loaded: 266
 Delay Dets Used: 17ms, 25ms Goldjets Dets per Hole: 1x 400ms
 Primer Type and Amount: 32mm powermite
 Type of Explosive: ANFO, 55mm megalgel
 N° of Wet Holes: 7 Charge Rate per Hole: max 4.31kg
 Method of Firing: Electric Safety Fuse
 Charge per Delay: max 4.31kg
 Charge Fired: 1.14t
 Stemming Type: 12mm Aggregate Stemming Depth: 2.0m
 Type of Rock: Granite Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 200m Blast Distance from Structure: 205m
 Velocity of Detonation: 4000 - 5000m/s
 Fly Rock: NIL
 Air Blast: None used
 Hazards: None apparent

Over Breakage: NIL
 Under Breakage: Yes due to overburden removal
 Misfire: _____
 Blasted Cubic Metres: _____
 Other: Signs in place, blast guards in place, All notifications given

Comments: Monitor Results 0 ppr
0 dB

No loading !!!

Signed: [Redacted]

Dated: 21/5/16



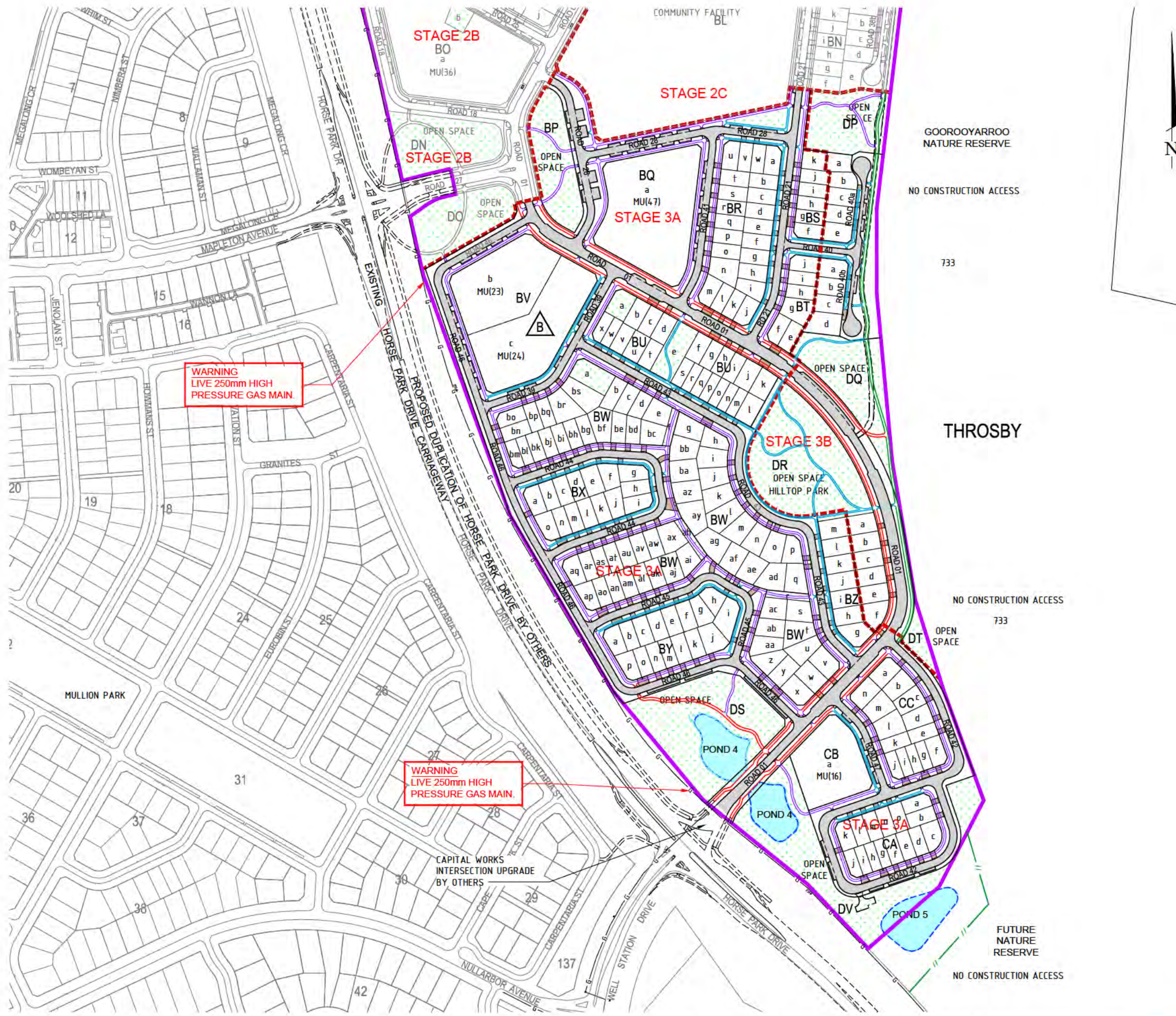
Blasting Report

Job Site: Throsby Estate 3 Contractor: Group one
 Job Type: Parallel Trench Foreman: [Redacted]
 Day: Tuesday Date: 31/5/16
 Time: 16:31 Weather Conditions: Fine
 Location of Holes: Middle of Hill behind site sheds
 Burden: 800mm Spacing: 1.2m
 Depth and Diameter: 2-3.5m 46 mm Ø
 Number of Holes Loaded: 238
 Delay Dets Used: 25ms Dets per Hole: 1 x 400ms
 Primer Type and Amount: 1 x 32mm power mite
 Type of Explosive: ANFO
 N° of Wet Holes: 5 Charge Rate per Hole: 4.03 kg
 Method of Firing: Electric Safety Fuse
 Charge per Delay: 4.03 kg
 Charge Fired: 960 kg
 Stemming Type: 12mm Aggregate Stemming Depth: 2-2.2m
 Type of Rock: Dacite
 Depth of Over Burden: NIL Monitor Distance From Hole: 800m Blast Distance from Structure: 205m
 Velocity of Detonation: 4000-5000m/s
 Fly Rock: NIL
 Air Blast: NIL None is used
 Hazards: None Apparent

Over Breakage: NIL
 Under Breakage: Yes due to removal of overburden
 Misfire: NIL
 Blasted Cubic Metres: _____
 Other: Signs in place, blast guards in place, all notifications given

Comments: Monitor Results 0 ppr
No Results 0 dB

Signed: [Redacted]
 Dated: 31/5/16



WARNING
LIVE 250mm HIGH
PRESSURE GAS MAIN.

WARNING
LIVE 250mm HIGH
PRESSURE GAS MAIN.

CAPITAL WORKS
INTERSECTION UPGRADE
BY OTHERS

NOTES:

1. THE HORIZONTAL LAYOUT OF THE WORKS WILL BE PROVIDED IN DIGITAL FORMAT (ie. AUTOCAD 2006) THIS INFORMATION WILL BE PROVIDED WITHIN 14 DAYS OF THE AWARD OF THE CONTRACT. DIGITAL VERTICAL SETOUT OF THE GRADING WILL BE PROVIDED FOR INFORMATION PURPOSES ONLY.
2. ALL EARTHWORK AND ASSOCIATED CONSTRUCTION ACTIVITY ADJACENT TO EXISTING HIGH PRESSURE GAS MAIN SHALL BE PERFORMED UNDER THE GUIDANCE OF A JEMENA PIPELINE TECHNICIAN. REFER TO "GUIDELINE TO THIRD PARTY FOR CONSTRUCTION ACTIVITIES NEAR & OVER JEMENA GAS NETWORKS & ACTEWAGL ASSETS" IN THE TENDER DOCUMENT.

LEGEND

- - - - - STAGE BOUNDARY
- — — — — ESTATE BOUNDARY
- — — — — 1.5m WIDE PATH
- — — — — 2.0m WIDE PATH
- — — — — 2.5m WIDE PATH
- — — — — 2.5m WIDE ASPHALT PATH
- - - - - RFS TRAIL
- CONCRETE DRIVEWAY
- OPEN SPACE
- ROAD PAVEMENT
- — — — — EXISTING HIGH PRESSURE GAS MAIN
- — — — — OFFSITE FENCE

NUMBER OF BLOCKS

STAGE 3A : 195 (301 DWELLINGS)
STAGE 3B : 15 (15 DWELLINGS)



FILE: H:\C13178\3-003 GEN ARRANGEMENT.dwg 30th-Sep-2015 9:23AM USER: Sln Tuom

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> <th>APP'D</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REV	DATE	BY	CHKD	APP'D	DESCRIPTION							<p>AMENDMENT DETAILS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DESIGN</th> <th>DRAWN</th> <th>CHECK</th> <th>APPROVED</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DESIGN	DRAWN	CHECK	APPROVED	DATE						<p>WELL STATION DRIVE</p> <p>NULLARBOR AVENUE</p> <p>HORSE PARK DRIVE</p> <p>WELL STATION DRIVE</p> <p>NULLARBOR AVENUE</p> <p>HORSE PARK DRIVE</p>	<p>SCALE (METRES)</p> <p>1:4000</p> <p>0 20 40 60 80 100</p> <p>1:2000</p>	<p>PROJECT</p> <p>THROSBY RESIDENTIAL ESTATE</p> <p>STAGE 3</p>	<p>CLIENT</p> <p>ACT</p> <p>ACTEWAGL</p> <p>LAND DEVELOPMENT AGENCY</p>	<p>DRAWING TITLE</p> <p>GENERAL ARRANGEMENT</p> <p>DRAWING NUMBER</p> <p>C13178.3-003+</p> <p>AMEND.</p> <p>B</p>
REV	DATE	BY	CHKD	APP'D	DESCRIPTION																							
DESIGN	DRAWN	CHECK	APPROVED	DATE																								

From: Tim Berriman [redacted]@calibregroup.com>
Sent: Thursday, 22 March 2018 11:18 AM
To: Benson, Darren
Cc: Warwick Jones; Joel Stevenson; Seelan, Guna
Subject: FW: Blasting damage to subsurface at Throsby Stage 3
Attachments: 256.22.1.1.1.11 Defects rectification Blasting damage [redacted].pdf

Darren,

You've obviously been copied into Yaaman's response. I don't think there is anything unexpected there. Where do we want to head from here? I would suggest it probably needs to be passed up the line at this point. Please let me know how you would like to proceed.

In the mean time, I can confirm following our conversation earlier today that Douglas Partners have been contacted and plan to attend site early next week to investigate the extent of the problem.

Regards,

Tim


calibregroup.com

Tim Berriman
Project Manager
T +61 2 6211 7100
[redacted]
[redacted]
[redacted]@calibregroup.com

Level 6,121 Marcus Clarke Street, Canberra City, ACT, 2601

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From: Yaaman Majeed [mailto:[redacted]@groupone.com.au]
Sent: Thursday, 22 March 2018 10:11 AM
To: Tim Berriman <[redacted]@calibregroup.com>
Cc: Benson, Darren <Darren.Benson@act.gov.au>; Seelan, Guna <Guna.Seelan@act.gov.au>; Joel Stevenson <[redacted]@calibregroup.com>
Subject: RE: Blasting damage to subsurface at Throsby Stage 3

Tim,

Please find attached our response to your letter dated 20 March 2018.

regards

Yaaman Majeed
Operations Manager



p: 02 6241 1955

f: 02 6241 8955

m: [REDACTED]

Unit 5 & 6
45-51 Grimwade St
MITCHELL ACT 2911

From: Tim Berriman [[mailto:\[REDACTED\]@calibregroup.com](mailto:[REDACTED]@calibregroup.com)]
Sent: Tuesday, 20 March 2018 3:26 PM
To: Yaaman Majeed <[\[REDACTED\]@groupone.com.au](mailto:[REDACTED]@groupone.com.au)>
Cc: Benson, Darren <Darren.Benson@act.gov.au>; Seelan, Guna <Guna.Seelan@act.gov.au>; Joel Stevenson
<[\[REDACTED\]@calibregroup.com](mailto:[REDACTED]@calibregroup.com)>
Subject: Blasting damage to subsurface at Throsby Stage 3


Good afternoon Yaaman,

As discussed this morning, please find attached a letter requesting Group 1 to investigate the extent of damage to the subsurface of blocks due to blasting at Throsby Stage 3, and to rectify damage where it is identified.

If you would like to discuss this further please contact me on the details below.

Regards,

Tim


calibre
calibregroup.com

Tim Berriman
Project Manager
T +61 2 6211 7100
[REDACTED]
[REDACTED] <[\[REDACTED\]@calibregroup.com](mailto:[REDACTED]@calibregroup.com)>
Level 6, 121 Marcus Clarke Street, Canberra City, ACT, 2601

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The GroupOne office will relocate to Units 5&6 45-51 Grimwade Street MITCHELL ACT on Tuesday 24th October. The Postal address PO Box 366 MITCHELL ACT remains the same.

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21 March 2018

256.22.1.1.1.11

Calibre Consulting
Level 6, 121 Marcus Clarke Street
Canberra City ACT 2601

Attn: Mr. Tim Berriman

Dear Tim,

**RE: Contract No: 2015.26841.103
Throsby Stage 3 – Defect rectification Blasting Damage**

We refer to your letter dated 20 March 2018 regarding some issues which have been identified with the sub-surface conditions of [REDACTED] in which you alleged through initial investigations indicating that the subsurface has been damaged by the blasting operation under taken during the construction phase of the project.

You have referred Clause 48.1 of GC-21 (Edition 1) - General Conditions of Contract requires the Contractor to *construct the works in accordance with good industry standards*, and Clause 48.2 of GC-21 (Edition 1) - General Conditions of Contract requires the contractor to *ensure the works are fit for the purposes required by the Contract*. You have alleged that *"It is the view of the Principal that the blasting activities have resulted in the in-situ material adjacent to the hydraulic trenches becoming unsuitable for the requirements and intended use of the works, which is sale of blocks for residential building, and in not rectifying the damage to the sub-surface caused by blasting, Group 1 have not met these requirements of the Contract."*

From the tender documents, it could not be anticipated that the Contractor would to perform any work that would require blasting. The tender documents included:

- Factual Report on Geotechnical Investigation, Proposed Residential Development Throsby, dated March 2015.
- Additional Test Pits, Proposed Residential Development, Thorsby; dated 25th August 2015

Both the geotechnical reports mentioned above confirms that geotechnical investigations were conducted with traditional excavation techniques.

Both the geotechnical investigations indicated excavation of the rock present on site was rippable with traditional excavation techniques.

During the tender, the Contractor planned earthworks through traditional excavation method using combination of D8, D10 Dozers and 35T Excavators with hammers. After commencement of bulk earthworks, the Contractor encountered site conditions whereby winning material with D10 dozer and 35T excavators with hammers was not possible that was impacting on the progress of the project.

In order to avoid the delays and meet the progress requirements, extensive discussions regarding alternate methods of ripping – rock blasting were held between the Contractor, the Principal Authorised Delegate (PAD), Calibre Consulting and the Principal. During the second project Meeting, it was mutually agreed between the

parties that the Contractor will submit blasting management plan for PAD and relevant authorities for approval prior to implementing alternate excavation method.

Through proper approval channel and with the Principal's approval, blasting operation was undertaken on the project. All the blasting reports were sent to both PAD and Worksafe ACT at the close of each blast day. All earth works were completed meeting all the good industry practices, witnessed and monitored by project surveillance team and Level One Supervision.

As per requirements of Contract specification Clause A17, "Block Classification" is carried out by Principal appointed Geotechnical Engineer. This process is carried out independently by the Geotechnical Engineer who classifies the block based on the ground conditions including subsurface conditions fit for purpose, which is sale of blocks for residential building. Douglas Partners were appointed and engaged by the principal, who carried out the block classifications on the project. If Douglas Partners Block Classification did not reflect the sub-surface conditions correctly; the contractor neither can take responsibility nor can be liable for the deficiencies of Principal appointed Geotech engineer. The sub-surface conditions on the subject blocks are still fit for purpose for residential building as long as the block classification clearly defines the sub-surface conditions i.e. Class P classification with footing details including bored piers which is common industry practice.

You have instructed us under Clause 71.1:

1. In consultation with the Principal, conduct a subsurface investigation of the blasted areas to identify and assess the extent of loosened rock that may have been affected by the blasting operations.
2. Where damage to sub-surface conditions is identified, undertake remediation works to re-instate suitable foundation conditions.

With due respect, we are not in position to proceed with your instructions under clause 71.1 as we do not believe it is the Contractor's remedy, since the works carried out by the Contractor meet the requirement for the Work to be fit for purpose which is sale of block for residential building with the correct block classification; however, we will can take these instructions in accordance with clause 71.3 Variation.

Could you please confirm your approval for us to proceed with these works under clause 71.3 so that necessary resources could be organized.

Should you have any further queries, or require any additional information, please do not hesitate to contact the undersigned.

Yours sincerely,



Yaaman Majeed
Operations Manager

From: Tim Berriman [REDACTED]@calibregroup.com>
Sent: Tuesday, 20 March 2018 3:26 PM
To: Yaaman Majeed
Cc: Benson, Darren; Seelan, Guna; Joel Stevenson
Subject: Blasting damage to subsurface at Throsby Stage 3
Attachments: P15-001017 Blasting damage.pdf

Good afternoon Yaaman,

As discussed this morning, please find attached a letter requesting Group 1 to investigate the extent of damage to the subsurface of blocks due to blasting at Throsby Stage 3, and to rectify damage where it is identified.

If you would like to discuss this further please contact me on the details below.

Regards,

Tim



Tim Berriman
Project Manager
T +61 2 6211 7100

[REDACTED]

[REDACTED]

[REDACTED]@calibregroup.com

Level 6,121 Marcus Clarke Street, Canberra City, ACT, 2601

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Please consider the environment before printing this e-mail.

Our Ref: P15-00107
Your Ref: Throsby Residential Estate Stage 3
Contact: Tim Berriman

20 March 2018
Group One
4/4 Pelle Street
Mitchell ACT 2911

Attention: Yaaman Majeed

Dear Yaaman,

Contract No: 2015.26841.103 – Throsby Residential Estate Stage 3 – Civil and Landscape Construction
Defect rectification – Blasting Damage

As per our email correspondence on 26 February 2018, some issues have been identified with the sub-surface conditions on [REDACTED] in Throsby Estate Stage 3. Loose rock in the sub-surface has been identified and initial geotechnical investigations indicate the sub-surface has been damaged by the blasting operations that were undertaken in that area during construction of the estate.

Clause 48.1 of GC-21 (Edition 1) – General Conditions of Contract requires the Contractor to “construct the works in accordance with good industry standards”, and Clause 48.2 of GC-21 (Edition 1) – General Conditions of Contract requires the contractor to “ensure the works are fit for the purposes required by the Contract”. It is the view of the Principal that the blasting activities have resulted in the in-situ material adjacent to the hydraulic trenches becoming unsuitable for the requirements and intended use of the works, which is sale of blocks for residential building, and in not rectifying the damage to the sub-surface caused by blasting, Group 1 have not met these requirements of the Contract.

In accordance with Clause 71.1 of GC-21 (Edition 1) – General Conditions of Contract, Group 1 is, therefore, instructed to:

1. In consultation with the Principal, conduct a subsurface investigation of the blasted areas to identify and assess the extent of loosened rock that may have been affected by the blasting operations.
2. Where damage to sub-surface conditions is identified, undertake remediation works to re-instate suitable foundation conditions.

Should you have any queries regarding the above please do not hesitate to contact the undersigned.

Yours sincerely

Calibre Consulting (ACT) Pty Ltd



Tim Berriman

Principals Authorised Delegate

COPIES:

1. Darren Benson– Suburban Land Agency
2. Warwick Jones - Warwick Jones Construction Services

From: Yaaman Majeed [REDACTED]@groupone.com.au>
Sent: Wednesday, 2 May 2018 2:50 PM
To: Benson, Darren
Cc: Danny McMillan
Subject: RE: Throsby Stage 3 - Blasting [SEC=UNCLASSIFIED]

Hi Darren,

For regrading I have forwarded the information as received from you on Monday to ACT Geotech and anticipate to have something back by mid next week.

For remediation our understanding is that we need to work on only 3 or 4 blocks around pit 43, 44, 45, and 46 and waiting for access to these blocks. If, access is available then we can start works for these blocks by next week.

regards

Yaaman Majeed
Operations Manager



p: 02 6241 1955
f: 02 6241 8955
m: [REDACTED]

Unit 5 & 6
45-51 Grimwade St
MITCHELL ACT 2911

From: Benson, Darren [mailto:Darren.Benson@act.gov.au]
Sent: Wednesday, 2 May 2018 9:04 AM
To: Yaaman Majeed [REDACTED]@groupone.com.au>
Subject: Throsby Stage 3 - Blasting [SEC=UNCLASSIFIED]

Hi Yaaman,

Just wondering if you have an update from our meeting regarding potential remediation of the blocks in Throsby.

Happy to catchup if you want to discuss further with Guna prior to agreeing a way forward.

Cheers,

Darren Benson
Project Director - Construction

T: 02 6207 4727

Suburban Land Agency | ACT Government
TransACT House, 470 Northbourne Avenue, Dickson ACT 2602 | GPO Box 158 Canberra ACT 2601

www.suburbanland.act.gov.au



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From: Tim Berriman <[REDACTED]@calibregroup.com>
Sent: Wednesday, 28 February 2018 4:41 PM
To: Colin Reid
Cc: [REDACTED]@douglaspartners.com.au; Benson, Darren
Subject: RE: [REDACTED] Throsby
Attachments: Throsby Blasting Map.pdf; Shot 3.pdf; Shot 6.pdf; FW: Throsby 3 - Controlled Fill Report

Hi Colin,

Attached are the relevant blasting records. We have the controlled fill report as well but it is 32MB and may not make it across to you. It was forwarded to you in an email on 21/11/16 (see attached also) so I am hoping you have a copy of it.

It looks to me that the issues are blasting related, but I will admit I'm no expert when it comes to looking at the blasting reports/controlled fill reports. Can you please confirm if the loose rock is linked to the blasting as it appears, and I will chat with SLA about how we move forward.

Thanks,

Tim



Tim Berriman
Project Manager
T +61 2 6211 7100

[REDACTED]
[REDACTED]
[REDACTED]@calibregroup.com

Level 6,121 Marcus Clarke Street, Canberra City, ACT, 2601

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From: Colin Reid [mailto:[REDACTED]@douglaspartners.com.au]
Sent: Monday, 26 February 2018 12:10 PM
To: Tim Berriman <[REDACTED]@calibregroup.com>
Subject: FW: [REDACTED] Throsby

Hi Tim,

See attached report

Regards,

Colin Reid | Associate | Geotechnical / Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
Unit 2 73 Sheppard Street Hume ACT 2620 | PO Box 1487 Fyshwick ACT 2609
P: 02 6260 2788 | F: 02 6260 1147 | M: [REDACTED]@douglaspartners.com.au





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From: Colin Reid
Sent: Friday, 23 February 2018 4:51 PM
To: [REDACTED]@calibre.com'
Subject: [REDACTED] Throsby

Hi Tim,

Please see attached memo for today's visit to the above site regarding loose rock conditions.

The owner of the block is [REDACTED]
Mob: [REDACTED] Email: [REDACTED]

If you have any questions or queries please let me know.

Regards,

Colin Reid | Associate | Geotechnical / Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
Unit 2 73 Sheppard Street Hume ACT 2620 | PO Box 1487 Fyshwick ACT 2609
P: 02 6260 2788 | F: 02 6260 1147 | M: [REDACTED] [@douglaspartners.com.au](mailto:[REDACTED]@douglaspartners.com.au)



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From: Tim Berriman [redacted]@calibregroup.com>
Sent: Tuesday, 6 March 2018 1:13 PM
To: Michael Jones
Cc: [redacted]@douglaspartners.com.au; Benson, Darren
Subject: RE: [redacted] Throsby
Attachments: Throsby Blasting Map.pdf

Thanks Michael...

So on the blasting map attached, you are referring to Section [redacted] 13 blocks in total. These are blocks [redacted] and [redacted] in Section [redacted]. The remaining blasting seemed to take place along road alignments. Would you consider it worthwhile investigating the blocks alongside these blasts locations?



Tim Berriman
Project Manager
T +61 2 6211 7100

[redacted]
[redacted]
[redacted]@calibregroup.com

Level 6, 121 Marcus Clarke Street, Canberra City, ACT, 2601

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Please consider the environment before printing this e-mail.

From: Michael Jones [mailto:[redacted]@douglaspartners.com.au]
Sent: Tuesday, 6 March 2018 12:24 PM
To: Tim Berriman <[redacted]@calibregroup.com>
Cc: Colin Reid <[redacted]@douglaspartners.com.au>; Benson, Darren <Darren.Benson@act.gov.au>; Gary Renfrey <[redacted]@douglaspartners.com.au>
Subject: RE: [redacted] Throsby

Tim,

It would be a high probability of other areas being affected.

Areas of both bulk and line blasting would need to be checked. This could be done by test pits in the known areas of blasting.

As this block is affected, the adjoining areas would also be affected.

Regards,

Michael Jones | Principal
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
Unit 2 73 Sheppard Street Hume ACT 2620 | PO Box 1487 Fyshwick ACT 2609
P: 02 6260 2788 | F: 02 6260 1147 | M: [redacted]

FINANCIAL REVIEW
CLIENT CHOICE AWARD
WINNER



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From: Tim Berriman [mailto: [REDACTED]@calibregroup.com]
Sent: Tuesday, 6 March 2018 12:00 PM
To: Michael Jones
Cc: Colin Reid; Benson, Darren
Subject: RE: [REDACTED] Throsby

Good morning Michael,

I am told Colin is away at the moment. A week or so ago he provided a report on the block in Throsby that appears to have been damaged from the blasting. I have provided the blasting records to Colin. What we now need to know is whether any other blocks are likely to have been impacted. Is Colin away for long? If so, are you or someone else able to have a look at the reports and provide some advice as to the potential impact on other blocks.

I can give you a call shortly to discuss this further if need be.

Regards,

Tim



Tim Berriman
Project Manager
T +61 2 6211 7100

[REDACTED]
[REDACTED]
[REDACTED]@calibregroup.com

Level 6, 121 Marcus Clarke Street, Canberra City, ACT, 2601

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From: Colin Reid [mailto: [REDACTED]@douglaspartners.com.au]
Sent: Monday, 26 February 2018 12:10 PM
To: Tim Berriman [mailto: [REDACTED]@calibregroup.com]
Subject: FW: [REDACTED] Throsby

Hi Tim,

See attached report

Regards,

Colin Reid | Associate | Geotechnical / Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
Unit 2 73 Sheppard Street Hume ACT 2620 | PO Box 1487 Fyshwick ACT 2609
P: 02 6260 2788 | F: 02 6260 1147 | M: [REDACTED]@douglaspartners.com.au



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From: Colin Reid
Sent: Friday, 23 February 2018 4:51 PM
To: [REDACTED]@calibre.com'
Subject: [REDACTED] Throsby

Hi Tim,

Please see attached memo for today's visit to the above site regarding loose rock conditions.

The owner of the block is [REDACTED]
Mob: [REDACTED] Email: [REDACTED]

If you have any questions or queries please let me know.

Regards,

Colin Reid | Associate | Geotechnical / Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
Unit 2 73 Sheppard Street Hume ACT 2620 | PO Box 1487 Fyshwick ACT 2609
P: 02 6260 2788 | F: 02 6260 1147 | M: [REDACTED] [@douglaspartners.com.au](mailto:[REDACTED]@douglaspartners.com.au)



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From: Tim Berriman <[REDACTED]@calibregroup.com>
Sent: Monday, 26 February 2018 12:33 PM
To: Yaaman Majeed; Mine Thamsongsana
Cc: Joel Stevenson; Benson, Darren
Subject: FW: [REDACTED] Throsby
Attachments: 77374.09.R.001.Rev0.Throsby, [REDACTED].pdf


Good afternoon Yaaman and Mine,

As per the attached report, some issues with sub-surface conditions have been encountered in Throsby Stage 3. The owner of [REDACTED] is on-site and has commenced excavation for the construction of foundations. The excavation has uncovered loose rock in the south west corner of the site, believed to be the result of blasting in the area.

Could Group 1 please provide as a matter of urgency details of the blasting works that took place across Throsby Stage 3 to enable further investigations into the extent of the issue on site and determine an appropriate path forward.

Thanks,

Tim


calibregroup.com

Tim Berriman
Project Manager
T +61 2 6211 7100
[REDACTED]
[REDACTED]
[REDACTED]@calibregroup.com
Level 6, 121 Marcus Clarke Street, Canberra City, ACT, 2601

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 Please consider the environment before printing this e-mail.

From: Colin Reid [mailto:[REDACTED]@douglaspartners.com.au]
Sent: Monday, 26 February 2018 12:10 PM
To: Tim Berriman <[REDACTED]@calibregroup.com>
Subject: FW: [REDACTED] Throsby

Hi Tim,

See attached report

Regards,

Colin Reid | Associate | Geotechnical / Environmental Engineer
Douglas Partners Pty Ltd | ABN 75 053 980 117 | www.douglaspartners.com.au
Unit 2 73 Sheppard Street Hume ACT 2620 | PO Box 1487 Fyshwick ACT 2609
P: 02 6260 2788 | F: 02 6260 1147 | M: [REDACTED]@douglaspartners.com.au



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Memorandum 1

To	Calibre Consulting (ACT) Pty Ltd	Tim Berriman	██████████@calibre.com
From	Colin Reid	Date	23 Feb 2018
Subject	Record of Site Visit on 23 February 2018 Subsurface Conditions		Project No. 77374.09
	Block █	Section █	Throsby

The above site was visited by the writer on 23 February 2018 at the request of the owner for the purpose of viewing and providing comment on the subsurface conditions exposed in the rear south western portion of the block where the owner indicated the presence of loose rock and blast wire.

At the time of the site visit, the site excavation for design levels of the proposed residence was underway. The excavation at the rear of the block (excluding the sewer easement) was approximately 1 m deep. The excavation had exposed up to about 0.6 m of filling overlying dacite rock. Loosened very high to extremely high strength, fresh fractured rock was present in the excavation floor and sides in the western corner of the block. The floor of the excavation in the opposite southern corner contained low to medium strength, moderately weathered rock that appeared to be intact and undisturbed.

During the site visit a test pit was excavated in the apparently loosened fresh rock mass at the western corner to assess the possible depth of loosened rock. The test pit encountered loosened rock to about 2.5 m depth below site levels (approximately 1.5 m below site excavation levels for the proposed residence). Below the base of the test pit apparent intact rock was exposed.



Figure 1: View of the western corner looking along the rear block boundary



Figure 2: Test pit excavation within the western corner of the [redacted]



Figure 3: View of the side boundary and test pit excavation profile

Based on the observed conditions it is our opinion that the loosened rock is a result of blasting works, presumably carried out during bulk earthworks for the subdivision. The effects of the blasting would appear to have loosened the rock to a depth of 2.5 m below the existing ground surface level in this inspected western corner of the block. The presence of the loosened rock would affect foundation performance for any proposed structures and in this state the affected blocks would be considered Class P (problem site) in reference to AS 2870 – 2011.


Given the conditions observed we would suggest the following:

- The subdivision contractor (Group One) be contacted and asked to provide details of their blasting works across the Stage 3 works.
- Following a review of the blasting records a subsurface investigation of the blasted areas be undertaken to identify and assess the extent of any similar conditions of loosened rock that could be affected by the blasting operations conducted onsite.
- Once the extent of the affected zones from the blasting is known remediation works should be undertaken to reinstate suitable foundation conditions.
- The likely most effective method to remediate affected blocks would be to over-excavate the loosened rock and replace with a select filling material. Any replacement filling would have to be constructed as Level 1 controlled filling.
- A new site classification certificate would have to be prepared for the remediated blocks.


We trust the above is in accordance with your present requirements. Should you have any questions please contact the undersigned. This Memorandum must be read in conjunction with the attached notes, *About this Inspection Report*. Should you have any questions at this stage please contact the undersigned.

Regards,

Douglas Partners Pty Ltd


Colin Reid
Associate

Reviewed by


Gary Renfrey
Senior Associate

Attachments: About this Inspection Report

About this Inspection Report

Douglas Partners



Introduction

These notes are provided to amplify DP's inspection report in regard to the limitations of carrying out inspection work. Not all notes are necessarily relevant to this report.

Standards

This inspection report has been prepared by qualified personnel to current engineering standards of interpretation and analysis.

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- inspection of the work, exposed ground conditions, excavation spoil and performance of excavating equipment while DP was on site;
- investigation and testing that was carried out during the site inspection;
- anecdotal information provided by authoritative site personnel; and

- DP's experience and knowledge of local geology.

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- unexpected variations in subsurface conditions that are not evident from the inspection; and
- the actions of contractors responding to commercial pressures.

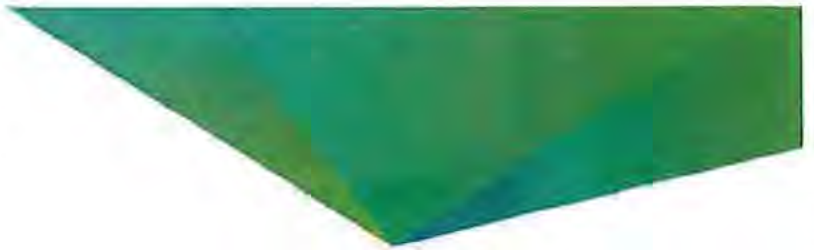
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ACT
Government

Suburban Land
Agency



Mr Joel Stevenson
Calibre Consulting (ACT) Pty Ltd
GPO Box 261
Canberra ACT 2601

Dear Joel

Throsby Residential Estate - Principal Authorised Delegate

The Land Development Agency (now the Suburban Land Agency) engaged Calibre Consulting (ACT) Pty Ltd as the Principal's Authorised Delegate for the development of the Throsby estate. Under this engagement Calibre engaged Douglas Partners Pty Ltd as a sub-consultant.

The LDA engaged Group One Pty Ltd to undertake the construction works for Throsby Stage 3. During the works Group One's subcontractor conducted blasting activities in Throsby Stage 3 during or around the period of March to May 2016.

Douglas Partners prepared site classification certificates for blocks within Throsby Stage 3 after Group One's subcontractor conducted that blasting.

The SLA has been approached by the owners of Block [REDACTED] Throsby. The owners claim that site conditions encountered during construction of their dwelling were not representative of the site classification (Class S) which was stated in the site classification certificate included in the sale contract. The owners are claiming compensation for additional site development costs.

Subsequent investigations of the block carried out by Douglas Partners and ACT Geotechnical Engineers concluded that the block should in fact have been classified as class P due to the effects of blasting activities. Copies of the 23 February 2018 Douglas Partners report and the 26 February 2018 ACT Geotechnical Engineers report are attached to this letter.

There are other blocks that may have similar classification issues within the estate. On 6 April 2018, Douglas Partners provided a report on parts of Throsby Stage 3. In it, Douglas Partners states that numerous blocks should be classified as Class P. A copy of the 6 April 2018 Douglas Partners report is attached.

It is possible that the owners of other blocks will make claims for compensation against the SLA which are similar to the claim made by the owners of Block [REDACTED].

This letter is to notify Calibre that if the SLA is required to compensate the owners of Block [REDACTED] or any other owners for expenses which they incur due to incorrect site classification certificates, the SLA may look to recover those amounts from Calibre.

Yours sincerely

[REDACTED]

Guna Seelan
Engineering Director

04 June 2018

Memorandum 1

To	Calibre Consulting (ACT) Pty Ltd	Tim Berriman	[REDACTED]	@calibre.com
From	Colin Reid		Date	23 Feb 2018
Subject	Record of Site Visit on 23 February 2018		Project No.	77374.09
	Subsurface Conditions			
	Block [REDACTED], Throsby			

The above site was visited by the writer on 23 February 2018 at the request of the owner for the purpose of viewing and providing comment on the subsurface conditions exposed in the rear south western portion of the block where the owner indicated the presence of loose rock and blast wire.

At the time of the site visit, the site excavation for design levels of the proposed residence was underway. The excavation at the rear of the block (excluding the sewer easement) was approximately 1 m deep. The excavation had exposed up to about 0.6 m of filling overlying dacite rock. Loosened very high to extremely high strength, fresh fractured rock was present in the excavation floor and sides in the western corner of the block. The floor of the excavation in the opposite southern corner contained low to medium strength, moderately weathered rock that appeared to be intact and undisturbed.

During the site visit a test pit was excavated in the apparently loosened fresh rock mass at the western corner to assess the possible depth of loosened rock. The test pit encountered loosened rock to about 2.5 m depth below site levels (approximately 1.5 m below site excavation levels for the proposed residence). Below the base of the test pit apparent intact rock was exposed.



Figure 1: View of the western corner looking along the rear block boundary



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Figure 2: Test pit excavation within the western corner of the Block [REDACTED]



Figure 3: View of the side boundary and test pit excavation profile

Based on the observed conditions it is our opinion that the loosened rock is a result of blasting works, presumably carried out during bulk earthworks for the subdivision. The effects of the blasting would appear to have loosened the rock to a depth of 2.5 m below the existing ground surface level in this inspected western corner of the block. The presence of the loosened rock would affect foundation performance for any proposed structures and in this state the affected blocks would be considered Class P (problem site) in reference to AS 2870 – 2011.

Given the conditions observed we would suggest the following:

- The subdivision contractor (Group One) be contacted and asked to provide details of their blasting works across the Stage 3 works.
- Following a review of the blasting records a subsurface investigation of the blasted areas be undertaken to identify and assess the extent of any similar conditions of loosened rock that could be affected by the blasting operations conducted onsite.
- Once the extent of the affected zones from the blasting is known remediation works should be undertaken to reinstate suitable foundation conditions.
- The likely most effective method to remediate affected blocks would be to over-excavate the loosened rock and replace with a select filling material. Any replacement filling would have to be constructed as Level 1 controlled filling.
- A new site classification certificate would have to be prepared for the remediated blocks.

We trust the above is in accordance with your present requirements. Should you have any questions please contact the undersigned. This Memorandum must be read in conjunction with the attached notes, *About this Inspection Report*. Should you have any questions at this stage please contact the undersigned.

Regards,

Douglas Partners Pty Ltd

[Redacted Signature]

Colin Reid
Associate

Reviewed by

[Redacted Signature]

Gary Renfrey
Senior Associate

Attachments: About this Inspection Report

About this Inspection Report



Introduction

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26 February 2018
Our ref: JM/C9165

via email: [REDACTED]

Attention: [REDACTED]

PROPOSED RESIDENCE - BLOCK [REDACTED] THROSBY

GEOTECHNICAL ASSESSMENT OF FOUNDATION

1 Introduction

At the request of [REDACTED] ACT Geotechnical Engineers Pty Ltd are pleased to provide an assessment of the foundation of a proposed residence on Block [REDACTED], in Throsby, ACT.

It is understood that the development comprises the construction of a two-storey residence, and requires excavation of up to 3m depth into the sloping site. The site cut is located on the rear, downhill (SW) half of the block, and had been mostly dug at the time that the assessment was carried out.

2 Background

Douglas Partners conducted a geotechnical site classification of the block in January 2017 (Job Number 77374.09). That report indicated that medium to high strength dacite bedrock was present below 0.1m/0.15m depth. Douglas Partners designated the block at Class "S" (slightly reactive) in accordance with AS2870 "Residential slabs and footings".

3 Subsurface Conditions

ACT Geotechnical Engineers conducted a site inspection on 26 February 2018. The inspection was conducted by Jeremy Murray, a senior geotechnical engineer, and was carried out during the site excavation works. At the time of inspection, the site excavation on the rear, downhill half of the site was over 50% completed. The excavation was between 1m and 2.8m deep, and exposed the following subsurface conditions:

Souther Corner & NE Half of the Block

0m - 0.2m - TOPSOIL
0.2m - 1m - HW/MW & MW DACITE BEDROCK

The cut in the southern corner and NE half of the block exposed medium strong dacite bedrock. This subsurface profile matches the conditions indicated in the Douglas Partners site classification report.

Western Corner of the Block

0m - 0.2m - TOPSOIL
0.2m - 1m - UNCONTROLLED FILL
0.2m/1m to >2.8m - LOOSE/SHATTERED BEDROCK

The subsurface profile exposed on the western corner of the block was markedly different to the rest of the site, and does not match the conditions indicated in the Douglas Partners site classification report.

This area includes loose, shattered bedrock that extends to >2.8m depth. The loose and shattered nature of the bedrock appears to be from previous blasting activities in the area. It has been indicated that during the subdivision development works, some excavation works required the use of pre-blasting to break the rock up, prior to bulk excavation. The pre-blasting has shattered and loosened the bedrock to at least 2.8m depth below ground surface level in this area of the site.

Calibre Group grading plans for the development of the Throsby 3 Residential Estate, show that the entire block to be in an area of cut. Despite this, there was uncontrolled fill exposed in some parts in the western corner. The uncontrolled fill is loose, and extends to a maximum of about 1m depth. A sewerage easement is present along the SW boundary of the site, and this uncontrolled fill could be part of the sewer trench backfill. Alternatively, it could be where over excavation occurred during estate development works, and the area backfilled back up to the design levels.

The affected area appears to be about 12m x 15m in the western corner of the block, as shown in the attached Figure 1. The attached photos show the uncontrolled fill and loose/shattered bedrock that was exposed during the site inspection on 26 February 2018.

4 Foundation Assessment & Site Classification

It is assessed that the uncontrolled fill and loose/shattered bedrock materials in the western corner of the block are unsuitable as a foundation for the proposed residence. These conditions were not indicated to the owners prior to purchase of the block, and were not indicated in the Douglas Partners site classification report. This will require a re-design of the footings for the proposed residence, and advice for footings is provided in Section 5.

These foundation materials in their present state would have an allowable bearing pressure of less than 100kPa required by AS2870. Therefore, the site must be designated as a Class "P" (problem) site.


5 Footing Advice

The uncontrolled fill and loose/shattered bedrock materials in the western corner of the block are unsuitable as a foundation for the proposed residence. Given that the majority of the residence will be founded on competent bedrock, it is recommended that all footings for the entire structure be founded on competent bedrock to preclude differential movement. Normally, this could be achieved in the western corner by constructing piers that extend through the unsuitable material, to be founded in competent bedrock below. However, it will be very difficult or impossible to construct piers through the shattered bedrock.

Therefore, this will require all uncontrolled fill and loose/shattered bedrock to be removed from below the foundation of the house. Finer material (clayey/sandy soils) must be imported to the site and placed as compacted fill back up to design foundation levels. Bored piers can then be drilled back through the new fill, to be founded in the competent bedrock below. The following procedure is recommended.

- 1 Strip off/remove all existing uncontrolled fill and loose/shattered to its full depth. The unsuitable material is expected to extend to at least 2.8m depth below existing ground surface levels. The Geotechnical Engineer should supervise this process to ensure that all unsuitable material is removed from the foundation area, exposing only competent bedrock. This bouldery material is unsuitable for re-use as controlled fill, and should be disposed of.
- 2 A well-graded sandy/clayey material should be imported to site to be used as compacted fill. This should ideally be a sandy clay or clayey sand of low/medium plasticity, with no rock particles >60mm size. Suitable materials would classify as CL or SC in accordance with the USCS. The Geotechnical Engineer should inspect and approve this material prior to use.
- 3 The imported fill should be placed in not thicker than 200mm layers and compacted to not less than 90%ModMDD. The fill placement should be supervised on a part-time basis by the Geotechnical Engineer.
- 4 Bored pier footings can then be drilled through the newly placed compacted fill, founded in competent bedrock. Pier footings founded in competent bedrock can be proportioned using an allowable bearing pressure of 2000kPa. Provided all footings are founded in competent bedrock, the footing system for the house (stiffened raft, raft slab, waffle raft, etc.) can be designed for a Class "S" (slightly reactive) site.

Yours faithfully
ACT Geotechnical Engineers Pty Ltd


Jeremy Murray
Director - Senior Geotechnical Engineer
MIEAust CPEng EngExec RPEQ NER APEC Engineer IntPE(Aust)

4 July 2018

Our ref: SH/C7922

Group One

4/4 Pelle Street

Mitchell ACT 2911

Attention:

THROSBY RESIDENTIAL ESTATE STAGE 3 – THROSBY, ACT

THROSBY – FOUNDATION ASSESSMENT

1. Introduction

At the request of Group One, ACT Geotechnical Engineers Pty Ltd conducted a geotechnical assessment of the foundation material on Blocks [REDACTED], Throsby, ACT as part of the construction of Stage 3 of the Throsby Residential Estate.

The foundation assessment on blocks [REDACTED], Throsby comprised of stripping of the topsoil fill to the foundation level, proof rolling the stripped foundation and ten (10) compaction tests conducted on the stripped foundation. A stormwater and sewer easement runs along the back of the blocks ~2.5m/3m deep from ground surface levels. Due to the high strength of the bedrock, blasting was required to excavate the stormwater and sewer trenches. The trenches were then backfilled, and 60 compaction tests conducted, which all passed the required specification of at least 95%ModMDD or 70%DI. Due to the nature of the blasting process, it is possible that the blasting has extended laterally onto the blocks, requiring more backfill than originally specified.

2. Foundation Assessment

2.1. Proof Roll of Foundation

The topsoil fill on the blocks were stripped to 0.1m/0.2m depth, to generally expose weathered bedrock or compacted, remoulded bedrock on the foundation. The stripped foundation was in a dry condition, and was proof rolled using a 30T truck which showed no deformation on 6 June 2018. There appeared to be some compacted fill present, but this appeared to just be the backfilled sewer and stormwater trenches along the rear of the blocks.

2.2. Compaction Testing

A total of 10 representative field density and compaction determination were carried out on the stripped foundation (one on each block), and all the tests achieved Density Ratios of not less than the specified 95% ModMDD. Table 1 summarises all of the compaction tests conducted on the stripped foundation on each block.

3. Conclusions

Based on our visual inspection of the exposed foundation, a heavy proof-rolled, and all of the testing conducted on the fill material, it is assessed that the foundation on Blocks [REDACTED] Throsby are suitable for the intended purpose of residential construction, and would have an allowable bearing pressure of at least 100kPa.

Should you require any further information regarding this report, please do not hesitate to contact our office.

Yours faithfully

ACT Geotechnical Engineers Pty Ltd

[REDACTED]
Jeremy Murray

Director

Senior Geotechnical Engineer

TABLE 1

SUMMARY OF FIELD DENSITY TESTING

Lab Test No	Test Date	LOCATION	Level	FIELD RESULTS		LABORATORY RESULTS		Field Moisture Variation from OMC (%)	Density Ratio (%)	Test Status & Remarks 95%Mod MDD Specified
				Dry Density (t/m ³)	Moisture Content (%)	Max. Dry Density (t/m ³)	OMC (%)			
FILL										
1	12/6/18		FL	2.07	5.5	2.15	7.5	2.5 DRY	96.5	R - Pass
2	12/6/18		FL	2.06	6.5	2.16	8.0	1.5 DRY	95.5	R - Pass
3	12/6/18		FL	2.14	4.5	2.16*	8.0*	3.5 DRY	98.5	R - Pass Dry but accepted
4	12/6/18		FL	2.13	4.5	2.12	8.5	4.0 DRY	100.5	R-Pass Dry but accepted
5	12/6/18		FL	2.14	7.0	2.15	8.5	1.5 DRY	99.5	R-Pass
6	12/6/18		FL	2.09	6.0	2.15	8.5	2.5 DRY	97.0	R-Pass
7	12/6/18		FL	2.15	6.0	2.15*	8.0*	2.0 DRY	100.0	R-Pass
8	12/6/18		FL	2.07	7.5	2.14*	9.0*	1.5 DRY	96.5	R-Pass
9	12/6/18		FL	2.21	6.0	2.18*	8.5*	2.5 DRY	101.0	R-Pass
10	12/6/18		FL	2.11	6.0	2.17	9.0	3.0 DRY	97.0	R-Pass Dry but accepted

Notes: * adjusted for oversize material
Standard Lab Compaction AS1289 5.2.1 used
R denotes representative result



J & A GEOTECH TESTING PTY LTD

Unit 2/25 Dacre Street Mitchell ACT 2911

Certificate No

260314-260317

Test Certificate - Compaction Control Testing

Client	GROUPONE	Job No	2281
Principal		Date Tested	12.06.18
Project	Throsby Stage 1	Tested By	J.G
Location	Throsby ACT	Date Checked	15.06.18
Test Procedures		Checked By	S.M
<input type="checkbox"/> AS 1289 5.8.1 <input type="checkbox"/> AS 1289 2.1.1 <input type="checkbox"/> AS 1289 2.1.4 <input type="checkbox"/> AS 1289 5.1.1 <input type="checkbox"/> AS 1289 5.2.1 <input type="checkbox"/> AS 1289 5.4.1 <input type="checkbox"/> AS 1289 5.7.1 <input type="checkbox"/> RMS T111 <input type="checkbox"/> RMS T112 <input type="checkbox"/> RMS T120 <input type="checkbox"/> RMS T130 <input type="checkbox"/> RMS T162 <input type="checkbox"/> RMS T163 <input type="checkbox"/> RMS T164 <input type="checkbox"/> RMS T166 <input type="checkbox"/> RMS 180 <input type="checkbox"/> RMS T173			

Nuclear Gauge Serial No 8165	Humboldt		Time of Tests 1.15pm					
Test No	1		2		3		4	
Location	[REDACTED]							
Depth Below FSL	Foundation Level		Foundation Level		Foundation Level		Foundation Level	
Depth Setting mm	150		150		150		150	
Field Wet Density t/m ³	2.186		2.192		2.245		2.226	
Field Dry Density t/m ³	2.07		2.06		2.14		2.13	
Moisture Content (FMC) %	5.5		6.5		4.5		4.5	
Laboratory Compaction Test No	260314		260315		260316		260317	
Maximum Dry Density t/m ³	2.15		2.16		N/A		2.12	
Optimum Moisture Content (OMC) %	7.5		8.0		N/A		8.5	
Oversize Material - Sieve Size	<input type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm	<input type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm	<input type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm	<input type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm
Percent Oversize Rock %	0.0	N/A	0.0	N/A	6.5	N/A	0.0	N/A
Corrected Max Dry Density t/m ³	N/A		N/A		2.16		N/A	
Density Ratio/Hilf Ratio %	96.5		95.5		99.5		100.5	
Moisture Variation %	2.5 DRY		1.5 DRY		3.5 DRY		4.0 DRY	
Moisture Ratio %	70.0		82.5		56.5		54.0	
Corrected OMC %	N/A		N/A		8.0		N/A	
Max Converted Wet Density t/m ³	N/A		N/A		N/A		N/A	
Corrected MCWD t/m ³	N/A		N/A		N/A		N/A	
Curing Time Hrs	2.0		2.0		2.0		2.0	
LL Assessment Method?	Visual/Tactile		Visual/Tactile		Visual/Tactile		Visual/Tactile	
Specification Requirement	95%MMDD							

Material Description: On Site Material	Comments:
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Accredited for compliance with ISO/IEC 17025-Testing.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

NATA Accredited Laboratory
Number: 19979

15.06.18
Laboratory Manager/Date
Scott Miller



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Unit 2/25 Dacre Street Mitchell ACT 2911

Certificate No **260318-260321**

Test Certificate - Compaction Control Testing

Client	GROUPONE	Job No	2281
Principal		Date Tested	12.06.18
Project	Throsby Stage 1	Tested By	J.G
Location	Throsby ACT	Date Checked	15.06.18
Test Procedures		Checked By	S.M
<input checked="" type="checkbox"/> AS 1289 5.8.1 <input checked="" type="checkbox"/> AS 1289 2.1.1 <input checked="" type="checkbox"/> AS 1289 2.1.4 <input type="checkbox"/> AS 1289 5.1.1 <input checked="" type="checkbox"/> AS 1289 5.2.1 <input checked="" type="checkbox"/> AS 1289 5.4.1 <input type="checkbox"/> AS 1289 5.7.1 <input type="checkbox"/> RMS T111 <input type="checkbox"/> RMS T112 <input type="checkbox"/> RMS T120 <input type="checkbox"/> RMS T130 <input type="checkbox"/> RMS T162 <input type="checkbox"/> RMS T163 <input type="checkbox"/> RMS T164 <input type="checkbox"/> RMS T166 <input type="checkbox"/> RMS 180 <input type="checkbox"/> RMS T173			

Nuclear Gauge Serial No 8165	Humboldt		Time of Tests 1.15pm					
Test No	5		6		7		8	
Location	[REDACTED]							
Depth Below FSL	Foundation Level		Foundation Level		Foundation Level		Foundation Level	
Depth Setting mm	150		150		150		150	
Field Wet Density t/m ³	2.284		2.216		2.288		2.217	
Field Dry Density t/m ³	2.14		2.09		2.15		2.07	
Moisture Content (FMC) %	7.0		6.0		6.0		7.5	
Laboratory Compaction Test No	260318		260319		260320		260321	
Maximum Dry Density t/m ³	2.15		2.15		N/A		N/A	
Optimum Moisture Content (OMC) %	8.5		8.5		N/A		N/A	
Oversize Material - Sieve Size	<input checked="" type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm	<input checked="" type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm	<input checked="" type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm	<input checked="" type="checkbox"/> 19.0 mm	<input type="checkbox"/> 37.5 mm
Percent Oversize Rock %	0.0	N/A	0.0	N/A	6.5	N/A	6.0	N/A
Corrected Max Dry Density t/m ³	N/A		N/A		2.15		2.14	
Density Ratio/Hilf Ratio %	99.5		97.0		100.0		96.5	
Moisture Variation %	1.5 DRY		2.5 DRY		2.0 DRY		1.5 DRY	
Moisture Ratio %	81.0		70.5		77.0		83.5	
Corrected OMC %	N/A		N/A		8.0		9.0	
Max Converted Wet Density t/m ³	N/A		N/A		N/A		N/A	
Corrected MCWD t/m ³	N/A		N/A		N/A		N/A	
Curing Time Hrs	2.0		2.0		2.0		2.0	
LL Assessment Method?	Visual/Tactile		Visual/Tactile		Visual/Tactile		Visual/Tactile	
Specification Requirement	95%MMDD							

Material Description: On Site Material **Comments:** [REDACTED]



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15.06.18
Laboratory Manager/Date
Scott Miller

NATA Accredited Laboratory
Number: 19979



J & A GEOTECH TESTING PTY LTD

Unit 2/25 Dacre Street Mitchell ACT 2911

Certificate No **260322-260323**

Test Certificate - Compaction Control Testing

Client	GROUPONE	Job No	2281
Principal		Date Tested	12.06.18
Project	Throsby Stage 1	Tested By	J.G
Location	Throsby ACT	Date Checked	15.06.18
Test Procedures		Checked By	S.M

[*] AS 1289 5.8.1 [*] AS 1289 2.1.1 [*] AS 1289 2.1.4 [] AS 1289 5.1.1 [*] AS 1289 5.2.1 [*] AS 1289 5.4.1 [] AS 1289 5.7.1
 [] RMS T111 [] RMS T112 [] RMS T120 [] RMS T130 [] RMS T162 [] RMS T163 [] RMS T164 [] RMS T166 [] RMS 180 [] RMS T173

Nuclear Gauge Serial No 8165	Humboldt	Time of Tests 1.15pm					
Test No	9	10	-	-	-	-	
Location	[REDACTED]		-	-	-	-	
Depth Below FSL	Foundation Level	Foundation Level	-	-	-	-	
Depth Setting mm	150	150	-	-	-	-	
Field Wet Density t/m ³	2.342	2.230	-	-	-	-	
Field Dry Density t/m ³	2.21	2.11	-	-	-	-	
Moisture Content (FMC) %	6.0	6.0	-	-	-	-	
Laboratory Compaction Test No	260322	260323	-	-	-	-	
Maximum Dry Density t/m ³	N/A	2.17	-	-	-	-	
Optimum Moisture Content (OMC) %	N/A	9.0	-	-	-	-	
Oversize Material - Sieve Size	[*] 19.0 mm [] 37.5 mm	[*] 19.0 mm [] 37.5 mm	[] 19.0 mm [] 37.5 mm	[] 19.0 mm [] 37.5 mm	[] 19.0 mm [] 37.5 mm	[] 19.0 mm [] 37.5 mm	
Percent Oversize Rock %	4.0	N/A	0.0	N/A	-	-	
Corrected Max Dry Density t/m ³	2.18	N/A	-	-	-	-	
Density Ratio/Hilf Ratio %	101.0	97.0	-	-	-	-	
Moisture Variation %	2.5 DRY	3.0 DRY	-	-	-	-	
Moisture Ratio %	71.0	67.5	-	-	-	-	
Corrected OMC %	8.5	N/A	-	-	-	-	
Max Converted Wet Density t/m ³	N/A	N/A	-	-	-	-	
Corrected MCWD t/m ³	N/A	N/A	-	-	-	-	
Curing Time Hrs	2.0	2.0	-	-	-	-	
LL Assessment Method?	Visual/Tactile	Visual/Tactile	-	-	-	-	
Specification Requirement	95%MMDD						

Material Description: On Site Material

Comments: [REDACTED]



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NATA Accredited Laboratory
Number: 19979

15.06.18
Laboratory Manager/Date
Scott Miller

Project Risk Register

Site:Throsby Stage 3
 Date:15/08/16
 Revision: E
 Approved By: J Causer



1	Safety in Design Considerations	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR
		Contaminated materials including biological hazards	Unidentified contaminated materials found on site	4	5	E	Contractor to monitor during construction & implement their unanticipated finds/discovery protocol and inform Superintendent of any contaminated or other discovered materials.	3	5	H
		Existing services including relocations	Existing high pressure gas main along Horse Park Drive. 120m kill zone and 80m clearance zone Existing creek through Stage 1. Existing DN300 trunk water along HPD	4	5	E	all existing services to adequately potholed. Service Authorities to be present during works near existing live services. Erect temporary construction fencing as per Fencing Plan and Pollution Control Plans to provide separation from construction works and from plant to existing live services. Contractor to ensure authorities undertake all works for connection to existing services.	3	5	H
		Adjacent land uses and users	Users includes public transport, pedestrians, cyclists, drivers, service authorities and maintenance crews. Existing residents in Harrison, Bus routes on HPD, HPD Road traffic, Capital works: Anthony Rolfe intersection contract and HPD • Duplication contract will be constructed at the same time as stage 1. Throsby and Capital works need to solve the following issue during construction: Construction site access o Interface with capital works, Construction fence between two projects, Site compound location Throsby Stage 2 works will be under	4	5	E	Access to existing HPD road for public transport and cars to be maintained during construction works. Utilise appropriate TTM measures, Maintain existing pedestrian footpath and cycle path access through staging of work and TTM measures. Site access shall be via HPD as per Pollution Control Plan. During construction phase, noise generation should be in accordance with EPA requirements. Maintain normal functions of existing floodway during construction works. CC to confirm with Actew Water regarding microtunnelling the sewer under existing HPD. Contractor to liaise and coordinate with adjacent contractors during construction. Determine appropriate site delineation between contracts and erect temporary security fencing between projects.	3	5	H

	Geotechnical conditions and likely method of excavation	Geotech report is currently been undertaken for whole of site	4	5	E	Contractor to have Safe Work Method Statements (SWMS) for trenching works and other high risk activities impacted by geotechnical conditions.	3	5	H
	Ground waters	Geotech report is currently been undertaken for whole of site	4	5	E	The effect of ground water on excavation and other construction works is to be considered by the Contractor and the associated risks managed by Contractor. SWMS and construction methodology to reflect impact of potential groundwater.	3	5	H
	Susceptibility to flooding including overland flow • paths and floodway's	Works within existing creek including overland flow path through stage 1, Gungaharra Creek floodway and culverts are susceptible to flooding	3	5	H	Workers and construction works are to be adequately protected from potential flooding. The construction methodology shall consider safety and protection of the works from flood events. Plant and materials should not to be stored near pond or floodway.	2	5	M
	Existing provision for access including traffic, • residential, pedestrian, equestrian, etc.	No existing equestrian access is within the work area. Existing cycle path affected by trunk sewer outfall connection works. Intersection of Horse Park Drive and Anthony Rolfe Ave by Capital Works.	3	5	H	Access to existing residents, schools and pedestrians to be maintained during construction works. Utilise TTM's as required. Maintain cycle path with minimal disruption including temporary diversion if possible. Boring of services proposed under HPD	2	5	M
	Existing bus routes and bus stops	Horse Park Drive is a bus route, but no • bus stops on the HPD.	3	5	H	TTM's to maintain access by buses.	2	5	M
	Unusual or atypical design features	Three offsite trunk sewer to be under HPD and exist high pressure gas man. Works adjacent to existing high pressure gas main - safety issue. Path adjacent Gungaharra Creek floodway. HPD duplication works under construction at same time with works to match up	3	5	H	Contractor to erect temporary fence around the construction of offsite trunk sewer main works. ACTEW to break into existing live main. Contractor to pothole existing services and then prepare Job Safety Audit (JSA), risk assessment and SWMS for construction specifically affected works. Design to be reviewed if required. Pond is designed with minimum grades of 1 in 8 within water and 1 in 6 out of water. Flood warning signs included.	2	5	M

A person could fall more than 2m	Trench excavations during construction • Culvert headwalls	3	5	H	Safety railing provided on headwalls. • Construction works to be managed in accordance with the WHS legislation including the requirement that the work area to be secured to prevent unauthorised / inadvertent entry and trench sides to be supported. Contractor to implement SWMS.	2	5	M
Confined space	Access to sumps and manholes	3	5	H	The health and safety hazards associated with work in or near a confined space are to be managed in accordance with the WHS legislation, the Confined Space Code of Practice and other relevant WorkSafe ACT guidelines.	2	5	M
Involves, or is likely to involve, the disturbance of asbestos	One fragment found on site with remediation work at old farm tip site is been tested	3	5	H	Unexpected finds protocol PC • CEMP being prepared by SMEC	2	5	M
In or near a shaft or trench with an excavated depth greater than 1.5m or is carried out in or near a tunnel	Service trenches.	3	5	H	Works to be managed in accordance with the WHS legislation including the requirement that the work area to be secured to prevent unauthorised / inadvertent entry and trench sides to be supported.	2	5	M
Pressurised gas distribution mains or piping Energised electrical installations or services	High pressure gas main along Horse Park Drive, New gas to be installed in estate and made live during the works	4	5	E	Service Authorities to be notified of commencement of works and any works that could potentially impact on existing services.	3	5	H
Energised electrical installations or services	Offsite electricity connection to existing substation in Harrison	4	5	E	ActewAGL to locate all existing services prior to commencement of works. • Contractor to arrange relocation of existing streetlight poles by ActewAGL • Electrical assets have been designed in accordance with Authority standards and clearances, and electricity works to be constructed by ActewAGL • Inform Contractor when electricity is live for future stages.	3	5	H
Involves tilt-up or precast concrete	Precast stormwater pipes	4	5	E	Precast pipes are designed in accordance with industry-standard specification.	3	5	H
On, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians	Works adjacent to existing Well Station Drive and HPD	4	5	E	Contractor to provide Temporary Traffic management plan to minimise the impact on traffic • Microtunnelling of sewer under HPD and Nullarbor Ave • Directional drilling of offsite electricity	3	5	H
In an area at a workplace in which there is any movement of powered mobile plant	Movement of powered mobile plant within the construction site.	4	5	E	Works adjacent to on-site and off-site trafficable areas to be managed in accordance with relevant legislation and industry best practice. Coordination of works and vehicle paths with adjacent Contractors. Site induction of delivery trucks.	3	5	H
In or near water or other liquid that involves a risk of drowning	Works near existing dams, creek and floodway. • Sediment and erosion ponds. • Permanent pond. • The proposed MH of sewer connection at Gundaroo creek is below Q100, but above Q2 level.	4	5	E	Fences to be erected around sediment ponds during construction works to protect from the public and where required on site workers. Establish buffer zones to work areas.	3	5	H

Fire / Bushfire	Fire resulting from onsite ignition source • Fire from unmanaged land to the north and west of the site. Fire from Stromlo Forest.	3	5	H	Fire hazards to be identified, controlled and documented in the site Emergency Procedure manual.	2	5	M	
Emergency Services Access	Access through the construction site and adjacent to high risk construction activities	3	5	H	Access for emergency service to be provided at all times. Emergency services to be consulted to ensure that adequate access is provided for, Emergency Evacuation Plan	2	5	M	
Manual Handling	Back strain	4	3	M	• Contractor to use tools and equipment most appropriate to the task and to consider minimisation of hazardous manual tasks through procurement. • Regular Tool box training to be provided by Contractor	3	3	M	
Public	Site access by public.	4	3	M	Site access by public Site fenced with panel fence or equal prior to construction commencing and only removed on completion of work	3	3	M	
Existing features of cultural, archaeological,	• No cultural issue in stage 1. • Adjacent nature reserves. • Existing trees to be retained	2	5	M	• Unanticipated finds/discovery procedure to be followed. • Erect fence at the boundary of Nature Reserve. • Erect temp fences around existing trees to be retained. See CEMP for further information	2	5	M	
site speed limits	collision with people and plant	4	3	M	Maintain a 15KMH speed limit on site	2	5	M	
winter weather conditions	ice	2	4	M	eyes on ground beware of ice and water on surface	1	4	L	
Truck&Dog deliveries	roll over crush injuries	4	5	E	Ensure stockpile areas are flat and level, ensure stockpile areas are not in heavy pedestrian traffic or work areas communicate with delivery drivers to where and how materials should be delivered	3	5	H	
Site Security	Plant damage injury to general public	2	5	M	Ensure Site is secured by suitable fencing Periodic checks to ensure fence is secure Establish security arrangements e.g motion sensors	2	5	M	
2 Earthworks	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR
Tree Removal	Fall from height, Falling objects	4	4	E	Standing trees are to be cleared by mechanical means and cut up on the ground. Area surrounding trees to be kept clear from people prior to trees being felled. Ensure significant trees are bunted off and no plant within 2m of the trees drip line	1	4	L	
Plant Movement around site	Struck by plant	4	5	E	Ensure flashing beacons are on plant/vehicles and working Ensure reversing beepers on plant are working Wear PPE at all times (vest & safety shoes) Vehicle/plant operators to keep a vigilant lookout at all times for other personnel Isolate work areas where possible and practical Plant operator to be appropriately trained with evidence of competency available Approach plant only after making either visual or verbal contact with the plant operator	3	5	H	
	Dust	1	2	M	Water Carts to control dust as much as possible In high wind events where water carts cannot control dust works may have to be isolated or stopped with consultation with superintendent	3	2	L	

		Roll over	4	4	H	Ensure trucks tip on level and firm ground Beware of recent excavations and overhead power lines Keep stockpiles neat and tidy Operate equipment within experience limits, avoid steep areas where possible Avoid travelling across sloping areas Operators to consult with Foremen on best approaches for steep areas	3	4	M
	Plant Operation	Collision with persons, plant or obstacles, plant fire	4	5	E	Pre start checklists to be undertaken daily Plant shall be maintained as per manufacturers guidelines Possible plant fire extinguishers available on all plant Plant operator to be appropriately trained with evidence of competency available Where possible, immediate area around plant to be isolated. Two way radio communications are to be maintained between authorised workers Excavator shall not be setup near recent excavations or overhead power lines	3	5	H
3	Excavation/Hydraulics	Task	L	C	RR	Considered Controls	L	C	RR
	General	Injury from collapse of excavation	3	5	H	No work to be carried out in unbenced, battered and unsupported excavations deeper than 1.5 meters Excavations to be benched, battered or shored as per regulations Daily inspection by competent person before work commences	2	5	M
		Open Excavations	4	5	E	Protective barriers to be erected and maintained, hazard warning signs displayed	2	5	M
		Falling Into Excavations	4	5	E	Adequate fencing and warning signs to be provided around all excavations. Access to and from excavations must be made only by secured ladders, or stepped and sloped entry and egress	3	5	H
		Damage To Underground Services	3	5	H	Underground services to be located prior to excavation using DialBeforeYouDig	2	5	M
		High-water table	4	5	E	Identify areas subject to ground water inundation and consult with affected subcontractors and site employees Seek advice from geotechnical engineer	2	5	M
		Collision damage / electrocution	3	5	H	Overhead hazards to be deenergised if possible, exclusion zones in place or highlighted with high visibility lagging	2	5	M
	Entry into confined space	Falls, Atmosphere changes, engulfment	4	5	E	Ensure qualified personnel undertake works Rescue equipment in place monitors in place access and egress Air Adequate	3	5	H
	General travelling on site	Collision with persons, plant or obstacles	3	5	H	All persons in area to wear high visibility clothing Ensure flashing light and reverse beeper are working Competent operator only	3	5	H
	Lifting	Overloading machine	4	4	E	Do not exceed SWL of machine. Check weight of material to be lifted Never lift over persons Visually inspect chains and slings prior to each lift	3	4	M
	Loading trucks / bins	Persons struck by material loaded into truck / bin	3	5	E	Use truck driver or spotter to ensure that no persons get too close to the truck / bin whilst being loaded, spotter/ driver to stand in position so as to see the area on the opposite side of the truck / bin to the side being loaded when the operator has no view of the area Spotter must ensure that they are not in a position where they can be affected by falling material Never lift load of material above or near person.	2	5	M
		Overloading of truck / bin	3	5	H	Truck driver / operator to assess load to ensure that the truck/ bin is not overloaded Never load the truck / bin above the height of the side walls When loading wet or dense material : eg concrete or wet soil, the maximum weight may be exceeded more quickly	2	5	M
	Installation of Underground Services	Personnel hit by road traffic, on site plant and equipment	4	5	E	Unload vehicles in area clear of traffic, plant and equipment Ensure workers are supervised when unloading plant, equipment and material Ensure hazard signage is available for all workers to display Only suitably trained personnel to work with plant Plant & equipment to be registered and maintained P.P.E equipment such as (fluorescent) vest	3	5	H
		Hit by plant and equipment when excavating trenches backfilling and installation of pipes	4	5	E	P.P.E equipment such as (fluorescent) vest Plant operator to be aware of site personnel	3	5	H

		Tripping, falling into open trenches. Collapse / Entrapment.	4	5	E	Training employees in excavation works Ensure trenches have been back filled or fall protection and barricades are in place Avoid rough terrain. Induction / awareness, bench and shore trenches if required Ensure position of hole is clearly marked	3	5	H
		Contact with substances classified as hazardous.	4	5	E	If Asbestos is encountered stop work and secure are Provide training in the use of hazardous substances and P.P.E equipment required Provide and wear correct P.P.E equipment required	3	4	M
		Injury from hitting underground services such as gas, electricity and water mains	4	5	E	Seek instruction from site management; utilize Dial Before You Dig where necessary. Prepare emergency plan in event of accident	3	5	H
4	Concrete Placement	Task	L	C	RR	Considered Controls	L	C	RR
		Set up	4	5	E	Ensure flashing beacons are on plant/vehicles and working Ensure reversing beepers on plant are working Wear PPE at all times (hard hat, vest & safety shoes) Vehicle drivers to keep a vigilant lookout at all times for other personnel Isolate work areas where possible and practical Only suitably trained and ticketed operators to work on plant and equipment Ensure a spotter is used when reversing trucks into work area	2	5	M
		Set up of pump equipment (for pump work)	4	5	E	Ensure level, stable ground conditions suitable for rigger. Ensure outriggers are clear of nearby excavations. If required, place outriggers on stabilising pads/jacks, and Set up as per manufacturers guidelines. Pump not to be set up within 3 meters of powerlines. Ensure safety pins are all in place.	3	5	H
		Transfer of concrete from truck to hopper (for pump work)	4	5	E	Drivers to wear PPE at all times. Body parts to be clear of hopper at all times Guards or screening devices to be in place on inlet to pump while pump operating. Ensure safety switch is in place and operational Grill to remain on hopper at all times. Spotter to be with truck at all times. Watch and avoid other vehicles, personnel and structures when entering and leaving the site. Enter and exit site using designated gates. Reversing alarms to be used.	3	5	H
		Placement of concrete (for pump work)	3	5	H	Eye and skin protection to be in place. All to be clear of swing length of boom. Traffic management required when pumping from roadway. TTM in place and only ticketed traffic controllers to undertake any traffic control. A straight line of site / communication to be maintained between pump operator and pump line operator. No worker to walk under boom or out of sight of operators/drivers. Hearing protection to be worn if required in close proximity of loud machinery.	2	5	M
		Placing and working with concrete by hand	3	3	H	Eye and skin protection to be in place Hearing protection to be worn when using vibrators Correct manual handling procedures MSDS for concrete required on site	2	3	M

	Delivery of Concrete Mix	Collision with persons, plant or obstacles	4	5	E	When delivering concrete, the following should be ensured: Pre planning of concrete delivery trucks should be carried out to have clear and safe access to destination point Sub Contractor is to informed Group One of all concrete orders All concrete delivery trucks are to be fitted with flashing lights and reverse alarms If more than one concrete delivery truck is required at any one time, the person in control of the relevant workplace area should ensure a spotter or traffic controller is on hand to safely direct the movement of the trucks, considering the safety of each worker in the area	3	5	H	
5	Kerb and Gutter	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR
	Delivery of Concrete Mix	Collision with persons, plant or obstacles	4	5	E	When delivering concrete, the following should be ensured: Pre planning of concrete delivery trucks should be carried out to have clear and safe access to destination point Sub Contractor is to informed Group One of all concrete orders All concrete delivery trucks are to be fitted with flashing lights and reverse alarms If more than one concrete delivery truck is required at any one time, the person in control of the relevant workplace area should ensure a spotter or traffic controller is on hand to safely direct the movement of the trucks, considering the safety of each worker in the area	3	5	H	
		Crush Injuries	4	5	E	Concrete delivery trucks should not reverse into the exclusion zone if they cannot see the nominated person for directing the truck (the spotter). The vehicle should be stopped immediately when the driver loses sight of the nominated person directing the truck No person should stand between the reversing concrete delivery truck and the hopper/excavation/pier hole etc.	3	5	H	
		Entanglement	3	4	H	The concrete chute on concrete trucks should only be moved when the truck is stationary. It is preferable for the truck driver to perform this task If another worker carries out the task the permission of the driver should be obtained Agitators mesh guard is to be secured in place	2	4	M	
	Operating Kerb Machine	Person guiding struck by moving truck	4	5	E	Licensed driver only Flashing lights and reverse alarms to be operational Authorised personnel only in area High visibility garments to be worn (Appropriate site PPE)	3	5	H	
		Entrapment and entanglement	3	4	H	All guards are to be in place and secure No loose / baggy clothing to be worn around machine	2	4	M	
6	Pavement Construction	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR

	Laying asphalt with paver which is filled from tipper.	Reversing vehicles with restricted rear vision (tipping asphalt into paver)	4	5	E	All trucks to complete an operators pre-start checklist & be fitted with reversing beepers & rotating flashing beacon Do not reverse into hopper until under the guidance of spotter Maintain contact with spotter via Two way Radio or the use of hand signals Reverse at walking pace Sound horn to warn people of your presence Always use mirrors and look in direction of travel No ground personnel permitted in front of paver when truck reversing	3	5	H
		Moving parts / entanglement – paver	4	4	H	Do not clear hopper with shovel whilst slat conveyor is operational Do not raise or lower hopper wings without first checking for the presence of workers Stay clear of augers Spotter required to watch for vehicle movement whilst crew member cleans front of paver Wear gloves as required	3	4	M
		Overhead obstructions	4	5	H	Treat all power lines as live Strictly follow directions of Spotter Maintain radio contact with Spotter Maintain a minimum clearance as instructed by cable owner Lower the body of the truck immediately after tipping. (Not to drive off with the body up unless directed by spotter) Take special precautions in wet weather or damp conditions to avoid arcing Assess the work to determine if work can be safely carried out without encroaching on the No Go Zone (anywhere within 3m of the power line). Notify Client if the work cannot be completed outside the No Go Zone Ensure that all persons working on site are made aware of the location of each line and the minimum clearances, during the site induction Advise all site personnel to be constantly aware of the danger of overhead power lines (look up and live!)	3	5	H
		Working with hot mix (hand laying when required i.e. unable to lay with paver)	4	4	H	Long sleeved clothing, protective footwear Handle hot mix with shovel or mechanical aid No direct contact. If need to directly touch hot mix, wear protective gloves Wear gloves as required	3	3	M
7	Traffic Management	Task	L	C	RR	Considered Controls	L	C	RR
		Construction work on or adjacent to roadways or used by road traffic	4	5	E	DA traffic assessment & TTM to be developed & approved by regulatory authority for the project. Traffic control persons are to be appropriately qualified and competent to implement TTM for construction work activities Site Specific SWMS to provide emphasis where identified for works Construction work activities are to be undertaken from inside of perimeter fence of project where possible Where construction work is undertaken outside of perimeter fence of project:- - Work to be undertaken when minimum activity occurs i.e. outside of peak periods - TTM to be reviewed, approved and implemented - Qualified and competent traffic and pedestrian control persons are to be used for works - Appropriate control barriers and signage to be in place before work is undertaken	2	5	M
8	Rock Wall Construction	Task	L	C	RR	Considered Controls	L	C	RR
		Placement	4	5	E	Bunt off area prior to handrail install No standing behind reversing plant Maintain distance from plant operations Plant to have flashing lights and reverse beepers functioning Work positioning to be in clear sight of operators Follow traffic management plan procedures	2	5	M

	Manual Handling	Strains, back injuries	4	3	H	Avoid working in awkward postures - do not overreach Limit time spent on knees(use knee pads) Implement job rotation for long duration tasks	3	3	M	
9	Paving	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR
	Brick saw	Unstable saw bench, uneven ground / slippery surface under foot, debris off cuts, slips, trips & falls	3	3	M	Ensure saw & bench are stable, Ensure the surface underfoot is clear of debris, check guard is operating correctly.	2	3	M	
		Hands can be too close to saw blade, jamming of saw blade, inhalation of dust	3	3	M	Ensure all pencil marking is done away from the blade Arrange a place for stacking Consider what you are going to do during the cut What will your movements be? Will you need to change position? Where will your hands be? Work should be hard against the bench at the cutting point Use water to minimise creation of dust when cutting	2	3	M	
	Installation of pavers	Musculoskeletal injuries (working on knees).	4	3	H	Use PPE including kneepads and safety footwear Ensure good posture when kneeling and getting up	3	3	M	
10	Landscaping	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR
	Carry out site levels & clearing	Persons falling into open trenches	3	5	H	Ensure open trenches, services are located and marked before machinery starts on site	2	5	M	
		Excavation & cultivating	Manual handling – back and muscle strain, Hit by plant	3	3	M	Use the correct tool for the task Training employees in the correct use of tools Manual handling training Do not overload wheelbarrow and make sure load is even Rotate tasks between employees to prevent repetitive strain injuries Ensure machine operator has a current certification to operate machine	2	3	M
11	Mobile Cranes	Task	Hazard/Risk	L	C	RR	Considered Controls	L	C	RR
	Placement of crane	Personnel may be struck by plant, Public being hit by plant	4	5	E	Area of works to be sectioned off with hazard tape and all personnel must wear high visibility clothing. Reversing beeper and flashing light must be operating at all times	3	5	H	
		Electrocution (contact overhead power lines)				Ensure barriers and warning signs are in place around the crane set-up area to isolate crane and other vehicles from pedestrians and other traffic. Place witches hats in position. Identify all electrical lines in work area above and below ground. Confirm electrical current is disconnected before commencing work. Contact electricity supply authority to request tiger battening of power lines to provide visual warning for crane slewing operation.				H
	Plant set up	Stabilisers may sink in to back filled penetrations and trenches	4	5	E	Ensure the area for unloading is firm and level and checked for load capacity. Advise of any areas that have been excavated and backfilled. Mobile crane to be set up on solid base ground and all outriggers to be placed on base plates used specifically for that purpose. All outriggers to be guarded with Para webbing. Plant operator must complete pre start safety inspection and record in log. Operator of plant must produce service history (ref code of practice plant) and proof of registration with WorkSafe for mobile cranes with a safe working load greater than 10 tones. Ensure the crane selected is suitable for the task.	3	5	H	

	Lifting loads	Lifting near power lines, coming into contact with power lines	4	5	E	An electrical spotter will be required when working 3m – 6m either side and 3m below power lines on poles, 8m – 10m either side and 8m below power lines on towers. A spotter, whose sole duty is to act as a safety observer must have completed an accredited spotter-training course. Clear lifting zone to be allocated. Prevent, where practicable, loads being lifted or transported over people or amenities. Do not stand under load. All lifting gear (shackles, slings) should be inspected regularly by a qualified person. No lifting should be done in high winds, use crane only within known wind tolerances. Crane operator must monitor wind conditions at all times.	3	5	H
	Placement of loads	Striking workers	4	5	E	Ensure the load set-down area is isolated from other workers. Constant communication between riggers and crane operator to be maintained – 2 way radios used where crane driver is not in clear view of materials & workers.	3	5	H
12	No Fly Blasting								
	Operating drill	Fail from drill Crushed by drill Entanglement Objects in eye, hearing damage Drill rollover	4	5	E	No standing or riding on drill whilst tramping Use three points of contact when accessing or exiting drill Second person to stand clear of machine (6 – 10m exclusion zone when drill is operating/ tramping Maintain visual, radio contact Do not attempt to tram if contact is lost with second person Do not approach drill mast when drill is in operation. Ensure that the cut-off switch is working at each pre start inspection Use PPE at all times, Safety glasses, Hearing protection Construct access ramps at a suitable grade (less than 30 degrees) to ensure drill stability	3	5	H
	Shutting down drill rig	Fail from drill Crushed by drill Entanglement Objects in eye,	4	5	E	No standing or riding on drill whilst tramping Use three points of contact when accessing or exiting drill Second person to stand clear of machine (6 – 10m exclusion zone when drill is operating/ tramping Maintain visual, radio contact Do not attempt to tram if contact is lost with second person Do not approach drill mast when drill is in operation. Ensure that the cut-off switch is working at each pre start inspection Use PPE at all times, Safety glasses,Construct access ramps at a suitable grade (less than 30 degrees) to ensure drill stability	3	5	H
	Immediate blast area security	Unauthorised access, theft of explosives, premature initiation	4	5	E	External safety zones will be secured External safety zones will be secured prior to explosives being on site. Internal safety zones will be secured by Tablelands Explosives personnel once explosives are on site. Signage to be erected so that it is clearly visible. All staff to be vigilant against unauthorised entry of any suspicious activity in the area. Explosives locked and stored correctly in a licensed explosives truck when on site and not in direct use. The explosives vehicle is to always be in clear view and never left unattended. All excess explosives will be returned to the magazine at the end of the day. Staff to remain alert to the potential of falling objects which may injure personnel or initiate explosives or detonators. All entrances to the blast area must be blocked against entry once initiating detonator has been connected. There will be two independent means of blocking access, these being sentries and barricades.	3	5	H
	Loading of blast holes, preparation to fire and firing	Loading of blast holes in a safe and proper manner Unauthorised access, theft of explosives, premature initiation Slips, trips, falls Over or under loading with explosives, Incorrect loading manner	4	5	E	Signage to be erected so that it is clearly visible. Exclusion zones are enforced and all personnel to remain vigilant against unauthorised entry, all loading procedures will cease until unauthorised persons are removed. Loaders are to be aware of uneven ground and the possibility of snakes and spiders. The volume of explosive is introduced to the loading area on a hole by hole requirement. Explosives locked and stored correctly in a licensed explosives truck when on site and not in direct use. The explosives vehicle is to always be in clear view and never left unattended. All excess explosives will be returned to our magazine situated in Pialligo at the end of the day. All entrances to the blast area must be blocked against entry once initiating detonator has been connected. There will be two independent means of blocking access, these being sentries and barricades. The shot plan dictates what explosives and detonators are to be on site. All holes are to be rechecked and compared to the drilling log and loading charts prior to being loaded. Only licensed personnel are to handle detonators and explosives, at no time shall unlicensed personnel handle such items. The volume of explosives is introduced to the loading area on a hole by hole requirement. The detonators and primers or boosters are placed, under supervision, beside each hole. Primed cartridges or boosters may be lowered into the drill hole ensuring they bottom out. Explosives may be introduced to the blast holes on an individual hole requirement The correct grade of stemming may then be carefully introduced into the hole, ensuring that blocked holes are recorded on the blast plan. The shot firer and their delegate shall independently inspect all connections and count blast holes against the drilling log and blast plan. In the event of electrical storm activity, all persons shall be evacuated from the vicinity of any explosives until storm activity has ceased for at least 20 minutes. Only wooden or non-ferrous metal prickers may be used for inserting the detonators into the primers. Excess detonator leads and shock tube are gathered neatly beside the hole.	3	5	H

		Firing	Unauthorised access	4	5	E	Once the Shot firer is satisfied that the site is shutdown, secure and all notifications have been given, the Shot firer will advise his radio will be switched of momentarily while he attaches the initiating detonator. Once the detonator is attached and the Shot firer is more than 6m away, the Shot firer will switch on his radio and advise that the "Shot is Hot". At this time a 1 minute siren will be sounded to advise of blasting, if a any time during this siren the exclusion zones are breached the sentries are to call "STOP STOP STOP" and the shot aborted until such time that the breach is dealt with. At the end of the 1 minute siren the Shot firer will call "Firing" and the shot fired. The Shot firer will then check the area and once satisfied the area is clear he will then give the all clear via radio and a 20 second siren sounded to advise the area is all clear and safe to enter	3	5	H
		Misfire	Misfired Explosives functioning. Unauthorised persons. Unconsumed explosives within the muck pile. Failure to wait the required time after misfires. Electrical Storms.	4	5	E	Maintain Safety zones, shut down of site. Notify Blast Controller and if easily rectified recommence blast procedures and fire shot. In the event that the misfire is not easily rectified the Blast Controller will ensure that all security zones are maintained and with the shot firer will identify the condition of any unfired explosives. A meeting will be convened of competent persons to agree on action plans to recover the situation safely, The Office of Regulatory Services will be notified. 1. All or some of the explosives fail to detonate- Action Plan. a) Identify unfired explosives portions. b) Identify the condition of the site. c) Render the site safe to proceed. d) Follow regulations and procedures for recovering explosives. e) If explosives remain, check, maintain and add more safety buffering f) Follow regulations and procedures for recovering explosives or re-firing explosives. g) Employ approved and agreed measures to get the site to a safe and workable state. 2. Interference or Damage to adjacent Facilities - Action Plan. a) Contact Facility owners and determine what is necessary to restore immediate safety, security and functionality. b) Record details of damage photographically and in writing. c) Agree on a process to repair and sort out claims or payments for repairs 3. Weather / Lightning. a) In the event of electrical storm activity, all persons shall be evacuated from the vicinity of any explosives until storm activity has ceased for at least 20 minutes. 4. Failure to initiate first attempt - Action Plan a) If the entire blast fails to activate the first attempt, a waiting period of at least 5 minutes shall be maintained (as per regulations) before returning to test and rectify any problem. Sentries will be advised and will maintain their duties until released from those duties by the Blast Controller.	3	5	H
		Post blast requirements To investigate blast area and provide the all clear	Uneven ground, slips, trips, falls Unconsumed explosives	4	5	E	The Shot firer shall inspect the exclusion zone for rock movement (fly rock); any identified rock movement shall be reported to the client representative. The client representative, when given the clearance to do so by the shot firer, is responsible for checking equipment that could not be removed from the exclusion zone. The shot firer shall complete all blast reports, supply drill logs and blast calculations. The reports are passed to the client representative. The shot firer retains the originals with copies going to the client representative. Unconsumed Explosives see Misfire	3	5	H
		Pre-Blasting Activities near High pressure gas mains	Over-stressing the pipe	4	5	E	Blasting to be more than 150m away from the gas main. Surface mounted vibration detection device to be located on top of gas main	3	5	H

Risk matrix:									
E: Extreme risk — detailed action plan required H: High risk — needs senior management attention M: Medium risk — specify management responsibility L: Low risk — manage by routine procedures Note: High or Extreme risks must be reported to senior management and require detailed treatment plans to reduce the risk to Low or Medium.					Consequences				
				People	Injuries or ailments not requiring medical treatment	Minor injury or first aid treatment case	Serious injury causing hospitalisation or multiple medical treatment cases	Life threatening injury or multiple serious injuries causing hospitalisation	Death or multiple life threatening injuries
				Financial	1% of budget or <\$5K	2.5% of budget or <\$50K	> 5% of budget or <\$500K	> 10% of budget or <\$5M	>25% of budget or >\$5M
					Insignificant	Minor	Moderate	Major	Severe
Probability	Historical			1	2	3	4	5	
>1 in 10	Is expected to occur in most circumstances	5	Almost certain	M	M	H	E	E	
1 in 10-100	Will probably occur	4	Likely	L	M	H	H	E	
1 in 100-1,000	Might occur at some time in the future	3	Possible	L	M	M	M	H	
1 in 1,000-10,000	Could occur but doubtful	2	Unlikely	L	L	M	M	M	
1 in 10,000-100,000	May occur but only in exceptional circumstances	1	Rare	L	L	L	L	M	

Throsby



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07/04/16
15-001017
ORIGINAL
URBAN DEVELOPMENT

**THROSBY RESIDENTIAL ESTATE STAGE 3
MONTHLY FINANCIAL AND PROGRAM REPORT**

LDA MONTHLY WHS REPORT

QAF 2032

Project: P15-001017 Throsby Residential Estate Stage 3 – Construction

Contractor: Group One Pty Ltd

Report for: March 2016

Comments and Findings:

Final changes to Group One Safety Plan to be discussed on 24/03/2016 – including the Safety in Design Debrief.
Blasting process has been approved – Jemena to be present while blasting.

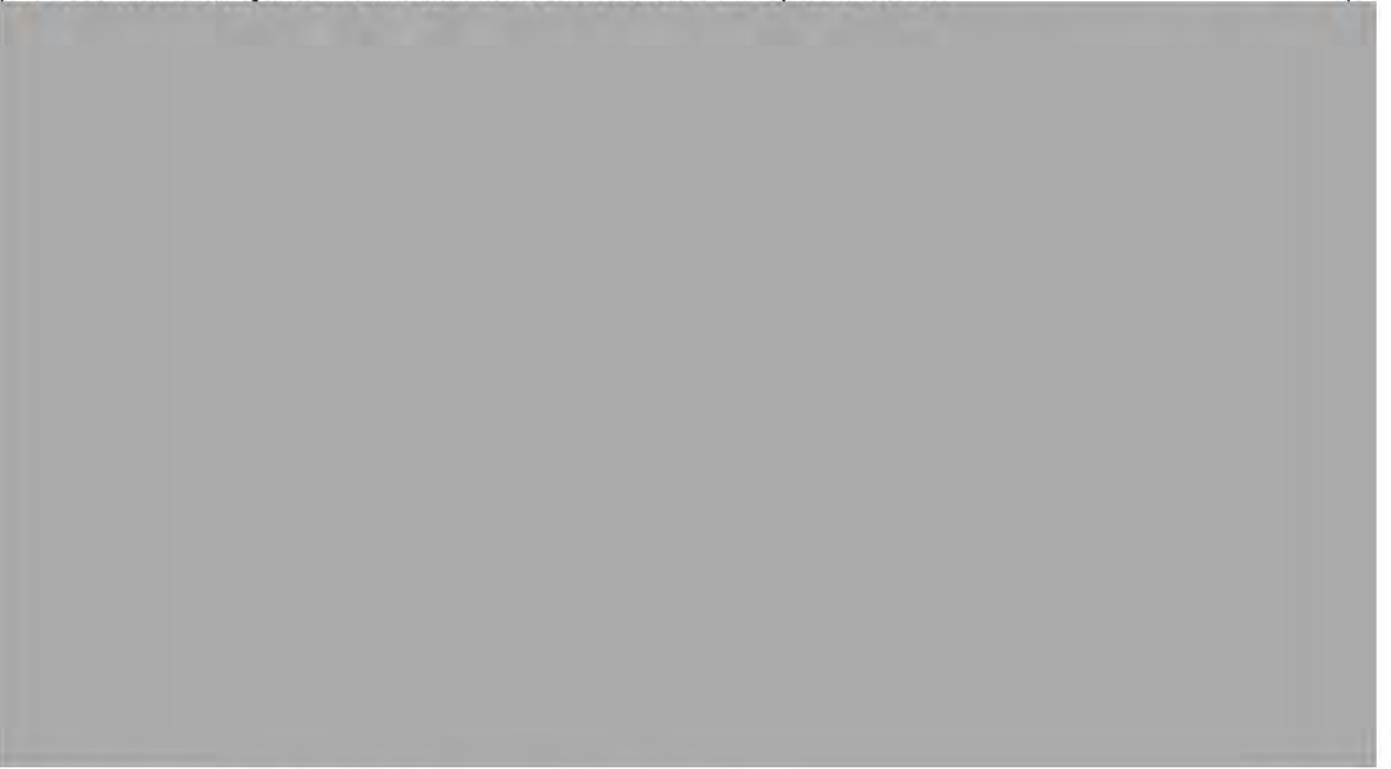
Due to scheduling and work competing activities Calibre Consulting did not conduct a Project Audit on St 3 during March 2016

A Work Activity Audit has been booked for 20/04/2016 to review blasting activities.

N/A



SWMS and JSA Reviews		
Number of SWMS Received	Number of SWMS Approved	Actions and Outcomes
Group One confirmed in their March WHS Report that SWMS are prepared and submitted to the PAD prior to the commencement of relevant work.	Sighted Blasting Management Plan and SWMS presented by Southern Explosive Supplies.	Refer PAD findings below.
Calibre Consulting conducted a SWMS Review (QAF2036) dated 31/03/2016	Southern Explosive Supplies – PAD approval provided pending confirmation of comments – refer Actions and Outcomes column.	Group One to provide proof of their SWMS Review – Signed SWMS to be sighted – A Work Activity Audit has been scheduled for 20/04/2016.
<p>Risk Assessment Report: (identification of major risks that have arisen, action taken to control those risks and updates to the risk register) Project Safety in Design to be reviewed now that work has commenced and a review of Project Risk Register will be required following Safety in Design Debrief. Principal Contractor has presented a Blasting Management Plan prepared by Southern Explosive Supplies. The plan has been reviewed by the PAD and comments returned to the Principal Contractor.</p>		



LDA MONTHLY WHS REPORT

QAF 2032

Principal Contractor's Report

A review of compliance of blasting activities with Blasting Management Plan and SWMS has been scheduled with Group One for 20/04/2016.

Throsby



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THROSBY RESIDENTIAL ESTATE STAGE 3
APRIL FINANCIAL AND PROGRAM REPORT

LDA MONTHLY WHS REPORT

QAF 2032

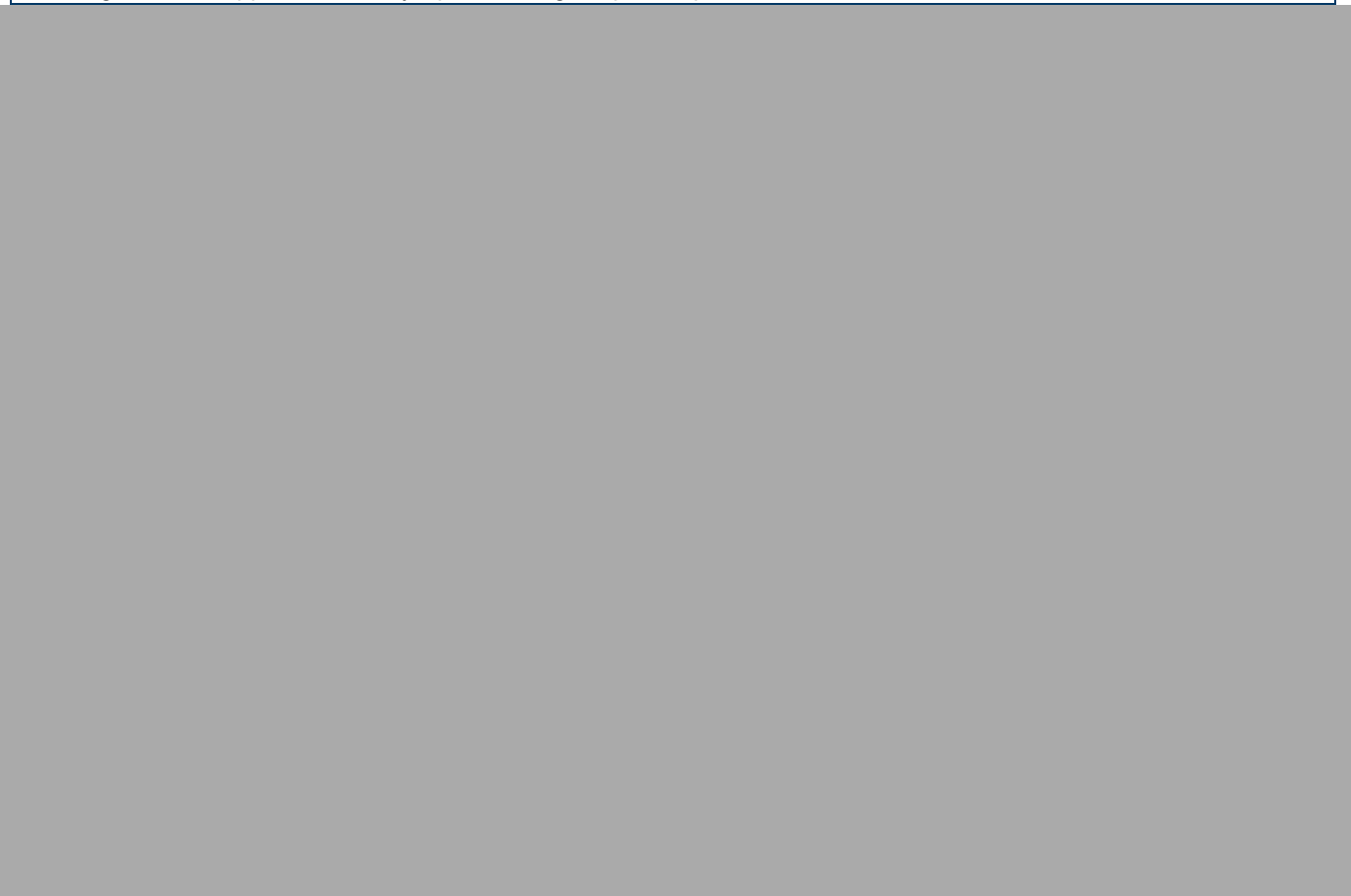
Project: P15-001017 Throsby Residential Estate Stage 3 – Construction

Contractor: Group One Pty Ltd

Report for: April 2016



Blasting activities approved in early April Blasting Sequence posted in Site Shed and on Front Gate.



Calibre Consulting conducted a QAF2035 Work Activity Audit on 20/04/2016	Review of Blasting and Risk Crushing activities. Checked plant maintenance and work competencies.	The following compliances were confirmed – Worker Induction and VOC's – Consultation and refuelling activities.
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Risk Assessment Report: (identification of major risks that have arisen, action taken to control those risks and updates to the risk register)



Principal Contractor has presented a Blasting Management Plan prepared by Southern Explosive Supplies. The plan has been reviewed by the PAD and comments returned to the Principal Contractor.



Tool Box Meetings

Number Conducted	Topics Discussed – Actions and Outcomes
Group One have confirmed in their April WHS Report that 3 x Tool Box Talks were conducted during April 2016.	Correct use of plant safety devices – Correct use of PPE – Work around high pressure gas main – Ongoing blasting activities. Sighted Tool Box Meeting Minutes for the meeting conducted on the 7/04/2016.

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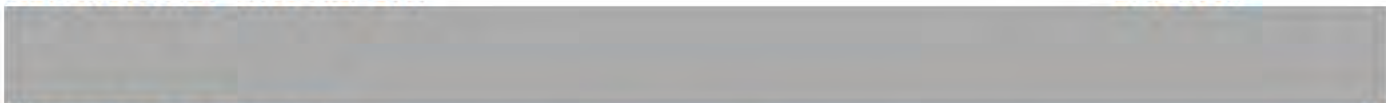


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07/07/17
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**THROSBY RESIDENTIAL ESTATE STAGE 3
MAY FINANCIAL AND PROGRAM REPORT**

LDA MONTHLY WHS REPORT

QAF 2032



SWMS and JSA Reviews

Number of SWMS Received	Number of SWMS Approved	Actions and Outcomes
Group One confirmed in their May WHS Report that SWMS are prepared and submitted to the PAD prior to the commencement of relevant work.	Sighted Blasting Management Plan and SWMS presented by Southern Explosive Supplies.	Refer PAD findings below.





1.2.3	Environmental	Approvals /Licenses – Ym noted that blasting approval had been achieved with works to begin on Friday 1 April.	Noted	NA
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		– JB noted that as a part of the safety walk Paul had also completed a high risk work review for the blasting and crushing activities.	Noted	NA
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		<ul style="list-style-type: none"> - JB raised the blasting and requested a schedule as per email sent previously. MT provided schedule marked up on plan. JB requested confirmation of further blasting. MT confirmed no more than marked up was planned and that the sewer works adjacent to the boundary will not be able to be blasted due to proximity to gas main. 	Noted	NA
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		<ul style="list-style-type: none"> - JB requested confirmation on blasting. MT noted that an additional week will be needed. JB requested confirmation of next blasting date. MT agreed to send through. 	MT	24/05/16
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		– JB requested confirmation on blasting. AH noted that the blast planned for the morning of the meeting had been postponed and will go ahead this afternoon.	Noted	NA
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15-1223 THROSBY ROADS AND ESTATE MINUTES OF CO-ORDINATION MEETING – NO. 5

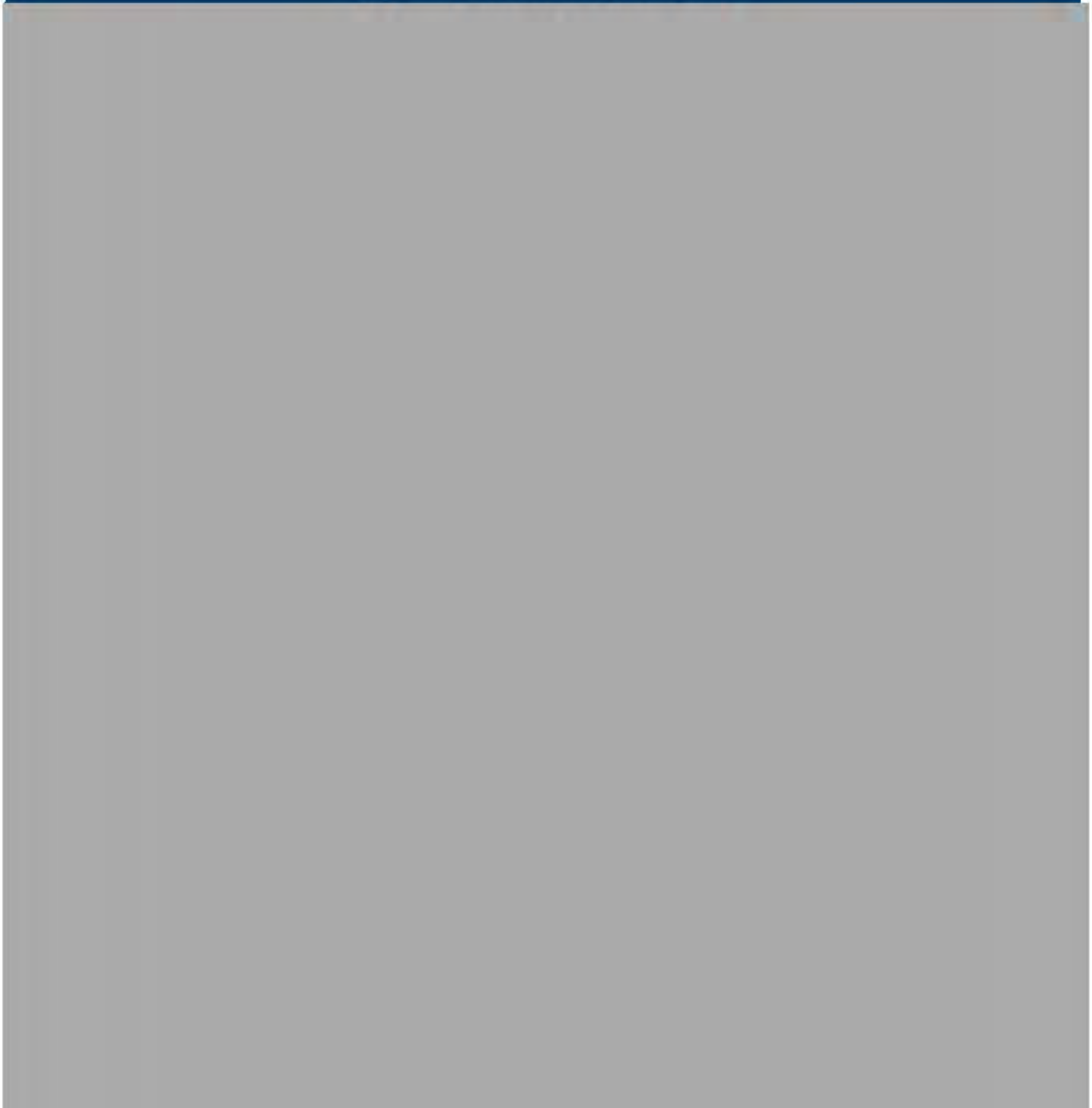


		<ul style="list-style-type: none"> Calibre raised the issue of cracking and potential impacts on a local resident caused by works on HPD (Stage 2 road widening). Vibration data was collected and found to be well within allowable limits. EDD requested data for their records. LDA/Calibre noted that LDA are in possession of the records. No objection raised to EDD accessing the information 	Noted	NA
2.	Next Meeting			
2.1	28/04/16, Location – BMD Site Office		Noted	

15-1223 THROSBY ROADS AND ESTATE MINUTES OF CO-ORDINATION MEETING – NO. 6



Key Points Discussed and Actions Items



		<ul style="list-style-type: none"> Group one will begin blasting next Friday for two weeks. No impact expected on stakeholders (Carried over) blasting expected to be finished by COB next week. 	Noted	NA
2.	Next Meeting			
2.1	19/05/16, Location – BMD Site Office		Noted	NA

15-1223 THROSBY ROADS AND ESTATE MINUTES OF CO-ORDINATION MEETING – NO. 6



Key Points Discussed and Actions Items				
		<ul style="list-style-type: none"> Group one will begin blasting next Friday for Two weeks. No impact expected on stakeholders. Blasting expected to be finished by COB next week. (Carried over) Group One noted that trench blasting is on hold for the moment. Further blasting will be required by impact will be minimal. 	Noted	NA
2.	Next Meeting			
2.1	16/06/16, Location – BMD Site Office			

1 March 2017



"Without Prejudice"

Dear 

Re: alleged damage at  Harrison ACT 2914 (Throsby Stage 2)

We refer to the above matter and advise that we act for Canberra Contractors Pty Ltd.

We have perused communications and associated information from the ACT Land & Development Agency (LDA) relating to alleged damage sustained at the above mentioned address.

Upon review our information draws no direct connection with our client and as such we deny liability on their behalf in relation to the alleged damage.

Yours faithfully,



Peter Buckley QPIB, ANZIIF (Assoc).
Claims Manager



Benson, Darren

From: Lansdown, Simon
Sent: Wednesday, 16 March 2016 4:41 PM
To: Benson, Darren
Cc: Seelan, Guna
Subject: FW: Damage Photos for [REDACTED] Harrison
Attachments: image1.JPG; ATT00001.txt; image2.JPG; ATT00002.txt

FYI

Simon Lansdown | Manager, Community Engagement Office of the Director-General, Economic Development, Land Development Agency Chief Minister, Treasury and Economic Development Directorate | ACT Government Phone 02 6205 2980 | Mobile [REDACTED]
simon.lansdown@act.gov.au Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601 www.economicdevelopment.act.gov.au | www.lda.act.gov.au

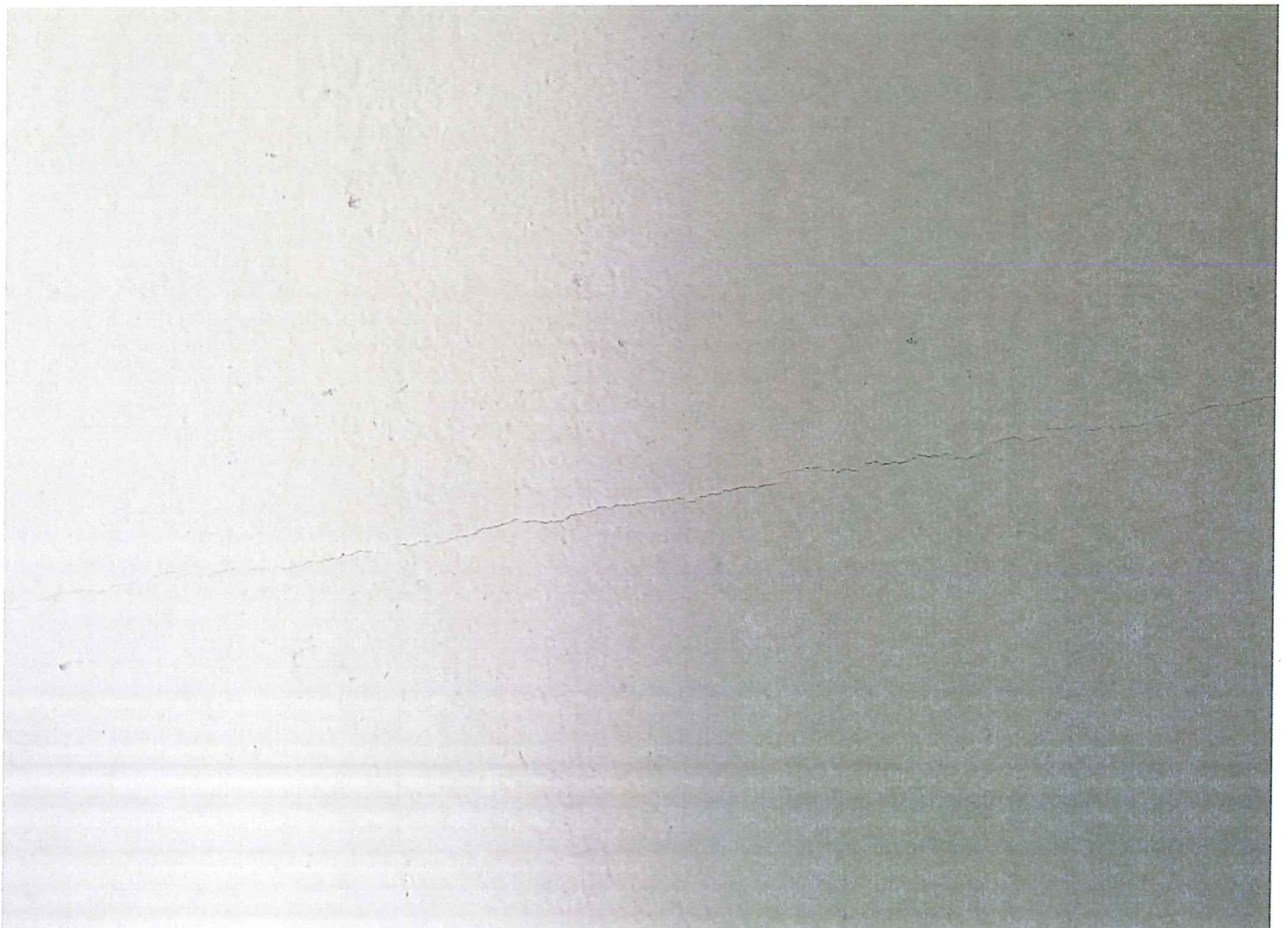
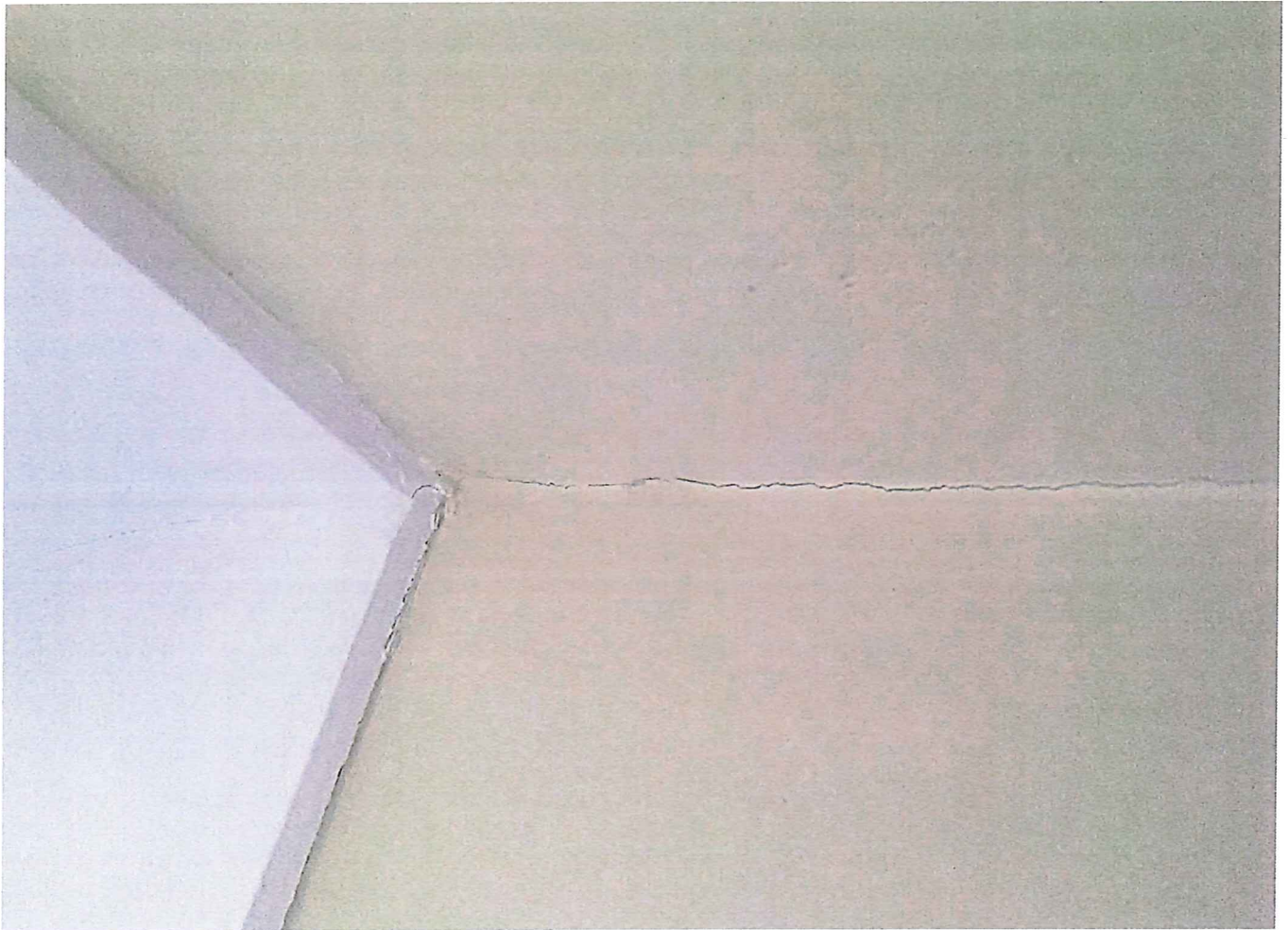
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-----Original Message-----

From: [REDACTED]
Sent: Wednesday, 16 March 2016 4:38 PM
To: Lansdown, Simon
Subject: Re: Damage Photos for [REDACTED] Harrison

Hi Simon
These are some pictures of the new damage.

Best I could take.



Benson, Darren

From: Lansdown, Simon
Sent: Wednesday, 16 March 2016 4:40 PM
To: Benson, Darren
Cc: Seelan, Guna
Subject: FW: Damage Photos for [REDACTED] Harrison

FYI

Simon Lansdown | Manager, Community Engagement
Office of the Director-General, Economic Development, Land Development Agency
Chief Minister, Treasury and Economic Development Directorate | ACT Government
Phone 02 6205 2980 | Mobile [REDACTED] | simon.lansdown@act.gov.au
Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601
www.economicdevelopment.act.gov.au | www.lda.act.gov.au

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From: [REDACTED]
Sent: Wednesday, 16 March 2016 4:28 PM
To: Lansdown, Simon
Subject: RE: Damage Photos for [REDACTED] Harrison

Hi Simon

I have just discovered new crack across the ensyite wall.
This was not there this morning. I will send photos but please pass this on.
This is startig to worry me.

Kind regards

Sent from Samsung Mobile

----- Original message -----

From: "Lansdown, Simon" <Simon.Lansdown@act.gov.au>
Date: [REDACTED]
To: [REDACTED]
Subject: RE: Damage Photos for [REDACTED] Harrison

Thanks [REDACTED]

I have forward the email and photos to my colleagues in the project team. They are following up with the contractor and superintendent. When I work out who will be available to visit I will let you know and we can arrange to meeting.

I have also followed up on getting a copy of the dilapidation report sent to you.

In the meantime, let me know if there is any other info you may need.

Cheers
Simon

Simon Lansdown | Manager, Community Engagement

Office of the Director-General, Economic Development, Land Development Agency
Chief Minister, Treasury and Economic Development Directorate | ACT Government
Phone 02 6205 2980 | Mobile [REDACTED] simon.lansdown@act.gov.au
Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601
www.economicdevelopment.act.gov.au | www.lda.act.gov.au

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-----Original Message-----

From: [REDACTED]
Sent: Wednesday, 9 March 2016 8:10 AM
To: Lansdown, Simon
Subject: Damage Photos for [REDACTED] Harrison

Good Morning Simon,

Thank you for talking to me yesterday.

Please find attached the photos of the damage to the ceiling of my house. Unfortunately some of the photos are a little hard to see. I have discovered a little damage in the dining area as well as the garage. I would still appreciate it if I could meet you and a rep. from the construction company at my house to show the damage in person. I am still chasing up the Inspection report from about 2 weeks ago.

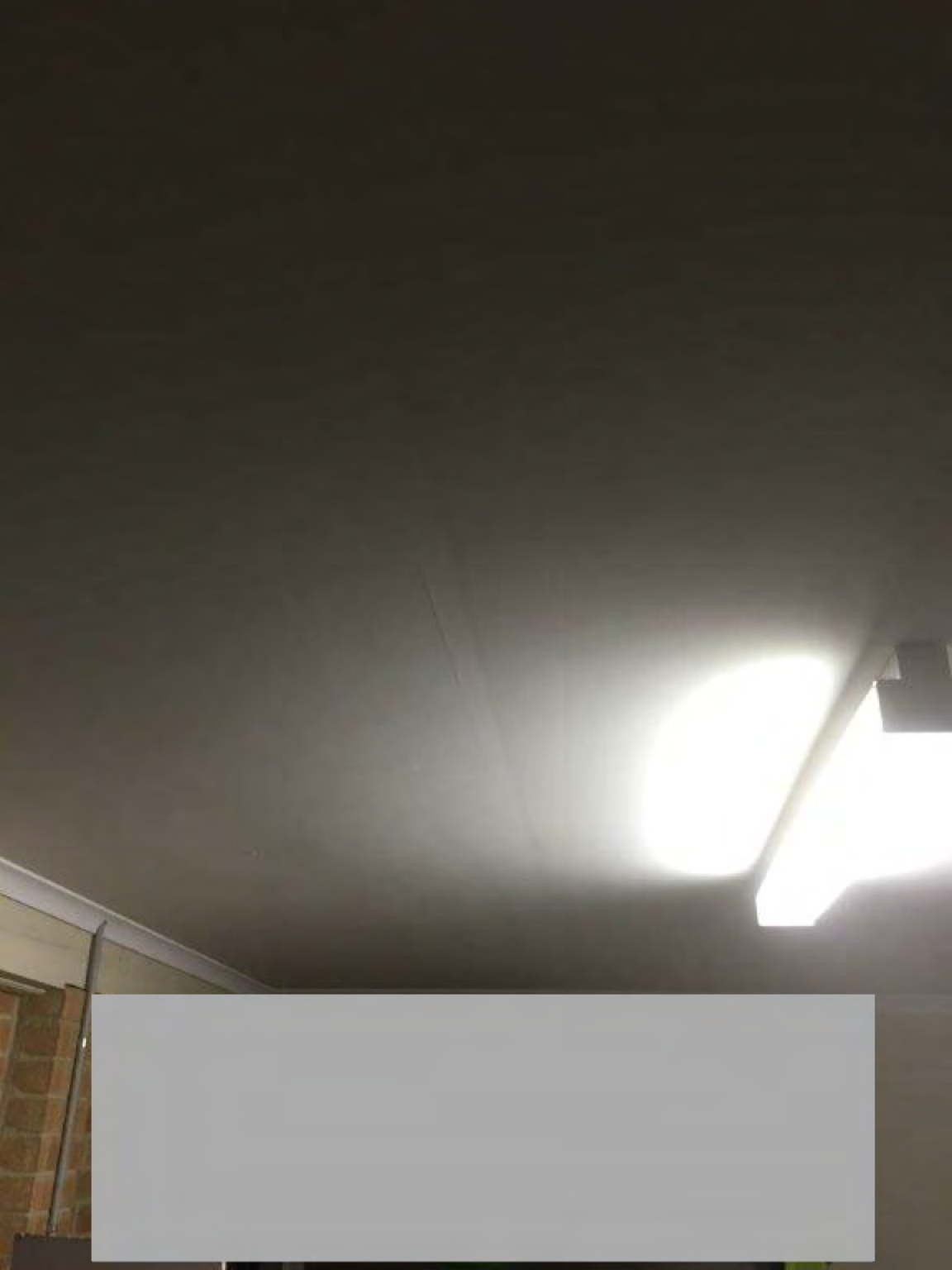
I look forward to talking to you soon.

Kind Regards

[REDACTED]

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Benson, Darren

From: Lansdown, Simon
Sent: Friday, 17 June 2016 2:19 PM
To: Benson, Darren; Seelan, Guna
Cc: Rafferty, Kate; Szydlik, Bohdana
Subject: FW: Claim number [REDACTED] [SEC=UNCLASSIFIED]
Attachments: [REDACTED] Harrison Insurance Inspection Report .pdf

Hi I have forwarded on the report of [REDACTED] from [REDACTED]

He requested by phone that we provide a copy to Canberra Contractors.

Cheers
Simon

Simon Lansdown | Manager, Community Engagement
Office of the Director-General, Economic Development, Land Development Agency
Chief Minister, Treasury and Economic Development Directorate | ACT Government
Phone 02 6205 2980 | Mobile [REDACTED] | simon.lansdown@act.gov.au
Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601
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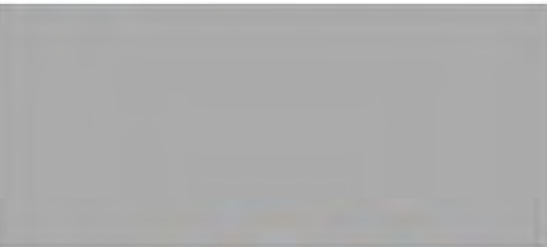
From: [REDACTED]
Sent: Thursday, 16 June 2016 7:22 AM
To: Lansdown, Simon
Cc: [REDACTED]
Subject: FW: Claim number [REDACTED]

Good Morning Simon,

Please find attached the insurance report.

I look forward to hearing from you and Canberra Contractors ASAP.

Kind Regards



Follow us on





PO Box 5030 Heidelberg West VIC 3081
(P) 02 9740 0500 (F) 02 9740 0550
(Email) sydney@bulldgrp.com
ACN 076 016 996 ABN 46 108 655 267

Report Details

	Site Visit Details		Property Details
Date:	12/05/2016	Type:	House
Time:	8:34:25 AM	Design:	Single Story
Assessment Completed By:	Wayne Burton	Construction:	Brick Veneer
Assessor Contact Number:	02 9740-0500	Roof Type:	Cement Tiles
Assessment Attended By:	[REDACTED]	Age of Home:	10 Years

Insured Details

		Policy Details
Insured:	[REDACTED]	Policy:
Situation Address:	[REDACTED] Harrison, ACT, 2914	Contents Covered:
Insurer/build Reference:	252333	Landlord Extras: NO
Insurer:	Westpac General Ins. Ltd.	
Claim Number:		

Any Maintenance Issues / Any Prior Damage:

None noted in the areas of assessment.

Resultant Damage:

Based on our on site inspection we are able to confirm the following damages to the property as a result of the vibration from the near by road works;

Cracking to the plaster board ceiling and wall linings, cracking to the architrave/wall join line in doorways, the plaster board ceiling in the garage has considerable sagg, the eaves along the front of the property and popped the nail fixings and started to come apart at the plastic join strips.

Claim Decision: Not Covered under Westpac PDS Page 16, General Exclusions - Wear & Tear & Environmental Conditions - Settling, Expansion, Shrinkage & VIBRATION

Would the insured have been reasonably aware of the maintenance issues causing the claimed resultant damage? NO

NEXT PAGE



PO Box 5030 Heidelberg West VIC 3081
(P) 02 9740 0500 (F) 02 9740 0550
(Email) sydney@bulldgrp.com
ACN 076 016 996 ABN 46 108 655 267

Report details

	Site Visit Details		Property Details
Date:	12/05/2016	Type:	House
Time:	8:34:25 AM	Design:	Single Story
Assessment Completed By:	Wayne Burton	Construction:	Brick Veneer
Assessor Contact Number:	02 9740-0500	Roof Type:	Cement Tiles
Assessment Attended By:	[REDACTED]	Age of Home:	10 Years

Insured Details

Insured:	[REDACTED]	Policy Details
Situation Address:	[REDACTED] Harrison, ACT, 2914	Policy:
Insurer/build Reference:	252333	Contents Covered:
Insurer:	Westpac General Ins. Ltd.	Landlord Extras:
Claim Number:		

Damage Report:

Cause / Circumstances (how damage occurred and causes):

Pattersons have attended site and met with the insured to discuss the damages at the property and we have been advised of the following;

The insured Mr Sadler advised us that there were road works happening directly opposite the property which went on for several months, the company contracted to carry out the roads works used a 16 ton vibrating roller to compact the road base, the insured Mr Sadler believes it was this machine which caused the damage to his property. Mr Sadler has a Dilapidation report which was carried by ANH Consulting Engineers prior to the road works commencing, this report only shows 2 areas of existing damage to the property, there was no other damage.

We inspected the reported damage and we can confirm that it would appear the home has suffered some form of vibration/settling movement damage. The existing damage today has appeared since the roads works began. Mr Sadler advised that the contracted company which is Construction Control had a seismic report carried out while the roller machine was in use and the vibration was considered in the safe range.

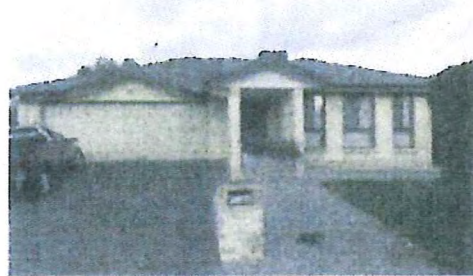
Based on the information provided and damage viewed at the property we are able to confirm damage has sustained as a result of the vibration from the nearby road works. However under policy exclusions page 12 we are unable to accept the damages as a defined event.

damages are consistent with the deterioration as the works have been undertaken and would of been visible for a period throughout the road works being undertaken.

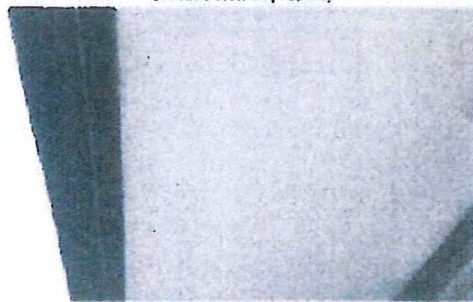
NEXT PAGE



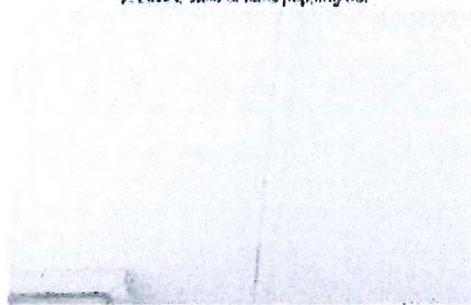
PO Box 5030 Heidelberg West VIC 3081
Tel: 02 9740 6500 (03 55 3740 0330)
(Email) sydney@patterson.com
ACN 078 026 956 AUN 46 108 655 267



1. Front view of property

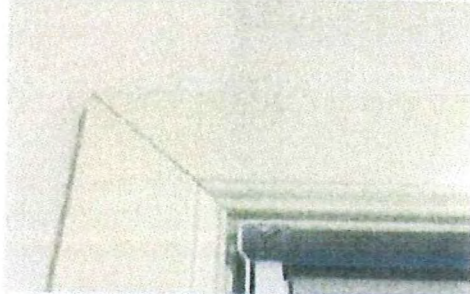


2. Eaves, view of nails protruding out



3. Eaves, view of joints opening up

NEXT PAGE



7. Family room, cracking of architrave corners

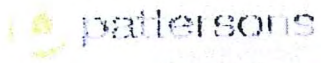


8. Garage, view of plaster sheets sagging

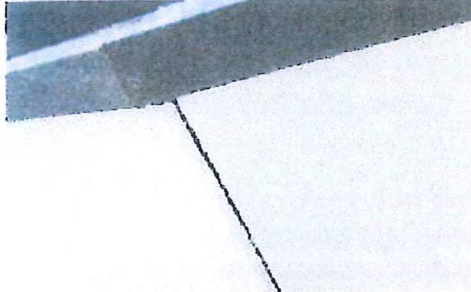


9. Garage, view of plaster sheets sagging

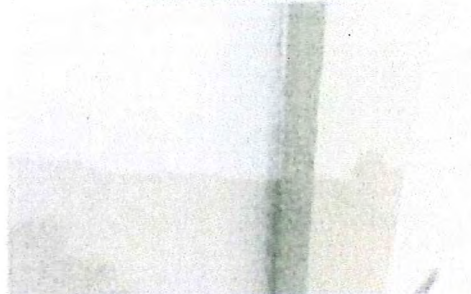
NEXT PAGE



PO Box 5039 Heidelberg West VIC 3081
(P) 07 4740 0500 (F) 07 4740 1350
(Email) sydney@Lull@corp.com
ACN 076 016 966 AUN 46 106 655 267



4. Eaves, view of joint opening up



5. Cracking between architecture and wall



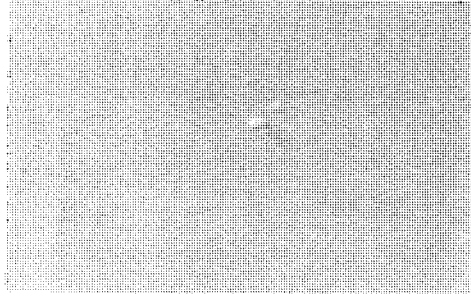
6. Family room, cracking along plaster joint in ceiling

NEXT PART

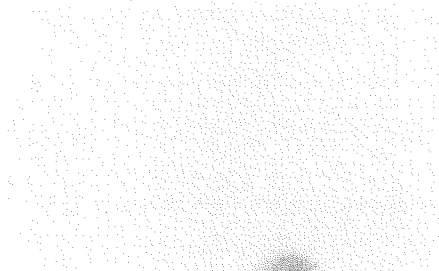


parsons

P.O. Box 5030 Heidelberg West VIC 3081
(P) 02 9740 0500 (F) 02 9740 1550
(Email) sydney@bullgroup.com
ACN 075 026 998 AUN 16 100 655 247



10. Garage, view of wall through opening cut



11. Ensuite, view of cracking to plaster board wall lining

Benson, Darren

From: Jason Burgess [redacted]@canberracontractors.com.au]
Sent: Thursday, 17 March 2016 9:14 AM
To: Jonathon Boyd; Benson, Darren; Lansdown, Simon
Cc: Daniel Hill
Subject: Throsby St 2 - Vibration Result [redacted]
Attachments: 0856_001.pdf

All,

Please find attached a copy of the download from the monitor placed within the residents garage. We note that this residence (monitor location) was 65m from the construction works. The monitor represents the vibration resulting from the use of the 16t smooth drum roller on the Horsepark Dr widening works at the closest point to the residence.

The result is a maximum peak value (ppv) of 0.73mm/s which is significantly below the accepted Australian Standard for damage to plaster which is 10mm/s. We also note that the result is also significantly lower than the adopted maximum for heritage and sensitive structures of 2mm/s.

Regards,

Jason Burgess | *Construction Manager*



CANBERRA CONTRACTORS
CIVIL ENGINEERING CONTRACTORS

P: 02 6242 8122 | **F:** 02 6242 8133 | **M:** [redacted]
PO Box 335 Unit 4/98 Vicars St MITCHELL ACT 2911
[redacted]@canberracontractors.com.au



SUSTAINABLE
✓ ISO 9001
✓ Environmental
✓ Risk
✓ Management
✓ System

SUSTAINABLE
✓ ISO 9001
✓ Financial
✓ Quality
✓ Management
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SUSTAINABLE
✓ ISO 14001
✓ Environmental
✓ Risk
✓ Management
✓ System

SUSTAINABLE
✓ ISO 9001
✓ AS/NZS 4801
✓ ISO 14001
✓ Environmental
✓ Management
✓ System

From: CANBERRA CONTRACTORS [redacted]@canberracontractors.com.au]
Sent: Thursday, 17 March 2016 9:33 AM
To: Jason Burgess <[redacted]@canberracontractors.com.au>
Subject: Attached Image

**Vibration Results
Monitor 1 House (3139)**

Controls

Maximum Peak Value: 0.73 mm/s
 Minimum Peak Value: 0.05 mm/s

Number of Bins: 1

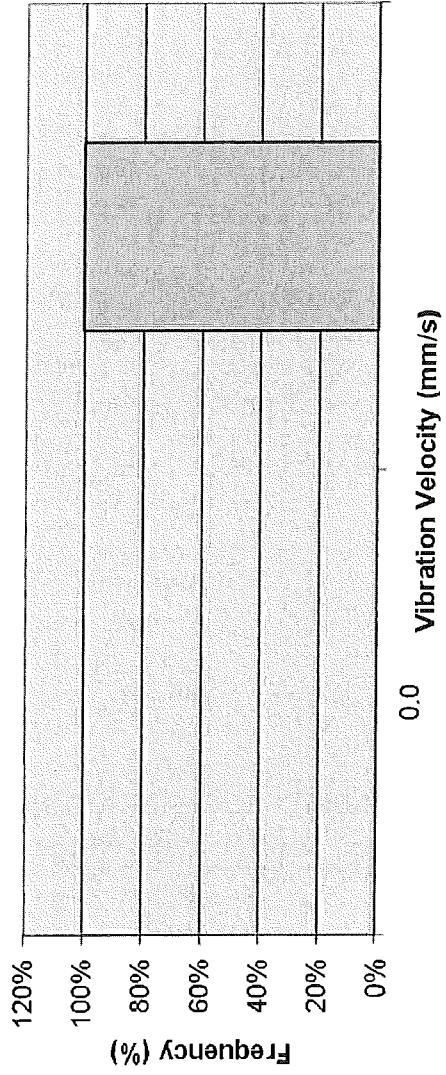
Maximum Bin: 1.4
 Bin Interval: 1.40

Peak Permissible Value: 10 mm/s
 Plot X Scale: Time

Number of Events > 10 mm/s: 0

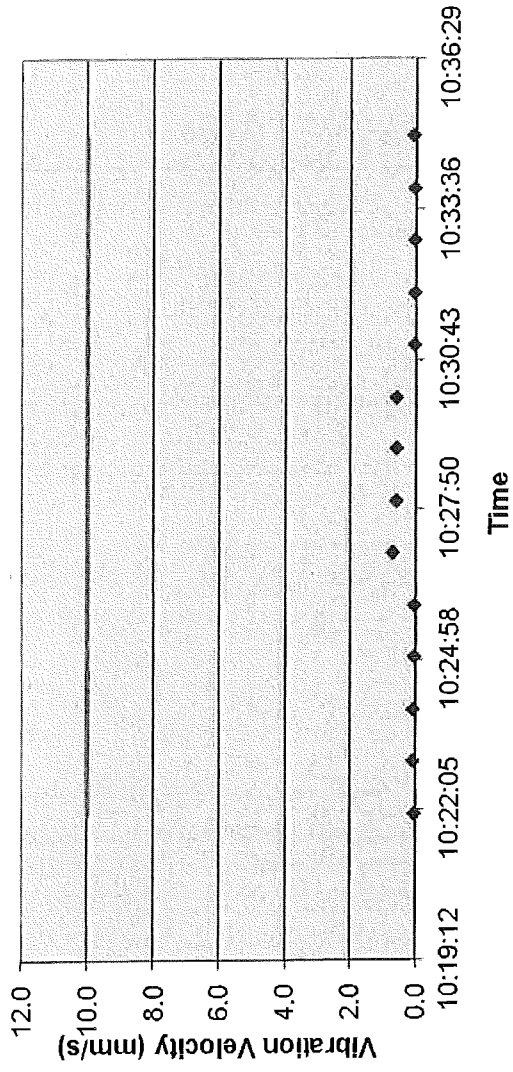


Ambient Vibration Levels



ATM Serial Number: 3139
Calibration Date: 15/04/2015

Peak Permissible Value (mm/s): 10
Number of Events > 10 mm/s: 0



Benson, Darren

From: Benson, Darren
Sent: Friday, 17 June 2016 2:43 PM
To: 'scott@canberracontractors.com.au'; 'Daniel Hill'
Cc: Jason Burgess
Subject: FW: Claim number [REDACTED] [SEC=UNCLASSIFIED]
Attachments: [REDACTED] Harrison Insurance Inspection Report .pdf

Scott,

Please see email trail below and attached.

[REDACTED] has requested (via Simon) that the attached report be forwarded to Canberra Contractor's for your information. The only reason he has come through LDA is that he claims he has been unable to contact anyone at CC in the last week. However, I know Daniel and myself talked on Tuesday and Daniel was going to call him back this week, this may have already happened since Alan spoke to Simon on Thursday.

Cheers,

Darren Benson
Senior Project Manager

Land Development Agency | Economic Development Directorate | ACT Government
Ground Floor TransACT House, 470 Northbourne Avenue, Dickson ACT 2602
GPO Box 158 Canberra ACT 2601 | Web: www.lda.act.gov.au | Social:   
Phone: 02 6207 4727 | Fax: 02 6207 5101



From: Lansdown, Simon
Sent: Friday, 17 June 2016 2:19 PM
To: Benson, Darren; Seelan, Guna
Cc: Rafferty, Kate; Szydlik, Bohdana
Subject: FW: Claim number [REDACTED] [SEC=UNCLASSIFIED]

Hi I have forwarded on the report of [REDACTED] from [REDACTED]

He requested by phone that we provide a copy to Canberra Contractors.

Cheers
Simon

Simon Lansdown | Manager, Community Engagement
Office of the Director-General, Economic Development, Land Development Agency
Chief Minister, Treasury and Economic Development Directorate | ACT Government

Phone 02 6205 2980 | Mobile 0430 907 453 | simon.lansdown@act.gov.au
Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601
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From: [REDACTED]
Sent: Thursday, 16 June 2016 7:22 AM
To: Lansdown, Simon
Cc: [REDACTED]
Subject: FW: Claim number [REDACTED]

Good Morning Simon,

Please find attached the insurance report.

I look forward to hearing from you and Canberra Contractors ASAP.

Kind Regards



Benson, Darren

From: Lansdown, Simon
Sent: Wednesday, 14 September 2016 2:50 PM
To: Benson, Darren
Subject: FW: Vibration Result [REDACTED] [SEC=UNCLASSIFIED]
Attachments: 0856_001.pdf

FYI

Simon Lansdown | Manager, Community Engagement
Office of the Director-General, Economic Development, Land Development Agency
Chief Minister, Treasury and Economic Development Directorate | ACT Government
Phone 02 6205 2980 | Mobile [REDACTED] | simon.lansdown@act.gov.au
Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601
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From: Lansdown, Simon
Sent: Friday, 22 April 2016 4:16 PM
To: [REDACTED]
Subject: Vibration Result [REDACTED]

Hi [REDACTED]

As you are aware the contractor, Canberra Contractors, has been advised of your claim regarding property damage at [REDACTED] Harrison. Representatives from Canberra Contractors and LDA attended a meeting with yourself at your residence on 16 March 2016 to inspect the property and undertake some vibration monitoring (see attached results for your information and records).

Please note we have also forwarded your photos and correspondence to date to Canberra Contractors for their information.

It should be noted that under LDA's Construction Contracts the Principal Contractor is responsible for any third party damage as a result of their works, and as such any potential claims for damage should be directed directly to the Contractor.

For your record, Canberra Contractors has supplied a response to LDA with respect to the vibration monitoring undertaken on 16 March and this is included below for your information.

We note that this residence (monitor location) was 65m from the construction works. The monitor represents the vibration resulting from the use of the 16t smooth drum roller on the Horsepark Dr widening works at the closest point to the residence.

The result is a maximum peak value (ppv) of 0.73mm/s which is significantly below the accepted Australian Standard for damage to plaster which is 10mm/s. We also note that the result is also significantly lower than the adopted maximum for heritage and sensitive structures of 2mm/s.

*Regards
Jason Burgess, Construction Manager
Canberra Contractors*

I have included the contact details for Canberra Contractors below.

Canberra Contractors
4/ 98 Vicars St
Mitchell ACT 2911
(02) 6242 8122

Cheers
Simon

Simon Lansdown | Manager, Community Engagement
Office of the Director-General, Economic Development, Land Development Agency
Chief Minister, Treasury and Economic Development Directorate | ACT Government
Phone 02 6205 2980 | Mobile () simon.lansdown@act.gov.au
Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601
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Benson, Darren

From: Scott Regan [REDACTED]@canberracontractors.com.au]
Sent: Tuesday, 26 July 2010 12:13 PM
To: Seelan, Guna
Cc: Benson, Darren; Paul Macor
Subject: FW: Claim number HOM717545 [SEC=UNCLASSIFIED]

Guna,

In response to your comments at today's site meeting in relation to the above mentioned matter we have been notified by our Insurance Company that the Principal is responsible for lodging a claim against the work insurance under the circumstances surrounding this claim.

If you have any questions please don't hesitate to give me myself or Paul Macor a call.

Regards,

Scott Regan | *Project Manager and Estimator*



CANBERRA CONTRACTORS
CIVIL ENGINEERING CONTRACTORS

P: 02 6242 8122 | **F:** 02 6242 8133 | **M:** [REDACTED]
PO Box 335 Unit 4/98 Vicars St MITCHELL ACT 2911
F: [REDACTED]@canberracontractors.com.au



Benson, Darren

From: Jason Burgess [redacted]@canberracontractors.com.au]
Sent: Tuesday, 28 June 2016 12:56 PM
To: Benson, Darren
Cc: Paul Macor; Scott Regan
Subject: Throsby Stage 2 - Resident Complaint

Darren,

I understand that there was a brief discussion at the Throsby meeting today regarding the resident complaint and the process for CS5.

Please see below the relevant emails from the claim history from CS5. All claims at CS5 were lodged directly by LDA and Canberra Contractors had no role other than to assist with information and site access as requested by CGU.

Give me a call if you have any further concerns.

Thanks, Jason

-----Original Message-----

From: Lee, Jack [mailto:[redacted]@marsh.com]
Sent: Friday, 30 May 2014 2:27 PM
To: Cantamessa, Cindy
Cc: Piccoli, Lisa; Andrews, Angela
Subject: Potential Claim - Campbell Section 5

Cindy

We refer to correspondence below and subject above.

We acknowledge receipt of the claim and confirm it has been submitted to the insurer CGU for action.

We will advise further upon receipt of claim number and instructions from CGU.

In the meantime, if you have any queries or require any further information, please advise us.

Thanks and regards,

Jack Lee | Claims Consultant

-----Original Message-----

From: Cantamessa, Cindy

Sent: Friday, 23 May 2014 1:44 PM

To: Piccoli, Lisa

Cc: Osborne, Peter; Lewis, Paul

Subject: RE: Potential Claim - Campbell Section 5

Lisa /Peter

Can we further review your advice. Currently the resident has lodged her complaint against the LDA. I don't think adv

Please advise how we address this matter as the complaint has been lodged directly to the LDA and the LDA is require

Thanks

Cindy

Cindy Cantamessa | Project Director
Land Development Agency

Regards,

Jason Burgess | *Construction Manager*



CANBERRA CONTRACTORS
CIVIL ENGINEERING CONTRACTORS

P: 02 6242 8122 | F: 02 6242 8133 | M: [REDACTED]

PO Box 335 Unit 4/98 Vicars St MITCHELL ACT 2911

E: [REDACTED]@canberracontractors.com.au



Benson, Darren


From: Lansdown, Simon
Sent: Wednesday, 9 March 2016 2:51 PM
To: Benson, Darren
Cc: Seelan, Guna
Subject: FW: Damage Photos for 38 Carpentaria St Harrison
Attachments: IMG_0603.jpg; IMG_0604.jpg; IMG_0605.jpg; IMG_0606.jpg; IMG_0607.jpg; IMG_0608.jpg; IMG_0609.jpg; IMG_0610.jpg; IMG_0611.jpg; IMG_0612.jpg

For note and your information

Simon Lansdown | Manager, Community Engagement Office of the Director-General, Economic Development, Land Development Agency Chief Minister, Treasury and Economic Development Directorate | ACT Government Phone 02 6205 2980 | Mobile 0430 907 453
simon.lansdown@act.gov.au Level 6 TransACT House, 470 Northbourne Ave, Dickson | GPO Box 158 Canberra ACT 2601 www.economicdevelopment.act.gov.au | www.lda.act.gov.au

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-----Original Message-----

From: 
Sent: Wednesday, 9 March 2016 8:10 AM
To: Lansdown, Simon
Subject: Damage Photos for 38 Carpentaria St Harrison

Good Morning Simon,

Thank you for talking to me yesterday.

Please find attached the photos of the damage to the ceiling of my house. Unfortunately some of the photos are a little hard to see.


I have discovered a little damage in the dining area as well as the garage.

I would still appreciate it if I could meet you and a rep. from the construction company at my house to show the damage in person.

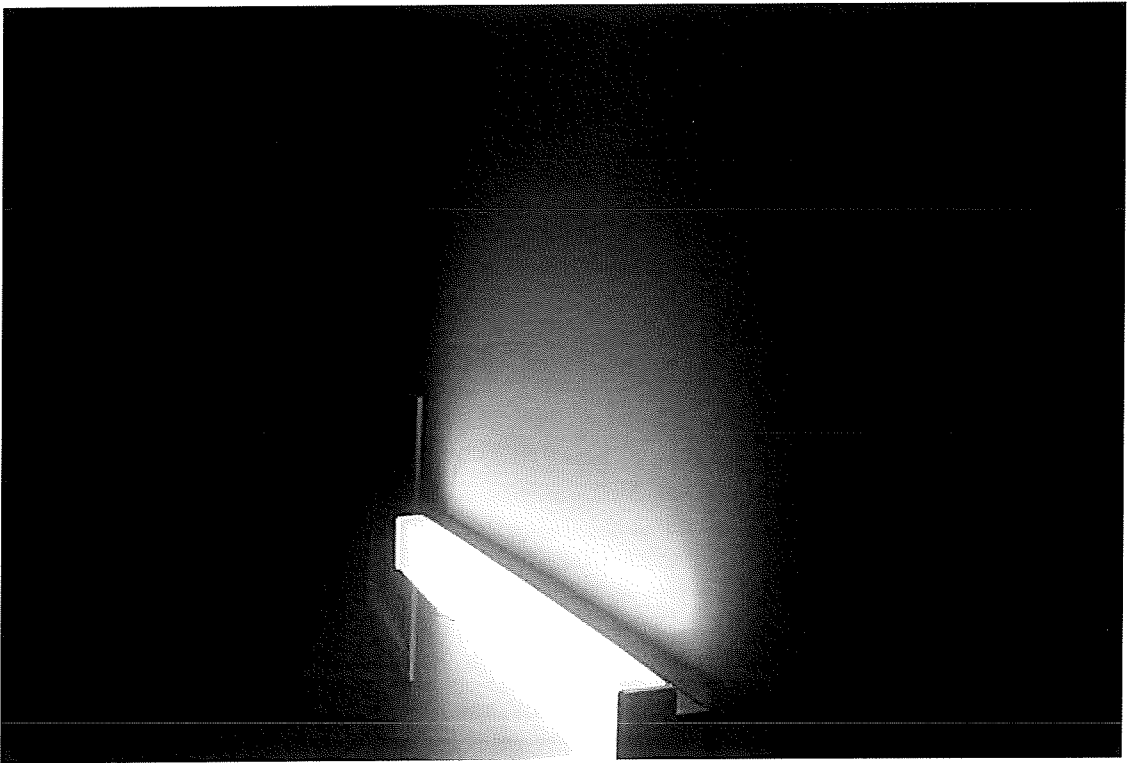
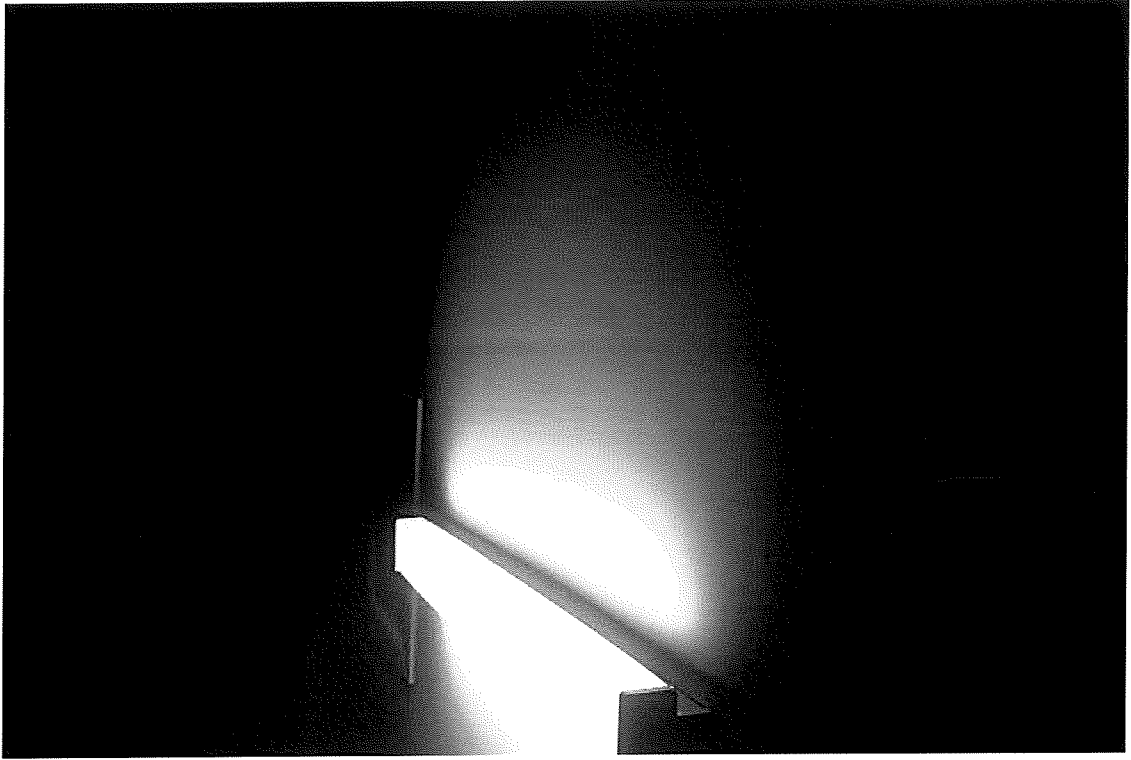
I am still chasing up the Inspection report from about 2 weeks ago.

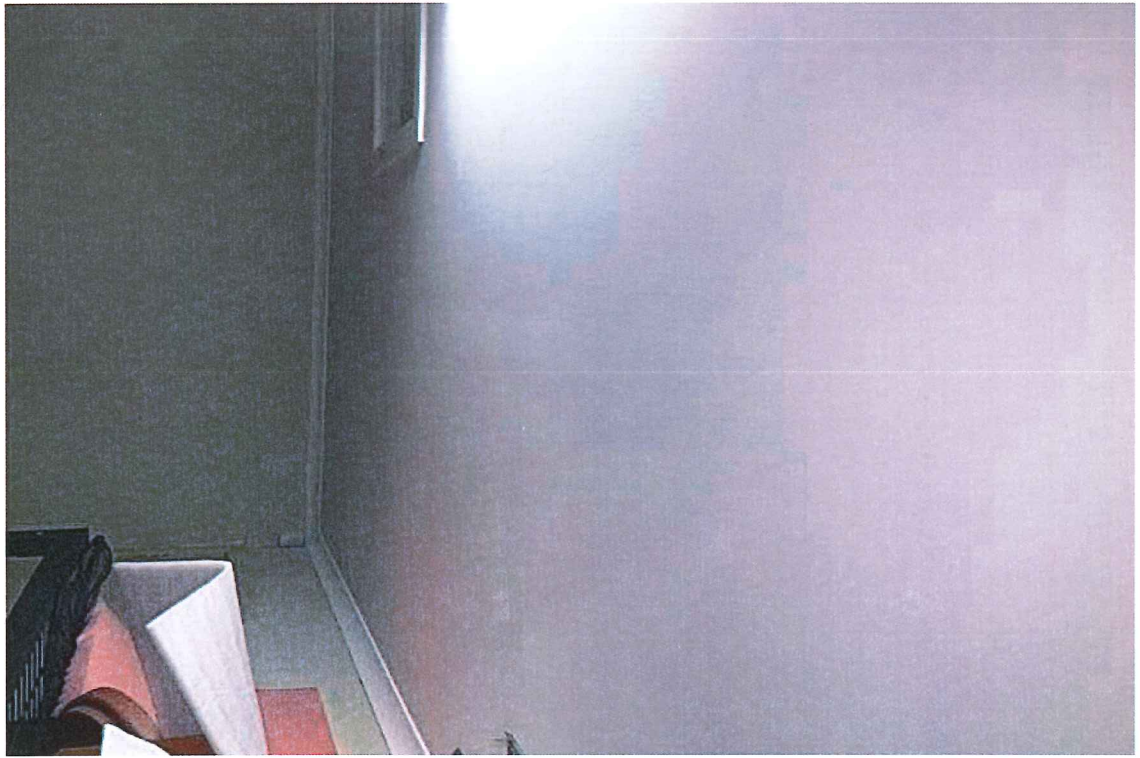
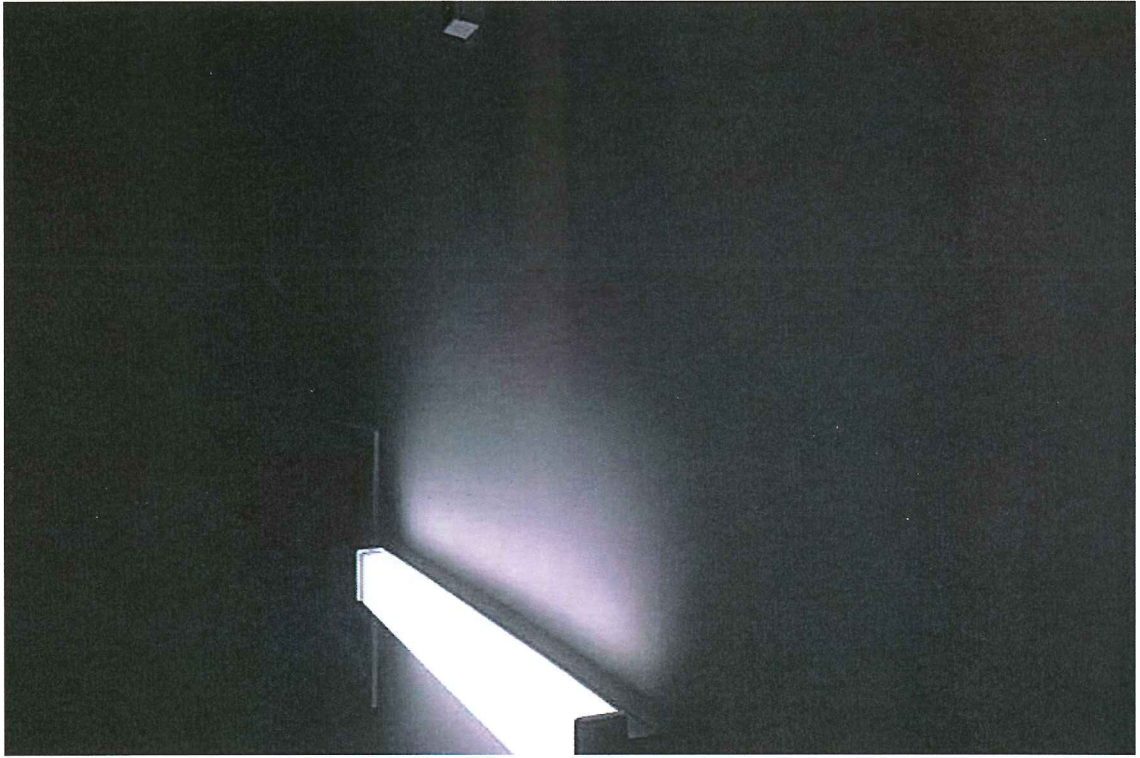
I look forward to talking to you soon.

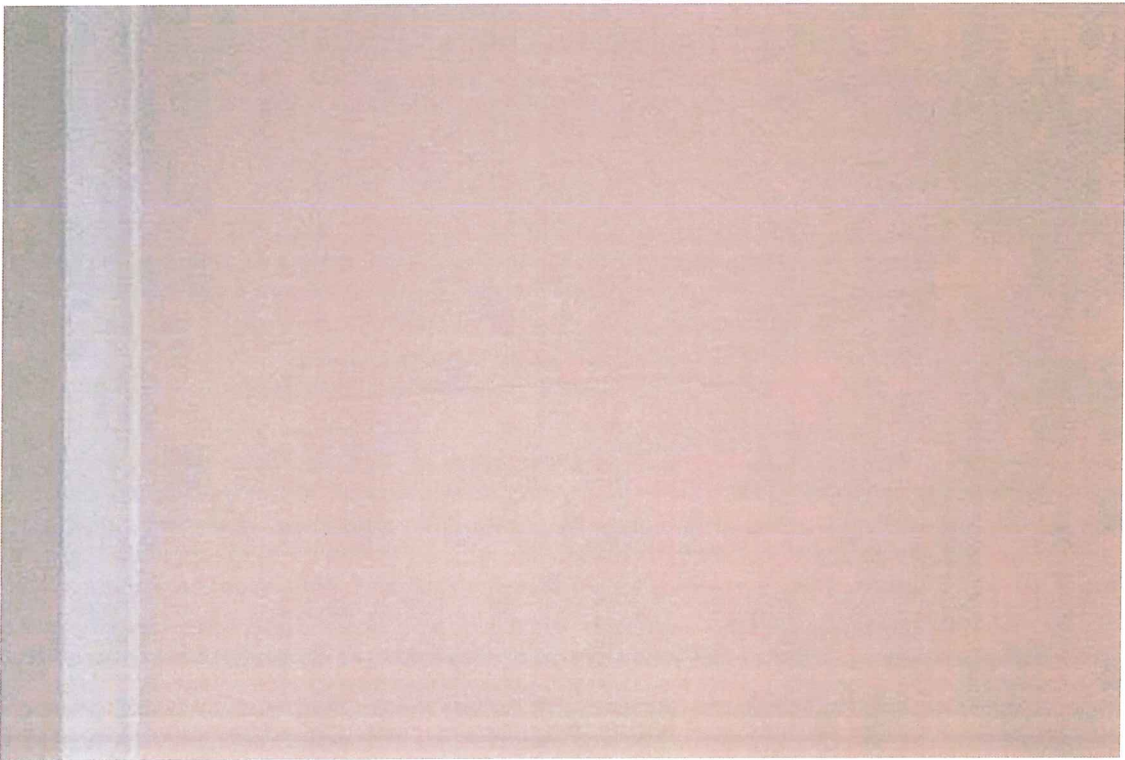
Kind Regards

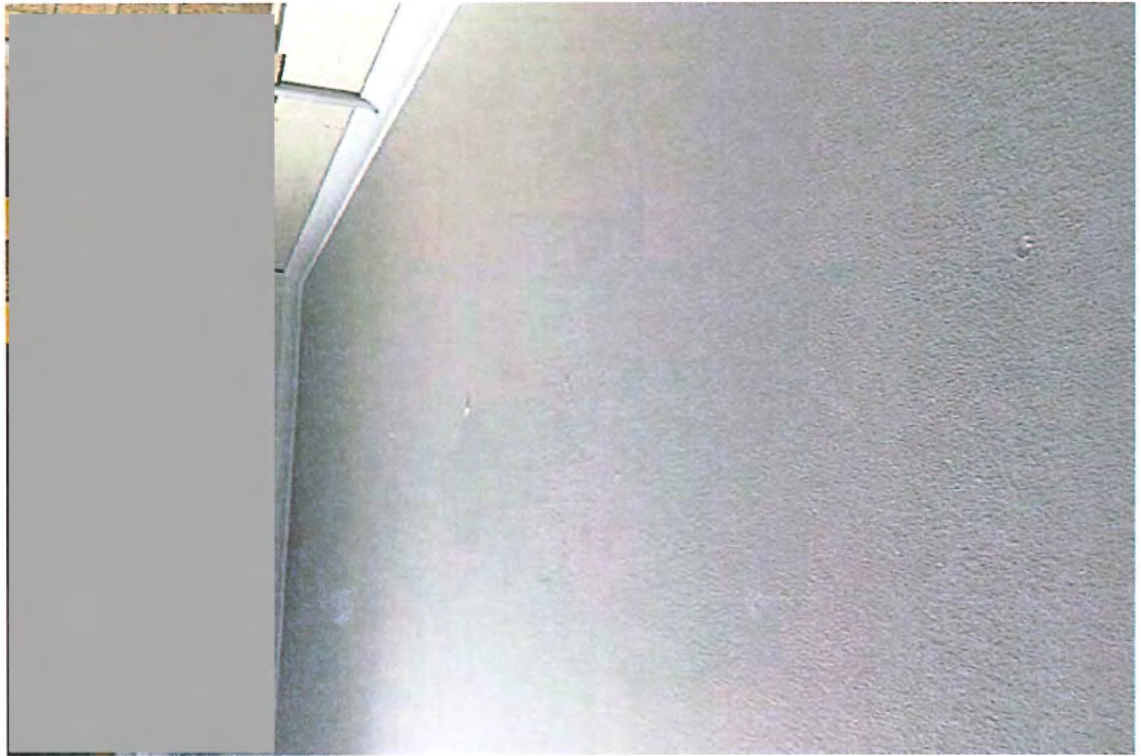
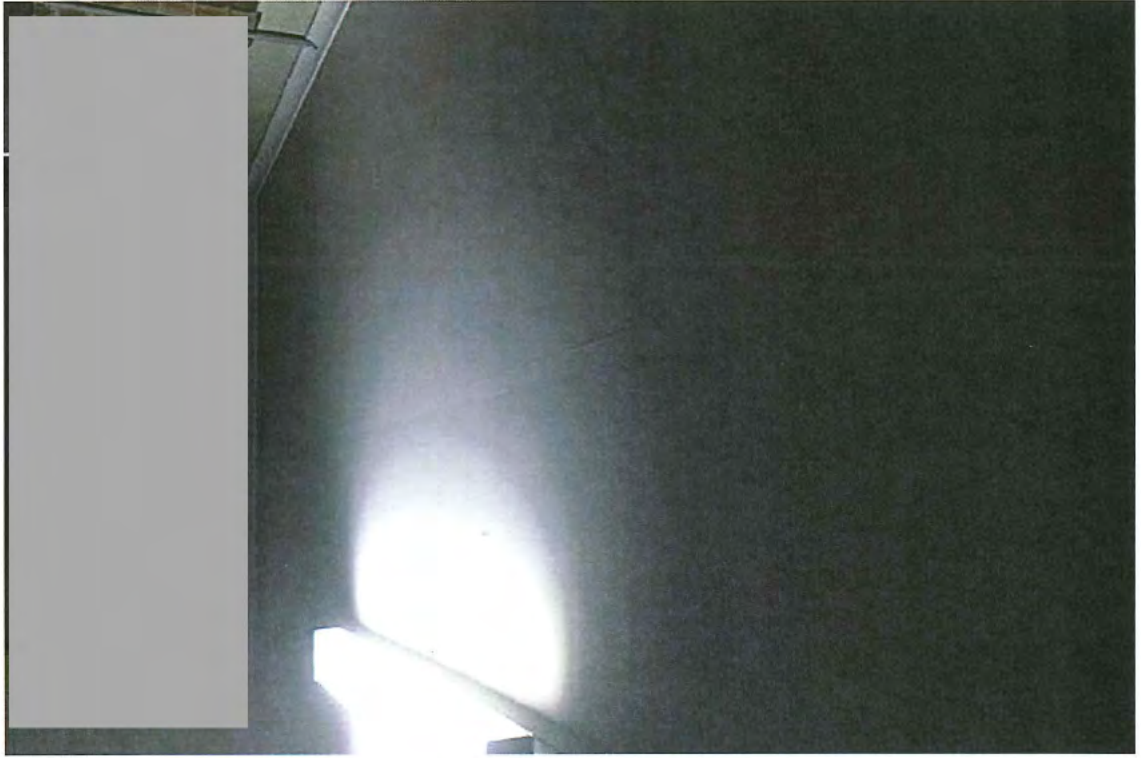


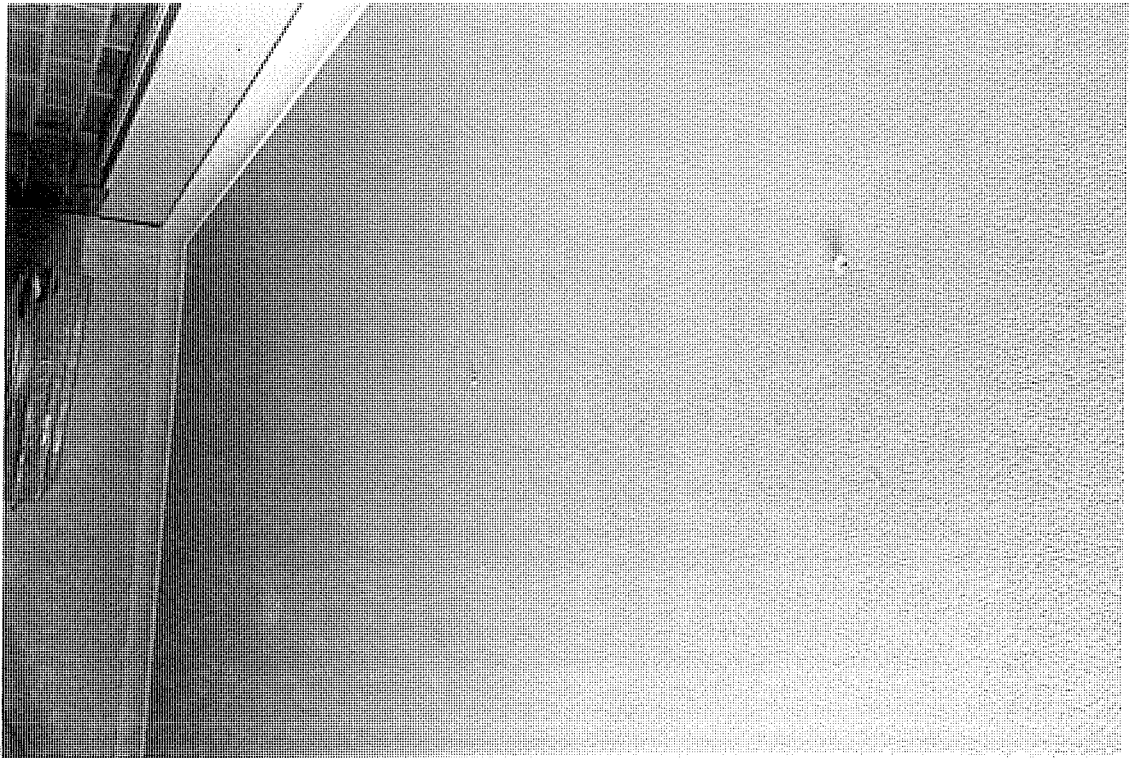
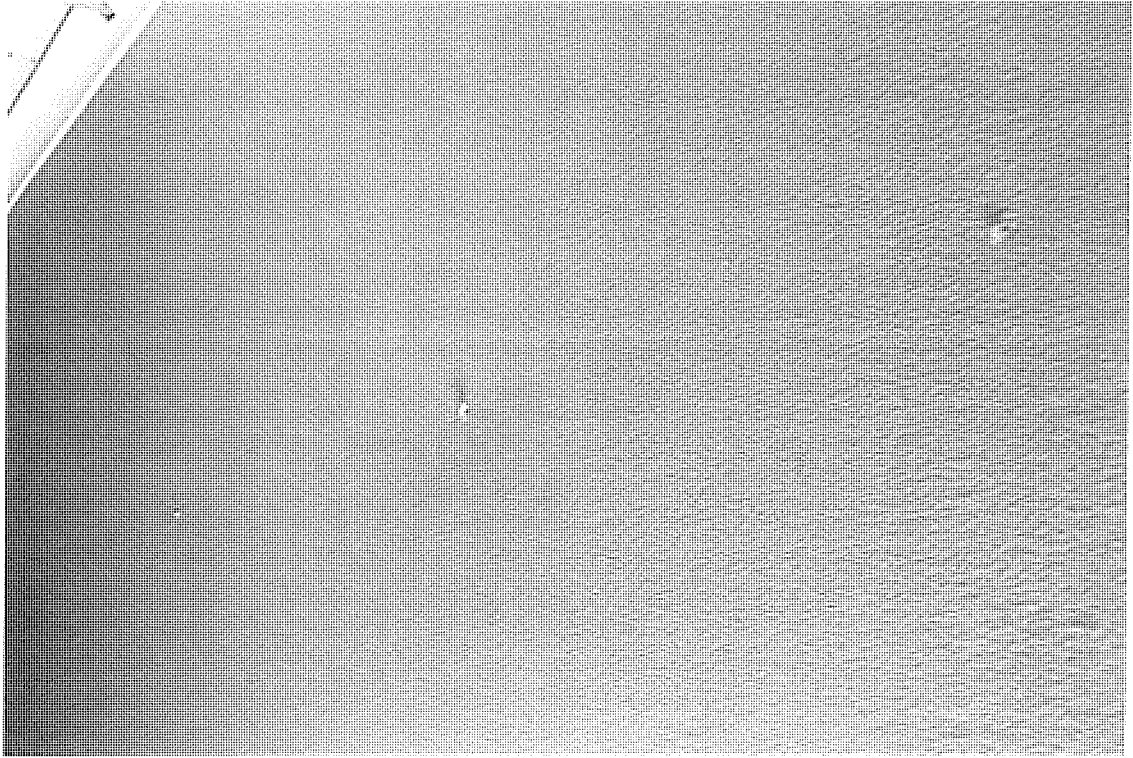
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ABN 204 199 255 79

TransACT House
470 Northbourne Avenue
Dickson ACT 2602

GPO Box 158 Canberra ACT 2601

Phone: (02) 6205 0600
Fax: (02) 6207 5101
Email: lda@act.gov.au
Web: lda.act.gov.au

Mr Paul Macor
Canberra Contractors Pty Ltd
Unit 4, 98 Vicars Street
Mitchell ACT 2911

Dear Paul

Throsby Residential Subdivision, Stage 2, Civil and Landscape Construction
Contract No: 2015.26701.301
ALLEGED PROPERTY DAMAGE AT [REDACTED] IN HARRISON

I refer to the alleged property damage by [REDACTED] to his property located at [REDACTED] [REDACTED] in Harrison arising from works undertaken at Horse Park Drive in Harrison by Canberra Contractors.

The Land Development Agency has notified the public liability insurer of the works, CGU Insurance, of the alleged property damage. The notification was made in accordance with clause 36 of the Contract between the Land Development Agency and Canberra Contractors titled "Construction of Throsby Estate – Stage 2" (**the Contract**).

Should the Land Development Agency be liable to pay excess to CGU Insurance under the policy it will seek to recover the amount paid to CGU Insurance from Canberra Contractors pursuant to clause 36.6 of the Contract.

Yours sincerely

Tom Gordon
Executive Director - LDA
23/09/2016