

## **Appendix B. Test pit logs**

ORDER OF DESCRIPTION

Soils are described as follows:  
A) MAIN SOIL TYPE & UNIFIED CLASSIFICATION SYMBOL (BLOCK LETTERS)  
B) Plasticity (if fine grained) or Particle Size Distribution and Grading (if coarse grained)  
C) Particle Shape  
D) Colour.  
E) Secondary and Minor component(s); name, estimated proportion, plasticity, particle size, colour.  
F) Moisture condition.  
G) Consistency or density.  
H) Gravel, silt and clay content (e.g. ALLUVIUM, COLLUVIUM, RESIDUAL, etc.).  
I) Gravel, silt and clay content (e.g. SILTY SAND (SM), medium grained, poorly graded, rounded, yellow-brown, with a trace of fine grained subangular gravel, dry, loose. Quaternary Alluvium

A) Main Soil Type

(See over for additional details)

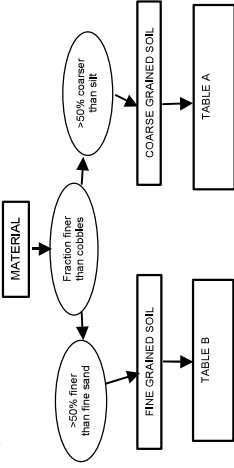


TABLE A: COARSE GRAINED SOILS more than half of the material less than 60mm is larger than 0.06mm

|                               | GRADATIONS   |                                          | NATURE OF FINES                                          | DRY STRENGTH | SYMBOL | TYPICAL NAME                                                       |                                                     |
|-------------------------------|--------------|------------------------------------------|----------------------------------------------------------|--------------|--------|--------------------------------------------------------------------|-----------------------------------------------------|
|                               | Gravels      | Sands                                    |                                                          |              |        | Well graded gravels and sand - gravel mixtures, little or no fines | Gravels and sand mixtures little or no fines        |
| >50% coarser than fine gravel | Good         | Wide range in grain size                 | Clean materials (not enough fines to bind coarse grains) | None         | GW     | Well graded gravels and sand - gravel mixtures, little or no fines | Gravels and sand mixtures little or no fines        |
|                               | Poor         | Predominantly one size or range of sizes | Fines are non-plastic                                    | None to med  | GM     | Silty Gravels, gravel - sand mixtures                              | Silty Gravels, gravel - sand mixtures               |
| >50% finer than fine gravel   | Good to Fair | "Dirty" Materials (excess of Fines)      | Fines are plastic                                        | Med to high  | GC     | Clayey Gravels, gravel - sand - clay mixtures                      | Well graded sands and gravels, little or no fines   |
|                               | Good         | Wide range in grain size                 | Clean materials (not enough fines to bind coarse grains) | None         | SW     | Well graded sands and gravels, little or no fines                  | Poorly graded sands and gravels, little or no fines |
| >50% finer than fine gravel   | Poor         | Predominantly one size or range of sizes | Fines are non-plastic                                    | None to med  | SP     | Silty Sand, sand-silt mixtures                                     | Silty Sand, sand-silt mixtures                      |
|                               | Good to Fair | "Dirty" Materials (excess of Fines)      | Fines are plastic                                        | Med to high  | SC     | Clayey Sand, sand-clay mixtures                                    | Clayey Sand, sand-clay mixtures                     |

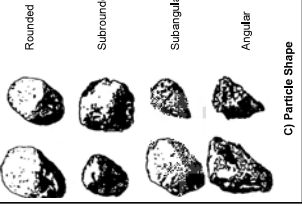
TABLE B: FINE GRAINED SOILS more than half of the material less than 60mm is smaller than 0.06mm

| DRY STRENGTH                                                                      | DILATANCY         | TOUGHNESS     | SYMBOL | TYPICAL NAME                                                                  |                                                                                     |
|-----------------------------------------------------------------------------------|-------------------|---------------|--------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                   |                   |               |        | Inorganic silts, very fine sands, rock flour, silt or clayey fine sands       | Inorganic clays of low to medium plasticity, gravelly silty clays of low plasticity |
| None to Low                                                                       | Quick to Slow     | None          | ML     | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts | Inorganic clays of high plasticity                                                  |
| Medium to high                                                                    | None to Very Slow | Medium        | CL     | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts | Inorganic clays of high plasticity                                                  |
| Low to medium                                                                     | Slow              | Low           | OL     | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts | Inorganic clays of high plasticity                                                  |
| Low to medium                                                                     | Slow to none      | Low to Medium | WH     | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts | Inorganic clays of high plasticity                                                  |
| High to very high                                                                 | None              | High          | CH     | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts | Inorganic clays of high plasticity                                                  |
| Medium to high                                                                    | None to very slow | Low to Medium | OH     | Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts | Inorganic clays of high plasticity                                                  |
| Readily identified by colour, odour, spongy feel and generally by fibrous texture |                   |               | Pt     | Peat muck and other highly organic soils                                      |                                                                                     |

| Particle Size | Clw   | IS    | Gravel |        |        |             | Cobbles |        |        |             |
|---------------|-------|-------|--------|--------|--------|-------------|---------|--------|--------|-------------|
|               |       |       | fine   | medium | coarse | very coarse | fine    | medium | coarse | very coarse |
| 0.002         | 0.006 | 0.075 | 0.075  | 0.425  | 2.0    | 7.5         | 15      | 25     | 50     | 75          |

B) Plasticity (fine grained soils) OR Grading (coarse grained soils)

| DESCRIPTIVE TERM     | LIQUID LIMIT (%) | DESCRIPTIVE TERM | DEFINITION                                                            |
|----------------------|------------------|------------------|-----------------------------------------------------------------------|
| Of low plasticity    | <35              | Well graded      | good representation of all particle size from largest to the smallest |
| Of medium plasticity | >35; <50         | Poorly graded    | one or more intermediate size poorly represented                      |
| Of high plasticity   | >50              | Gap Graded       | one or more intermediate sizes absent                                 |
|                      |                  | Uniform          | Essentially one size                                                  |



C) Particle Shape

D) Colour

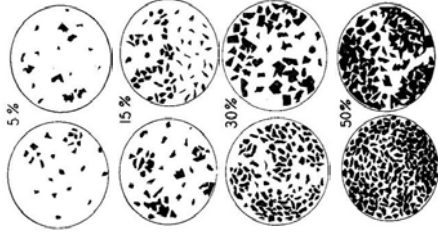
Described in the moist condition, using simple terms (eg black, white, grey, red, brown, yellow etc, modified as necessary by 'pale', 'dark' or 'mottled'; Borderline colours may be described as a combination of these colours; (eg dark grey, red-brown)

E) Proportion of Secondary & Minor Components

| COARSE GRAINED SOILS |                                                    | FINE GRAINED SOILS |                                                    |
|----------------------|----------------------------------------------------|--------------------|----------------------------------------------------|
| % fines              | Modifier                                           | % coarse           | Modifier                                           |
| <5                   | "with a trace of"                                  | <15                | "with a trace of"                                  |
| >5 <15               | "with some"                                        | >15 <30            | "with some"                                        |
| >15                  | prefix silt with "silty, clayey, sandy, or clayey" | >30                | prefix silt with "silty, clayey, sandy, or clayey" |

F) Moisture Content

| CONDITION | CRITERIA                                                                                  |
|-----------|-------------------------------------------------------------------------------------------|
| Dry       | Cohesive soils hard and friable, granular sands free running                              |
| Moist     | Soils feel cool, darkened in colour, Cohesive soils can be moulded, Granular soils cohere |
| Wet       | Soils feel cool, darkened in colour, Free water forms on hands when handling              |



Organic and Artificial Materials

| PREFERRED TERMS                 | TYPE           |
|---------------------------------|----------------|
| Fibrous Peat                    | Organic Matter |
| Wood Fragments                  | Organic Matter |
| Roots (greater than 2mm dia)    | Organic Matter |
| Root fibres (less than 2mm dia) | Organic Matter |
| Oil                             | Waste Fill     |
| Bitumen                         | Waste Fill     |
| Domestic Refuse                 | Waste Fill     |
| Blockbats                       | Waste Fill     |
| Concrete Rubble                 | Waste Fill     |
| Wood pieces, shavings, sawdust  | Waste Fill     |
| Iron filings, dums, steel scrap | Waste Fill     |
| Bottles, broken glass           | Waste Fill     |
| Leather                         | Waste Fill     |

G) Consistency or Density

GRAVEL/SAND (GW, GP, GM, GC)

| DESCRIPTION    | FIELD TEST                                                              |
|----------------|-------------------------------------------------------------------------|
| Loosely Packed | Can be removed from exposure by hand or easily removed by shovel        |
| Tightly Packed | Requires pick for removal, either as lumps or as disaggregated material |

SAND (SW, SP, SM, SC)

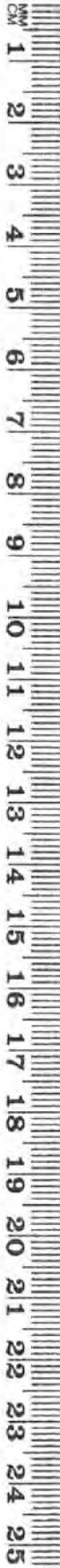
| DENSITY      | FIELD TEST                                                                                   | PSP (blows/150mm) | SPT(Nvalue) | RELATIVE DENSITY (%) | CPT q <sub>c</sub> (Mpa) |
|--------------|----------------------------------------------------------------------------------------------|-------------------|-------------|----------------------|--------------------------|
| Very Loose   | Easily penetrated with 13mm reinforcing rod pushed by hand                                   | 0 - 1             | <4          | <15                  | 0-2                      |
| Loose        | Can be excavated with a spade, driven easily                                                 | 1 - 3             | 4 - 10      | 15 - 35              | 2 - 5                    |
| Medium Dense | Easily penetrated with 13mm reinforcing rod pushed by hand                                   | 3 - 8             | 10 - 30     | 35 - 65              | 5 - 15                   |
| Dense        | Can be excavated with a spade, 50mm wooden peg can be driven easily                          | 8 - 15            | 30 - 50     | 65 - 85              | 15 - 25                  |
| Very Dense   | Penetrated only 25 - 50mm with 13mm reinforcing rod driven with 2kg hammer - hard shovelling | >15               | >50         | >85                  | >25                      |

SILT AND CLAY (ML, CL, OL, MH, CH, PH, Pt)

| CONSISTENCY | FIELD TEST                                                                               | DCP (blows/150mm) | SPT (N) | UNDRAINED SHEAR STRENGTH (kPa) | UCS (pocket penetrom.) (kPa) | CPT q <sub>c</sub> (kPa) |
|-------------|------------------------------------------------------------------------------------------|-------------------|---------|--------------------------------|------------------------------|--------------------------|
| Very Soft   | Easily penetrated 40mm by thumb, Exposed material squeezed between fingers when squeezed | <1                | <2      | <12                            | <25                          | 0 - 180                  |
| Soft        | Easily penetrated 10mm by thumb, Can be moulded by light finger pressure                 | 1 - 1.5           | 2 - 4   | 12 - 25                        | 25 - 50                      | 180 - 375                |
| Firm        | Impression made by thumb with moderate effort, Can be moulded by strong finger pressure  | 1.5 - 3           | 4 - 8   | 25 - 50                        | 50 - 100                     | 375 - 750                |
| Stiff       | Slight impression made by thumb, cannot be moulded by fingers                            | 4 - 6             | 8 - 16  | 50 - 100                       | 100 - 200                    | 750 - 1500               |
| Very Stiff  | Very tough, Ready indented by thumbnail                                                  | 7 - 12            | 16 - 32 | 100 - 200                      | 200 - 400                    | 1500 - 3000              |
| Hard        | Brittle, Indented with difficulty by thumbnail                                           | >12               | >32     | >200                           | >400                         | >3000                    |

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DATA FOR DESCRIPTION AND CLASSIFICATION OF SOILS



Determination of Dry Strength, Dilatency, Toughness and Plasticity

1. Dry Strength (Crushing Characteristics)

After removing particles larger than 0.4mm sieve size, mould a pat of soil to the consistency of putty, adding of water if necessary. Allow the pat to dry completely by oven, sun or air drying, and then test its strength by breaking and crumbling between the fingers. The strength is a measure of the character and quantity of the colloidal fraction contained in the soil. The dry strength increases with increasing plasticity. High dry strength is characteristic for clays of the CH group. A typical inorganic silt possesses only very slight dry strength. Silty fine sands and silts have about the same slight dry strength, but can be distinguished by the feel when powdering the dried specimen. Fine sand feels gritty whereas a typical silt has the smooth feel of flour.

2. Dilatancy (Reaction to Shaking)

After removing particles larger than 0.4mm sieve size, prepare a pat of moist soil with a volume of about 8cm crumbled. Add enough water if necessary to make the soil soft but not sticky. Place the pat in the open palm of one hand and shake horizontally, striking vigorously against the other hand several times. A positive reaction consists of the appearance of water on the surface of the pat which changes to a livery consistency and becomes glossy. When the sample is squeezed between the fingers, the water and gloss disappear from the surface, the pat stiffens and finally it cracks or crumbles. The rapidity of appearance of water during shaking and of its disappearance during the squeezing assist in identifying the character of the fines in a soil. Very fine clean sands give the quickest and most distinct reaction whereas a plastic clay has no reaction. Inorganic silts, such as a typical rock flour, show a moderately quick reaction.

3. Toughness (Consistency near Plastic Limit)

After removing particles larger than the 0.4mm sieve size a specimen of soil about 12mm cube in size is moulded to the consistency of putty. If too dry, water must be added and if sticky, the specimen should be spread out in a thin layer and allowed to lose some moisture by evaporation. Then the specimen is rolled out by hand on a smooth surface or between the palms into a thread about 3mm in diameter. The thread is then folded and re-rolled repeatedly. During this manipulation the moisture content is gradually reduced and the specimen stiffens, finally loses its plasticity, and crumbles when the plastic limit is reached. After the thread crumbles, the pieces should be lumped together and a slight kneading action continued until the lump crumbles. The tougher the thread near the plastic limit and the stiffer the lump when it finally crumbles, the more potent is the colloidal clay fraction in the soil. Weakness of the thread at the plastic limit and quick loss of coherence of the lump below the plastic limit indicates either inorganic clay of low plasticity, or materials such as kaolin-type clays and organic clays which occur below the A-line. Highly organic clays have a very weak and spongy feel at the plastic limit.

4. Smear Test

A fragment of soil smeared between the thumb and forefinger or drawn across the thumbnail will, by the smoothness and sheen of the smear surface, indicate the plasticity of the soil. A soil of low plasticity will exhibit a rough textured, dull smear while a soil of high plasticity will exhibit a slick, waxy smear surface.

Graphic Symbols

| Soils                                                                   |                      |
|-------------------------------------------------------------------------|----------------------|
|                                                                         | Made ground          |
|                                                                         | Boulders and cobbles |
|                                                                         | Gravel               |
|                                                                         | Sand                 |
|                                                                         | Silt                 |
|                                                                         | Clay                 |
|                                                                         | Peat                 |
| NOTE: Composite soil types will be signified by combined symbols, e.g., |                      |
|                                                                         | Silty sand           |

Derivation of Soil Name

Soils are generally made up of more than one component. The soil name depends on the proportion of each component.

The soil name is based on the presence of more than 50% of either fine grained (silt, clay) or coarse grained (sand, gravel) components in the soil. When more than one component exists the smaller amount is placed first.

Example 1:  
60% clay  
35% sand  
5% gravel

is Sandy CLAY, with a trace of Gravel

Example 2:  
40% gravel  
14% sand  
46% silt

is Silty GRAVEL with some sand

The soil name can therefore be split into three fractions:

1. Secondary, 2. Major, and 3. Minor





## ***Igneous Rocks***

## Metamorphic Rocks

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## Sedimentary Rocks

| Rocks | Sedimentary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Metamorphic                                                                                                                                                                                                                                                                                               |  | Igneous                                                                                                                                                                                                                                                                                                   |  |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|       |  Chalk<br> Limestone<br> Conglomerate<br> Breccia<br> Sandstone<br> Siltstone<br> Mudstone<br> Shale<br> Coal<br> Pyroclastic (volcanic ash)<br> Gypsum, Rocksalt etc. |  |  Coarse-grained<br> Medium-grained<br> Fine-grained |  |  Coarse-grained<br> Medium-grained<br> Fine-grained |  |
|       | <p style="text-align: center;">Arenaceous ← → Argillaceous</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                           |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP01

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505538.600, N: 6710626.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 21 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/10/16                                  | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING                         |         |                        |                          | MATERIAL  |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    |                           |                                   |
|----------------------------------|---------|------------------------|--------------------------|-----------|-----------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|---------------------------|-----------------------------------|
| VE<br>PENETRATION<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG                                                                    | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components                                                                     | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER | STRUCTURE<br>& Other Observations |
|                                  |         |                        |                          | 0.0       |  | CL                       | SILTY CLAY<br>Pale grey, low plasticity, with some gravel, sand and rootlets<br>(Topsoil)                                                                                              |                       |                                    | 100                       |                                   |
|                                  |         |                        |                          | 0.15m     |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    | 200                       |                                   |
|                                  |         |                        |                          | 0.40m     |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    | 300                       |                                   |
|                                  |         |                        | D-ES                     | 0.50m     |                                                                                   |                          |                                                                                                                                                                                        | M                     | St                                 | 400                       |                                   |
|                                  |         |                        |                          | 0.5       |  | CH                       | SILTY CLAY<br>Pale grey, predominantly mottled orange and red, high plasticity clay,<br>traces of gravel<br>(Colluvium)                                                                |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 0.80m     |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 1.0       |  |                          | SILTSTONE<br>Light grey and light brown, fine grained, extremely weathered, very low<br>strength, occasional boulder size fragments being recovered by bucket<br>(Recovered as gravel) |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 1.30m     |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    |                           |                                   |
|                                  |         |                        | B-x2                     | 1.50m     |                                                                                   |                          |                                                                                                                                                                                        | D                     | VD                                 |                           |                                   |
|                                  |         |                        |                          | 2.0       |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 2.10m     |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    |                           |                                   |
|                                  |         |                        |                          |           |                                                                                   |                          | GPTP01 terminated due to excavator refusal at 2.1m<br>Note: Sample between 1.3 - 1.5m produced coarse to fine gravel with<br>some sand and silt/clay. Fines from excavator bucket      |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 2.5       |                                                                                   |                          |                                                                                                                                                                                        |                       |                                    |                           |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

|                                                                                                                                                         |                                                                                                                                              |                                                                                                                                                                                                                                                                       |                                                                                                                                                          |                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHOD</b><br>N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper<br><br><b>SUPPORT</b><br>T Timbering | <b>PENETRATION</b><br><br>No Resistance<br><br><b>WATER</b><br><br>10 Oct., 73 Water<br>Level on Date shown<br>water inflow<br>water outflow | <b>SAMPLES &amp; FIELD TESTS</b><br>U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak,<br>R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | <b>CLASSIFICATION SYMBOLS &amp; SOIL DESCRIPTION</b><br>Based on Unified Classification System<br><br><b>MOISTURE</b><br>D - Dry<br>M - Moist<br>W - Wet | <b>CONSISTENCY/ RELATIVE DENSITY</b><br>VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

See Explanatory Notes for details of abbreviations & basis of descriptions.

SKM:UB-101200-LOGS.GPJ 2:10/2016 16:44 6330003 Digital Lab and In Situ Tool - DGD [Lib: SKM-101200-2015-06-17 Proj: SKM-101200-06-16]



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP01, 2.1 m                          |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

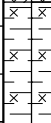
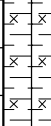
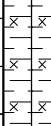
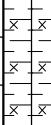
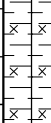
# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP02

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 506176.000, N: 6710545.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 23 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/10/16                                  | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING                         |         |                        |                          | MATERIAL  |                                                                                     |                          |                                                                                                                    |                       |                                    |                                                                       |                                   |
|----------------------------------|---------|------------------------|--------------------------|-----------|-------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|-----------------------------------------------------------------------|-----------------------------------|
| VE<br>PENETRATION<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG                                                                      | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>kPa<br>METER<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations |
|                                  |         |                        |                          | 0.0       |    | CL                       | SILT CLAY<br>Pale grey, low plasticity, with some gravel, sand and rootlets<br>(Topsoil)                           | M                     |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 0.25m     |                                                                                     |                          |                                                                                                                    |                       |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 0.50m     |    |                          | SILT CLAY<br>Grey, mottled light brown, high plasticity<br>(Mainly colluvium)                                      |                       |                                    |                                                                       |                                   |
|                                  |         |                        | D-ES                     | 0.60m     |                                                                                     |                          |                                                                                                                    |                       |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 1.0       |    | CH                       | Becoming grey, mottled red and light brown with occasional fine gravel                                             | VSt - H               |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 1.40m     |                                                                                     |                          |                                                                                                                    |                       |                                    |                                                                       |                                   |
|                                  |         |                        | D-ES                     | 1.50m     |                                                                                     |                          |                                                                                                                    | D                     |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 1.90m     |    |                          | GRAVELLY CLAY<br>Pale grey, high plasticity, fine and medium, sub angular and angular<br>gravel fragments          |                       |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 2.0       |   | CH                       | Increasing in reddish colour, trace organics<br>(Mainly colluvium possibly grading to residual soils with depth)   |                       |                                    |                                                                       |                                   |
|                                  |         |                        |                          | 2.5       |  |                          | GPTP02 terminated at Target Depth, difficult digging condition                                                     |                       |                                    |                                                                       |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

## METHOD

N Natural Exposure  
X Existing Excavation  
BH Backhoe Bucket  
B Bulldozer Blade  
R Ripper

SUPPORT  
T Timbering

## PENETRATION

No Resistance

## WATER

10 Oct., 73 Water  
Level on Date shown  
water inflow  
water outflow

## SAMPLES & FIELD TESTS

U - Undisturbed Sample  
D - Disturbed Sample  
B - Bulk Disturbed Sample  
MC - Moisture Content  
HP - Hand Penetrometer (UCS kPa)  
VS - Vane Shear; P-Peak,  
R-Remoulded (uncorrected kPa)  
PBT - Plate Bearing Test

## CLASSIFICATION SYMBOLS & SOIL DESCRIPTION

Based on Unified  
Classification System

## MOISTURE

D - Dry  
M - Moist  
W - Wet

## CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft  
S - Soft  
F - Firm  
St - Stiff  
VSt - Very Stiff  
H - Hard  
VL - Very Loose  
L - Loose  
MD - Medium Dense  
D - Dense  
VD - Very Dense

See Explanatory Notes for  
details of abbreviations  
& basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP02, 2.5m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

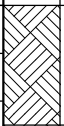
# EXCAVATION - GEOLOGICAL LOG

**PIT NO : GPTP03**

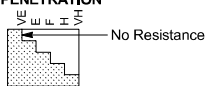
PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                     |                                            |
|-------------------------------------|--------------------------------------------|
| POSITION :                          | SURFACE ELEVATION : 26 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator       | METHOD : Excavator                         |
| DATE EXCAVATED : 2/10/16            | LOGGED BY : JP                             |
| EXCAVATION DIMENSIONS : 0.60 m WIDE | CHECKED BY : SGR                           |

| DRILLING                         |         |                        |                          | MATERIAL  |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           |                                   |
|----------------------------------|---------|------------------------|--------------------------|-----------|-----------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|---------------------------|-----------------------------------|
| VE<br>PENETRATION<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG                                                                    | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components                                                           | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER | STRUCTURE<br>& Other Observations |
|                                  |         |                        |                          | 0.0       |  | CL                       | SILTY CLAY<br>Grey, low plasticity, traces of sand and gravel, with rootlets<br>(Topsoil)                                                                                    | M                     |                                    | 100<br>200<br>300<br>400  |                                   |
|                                  |         |                        | 0.30m<br>D-ES            |           |  |                          | SILTY CLAY<br>Light brown and reddish, high plasticity<br>(Residual soil? or colluvium)                                                                                      |                       |                                    |                           | 0.25: HP In-situ >600 kPa         |
|                                  |         |                        | 0.50m                    | 0.5       |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           | 0.60: HP In-situ =420 kPa         |
|                                  |         |                        | 0.80m<br>B               |           |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           |                                   |
|                                  |         |                        | 1.00m                    | 1.0       |                                                                                   |                          |                                                                                                                                                                              | D                     | H                                  |                           | 1.00: HP In-situ =420 kPa         |
|                                  |         |                        |                          |           |                                                                                   |                          | WEATHERED AND FRACTURED BASALT BEDROCK?<br>Grey, fine to coarse grained, moderately weathered, medium to high<br>strength, intermixed with yellow clay, recovered as gravel. |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 1.5       |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           |                                   |
|                                  |         |                        |                          |           |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 1.90m     |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 2.0       |                                                                                   |                          | GPTP03 terminated due to bucket refusal                                                                                                                                      |                       |                                    |                           |                                   |
|                                  |         |                        |                          | 2.5       |                                                                                   |                          |                                                                                                                                                                              |                       |                                    |                           |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

|                                                                                                                                                         |                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                    |                                                                                                                                                          |                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHOD</b><br>N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper<br><br><b>SUPPORT</b><br>T Timbering | <b>PENETRATION</b><br><br><b>WATER</b><br>10 Oct., 73 Water Level on Date shown<br>water inflow<br>water outflow | <b>SAMPLES &amp; FIELD TESTS</b><br>U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | <b>CLASSIFICATION SYMBOLS &amp; SOIL DESCRIPTION</b><br>Based on Unified Classification System<br><br><b>MOISTURE</b><br>D - Dry<br>M - Moist<br>W - Wet | <b>CONSISTENCY/ RELATIVE DENSITY</b><br>VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP03, 1.9m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

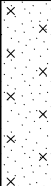
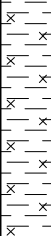
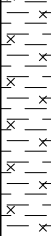
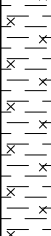
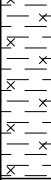
# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP04

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505626.100, N: 6710324.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 14 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/9/16                                   | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING                         |  |  |                 |                        |                          | MATERIAL                                                                            |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------|--|--|-----------------|------------------------|--------------------------|-------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|---------------------|--------------------------------------------------------------|-----------------------------------|--------|---------------------------|---------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| VE<br>E<br>PENETRATION<br>F<br>H |  |  | SUPPORT         | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m)                                                                           | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL                                                                              | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Partide Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION | CONSISTENCY | RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>kPa<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  | Not Encountered | D-ES                   | 0.40m                    |    | SM             | SILTY SAND<br>Pale grey, fine and medium sand, with low plasticity fines and rounded gravel (Topsoil) | M                                                                                                                 |                       |             |                     |                                                              | 0.50: HP In-situ >600 kPa         |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 0.50m                    |    | CH             | SILTY CLAY<br>Light brown mottled orange-brown, high plasticity (Colluvium)                           | D                                                                                                                 |                       |             |                     |                                                              |                                   | VS - H | 1.00: HP In-situ =280 kPa |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 1.00m                    |    |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           | 1.40: HP In-situ =220 kPa |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 1.50m                    |   |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 1.60m                    |  |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 2.00m                    |  |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 2.40m                    |  |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        | 2.50m                    |  |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  |                 |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |
|                                  |  |  | </              |                        |                          |                                                                                     |                |                                                                                                       |                                                                                                                   |                       |             |                     |                                                              |                                   |        |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |

PHOTOGRAPHS NOTES ☐ YES ☐ NO

|                                                                                                                                                         |                                                                                                                  |                                                                                                                                                                                                                                                                    |                                                                                                                                                          |                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHOD</b><br>N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper<br><br><b>SUPPORT</b><br>T Timbering | <b>PENETRATION</b><br><br><b>WATER</b><br>10 Oct., 73 Water Level on Date shown<br>water inflow<br>water outflow | <b>SAMPLES &amp; FIELD TESTS</b><br>U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | <b>CLASSIFICATION SYMBOLS &amp; SOIL DESCRIPTION</b><br>Based on Unified Classification System<br><br><b>MOISTURE</b><br>D - Dry<br>M - Moist<br>W - Wet | <b>CONSISTENCY/ RELATIVE DENSITY</b><br>VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP04, 2.4m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP05

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505965.400, N: 6710279.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 22 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/10/16                                  | LOGGED BY : JP                             |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       | CHECKED BY : SGR                           |

| DRILLING                         |         |                        |                          | MATERIAL  |                |                          |                                                                                                                                     |                       |                                    |                                                       |                                   |
|----------------------------------|---------|------------------------|--------------------------|-----------|----------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|-------------------------------------------------------|-----------------------------------|
| VE<br>PENETRATION<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Partide Characteristic<br>Secondary and Minor Components                   | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations |
|                                  |         |                        |                          | 0.0       |                | CL                       | SILTY CLAY<br>Pale grey, low plasticity fines, with gravel and rootlets.<br>(Topsoil)                                               | M                     |                                    |                                                       |                                   |
|                                  |         |                        | 0,30m<br>D-ES            |           |                |                          |                                                                                                                                     |                       |                                    |                                                       |                                   |
|                                  |         |                        | 0,50m                    | 0.5       |                |                          | SILTY CLAY<br>Light brown, medium to high plasticity<br>(Mainly colluvium)                                                          |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 1.0       |                | CL-CH                    |                                                                                                                                     |                       |                                    |                                                       | 0.60: HP In-situ =480 kPa         |
|                                  |         |                        |                          |           |                |                          |                                                                                                                                     |                       |                                    |                                                       | 0.80: HP In-situ =330 kPa         |
|                                  |         |                        |                          |           |                |                          |                                                                                                                                     |                       |                                    |                                                       | 1.10: HP In-situ =390 kPa         |
|                                  |         |                        |                          | 1.5       |                |                          |                                                                                                                                     |                       |                                    |                                                       |                                   |
|                                  |         |                        | 1,80m<br>B               |           |                |                          |                                                                                                                                     |                       |                                    |                                                       | 1.40: HP In-situ =540 kPa         |
|                                  |         |                        | 2,00m                    | 2.0       |                |                          | WEATHERED SILTSTONE BEDROCK<br>Light brown, fine grained, extremely weathered rock, residual soil strength<br>(Recovered as gravel) |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.5       |                |                          |                                                                                                                                     |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2,50m     |                |                          | GPTP05 terminated at 2,5m                                                                                                           |                       |                                    |                                                       |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

## METHOD

N Natural Exposure  
X Existing Excavation  
BH Backhoe Bucket  
B Bulldozer Blade  
R Ripper

## SUPPORT

T Timbering

## PENETRATION

VE  
E  
F  
H  
No Resistance

## WATER

10 Oct., 73 Water  
Level on Date shown  
water inflow  
water outflow

## SAMPLES & FIELD TESTS

U - Undisturbed Sample  
D - Disturbed Sample  
B - Bulk Disturbed Sample  
MC - Moisture Content  
HP - Hand Penetrometer (UCS kPa)  
VS - Vane Shear; P-Peak,  
R-Remoulded (uncorrected kPa)  
PBT - Plate Bearing Test

## CLASSIFICATION SYMBOLS & SOIL DESCRIPTION

Based on Unified  
Classification System

## MOISTURE

D - Dry  
M - Moist  
W - Wet

## CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft  
S - Soft  
F - Firm  
St - Stiff  
VSt - Very Stiff  
H - Hard  
VL - Very Loose  
L - Loose  
MD - Medium Dense  
D - Dense  
VD - Very Dense

See Explanatory Notes for  
details of abbreviations  
& basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP05, 2.5m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

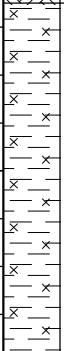
# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP06

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 506318.900, N: 6710253.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 17 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/10/16                                  | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING                         |  |  |         |                        |                          | MATERIAL  |                                                                                   |                          |                                                                                                                   |                                                                       |                                    |                                                                                                                                           |                                   |  |
|----------------------------------|--|--|---------|------------------------|--------------------------|-----------|-----------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--|
| PENETRATION<br>VE<br>E<br>F<br>H |  |  | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG                                                                    | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Partide Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION                                                 | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>kPa<br>100<br>200<br>300<br>400                                                                              | STRUCTURE<br>& Other Observations |  |
| Not Encountered                  |  |  |         |                        |                          | 0.0       |  | SM                       | SILTY SAND<br>Pale grey, fine and medium sand, with low plasticity fines and rounded gravel (Topsoil)             | M                                                                     |                                    |                                                                                                                                           | 0.20: HP In-situ >600 kPa         |  |
|                                  |  |  |         |                        |                          | 0.15m     |  | CL                       | SILTY CLAY<br>Pale grey brown, mottled orange-brown, low plasticity fines, with some sand (Mainly colluvium)      |                                                                       |                                    |                                                                                                                                           |                                   |  |
|                                  |  |  |         |                        |                          | 0.50m     |                                                                                   |                          | D-ES                                                                                                              | 0.60m                                                                 | 0.90m                              | CLAYEY GRAVEL AND GRAVELLY CLAY MIXTURES<br>Pale grey and red-brown, fine to coarse gravel, rounded and sub-rounded, low plasticity fines |                                   |  |
|                                  |  |  |         |                        |                          | 1.00m     |                                                                                   |                          |                                                                                                                   | D-ES                                                                  | 1.20m                              | - Occasional coarse basalt gravel fragments                                                                                               |                                   |  |
|                                  |  |  |         |                        |                          | 1.50m     |                                                                                   |                          | 1.60m                                                                                                             |                                                                       |                                    |                                                                                                                                           |                                   |  |
|                                  |  |  |         |                        |                          | 2.0       |                                                                                   |                          | 2.40m                                                                                                             | GPTP06 terminated due to refusal on gravel possible weathered bedrock |                                    |                                                                                                                                           |                                   |  |
|                                  |  |  |         |                        |                          | 2.5       |                                                                                   |                          |                                                                                                                   |                                                                       |                                    |                                                                                                                                           |                                   |  |

PHOTOGRAPHS NOTES ☐ YES ☐ NO

| METHOD                                                                                            | PENETRATION                                                                                          | SAMPLES & FIELD TESTS                                                                                                                                                                                                          | CLASSIFICATION SYMBOLS & SOIL DESCRIPTION<br>Based on Unified Classification System | CONSISTENCY/ RELATIVE DENSITY                                                                                                                                             |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper | <br>No Resistance<br>WATER<br>10 Oct., 73 Water Level on Date shown<br>water inflow<br>water outflow | U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | D - Dry<br>M - Moist<br>W - Wet                                                     | VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP06, 2.4m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

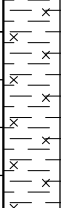
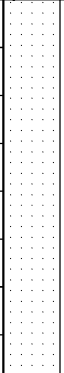
# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP07

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505580.700, N: 6709921.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 18 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/9/16                                   | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING |   |             |   |   |         | MATERIAL            |                       |           |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|----------|---|-------------|---|---|---------|---------------------|-----------------------|-----------|-------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------|------------------|------------------------------------------------------|--------------------------------|
| VE       | E | PENETRATION | F | H | SUPPORT | GROUND WATER LEVELS | SAMPLES & FIELD TESTS | DEPTH (m) | GRAPHIC LOG                                                                         | CLASSIFICATION SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components                                   | MOISTURE CONDITION | CONSISTENCY | RELATIVE DENSITY | HAND PENETROMETER<br>kPa<br>100<br>200<br>300<br>400 | STRUCTURE & Other Observations |
|          |   |             |   |   |         |                     |                       | 0.0       |    | CL                    | SILTY CLAY<br>Pale grey, low plasticity fines, with fine and medium sand and rootlets (Topsoil)                                                      | M                  |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     |                       | 0.40m     |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     | 0.50m<br>D-ES         | 0.5       |    | CL-CI                 | SILTY CLAY<br>Orange-brown, low to medium plasticity, traces of sand and rootlets to 0.6m (Colluvium soil)                                           |                    |             |                  |                                                      | X 0.50: HP In-situ = 580 kPa   |
|          |   |             |   |   |         |                     | 0.60m                 |           |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     |                       | 1.0       |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      | X 1.00: HP In-situ = 480 kPa   |
|          |   |             |   |   |         |                     | 1.30m<br>B            |           |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     | 1.50m<br>D-ES         | 1.5       |  |                       | WEATHERED SANDSTONE BEDROCK<br>Orange-brown, fine and medium grained, extremely weathered, extremely low strength rock (Recovered as a sandy gravel) |                    |             |                  |                                                      | X 1.40: HP In-situ = 470 kPa   |
|          |   |             |   |   |         |                     | 1.60m<br>B            |           |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     | 1.80m                 |           |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     |                       | 2.0       |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     |                       | 2.20m     |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     |                       |           |                                                                                     |                       | GPTP07 terminated due to bucket refusal                                                                                                              |                    |             |                  |                                                      |                                |
|          |   |             |   |   |         |                     |                       | 2.5       |                                                                                     |                       |                                                                                                                                                      |                    |             |                  |                                                      |                                |

PHOTOGRAPHS NOTES ☐ YES ☐ NO

## METHOD

N Natural Exposure  
X Existing Excavation  
BH Backhoe Bucket  
B Bulldozer Blade  
R Ripper

## SUPPORT

T Timbering

## PENETRATION

No Resistance

## WATER

10 Oct., 73 Water Level on Date shown  
water inflow  
water outflow

## SAMPLES & FIELD TESTS

U - Undisturbed Sample  
D - Disturbed Sample  
B - Bulk Disturbed Sample  
MC - Moisture Content  
HP - Hand Penetrometer (UCS kPa)  
VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)  
PBT - Plate Bearing Test

## CLASSIFICATION SYMBOLS & SOIL DESCRIPTION

Based on Unified Classification System

## MOISTURE

D - Dry  
M - Moist  
W - Wet

## CONSISTENCY/RELATIVE DENSITY

VS - Very Soft  
S - Soft  
F - Firm  
St - Stiff  
VSt - Very Stiff  
H - Hard  
VL - Very Loose  
L - Loose  
MD - Medium Dense  
D - Dense  
VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP07, 2.2m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP08

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

POSITION : E: 505935.600, N: 6709868.000 (MGA94 Zone 56)

SURFACE ELEVATION : 21 (Approximate) (AHD)

EQUIPMENT TYPE : 8t Excavator

METHOD : Excavator

DATE EXCAVATED : 2/9/16

LOGGED BY : JP

CHECKED BY : SGR

EXCAVATION DIMENSIONS : 0.60 m WIDE

| DRILLING          |         |                        |                          |           | MATERIAL       |                          |                                                                                                                   |                       |                                    |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| VE<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Partide Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                   |         |                        |                          | 0.0       |                | CL-Cl                    | SILTY CLAY<br>Pale grey, low to medium plasticity fines, with fine and medium sand and rootlets (Topsoil)         | M                     |                                    |                                                       | 0.20: HP In-situ >600 kPa<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><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PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

## METHOD

N Natural Exposure  
X Existing Excavation  
BH Backhoe Bucket  
B Bulldozer Blade  
R Ripper

## SUPPORT

T Timbering

## PENETRATION

No Resistance

## WATER

10 Oct., 73 Water  
Level on Date shown  
water inflow  
water outflow

## SAMPLES & FIELD TESTS

U - Undisturbed Sample  
D - Disturbed Sample  
B - Bulk Disturbed Sample  
MC - Moisture Content  
HP - Hand Penetrometer (UCS kPa)  
VS - Vane Shear; P-Peak,  
R-Remoulded (uncorrected kPa)  
PBT - Plate Bearing Test

## CLASSIFICATION SYMBOLS & SOIL DESCRIPTION

Based on Unified Classification System

## MOISTURE

D - Dry  
M - Moist  
W - Wet

## CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft  
S - Soft  
F - Firm  
St - Stiff  
VSt - Very Stiff  
H - Hard  
VL - Very Loose  
L - Loose  
MD - Medium Dense  
D - Dense  
VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GTP08, 2.1m                            |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

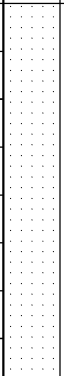
# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP09

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 506280.100, N: 6709826.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 25 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/10/16                                  | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING          |         |                        |                          | MATERIAL  |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|-------------------|---------|------------------------|--------------------------|-----------|------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|--------------------------------------------------------------|-----------------------------------|
| VE<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG                                                                     | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components                        | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>kPa<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations |
|                   |         |                        |                          | 0.0       |   | CL                       | SILTY CLAY<br>Pale grey, low plasticity fines, with fine and medium sand and rootlets<br>(Topsoil)                                        |                       |                                    |                                                              |                                   |
|                   |         |                        |                          | 0.20m     |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|                   |         |                        |                          |           |   | CH                       | SILTY CLAY<br>Light brown, mottled orange-brown, high plasticity fines<br>(Mainly colluvium)                                              | M                     |                                    |                                                              | >>X 0.40: HP In-situ >600 kPa     |
|                   |         |                        | 0.50m<br>D-ES            | 0.5       |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|                   |         |                        | 0.60m                    |           |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|                   |         | Not Encountered        |                          | 0.80m     |                                                                                    |                          |                                                                                                                                           |                       | VSt - H                            |                                                              |                                   |
|                   |         |                        |                          |           |  |                          | WEATHERED SANDSTONE BEDROCK<br>Light brown, fine to coarse grained, extremely weathered, extremely low<br>to low strength, with some clay |                       |                                    |                                                              |                                   |
|                   |         |                        | 1.10m<br>B               | 1.0       |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              | >>X 1.10: HP In-situ >600 kPa     |
|                   |         |                        | 1.30m                    |           |                                                                                    |                          |                                                                                                                                           | D                     |                                    |                                                              |                                   |
|                   |         |                        |                          | 1.5       |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|                   |         |                        |                          | 1.60m     |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|                   |         |                        |                          |           |                                                                                    |                          | GPTP09 terminated due to slow excavation                                                                                                  |                       |                                    |                                                              |                                   |
|                   |         |                        |                          |           |                                                                                    |                          | Note: Sample recovered between 1.1 - 1.3m produced coarse to fine<br>gravel with some sand and silt and clay fines from excavator bucket  |                       |                                    |                                                              |                                   |
|                   |         |                        |                          | 2.0       |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |
|                   |         |                        |                          | 2.5       |                                                                                    |                          |                                                                                                                                           |                       |                                    |                                                              |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

|                                                                                                                                                         |                                                                                                                     |                                                                                                                                                                                                                                                                       |                                                                                                                                                          |                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHOD</b><br>N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper<br><br><b>SUPPORT</b><br>T Timbering | <b>PENETRATION</b><br><br><b>WATER</b><br>10 Oct., 73 Water<br>Level on Date shown<br>water inflow<br>water outflow | <b>SAMPLES &amp; FIELD TESTS</b><br>U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak,<br>R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | <b>CLASSIFICATION SYMBOLS &amp; SOIL DESCRIPTION</b><br>Based on Unified Classification System<br><br><b>MOISTURE</b><br>D - Dry<br>M - Moist<br>W - Wet | <b>CONSISTENCY/ RELATIVE DENSITY</b><br>VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

See Explanatory Notes for details of abbreviations & basis of descriptions.

SKM:UB-1012.GLB Log, IS AU TEST PRT 2, IA101200\_LOGSGRPU <Drawing> 21/03/2016 16:44 6330103\_Digital Label and In Situ Tool - DSD [Lib: SKM-1012.2015-04-17 Proj: SKM-1011.2013-04-06]



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP09, 1.6m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP10

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505768.400, N: 6709293.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 16 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/9/16                                   | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING          |  |  |         |                        |                          |           | MATERIAL       |                          |                                                                                                                    |                       |                                    |                           |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| VE<br>E<br>F<br>H |  |  | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER | STRUCTURE<br>& Other Observations |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Not Encountered   |  |  |         |                        |                          |           | 0.0            |                          | CH                                                                                                                 | M                     | VS - H                             | D                         | 100<br>200<br>300<br>400          | 0.35: HP In-situ =140 kPa<br><br>0.60: HP In-situ =520 kPa<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><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|

PHOTOGRAPHS NOTES ☐ YES ☐ NO

|                                                                                                                                                         |                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                    |                                                                                                                                                          |                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHOD</b><br>N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper<br><br><b>SUPPORT</b><br>T Timbering | <b>PENETRATION</b><br><br><b>WATER</b><br>10 Oct., 73 Water<br>Level on Date shown<br>water inflow<br>water outflow | <b>SAMPLES &amp; FIELD TESTS</b><br>U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | <b>CLASSIFICATION SYMBOLS &amp; SOIL DESCRIPTION</b><br>Based on Unified Classification System<br><br><b>MOISTURE</b><br>D - Dry<br>M - Moist<br>W - Wet | <b>CONSISTENCY/ RELATIVE DENSITY</b><br>VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

See Explanatory Notes for details of abbreviations & basis of descriptions.

SKM:UB:1012.GLB Log: IS AU TEST:PTT 2: IA101200\_LOGSG:GFL <Drawing> 21/03/2016 16:44 6330103\_Digital Lab and In Situ Tool - DGD [Lib: SKM:1012.2015-04-17 Proj: SKM:1011.2015-04-16]



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP10, 2.4m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP11

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

POSITION : E: 506160.300, N: 6709246.000 (MGA94 Zone 56)

SURFACE ELEVATION : 16 (Approximate) (AHD)

EQUIPMENT TYPE : 8t Excavator

METHOD : Excavator

DATE EXCAVATED : 2/9/16

LOGGED BY : JP

CHECKED BY : SGR

EXCAVATION DIMENSIONS : 0.60 m WIDE

| DRILLING    |   |   |         |                     |                       |           | MATERIAL    |     |                       |                                                                                                                    |                    |             |                  |                   |                                |
|-------------|---|---|---------|---------------------|-----------------------|-----------|-------------|-----|-----------------------|--------------------------------------------------------------------------------------------------------------------|--------------------|-------------|------------------|-------------------|--------------------------------|
| PENETRATION |   |   | SUPPORT | GROUND WATER LEVELS | SAMPLES & FIELD TESTS | DEPTH (m) | GRAPHIC LOG | LOG | CLASSIFICATION SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components | MOISTURE CONDITION | CONSISTENCY | RELATIVE DENSITY | HAND PENETROMETER | STRUCTURE & Other Observations |
| VE          | E | H |         |                     |                       |           |             |     |                       |                                                                                                                    |                    |             |                  |                   |                                |
|             |   |   |         |                     |                       | 0.0       |             |     | CL                    | SILTY CLAY<br>Pale grey, low plasticity fines, with fine and medium sand and rootlets (Topsoil)                    | M                  |             |                  |                   |                                |
|             |   |   |         |                     |                       | 0.30m     |             |     |                       | SILTY CLAY<br>Light brown, medium to high plasticity, with pockets of charcoal (Colluvium)                         |                    |             |                  |                   |                                |
|             |   |   |         |                     | 0.40m<br>D-ES         | 0.5       |             |     | CI-CH                 |                                                                                                                    |                    |             |                  |                   | 0.40: HP In-situ =550 kPa      |
|             |   |   |         |                     | 0.50m                 |           |             |     |                       |                                                                                                                    |                    |             |                  |                   |                                |
|             |   |   |         |                     |                       |           |             |     |                       |                                                                                                                    |                    |             |                  |                   |                                |
|             |   |   |         |                     |                       |           |             |     |                       |                                                                                                                    |                    |             |                  |                   |                                |
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|             |   |   |         |                     |                       |           |             |     |                       |                                                                                                                    |                    |             |                  |                   |                                |
|             |   |   |         |                     |                       |           |             |     | </                    |                                                                                                                    |                    |             |                  |                   |                                |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

## METHOD

N Natural Exposure  
X Existing Excavation  
BH Backhoe Bucket  
B Bulldozer Blade  
R Ripper

## SUPPORT

T Timbering

## PENETRATION

No Resistance

## WATER

10 Oct., 73 Water  
Level on Date shown  
water inflow  
water outflow

## SAMPLES & FIELD TESTS

U - Undisturbed Sample  
D - Disturbed Sample  
B - Bulk Disturbed Sample  
MC - Moisture Content  
HP - Hand Penetrometer (UCS kPa)  
VS - Vane Shear; P-Peak,  
R-Remoulded (uncorrected kPa)  
PBT - Plate Bearing Test

## CLASSIFICATION SYMBOLS & SOIL DESCRIPTION

Based on Unified Classification System

## MOISTURE

D - Dry  
M - Moist  
W - Wet

## CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft  
S - Soft  
F - Firm  
St - Stiff  
VSt - Very Stiff  
H - Hard  
VL - Very Loose  
L - Loose  
MD - Medium Dense  
D - Dense  
VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP11, 1.8m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP12

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505895.700, N: 6709032.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 21 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/9/16                                   | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING                         |         |                        |                          | MATERIAL  |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|----------------------------------|---------|------------------------|--------------------------|-----------|----------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|-------------------------------------------------------|-----------------------------------|
| VE<br>PENETRATION<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components                          | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations |
|                                  |         |                        |                          | 0.0       |                | CH                       | SILTY CLAY<br>Dark brown, high plasticity fines, with fine and medium sand and rootlets (Topsoil)                                           |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 0.30m     |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 0.40m     |                |                          | SILTY CLAY<br>Dark brown, high plasticity fines, traces of fine and medium sand (Mainly colluvium)                                          |                       |                                    |                                                       | 0.40: HP In-situ =220 kPa         |
|                                  |         |                        | D-ES                     | 0.50m     |                |                          | Becoming dark brown and mottled orange-brown                                                                                                |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 0.5       |                |                          |                                                                                                                                             |                       |                                    |                                                       | 0.60: HP In-situ =120 kPa         |
|                                  |         |                        |                          | 1.00m     |                | CH                       |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        | B                        | 1.20m     |                |                          |                                                                                                                                             |                       |                                    |                                                       | 1.00: HP In-situ =140 kPa         |
|                                  |         |                        |                          | 1.40m     |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        | D-ES                     | 1.5       |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 1.60m     |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 1.80m     |                | CH                       | GRAVELLY CLAY<br>Becoming off white and mottled orange-brown, high plasticity, with red angular and sub-angular gravel                      |                       |                                    |                                                       |                                   |
|                                  |         |                        | D-ES                     | 1.90m     |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        | B                        | 2.0       |                |                          | WEATHERED SILTSTONE BEDROCK<br>Red, fine grained, extremely low to low strength, with clay (Residual soil and recovered as a clayey gravel) |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.10m     |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.5       |                |                          |                                                                                                                                             |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.50m     |                |                          | GPTP12 terminated at target depth                                                                                                           |                       |                                    |                                                       |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

| METHOD                                                                                            | PENETRATION                                                                                                                                                             | SAMPLES & FIELD TESTS                                                                                                                                                                                                             | CLASSIFICATION SYMBOLS &<br>SOIL DESCRIPTION<br>Based on Unified<br>Classification System                                                                                  | CONSISTENCY/<br>RELATIVE DENSITY |
|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper |  <p>10 Oct., 73 Water<br/>Level on Date shown<br/>water inflow<br/>water outflow</p> | U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak,<br>R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSst - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |                                  |
| SUPPORT<br>T Timbering                                                                            |                                                                                                                                                                         |                                                                                                                                                                                                                                   | MOISTURE<br>D - Dry<br>M - Moist<br>W - Wet                                                                                                                                |                                  |

See Explanatory Notes for  
details of abbreviations  
& basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |  |
| Scale:    | NA       |  | Title:                | GPTP12, 2.5m                           |            |  |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |  |

## EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP13

PROJECT : Grafton Correctional Facility

FILE / JOB NO : IA101200

LOCATION : Grafton

SHEET : 1 OF 1

POSITION : E: 505874.200, N: 6708779.000 (MGA94 Zone 56)

SURFACE ELEVATION : 22 (Approximate) (AHD)

EQUIPMENT TYPE : 8t Excavator

METHOD : Excavator

DATE EXCAVATED : 2/8/16

LOGGED BY : JP

CHECKED BY : SGR

EXCAVATION DIMENSIONS : 0.60 m WIDE

| DRILLING                         |         |                        |                          | MATERIAL      |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|----------------------------------|---------|------------------------|--------------------------|---------------|----------------|--------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------|-------------------------------------------------------|-----------------------------------|
| VE<br>PENETRATION<br>E<br>F<br>H | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m)     | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Particle Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION | CONSISTENCY<br>RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>100<br>200<br>300<br>400 | STRUCTURE<br>& Other Observations |
|                                  |         |                        |                          | 0.0           |                | CH                       | SILTY CLAY<br>Dark brown, high plasticity fines, with fine and medium sand and rootlets<br>(Topsoil)               |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 0.30m         |                |                          | SILTY CLAY<br>Light brown mottled orange-brown, high plasticity<br>(Colluvium)                                     |                       |                                    |                                                       | 0.40: HP In-situ = 300 kPa        |
|                                  |         |                        |                          | 0.40m<br>D-ES |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 0.50m         |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 0.80m<br>D-ES |                |                          | Becoming off white-grey with laminated layer of red clay                                                           |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 1.00m         |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 1.50m<br>D-ES |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 1.60m         |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.0           |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.20m         |                |                          | GPTP13 terminated due to bucket refusal                                                                            |                       |                                    |                                                       |                                   |
|                                  |         |                        |                          | 2.5           |                |                          |                                                                                                                    |                       |                                    |                                                       |                                   |

PHOTOGRAPHS  
NOTES ☐ YES ☐ NO

| METHOD                                                                                            | PENETRATION                                                                   | SAMPLES & FIELD TESTS                                                                                                                                                                                                             | CLASSIFICATION SYMBOLS & SOIL DESCRIPTION<br>Based on Unified Classification System | CONSISTENCY/<br>RELATIVE DENSITY                                                                                                                                          |
|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper | <br>10 Oct., 73 Water<br>Level on Date shown<br>water inflow<br>water outflow | U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak,<br>R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | D - Dry<br>M - Moist<br>W - Wet                                                     | VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP13, 2.2m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |





|           |          |                                                                                     |                       |                                        |             |  |  |
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| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |             |  |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |             |  |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |             |  |  |
| Scale:    | NA       |  | Title:                | GPTP14, 1.5m                           |             |  |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no.: |  |  |

# EXCAVATION - GEOLOGICAL LOG

PIT NO : GPTP15

PROJECT : Grafton Correctional Facility  
LOCATION : Grafton

FILE / JOB NO : IA101200  
SHEET : 1 OF 1

|                                                           |                                            |
|-----------------------------------------------------------|--------------------------------------------|
| POSITION : E: 505898.300, N: 6709615.000 ( MGA94 Zone 56) | SURFACE ELEVATION : 24 (Approximate) (AHD) |
| EQUIPMENT TYPE : 8t Excavator                             | METHOD : Excavator                         |
| DATE EXCAVATED : 2/9/16                                   | LOGGED BY : JP                             |
| CHECKED BY : SGR                                          |                                            |
| EXCAVATION DIMENSIONS : 0.60 m WIDE                       |                                            |

| DRILLING          |  |  |         |                        |                          | MATERIAL  |                |                          |                                                                                                                   |                       |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| VE<br>E<br>F<br>H |  |  | SUPPORT | GROUND WATER<br>LEVELS | SAMPLES &<br>FIELD TESTS | DEPTH (m) | GRAPHIC<br>LOG | CLASSIFICATION<br>SYMBOL | MATERIAL DESCRIPTION<br>Soil Type, Colour, Plasticity or Partide Characteristic<br>Secondary and Minor Components | MOISTURE<br>CONDITION | CONSISTENCY | RELATIVE<br>DENSITY | HAND<br>PENETRO-<br>METER<br>kPa<br>100<br>200<br>300<br>400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| Not Encountered   |  |  |         |                        |                          | 0.0       |                | CH                       | SILTY CLAY<br>Dark brown, high plasticity fines, with fine and medium sand and rootlets (Topsoil)                 | St                    |             |                     | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><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PHOTOGRAPHS NOTES ☐ YES ☐ NO

|                                                                                                                                                         |                                                                                                                  |                                                                                                                                                                                                                                                                    |                                                                                                                                                          |                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>METHOD</b><br>N Natural Exposure<br>X Existing Excavation<br>BH Backhoe Bucket<br>B Bulldozer Blade<br>R Ripper<br><br><b>SUPPORT</b><br>T Timbering | <b>PENETRATION</b><br><br><b>WATER</b><br>10 Oct., 73 Water Level on Date shown<br>water inflow<br>water outflow | <b>SAMPLES &amp; FIELD TESTS</b><br>U - Undisturbed Sample<br>D - Disturbed Sample<br>B - Bulk Disturbed Sample<br>MC - Moisture Content<br>HP - Hand Penetrometer (UCS kPa)<br>VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)<br>PBT - Plate Bearing Test | <b>CLASSIFICATION SYMBOLS &amp; SOIL DESCRIPTION</b><br>Based on Unified Classification System<br><br><b>MOISTURE</b><br>D - Dry<br>M - Moist<br>W - Wet | <b>CONSISTENCY/RELATIVE DENSITY</b><br>VS - Very Soft<br>S - Soft<br>F - Firm<br>St - Stiff<br>VSt - Very Stiff<br>H - Hard<br>VL - Very Loose<br>L - Loose<br>MD - Medium Dense<br>D - Dense<br>VD - Very Dense |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

See Explanatory Notes for details of abbreviations & basis of descriptions.



|           |          |                                                                                     |                       |                                        |            |  |
|-----------|----------|-------------------------------------------------------------------------------------|-----------------------|----------------------------------------|------------|--|
| Drawn:    | JP       |  | Client:               | Infrastructure New South Wales         |            |  |
| Approved: | SGR      |                                                                                     | Project and Location: | Grafton Correctional Facility, Grafton |            |  |
| Date:     | 23/02/16 |                                                                                     |                       |                                        |            |  |
| Scale:    | NA       |  | Title:                | GPTP15, 2.5m                           |            |  |
|           |          |                                                                                     | Project No.:          | IA101200                               | figure no: |  |