

Wick High School

A.F. Cruden Associates

Consulting Engineers

24 Bank Street

Inverness

IV1 1QU

**Preliminary Site
Investigation**

July 2010

WICK HIGH SCHOOL

PRELIMINARY SITE INVESTIGATION

Preliminary site investigation has been carried out on two possible sites for the proposed new Wick High School. The two sites investigated were at Bignold Park and a site within the existing Wick High School playing fields.

The potential layout of the proposed school is shown for each site with the location of the trial pits added. Trial pit logs are also enclosed in the appropriate appendix.

Bignold Park Appendix A

Playing Fields Appendix B

Results of Investigation

Bignold Park Site

Bedrock was encountered at shallow depths at TP 3 & TP 4 (700mm and 650mm respectively below existing ground level)

No bedrock was encountered within TP 1 and 2.

The level of the bedrock does, as one would expect, vary over the site but is likely to be encountered to some extent if the school is constructed on this location. It will depend on the adopted floor level which in turn will be influenced by site topography and minimum levels required to effect a gravity connection to drainage services. Taking these factors into consideration, there would be an exercise required to minimise required earthworks on site and in particular minimise rock excavation. Having established the presence of rock in the site, further mapping of the rockhead as part of a fuller site investigation would be recommended.

Existing Playing Fields Site

Bedrock was encountered in TP 2 at a depth of 1.4m below existing ground level – weathered rock, which could be taken out by excavator, was also encountered in TP 2, down to bedrock level, and also within TP 3, down to the end of the trial pit excavation, at 2m.

The bedrock is only apparent within TP 2, at one side of the proposed school area. The extent of excavations, and the likelihood of encountering rock, will again depend on the adopted floor level which in turn will be influenced by site topography and minimum levels required to effect a gravity connection to drainage services. A similar exercise, previously described, would be required on this site to minimise required excavation, which would be advised by further site investigation work, should this be the favoured site.

Conclusion

A limited site investigation was carried out at two possible sites for the proposed new Wick High School, at Bignold Park and within the existing playing fields area of the existing high school. Bedrock was encountered at shallow depth within two trial pits in Bignold Park and within a single trial pit at the playing fields.

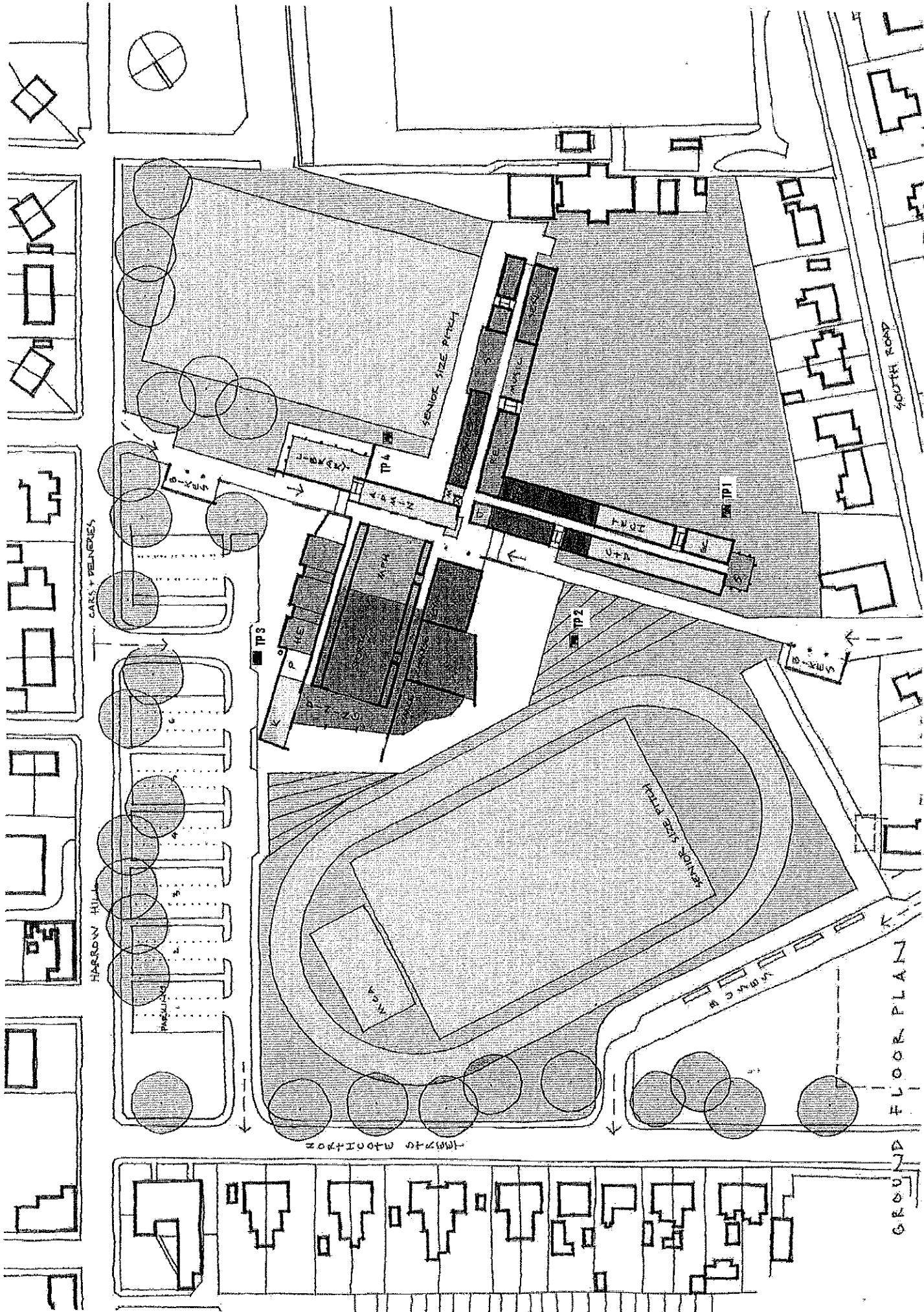
Further investigation, incorporating site topography and required floor levels would further clarify the extent of expected rock excavation at either site.

The extent of required rock excavation is a single consideration within the site selection process which may be offset by other factors.

A.F. Cruden Associates
July 2010

Appendix A

Bignold Park



LDN Architects

WICK HIGH SCHOOL NEW BUILD - BIGNOLD PARK

GROUND FLOOR PLAN

WICK HIGH SCHOOL

Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 2 **Recorded By** Andrew McLeod

Surface Grass

Log

- 0 – 300: Topsoil
- 300 – 2000: Medium dense fine silty yellow sand with occasional boulders
- 2000 – 2500: Medium dense fine silty yellow/grey sand with occasional gravels, cobbles and boulders

Sides of trench collapsed in at 1.1m below the surface due to surface water ingress

Groundwater Encountered at 1.1m below the surface

Percolation Test Not done

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Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 3 **Recorded By** Andrew McLeod

Surface Grass

Log

| | |
|------------|--|
| 0 – 400: | Topsoil |
| 400 – 700: | Medium dense fine silty yellow sand with occasional boulders |
| 700 – | Bedrock (excavation terminated) |

Groundwater Not encountered

Percolation Test Not done

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Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 4 **Recorded By** Andrew McLeod

Surface Grass

Log

| | |
|------------|--|
| 0 – 400: | Topsoil |
| 400 – 650: | Medium dense fine silty yellow sand with occasional boulders |
| 650 - | Bedrock (excavation terminated) |

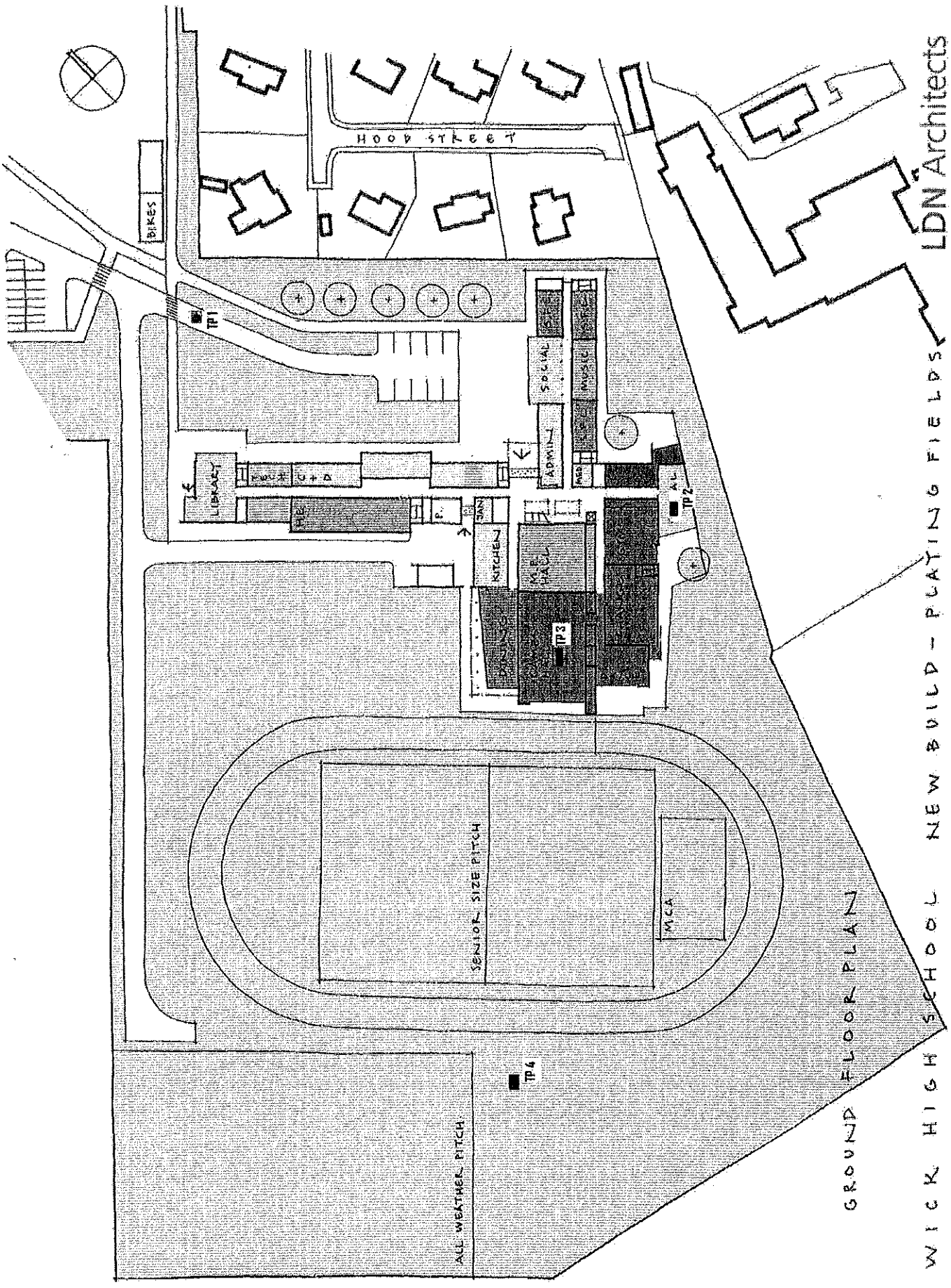
Groundwater Not encountered

Percolation Test Not done

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Appendix B

Existing Playing Fields



GROUND FLOOR PLAN

WICK HIGH SCHOOL NEW BUILD - PLAYING FIELDS LDN Architects

Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 1 **Recorded By** Andrew McLeod

Surface Grass

Log

| | |
|---------------------|--|
| 0 – 300: | Topsoil |
| 300 – 1100: with | Medium dense yellow gravelly, fine to coarse grained sand angular cobbles |
| 1100 – 2300: | Medium dense brown/yellow gravelly, fine to coarse grained sand with angular cobbles and boulders |

Groundwater Not encountered

Percolation Test Not done

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Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 2 **Recorded By** Andrew McLeod

Surface Grass

Log

| | |
|-------------|---------------------------------|
| 0 – 300: | Topsoil |
| 300 – 1400: | Weather rock with sand lenses |
| 1400 - | Bedrock (excavation terminated) |

Groundwater Encountered at 1.4m below the surface

Percolation Test Not done

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Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 3 **Recorded By** Andrew McLeod

Surface Grass

Log

0 – 200: Topsoil

200 – 2000: Weather rock with sand lenses

Groundwater Not encountered

Percolation Test Not done

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Trial Pit Site Investigations

Date 8th July 2010

Trial Pit No 4 **Recorded By** Andrew McLeod

Surface Grass

Log

0 – 400: Topsoil

400 – 2200: Medium dense orange silty sand with clay lenses and gravels
and cobbles

Groundwater Encountered at 1.1m below the surface

Percolation Test Not done

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