Palladium Consulting Engineers Ltd

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29 NICHOLAS WAY, NORTHWOOD

BASEMENT IMPACT ASSESSMENT

DATE: JAN 24

CLIENT: DUSEK DESIGN ASSOCIATES

JOB NO:222320

1.Background

The proposed development comprises a new dwelling over 4 floors, including a basement , ground floor ,first floor and second floor with associated surface car parking.

The site currently consists an existing property known as "No.29 Nicholas Way Northwood", the site has a cross fall of approximately .2m and a fall from the front boundary to the rear garden of 1m, the site comprises various mature trees including oak, cypress, yew and fruit trees. (Planning scheme see appendix c)

2. Ground Model

A desk top study of the site revealed that the site has been occupied by the existing residential property for the entirety of its developed history.
Referring to geological records and site investigation encountered at No.31 Nicholas Way, Northwood the site geological conditions can be summarised as follows:-

- Shallow top soil / made ground
- Overlying
- London Clay formation
- Overlying
- Form Brown Sandy Silty Clay

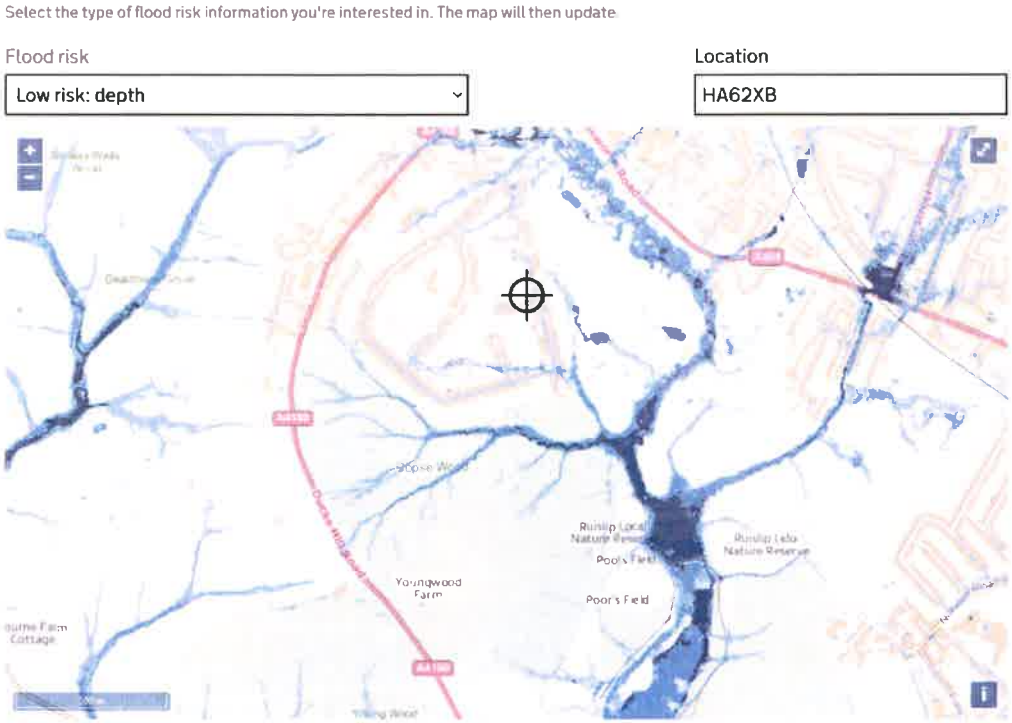
During the fieldwork no ground water was encountered to a depth of 25m in depth. (see Appendix A for borehole record)

3. Flood Risk Assessment

Referring to Enviroment Agency Database the site lies in floor zone 1, an area with a low probability of flooding. (see appendix B for records)

The floor risk detailed assessment for 1:100+ year storm event, indicates the site is outside any area for flooding.

Learn more about this area's flood risk



4. Proposed Basement Construction

In view of the depth of the basement construction and the associated depth of basement excavations, precautions will be required in order to safe guard the neighbouring properties as outlined below:-

- No.27 Nicholas Northwood is a existing building of 1970-80 construction
- No.31 Nicholas Northwood is a new build currently under construction
-

In order to construct the proposed new build basement a bored pile wall will be constructed around the proposed basement foot print to enable the basement excavation and works to progress in a safe environment, protecting the neighbouring properties from any potential settlement.

The proposed method of construction and relationship to the adjoining properties is illustrated in Appendix D of this report.

Due to the fact that no ground water was encountered during the adjacent site investigation works it is considered only localised pumping will be required to deal with ground water collected during times of rainfall.

We would point out that prior to commencement on site, that a series of ground water standpipes should be installed and monitored.

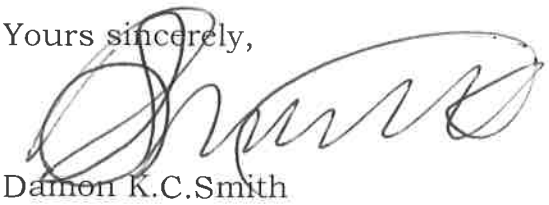
5.Ground Water Flooding and Drainage Risks.

Due to the fact that no ground water was encountered during the adjacent site investigation works , and the desk top study highlighted the site to be contained within a flood zone 1with no flooding risk during a 1:100+ year storm event. It is considered that the risk of the proposed development causing any flooding or drainage issues are negligible.

We would point out that prior to commencement on site, that a series of ground water standpipes should be installed and monitored.

We trust the above is of assistance and should you require anything further please contact the writer.

Yours sincerely,



Damon K.C.Smith

APPENDIX A : SI DATA

Palladium Consulting Engineers

Telephone : Stevenage (01438) 861961

BOREHOLE LOG

Borehole BH1

Sheet 1 of 2

Method	Date	Site
Light Cable Percussion	02/12/20	31 Nicholas Way, Northwood.

Dia mm	Coord	Ground Level m O.D.	Client
150			

Soil Samples/Tests Type/Test	Depth m.	Casing (Water) Depths m	Field Records	Legend	Depth m.	Description of Strata (thickness in m.) [reduced level in m.]
					0.05	FLEXIBLE PAVEMENT (0.05)
					0.15	ROADSTONE FILL (driller's description) (0.10)
D1	0.30					MADE GROUND comprising brown sandy clay/very clayey sand with brick, concrete, asphalt and quartzite/chert fragments from fine to coarse gravel size (0.60)
D2	0.90				0.75	
D3	1.20					Firm mottled bluish grey and brownish yellow CLAY with rare recently active and decayed roots (LONDON CLAY FORMATION) (1.65)
S1 (9)	1.35 - 1.65	1.20				
D4	2.50				2.40	
D5 (50)	3.00 - 3.45	1.60				Stiff closely fissured yellowish brown CLAY with occasional bluish grey and orangish brown mottling, selenite crystals and rare decayed roots (LONDON CLAY FORMATION) (1.60)
D5	3.50					
D6	4.00				4.00	
D7	4.50					Firm fissured yellowish brown CLAY with occasional light brown fine sand/silt pockets and selenite crystals (LONDON CLAY FORMATION) (2.00)
S2 (15)	4.65 - 4.95	1.60				
D8	5.50		STRIKE at 5.50m slight seepage			
D9	6.00				6.00	
S3 (18)	6.15 - 6.45	1.60				Firm brown sandy silty CLAY (LAMBETH GROUP) (1.50)
D10	7.00					
D2 (70)	7.50 - 7.95	1.60			7.50	
					7.70	Stiff dark yellowish brown CLAY with rare fossil fragments and yellowish brown silt pockets (LAMBETH GROUP) (0.20)
D11	8.00					Very stiff closely fissured mottled light yellowish brown and light grey CLAY with calcareous pockets (LAMBETH GROUP) (5.00)
D12	8.50					
D13	9.00					
S4 (50*)	9.15 - 9.40	1.60				
D14	10.00					

Remarks

Hand dug pit to 1.20m to check for services
Chiselling from 10.10m to 10.25m for 15 minutes
Borehole was dry on completion and after casing was removed

Logged by	Scale	End Casing Depth	Job No.
JCG	1:50	m. 1.60	S37697

Sample/Test key:

- UD U100 Sample (blows)
- D Disturbed sample
- B Bulk sample
- W Water sample
- Progress & Dev
- ▼ Groundwater level

Penetration Tests

- S () Standard (N value)
- C () Cone (N value)
- * Blows and penetration when 300mm not achieved

Page

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Telephone : Stevenage (01438) 861961

BOREHOLE LOG

Borehole BH1

Sheet 2 of 2

Method	Date	Site
Light Cable Percussion	02/12/20	31 Nicholas Way, Northwood.

Dia mm	Coord	Ground Level m O.D.	Client
150			

Soil Samples/Tests		Casing (Water) Depths m	Field Records	Legend	Depth m.	Description of Strata (thickness in m.) (reduced level in m.)
Type/Test	Depth m.					
						Very stiff closely fissured mottled light yellowish brown and light grey CLAY with calcareous pockets (LAMBETH GROUP) (Continued from previous page)
D15	10.50					10 10m - siltstone band to 10.25m
S5 (50*)	10.65 - 10.40	1.50				
D16	11.50					
D17	12.00					
S6 (50*)	12.15 - 12.40	1.60				
D18	13.00				12.70	
U3 (90)	13.50 - 13.95	1.60				Very stiff closely fissured mottled light grey and yellowish brown becoming brown CLAY with occasional calcareous pockets (LAMBETH GROUP) (4.25)
D19	14.00					
D20	14.50					
S7 (50*)	15.15 - 15.35	1.60				
D21	15.50					
D22	16.00					
D23	16.50					
S8 (50*)	16.65 - 16.85	1.60				
D24	17.00				16.95	
S9 (50*)	17.15 - 17.30	1.60				Very dense yellowish brown clayey very silty fine SAND (LAMBETH GROUP) (0.35)
					17.30	UNABLE TO PROGRESS BOREHOLE BEYOND 17.30m

Remarks

Hand dug pit to 1.20m to check for services
Chiselling from 10.10m to 10.25m for 15 minutes
Borehole was dry on completion and after casing was removed

Logged by	Scale	End Casing Depth	Job No.
JCG	1:50	m. 1.60	S37697

Sample/Test key:

UT	U100 Sample (blows)	S	Standard (N value)
D	Disturbed sample	C	Core (N value)
B	Bulk sample	*	Blows and penetration when 300mm not achieved
W	Water sample		
-	Progress & Day		
▼	Groundwater level		

Penetration Tests

APPENDIX B : FLOOD RISK DESK TOP STUDY

Palladium Consulting Engineers
A.C.Smith. C.Eng. M.I.Struct.E. F.G.S. C.Geol. & D.K.C.Smith. B.Eng. M.Sc. C.Eng. M.I.Struct.E.

Environment Agency

Flood map for planning

Your reference	Location (easting/northing)	Created
31 NICHOLAS	**508245/190685**	**23 Mar 2022 8:52**

Your selected location is in flood zone 1, an area with a low probability of flooding.

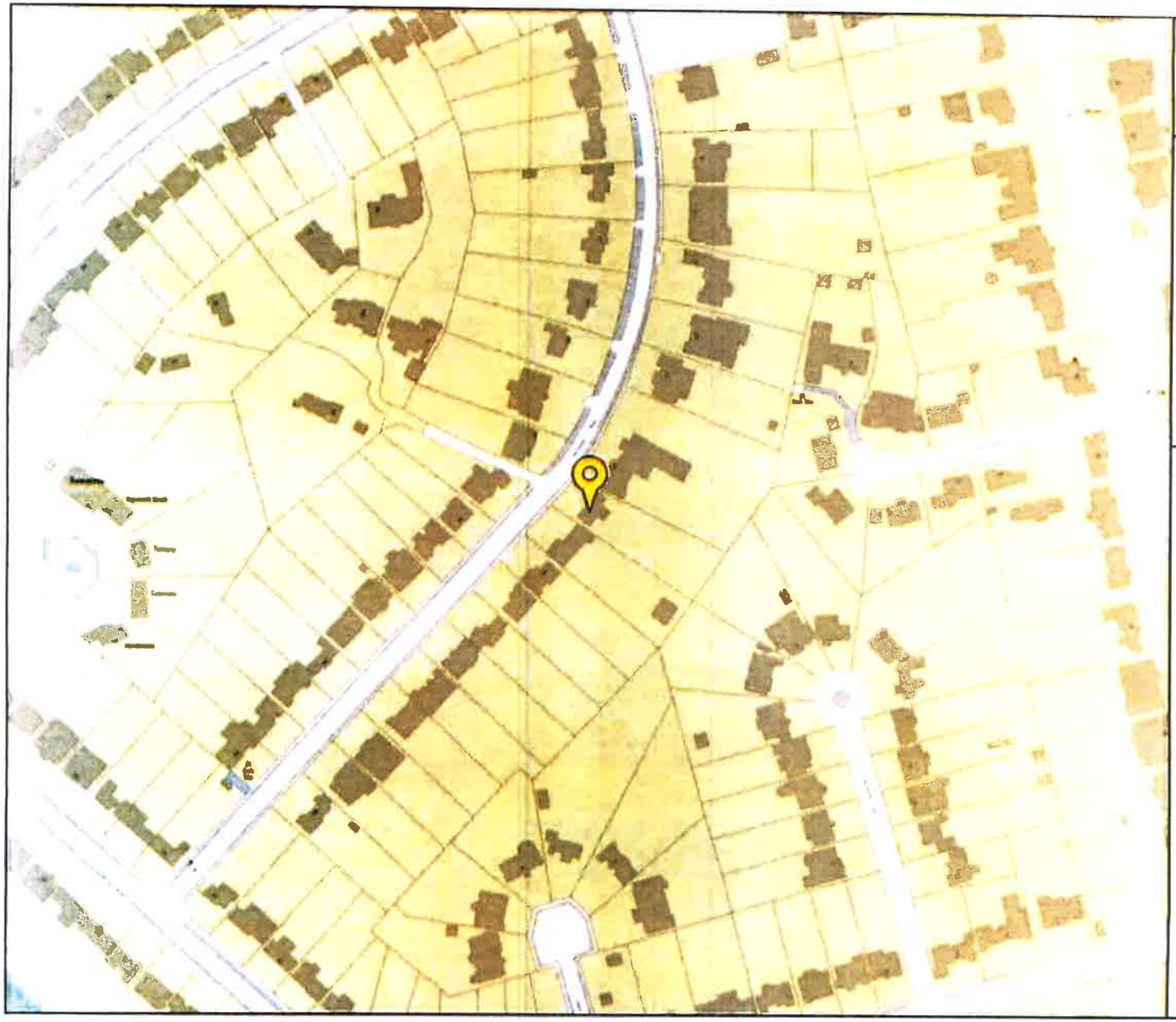
This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.



Environment Agency

Flood map for planning

Your reference
31 NICHOLAS

Location (easting/northing)
508245/190685

Scale
1:2500

Created
23 Mar 2022 8:52

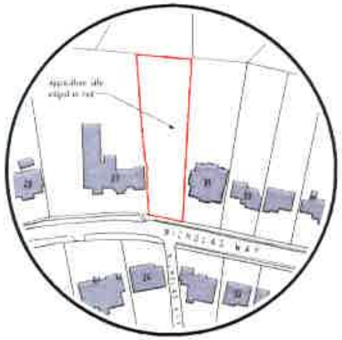
- Selected point
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Flood storage area

0 20 40 60m

APPENDIX C: PROPOSED PLANNING SCHEME

PROPOSED STREET SCENE ALONG NICHOLAS WAY

0m 5 10 15 20 25m



LOCATION PLAN

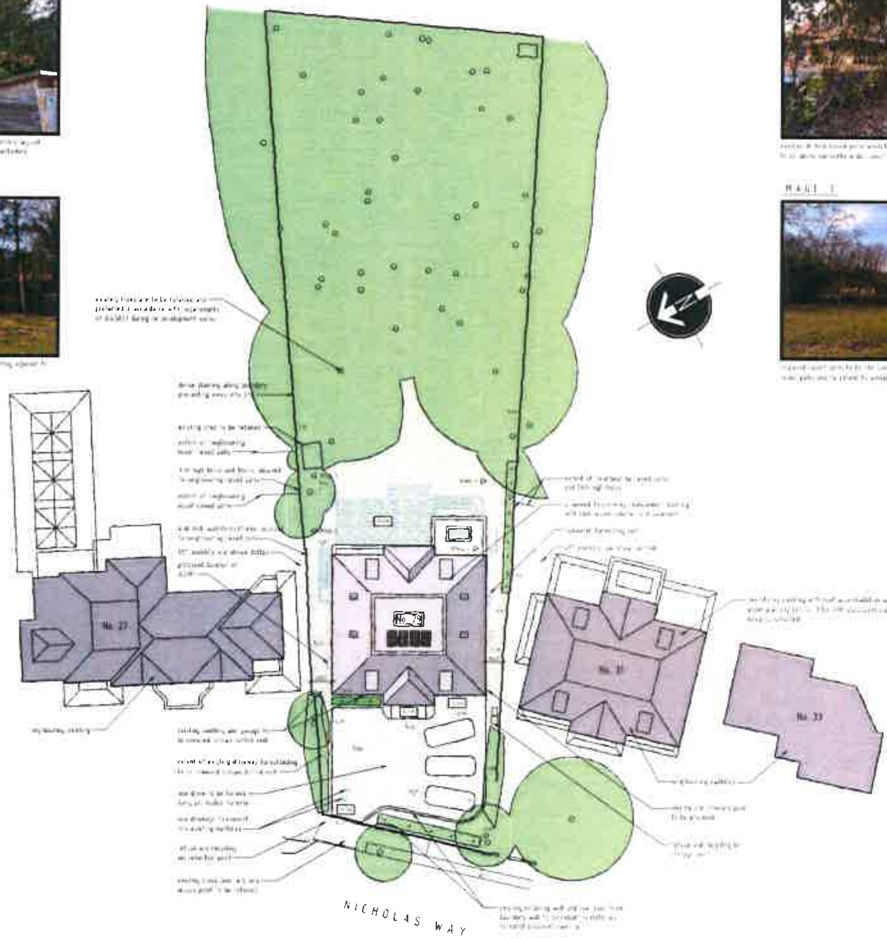
0 25 50 75 100 125

IMAGE 1

IMAGE 2

IMAGE 3

IMAGE 4



PROPOSED SITE LAYOUT PLAN

0 5 10 15 20 25

LEGEND

Site Area 0.17 ha

scale	1:250 A1
date	09 / 11 / 2022
drawing no	1393 / P / 1
drawn	TF
drawing	PROPOSED SITE LAYOUT & LOCATION PLAN
project	29 NICHOLAS WAY NORTHWOOD, HA6 2TR
client	MR AND MRS PATEL

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SCHEDULE OF AMENDMENTS

Front Elevation

1 garage doors replaced with windows (garage store changed to study)

Rear Elevation

2 velux rooflights removed

3 window / door sizes changed

4 rear wall (master dress & en-suite) pushed out 900mm

5 single storey element reduced in depth and covered courtyard added to basement (replacing games room)

Side Elevations

6 general changes to window positions, size and number

7 side access steps added to new door into open kitchen

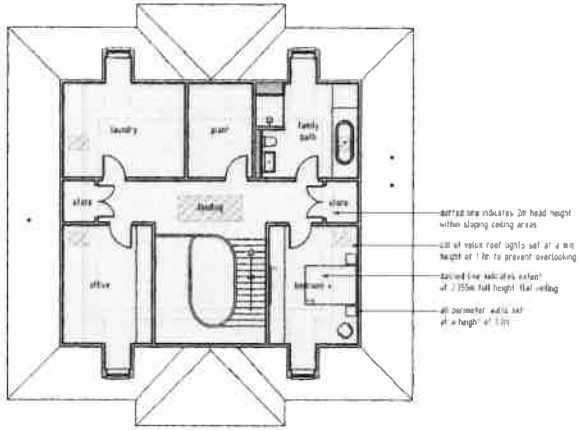
Internal Layout

8 general changes to internal layout

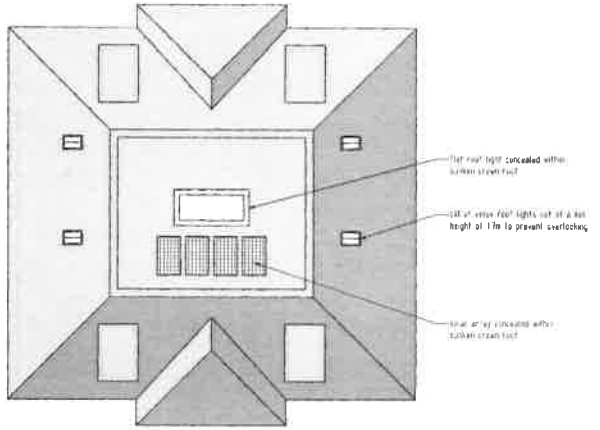
PROPOSED GROUND FLOOR PLAN
SCALE 1:100

PROPOSED FIRST FLOOR PLAN
SCALE 1:100

PROPOSED BASEMENT PLAN
SCALE 1:100



PROPOSED ROOF AREA PLAN
SCALE 1:100



PROPOSED ROOF PLAN
SCALE 1:100

SCALE BAR (m)

0 2 4 6 8 10

Total GIA 7981 sqft

Basement - 2135 sqft
ground floor - 2313 sqft
first floor - 3053 sqft
roof area - 1250 sqft

rev	date	detail given
B	20/09/2023	full changes
A	02/02/2023	rear balconies removed

scale	1:100 A1	date	04 / 11 / 2022
drawing no	1393 / P / 28	drawn	BT

drawing: PROPOSED FLOOR PLANS

project: 29 NICHOLAS WAY NORTHWOOD, HA6 2TR

client: MR AND MRS PATEL

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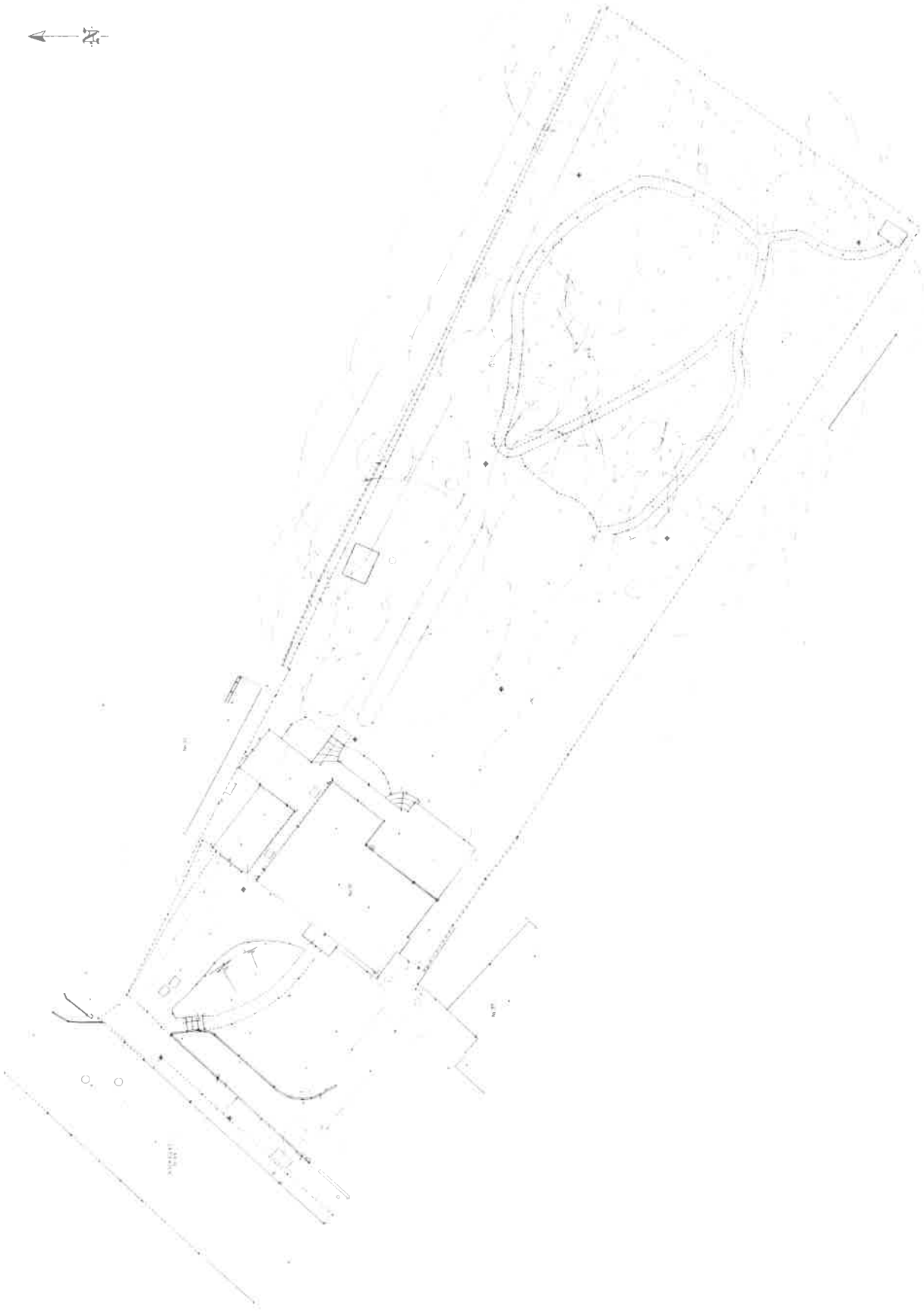

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SCHEDULE OF AMENDMENTS

Front Elevation

1. garage doors replaced with windows (garage doors changed to study)

Rear Elevation

2. glass rooflights removed
3. window / door sizes changed
4. rear wall line set back & projecting pillar cut 590mm
5. single storey element reduced in depth and cover[ed] courtyard access to basement (replacing games room)

Side Elevations

6. general changes to window positions, size and number
7. side access steps added to new door into open kitchen

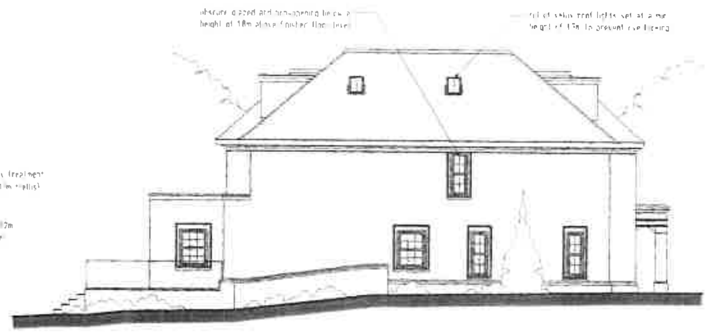
Internal Layout

8. general changes to internal layout

2.6m high existing boundary treatment (1m wall + 1.6m fence)
neighbouring raised patio 1m above existing ground level within application site
No.31
4.1m high existing boundary treatment (1.2m wall + 1.8m fence + 1.1m trellis)
neighbouring raised patio 1.2m above existing ground level within application site
No.27
proposed raised patio at similar level as both adjacent properties

PROPOSED REAR ELEVATION

SCALE 1:100



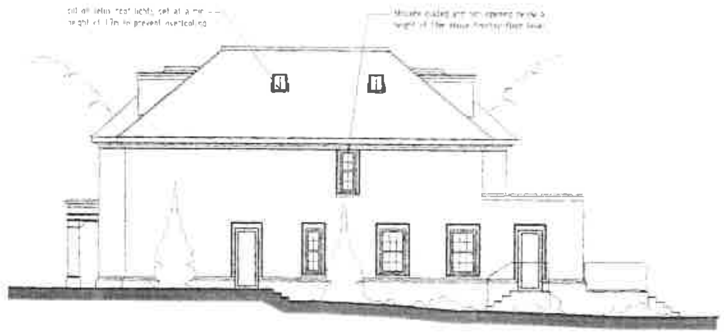
PROPOSED SIDE ELEVATION

SCALE 1:100

lead sheeted dormer cheeks
plain clay roof tiles and bonnet hip tiles
painted fascia board with decorative cornice below
soft stock facing brick
projecting brick cill
sash windows
simulated stone band
simulated stone surrounds
simulated stone portico
existing ground level shown dotted

PROPOSED FRONT ELEVATION

SCALE 1:100



PROPOSED SIDE ELEVATION

SCALE 1:100

SCALE BAR (m)

0 2 4 6 8 10

drawing no.	1393 / P / 31
drawing	PROPOSED ELEVATIONS
project	29 NICHOLAS WAY NORTHWOOD HA6 2TR
client	MR AND MRS PATEL

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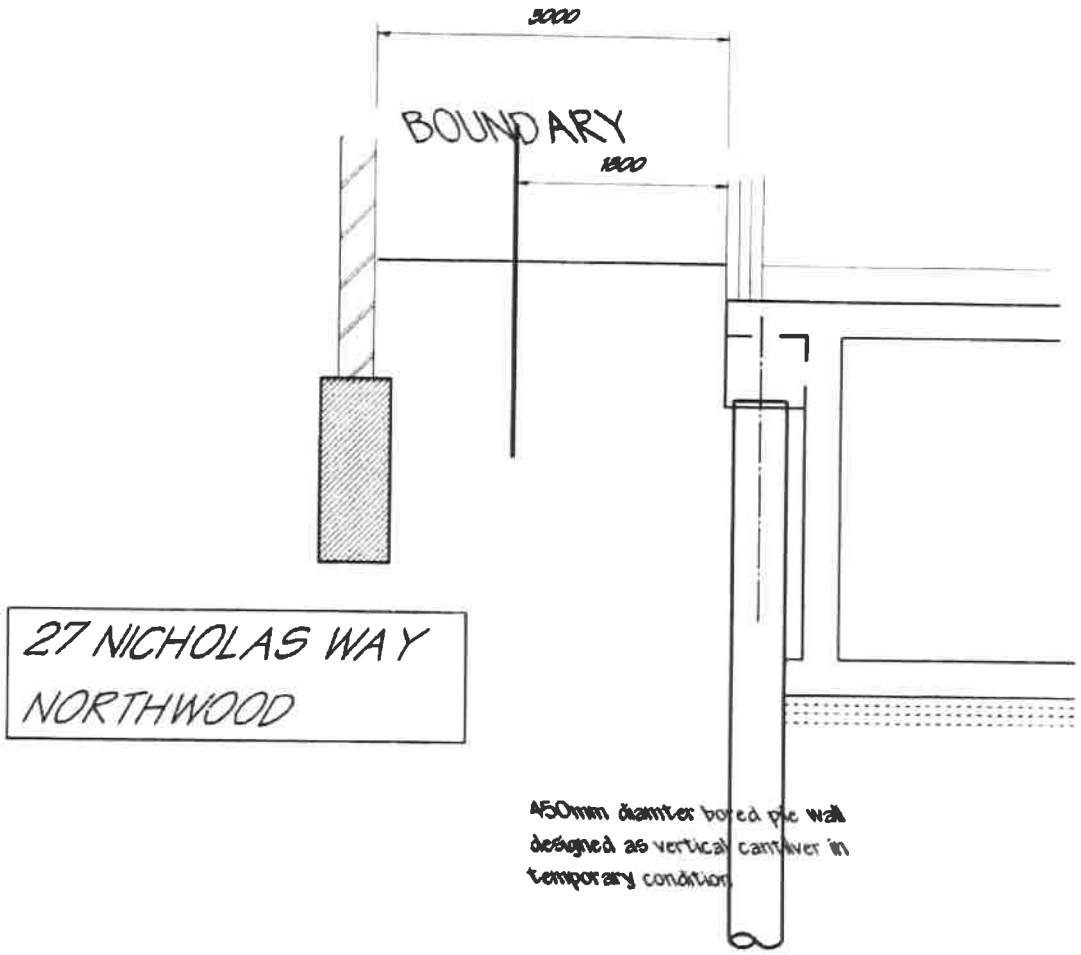
Friday 10 September 2021

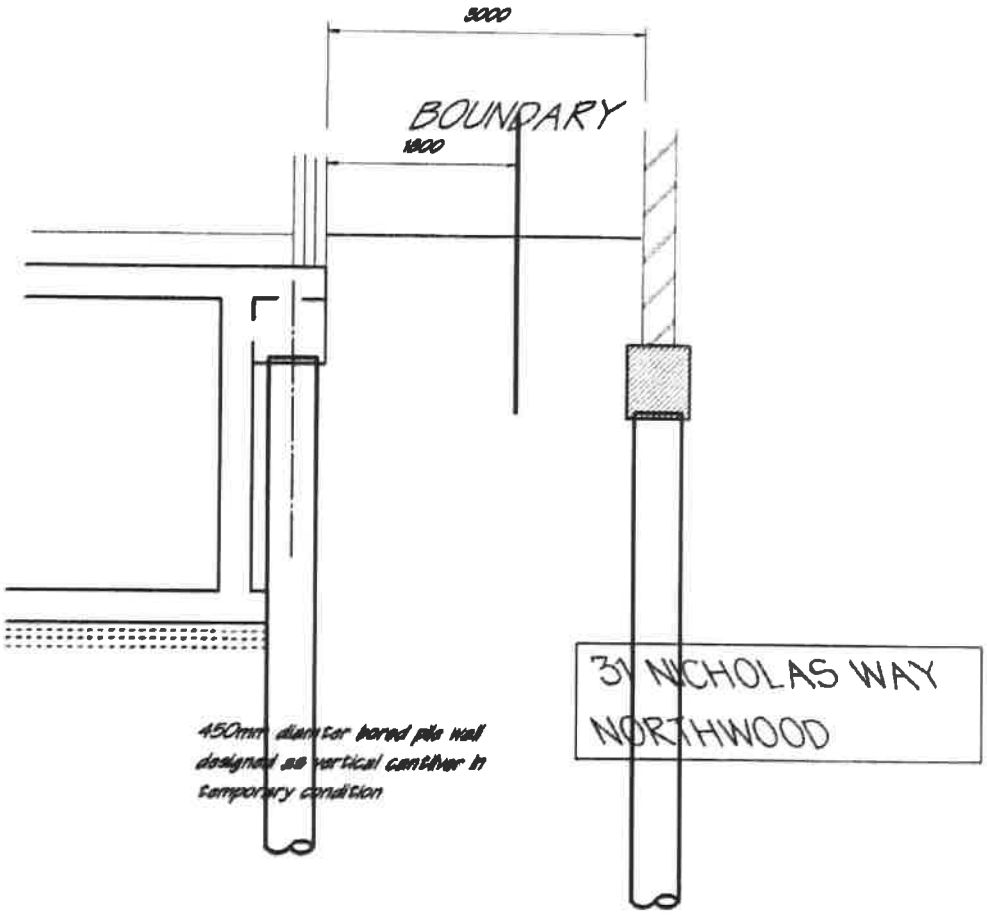
APPENDIX D : PROPOSED BASEMENT SECTIONS



27 NICHOLAS WAY
NORTHWOOD

29 NICHOLAS WAY
NORTHWOOD

BOUNDARY SECTION



BOUNDARY SECTION