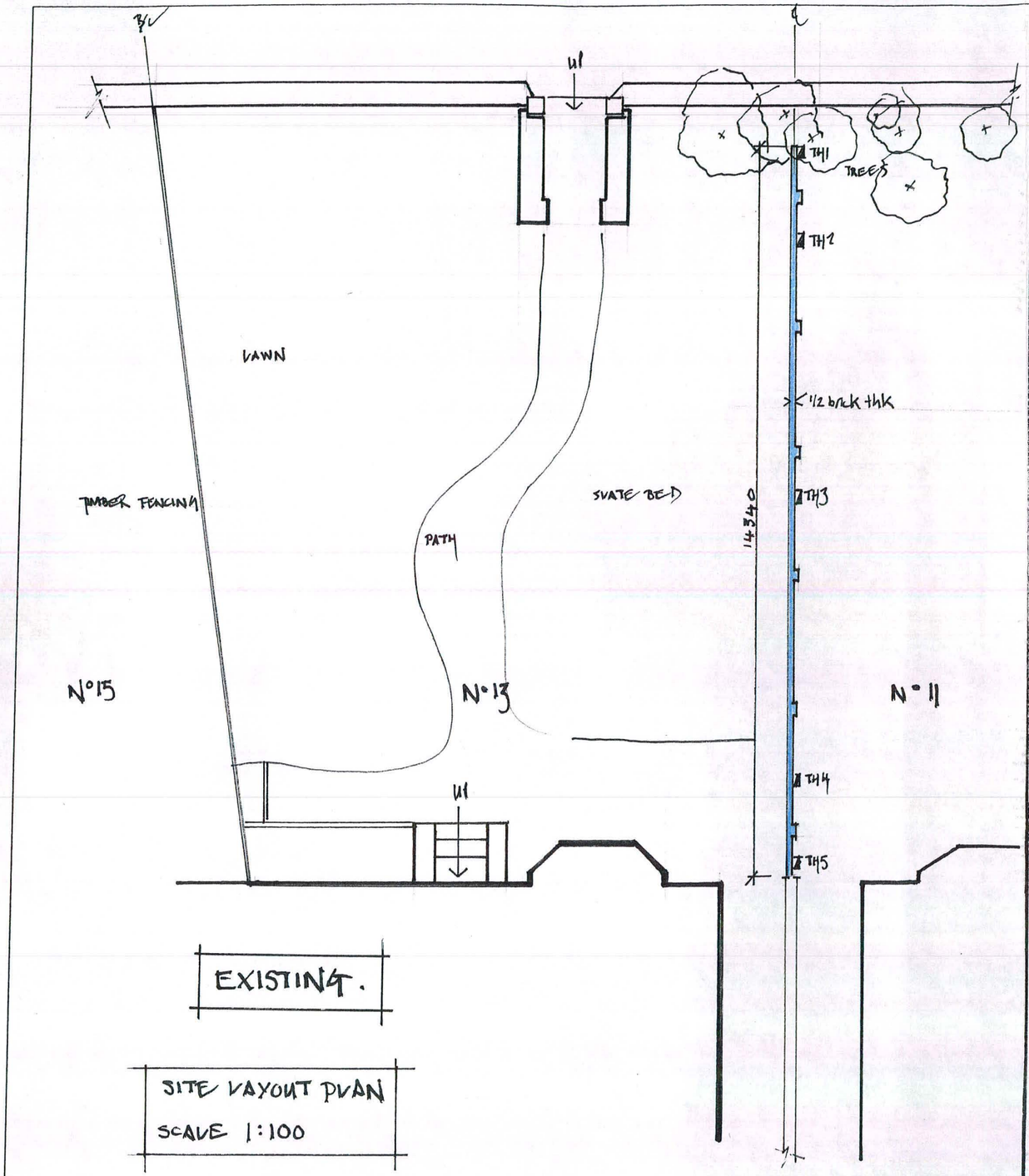
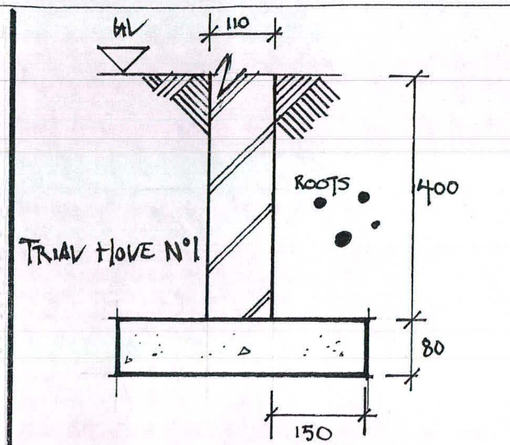
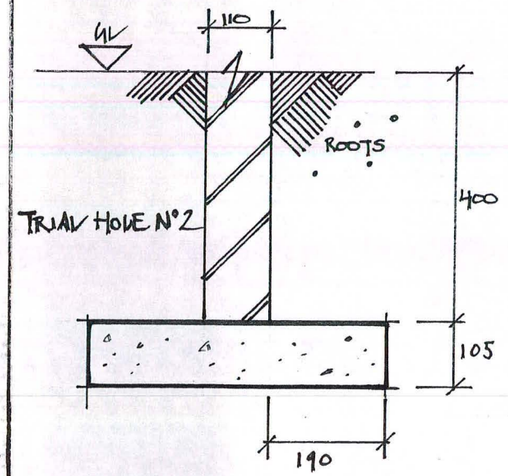


EXISTING.

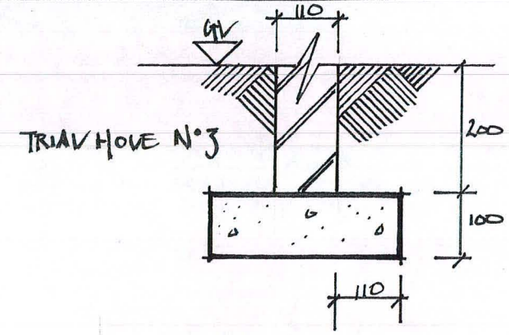
SITE LAYOUT PLAN
SCALE 1:100



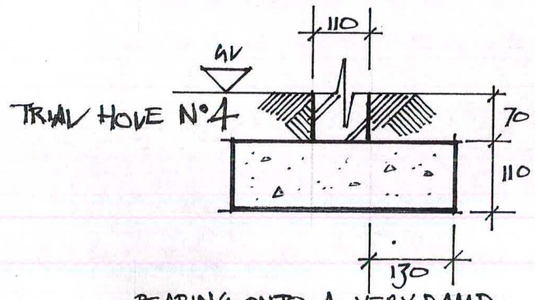
BEARING ONTO DRY TOPSOIL
NO ROOT INTRUSIONS BELOW FOUNDATION
CHANGING TO A FIRM COARSE BROWN SAND AT 1600MM



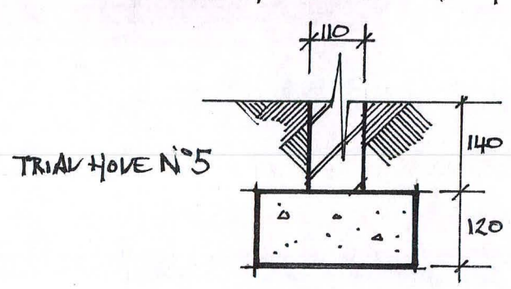
BEARING ONTO DRY TOPSOIL
NO ROOT INTRUSIONS BELOW FOUNDATION
CHANGING TO A FIRM COARSE BROWN SAND AT 1600MM



BEARING ONTO A VERY DAMP COMPACT TOPSOIL WITH BRICK INTRUSIONS.
CHANGING TO A FIRM COARSE BROWN SAND AT 1500MM



BEARING ONTO A VERY DAMP COMPACT TOPSOIL
CHANGING TO A FIRM COARSE BROWN SAND WITH ASH INTRUSIONS AT 1000MM



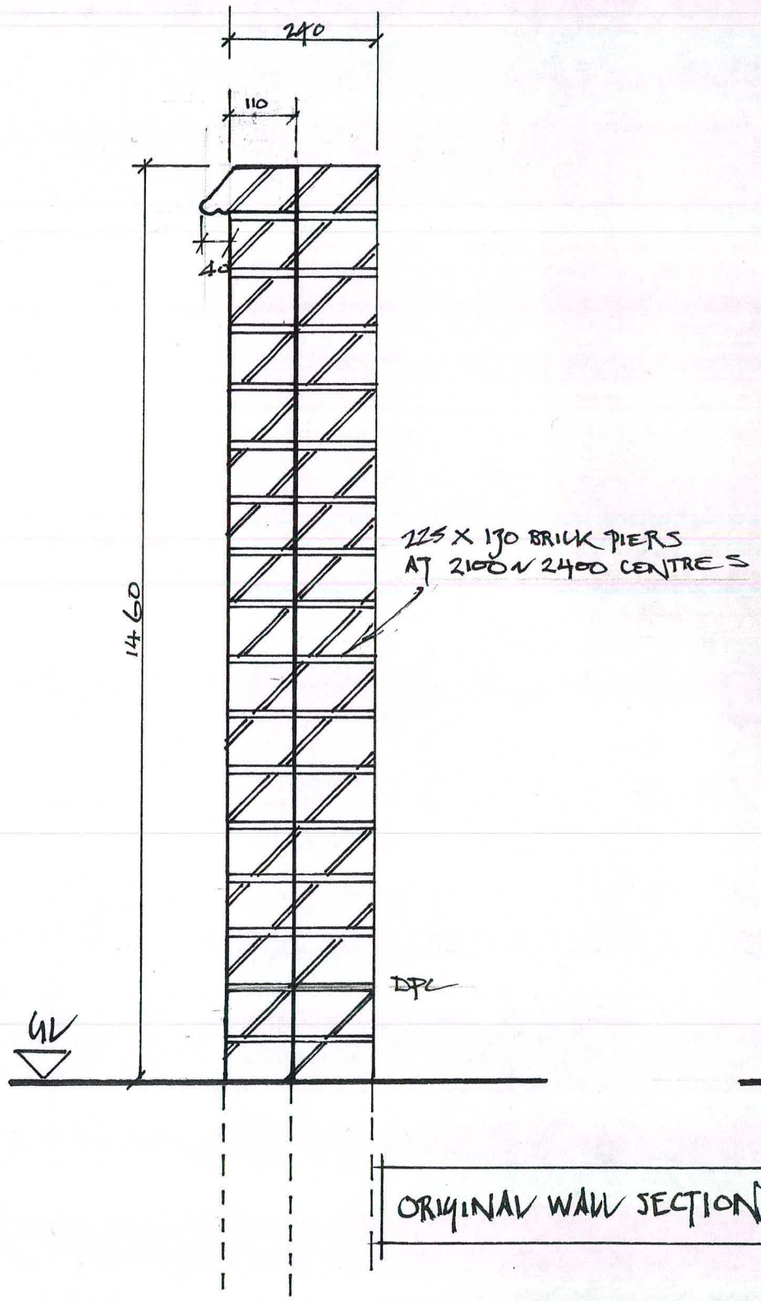
BEARING ONTO A DAMP COMPACT TOPSOIL WITH ASH INTRUSIONS
COMPACT COARSE BROWN SAND AT 840MM

TRIAL HOLES
SCALE 1:10

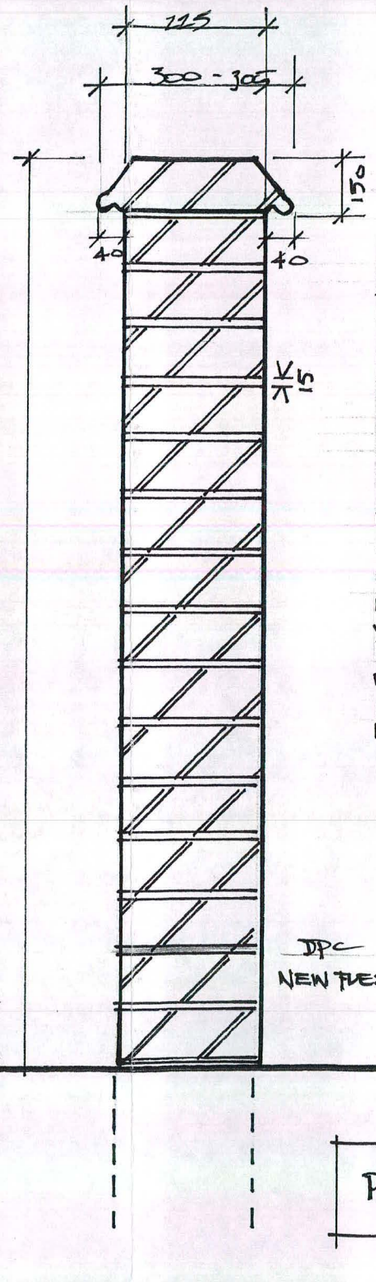
Title: 13 SMEDLEY LANE MANCHESTER M8 8UJ	Scale: 1:100 1:10	Date: 20.2.12	
	Drawn by: PR	Checked by: —	

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Drawing No. E18601-1.



ORIGINAL WALL SECTION



PROPOSED WALL SECTION

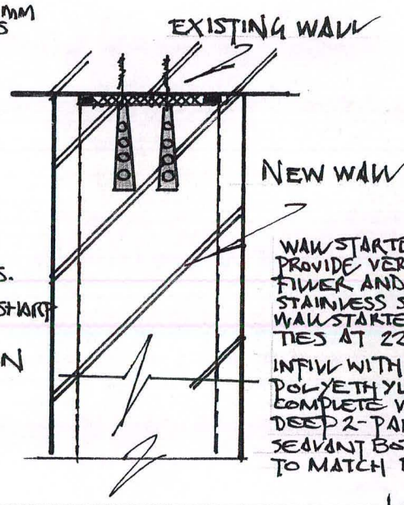
WALL REBUILT OFF NEW CONCRETE STRIP FOUNDATION

RECLAIM 300 X 300 X 150MM HEXAGONAL WALL COPINGS TO BE SOURCED.

NEW WALL, 225MM SOLID CONSISTING OF SALVAGED AND MATCHING RECLAIM BRK.

NEW 15MM WIDE BED JOINTS. MORTAR RATIO:- 1 LIME TO 2 WADDINGTON TO 1 SHARP SAND.
IN ORDER TO OMIT EXPANSION JOINTS HYDRAULIC LIME MORTAR IS TO BE USED.

NOTE:
MORTAR FINISH TO MATCH MAIN HOUSE GABLE WALL.



WALL STARTER:
PROVIDE VERTICAL DPC BETWEEN FILLER AND EXISTING WALL.
STAINLESS STEEL 'EXPAMET' WALLSTARTER REF: TWS185 TIES AT 225mm VERT CTS.
INFILL WITH 12MM AEROFIL 1' POLYETHYLENE FILLER COMPLETE WITH 12 X 20MM DEEP 2-PART POLYSULPHIDE SEALANT BOTH SIDE. (COLOUR TO MATCH BRK).

NEW WALL STARTER DETAIL
SCALE 1:10

Title: 13 SMEDLEY LANE MANCHESTER M8 8UJ	Scale: 1:50	Date: 21.2.12	Drawing No. E18601-4
	Drawn by: PR	Checked by: -	

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FAX No. 0151-298 1961

DESIGN INFORMATION SUMMARY

Job Ref: E18601

Sheet No: 01

Client: MR ABBOTT AND MRS Mc GEE

Made by: A.F. GRANBY

Architect:

Checked by: —

Contract: 13 SMEDLEY LANE, MANCHESTER M8 8LJ

Date: 13th FEBRUARY 2012

Sub-Section: REBUILDING OF BOUNDARY WALL

Engineer Responsible Paul Riley.

Checking Authority
MANCHESTER CITY COUNCIL

Intended use of Building
DOMESTIC

General loading conditions
WIND LOAD

Wind loading conditions

Subsoil conditions
TO BE ESTABLISHED

Foundation type
STRIP FOUNDATION

Relevant design codes
BS 5628 - MASONRY
BS 6399-2 - WIND LOADING

Concrete/Reinforcement:

Material data
SEE DETAIL DRAWING

Other relevant information

WILLIAM JONES AND PARTNERS		Job No E18601.
Contract	13 SMEDLEY LANE, MANCHESTER M8 8UJ	Sheet No. 02
Section	REBUILDING of BOUNDARY WALL	Date FEB 2012

Height of wall = 1.46 m.
Based on site altitude of 70.0m and site ID of SD847008
the dynamic wind pressure is 0.427 kN/m²
BM = $0.427 \times 1.46^2 \times 0.5 = 0.455$ kN m
Self weight of wall = $19.3 \times 1 \times 1.46 \times 0.23 = 6.48$ kN
Check stability of the wall to against overturning
Restraint moment = $6.48 \times 0.115 = 0.745$ kN m

$$F.O.S = \frac{0.745}{0.455} = 1.63$$

Check stress in wall

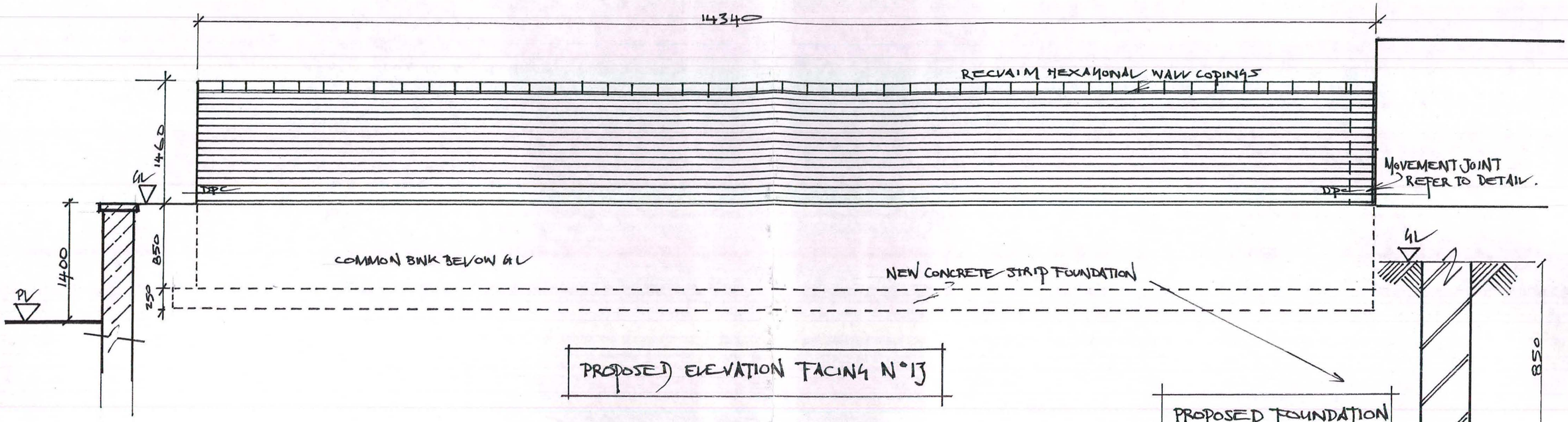
$$Z \text{ of wall} = \frac{1000 \times 230^3}{6} = 8,816,700 \text{ mm}^3$$

$$\text{bending stress} = \frac{0.455 \times 10^6}{8816700} = \pm 0.052 \text{ N/mm}^2$$

$$\text{direct stress} = \frac{6.48 \times 10^3}{1000 \times 230} = +0.028 \text{ N/mm}^2$$

∴ stresses in wall = $+0.08 \text{ N/mm}^2$ and -0.024 N/mm^2
permissible flexural stress = 0.8 N/mm^2 ∴ O.K

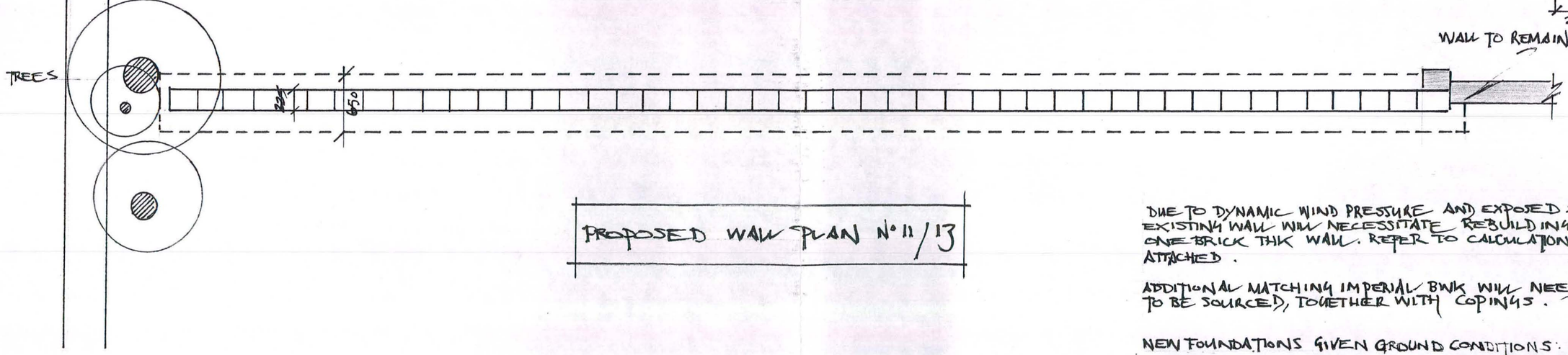
Note
the check on a half brick thick wall with piers as existing revealed that under current codes the construction would be inadequate



PROPOSED ELEVATION FACING N°13

PROPOSED FOUNDATION
SCALE 1:20

WALL TO REMAIN IN SITU.



PROPOSED WALL PLAN N°11/13

DUE TO DYNAMIC WIND PRESSURE AND EXPOSED ZONE EXISTING WALL WILL NECESSITATE REBUILDING IN ONE BRICK THK WALL. REFER TO CALCULATIONS ATTACHED.

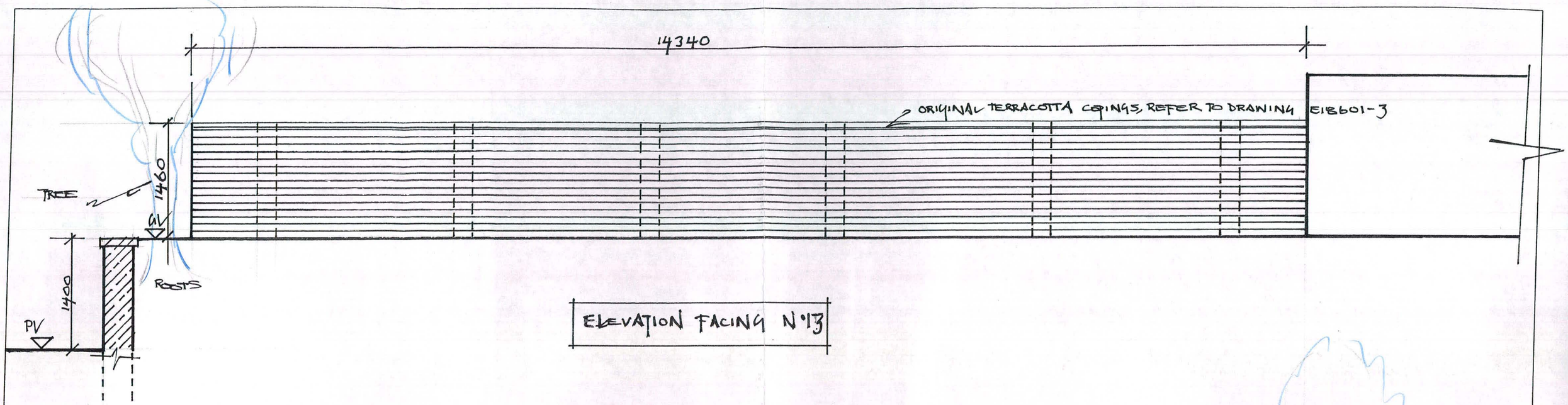
ADDITIONAL MATCHING IMPERIAL BNK WILL NEED TO BE SOURCED, TOGETHER WITH COPINGS.

NEW FOUNDATIONS GIVEN GROUND CONDITIONS:

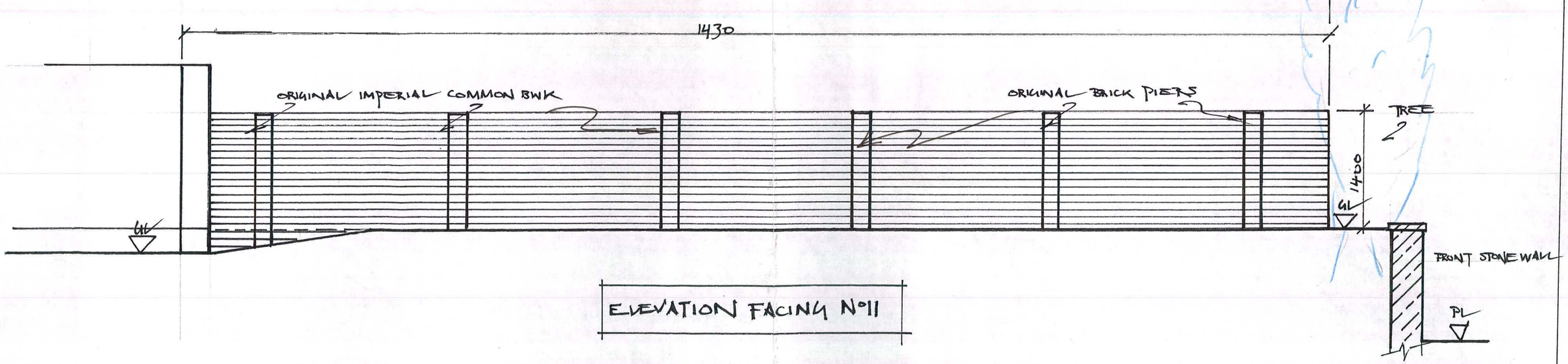
MASS CONCRETE STRIP FOUNDATIONS (UNREINFORCED) CONCRETE TO BE GRADE C25/30 TO B.S. EN 206 -1:2000, PART 1, 2004, WITH A MINIMUM CEMENT CONTENT OF 260KJ/M³ AND A MAXIMUM WATER CEMENT RATIO OF 0.65 M MAX AGGREGATE SIZE= 20MM.

Title: 13 SMEDVEY LANE MANCHESTER M8 8UJ	Scale: 1:50 1:20	Date: 21.2.12	Drawing No.: E18601-3
	Drawn by: PR	Checked by: —	

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ELEVATION FACING N°13



ELEVATION FACING N°11

EXISTING ELEVATIONS

Title: 13 SMEDLEY LANE MANCHESTER M8 8UJ	Scale: 1:50	Date: 20.2.12	Drawing No. E18601-2
	Drawn by: PR	Checked by: —	

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