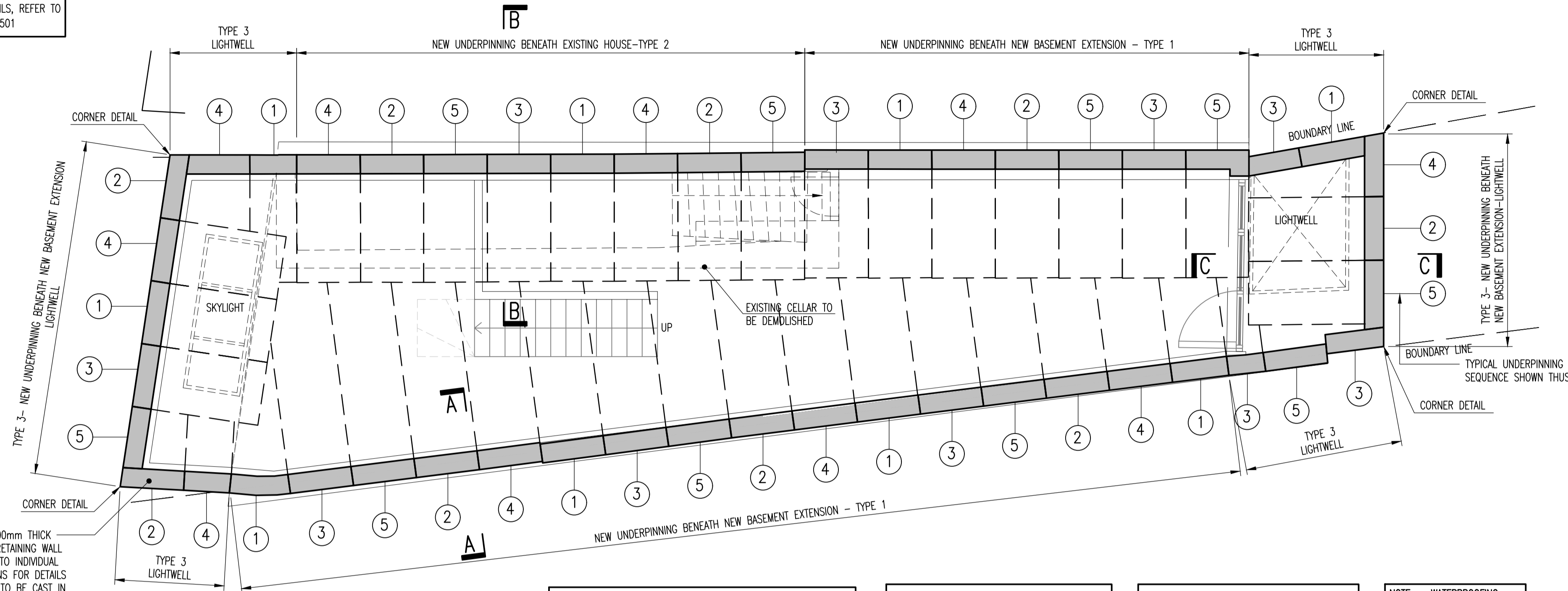


NOTE:  
ALL SETTING OUT INFORMATION SHOWN ON THIS DRAWING TO BE CONFIRMED BY ARCHITECT PRIOR TO CONSTRUCTION.

NOTE:  
FOR TYPICAL SECTIONS DETAILS, REFER TO DRAWINGS EX18/132/07 - 501



**PROPOSED FOUNDATION LAYOUT**  
SCALE 1:50

**STRUCTURAL KEY:**  
DENOTES SPAN 150mm THICK PRE-CAST CONCRETE BEAM & BLOCK FLOOR BY OTHER. WATER PROOF TO BE PROVIDED BY ARCHITECT.

- TYPICAL SEQUENCE OF UNDERPINNING**
- A. EXCAVATE BAYS MARKED ①
  - B. CONCRETE BAYS MARKED ①
  - C. 24hrs. TO ALLOW CONCRETE UNDERPINNING TO SET & SHRINK
  - D. DRY PACK BETWEEN UNDERPINNING & ORIGINAL FOUNDATION
  - E. 48hrs. TO ALLOW DRY PACK MORTAR TO GAIN STRENGTH
  - F. EXCAVATE BAYS MARKED ②
  - G. PROCEED AS FOR B. - E. ABOVE FOR BAYS MARKED ②
  - H. REPEAT PROCESS F. - G. FOR REMAINING BAYS IN SEQUENCE MARKED ON PLAN

**NOTE:**  
NATURE & EXTENT OF FOUNDATIONS TO EXISTING WALL UNKNOWN. ALL TO BE CONFIRMED UPON COMPLETION OF TRIALHOLES/PARTIAL EXCAVATION BY CONTRACTOR ON SITE. ENGINEERS TO BE NOTIFIED AND UNDERPINNING MAY NEED TO BE REVISED TO SUIT.

**NOTE:**  
EXISTING AND PROPOSED DRAINAGE NOT SHOWN. LOCATION TO BE CONFIRMED BY CONTRACTOR ON SITE. PROPOSED DRAINAGE BY OTHERS.

**NOTE:**  
INSTALL TEMPORARY PROPS MAX. 1.0m CENTRES UNDER ANY EXISTING STRUCTURAL STEEL BEAM.

**NOTE:**  
INTERNAL WALL CONSTRUCTION PRESUMED TO BE NON-LOADBEARING UNLESS NOTED OTHERWISE. ALL AS DETAILED BY OTHERS.

**NOTE:**  
EXTERNAL WALL CONSTRUCTION PRESUMED TO BE SOLID WALL. NOTIFY THE ENGINEER IF OTHERWISE.

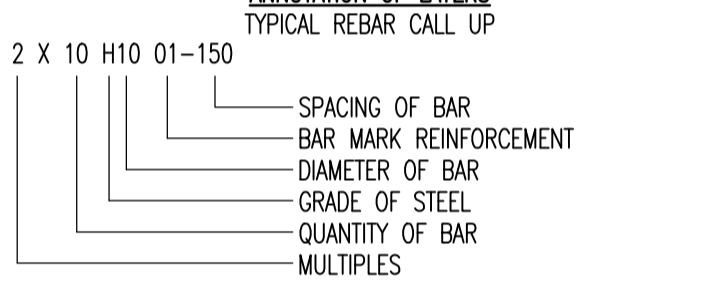
**NOTE:**  
TEMPORARY WORKS, FORMWORK, METHOD STATEMENT ETC. NOT SHOWN. ALL AS PROVIDED BY OTHERS.

**NOTE: - WATERPROOFING**  
DELTA MS500 TO BE USED TO INTERNAL FACES OF BASEMENT WALLS. DELTA MS20 TO BE USED TO INTERNAL FACE OF CONCRETE FLOOR SLAB. ALL TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DETAILS.

NEW PUMPED SYSTEM MAY BE REQUIRED SUBJECT TO EXISTING DRAINAGE LEVELS & IF SANITARYWARE IS TO BE INSTALLED WITHIN THE PROPOSED BASEMENT AREA.

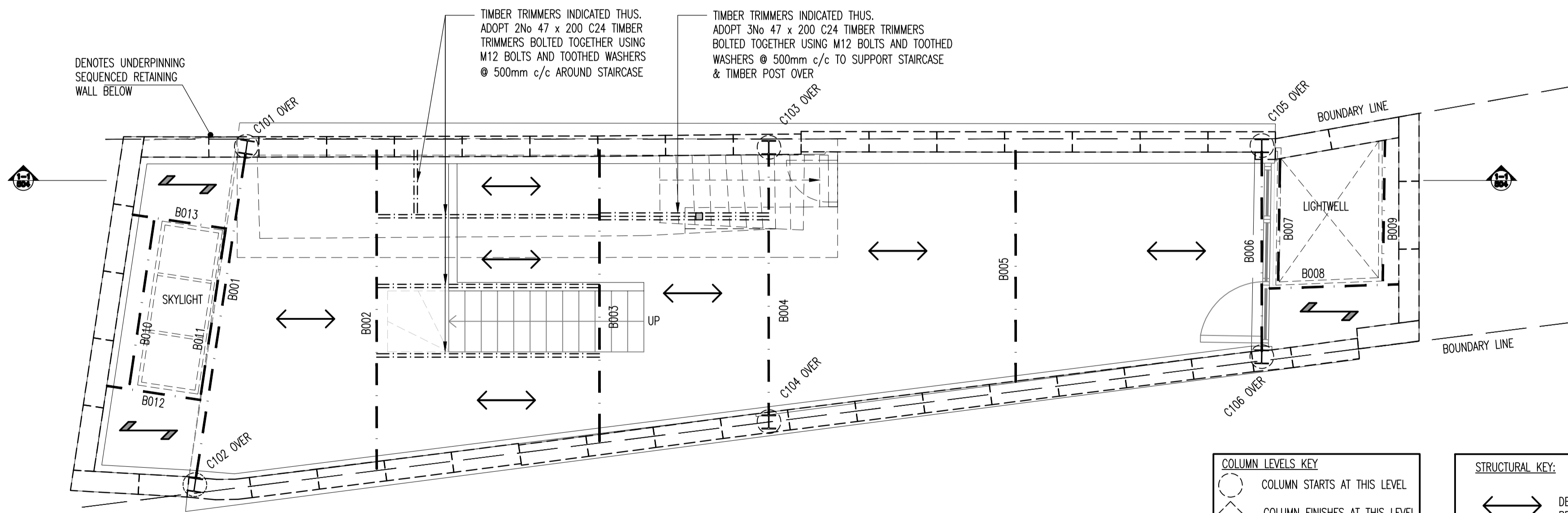
- NOTES**
- DO NOT SCALE THIS DRAWING. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ANY DISCREPANCIES ARE TO BE RECORDED AND REPORTED TO THE ENGINEERS IMMEDIATELY.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER ENGINEERS AND ARCHITECTS DRAWINGS AND THE SPECIFICATION.
  - ALL WORKMANSHIP & MATERIALS ARE TO BE IN ACCORDANCE WITH CURRENT BRITISH & EUROPEAN STANDARDS & CODES OF PRACTICE. ALL WORK IS TO BE TO THE SATISFACTION OF THE ENGINEER AND LOCAL AUTHORITY BUILDING CONTROL.
  - COVER TO REINFORCEMENT TO BE:  
BEAMS & SLABS  
- TOP = 40 mm  
- BOTTOM = 50 mm  
- SIDES = 50 mm
  - REINFORCED CONCRETE TO BE DESIGN STRENGTH RC35 IN ACCORDANCE WITH THE REQUIREMENTS OF BS 8500 USING 20mm NOMINAL SIZED AGGREGATE. DESIGN SULPHATE CLASS DS-3 & ACEC AC-3 UNLESS NOTED OTHERWISE IN JMS CONCRETE SPECIFICATION.
  - REINFORCING BARS ARE TO BE TO BS 4449: 2005, BS 4483: 2005 AND BS 8666: 2005 AS APPLICABLE.
  - MINIMUM LAP TO REINFORCING BARS TO BE 40 x THE BAR DIAMETER.
  - MINIMUM LAP TO MESH REINFORCEMENT TO BE 600mm.
  - ALL REINFORCING BARS ARE TO BE SECURELY WIRED TOGETHER & LOCATED WITH SUITABLY FIXED STOOLS, SPACERS, COVER BLOCKS ETC. THESE ITEMS ARE NOT SCHEDULED.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, SUPPORT AND ERECTION OF ANY SHUTTERING/FORMWORK REQUIRED AND MUST TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE STABILITY OF THE WORKS DURING CONSTRUCTION.
  - ALL SERVICES ARE TO BE LOCATED AND PROTECTED AS NECESSARY BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.
  - ANY EXISTING DETAILS WHICH ARE SHOWN ON THIS DRAWING ARE FOR GUIDANCE ONLY AND ARE TO BE RECORDED AND REPORTED TO THE ENGINEER IMMEDIATELY.

- LEGEND**
- EF : EACH FACE
  - NF : NEAR FACE
  - FF : FAR FACE
  - LNKS : LINKS
  - UB : U-BARS
  - ADD'L : ADDITIONAL BAR
  - T+B : TOP & BOTTOM
  - ALT. : ALTERNATIVE
  - STG. : STAGGERED



- UNDERPINNING SPECIFICATION**
- 1. CODES OF PRACTICE**  
ALL CONTINUOUS UNDERPINNING IS TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH THE REQUIREMENTS OF B.S.8004, 1985. THE CODE OF PRACTICE FOR FOUNDATIONS. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE RELEVANT CODES OF PRACTICE.
- 2. SHORING AND PROPPING**  
IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE ALL NECESSARY STEPS TO ENSURE THAT THE STRUCTURE IS ADEQUATELY PROPPED, SHORED AND BRACED TO ENSURE THAT DURING THE PROGRESS OF THE WORKS EXCESSIVE DEFLECTIONS AND DEFORMATIONS OF THE STRUCTURE DO NOT OCCUR. THE CONTRACTOR SHALL DISCUSS WITH THE ENGINEER ANY PROPOSALS FOR TEMPORARY WORKS. THIS DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO ENSURE THAT THE STRUCTURE IS ADEQUATELY SUPPORTED AT ALL TIMES DURING THE PROGRESS OF THE WORKS. IT IS FREQUENTLY NECESSARY FOR THE CONTRACTOR TO BRACE OR PROP EXISTING OPENINGS SO THAT ISOLATED LOAD BEARING PIERS MAY BE UNDERPINNED. THE CONTRACTOR IS TO ALLOW IN HIS TENDER PRICE FOR ALL PROPPING, SHORING AND BRACING REQUIRED TO ENSURE THAT THE WORKS MAY BE SAFELY UNDERTAKEN WITH NO UNDUE DISRUPTION TO THE STRUCTURE.
- 3. SEQUENCE OF WORKING**  
THE SEQUENCE OF WORKING IS TO BE SUBMITTED TO THE ENGINEER AND APPROVED BY THE LOCAL AUTHORITY. THIS SHALL BE BASED ON A MAXIMUM LEG LENGTH OF APPROXIMATELY 1.2M. THE AGREED SEQUENCE OF OPERATIONS SHALL BE STRICTLY ADHERED TO. THE CONTRACTOR MAY WISH TO ALTER THE EXCAVATION AND CONCRETING SEQUENCE BUT THIS MUST BE DISCUSSED WITH THE ENGINEER/LOCAL AUTHORITY REPRESENTATIVE, AND NO DEVIATION FROM THE SEQUENCE OF OPERATIONS SHALL BE PERMITTED UNLESS THE ENGINEER/LOCAL AUTHORITY REPRESENTATIVE CONFIRMS OTHERWISE IN WRITING.

- 4. EXCAVATION AND APPROVAL**  
DURING EXCAVATIONS THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PREVENT SOFTENING OF THE EXCAVATION BASE BY GROUND WATER. WHERE NECESSARY THE CONTRACTOR SHALL KEEP EXCAVATIONS FREE FROM GROUND WATER BY PUMPING. THE CONTRACTOR SHALL ALSO ENSURE THAT THE BASE OF THE EXCAVATION SHALL NOT BECOME CONTAMINATED BY LOOSE MATERIAL FALLING INTO THE EXCAVATION. THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT THE SIZE OF THE EXCAVATION CLOSELY MATCHES THE REQUIRED SIZE AGREED WITH THE ENGINEER/LOCAL AUTHORITY REPRESENTATIVE. EXCESSIVE OVERBREAK WILL NOT BE PERMITTED, AND THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRENCH SHEETING AND STRUTTING TO PREVENT OVERBREAK. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE SHEETING AND STRUTTING TO PREVENT ANY INGRESS OF LOOSE MATERIAL BENEATH THE EXISTING SLAB. ALL UNDERPINNING EXCAVATIONS SHALL BE APPROVED BY THE LOCAL AUTHORITY REPRESENTATIVE BEFORE ANY CONCRETE IS PLACED.
- 5. LINKING OF ADJACENT LEGS**  
PRIOR TO CONCRETING THE CONTRACTOR SHALL INCORPORATE SHEAR KEYS TO PERMIT SHEAR TRANSFER BETWEEN ADJACENT UNDERPINNING LEGS. WHERE NECESSARY PROJECTING DOWEL BARS SHOULD BE CLEANED OF ALL LOOSE DIRT PRIOR TO CONCRETING.
- 6. CLEANING OF EXISTING FOOTINGS**  
THE UNDERSIDE OF ALL EXISTING FOOTINGS (WHERE EXPOSED BY EXCAVATION IN PREPARATION FOR UNDERPINNING) SHALL BE CLEANED OF ALL LOOSE SOIL AND FRAGMENTS. ANY MAJOR PROJECTIONS OR INCLUSIONS SUCH AS BRICKS BROKEN CONCRETE OR BOULDERS SHALL BE BROKEN AWAY FROM THE UNDERSIDE OF THE EXISTING FOOTING. PRIOR TO CONCRETING THE UNDERPINNING LEGS THE EXISTING FOOTING SHOULD BE CLEAN FIRM AND LEVEL SO THE DRY PACKING MAY BE ACCOMPLISHED SATISFACTORILY.
- 7. CONCRETING**  
ALL CONCRETE SHALL BE GRADE C20 AND MIXED, DELIVERED, PLACED AND VIBRATED STRICTLY IN ACCORDANCE WITH THE CONCRETE SPECIFICATION CONTAINED IN B.S.8110-PART 1:1985. SULPHATE RESISTING CEMENT TO BE USED SHOULD SITE CONDITIONS DICTATE OR AS DIRECTED BY LOCAL BUILDING CONTROL OFFICER. IT SHOULD BE NOTED THAT THE CONCRETE SHOULD BE ADEQUATELY COMPACTED WITH A VIBRATORY POKER TO ENSURE ADEQUATE DENSITY. THE CONCRETE FOR THE UNDERPINNING LEGS SHOULD BE BROUGHT UP TO 75MM FROM THE UNDERSIDE OF THE EXISTING FOOTINGS.
- 8. DRY PACKING**  
ONCE THE CONCRETE IN THE UNDERPINNING LEGS HAS SET (AT LEAST 3 DAYS AFTER CONCRETE PLACEMENT) THE GAP BETWEEN THE UNDERSIDE OF THE EXISTING FOOTING AND THE TOP OF THE NEW FOOTING IS TO BE PACKED WITH DRY CONCRETE. MIX PROPORTIONS FOR THE DRY CONCRETE ARE TO BE BY WEIGHT 1:3 (CEMENT:ZONE 2 SHARP SAND) WITH COMBEX NON-SHRINK ADMIXTURE ADDED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. THE CONSTITUENTS ARE TO BE MIXED DRY AND A SMALL VOLUME OF WATER IS TO BE ADDED SUCH THAT WHEN COMPRESSED, A SMALL BAR OF THE MIXTURE RETAINS ITS SHAPE. THE DRY PACKING CONCRETE IS THEN TO BE RAMMED SOLID INTO THE GAP BETWEEN THE UNDERSIDE OF THE EXISTING FOOTING AND THE TOP OF THE NEW FOOTING USING A STEEL BAR.
- 9. CURING TIME**  
A SUFFICIENT TIME SHOULD ELAPSE BETWEEN THE COMPLETION OF DRY PACKING AND THE EXCAVATION OF ANY UNDERPINNING LEGS IN THE VICINITY. THE CURING TIME SHALL BE 24 HOURS, THIS BEING DEPENDENT UPON THE PREVAILING WEATHER CONDITIONS. VICINITY IN THIS CONTEXT SHALL BE DEEMED TO INCLUDE ALL LEGS ADJACENT TO, OR NEXT BUT ONE TO THE LEG IN QUESTION.
- 10. PROVISION FOR EXISTING SERVICES**  
UNDERPINNING LEGS MAY BE FUNCTURED BY THE SERVICES ENTERING THE BUILDING. THE MEANS OF "SLEEVING" THESE SERVICES SHALL BE AGREED WITH THE ENGINEER DURING THE PROGRESS OF THE WORKS. WHERE EXISTING SERVICES INTERFERE WITH OR AFFECT THE UNDERPINNING EXCAVATION THESE SERVICES SHOULD BE TEMPORARILY DIVERTED.



**PROPOSED LOWER GROUND FLOOR PLAN**  
STRUCTURE OVER  
SCALE 1:50

**COLUMN LEVELS KEY**

- COLUMN STARTS AT THIS LEVEL
- ◊ COLUMN FINISHES AT THIS LEVEL

**STRUCTURAL KEY:**  
DENOTES SPAN OF 47 x 200 C24 PROPOSED FLOOR JOISTS AT 400mm CENTRES

| STEEL COLUMN SCHEDULE |                 |             |                 |                               |        |
|-----------------------|-----------------|-------------|-----------------|-------------------------------|--------|
| SECTION Ref.          | SIZE            | STEEL GRADE | PAINT CONDITION | NOTES                         | DETAIL |
| C101                  | 203 x 203 UC 46 | S275        | C               | SUPPORTED ONTO RETAINING WALL | 1      |
| C102                  | 203 x 203 UC 46 | S275        | C               | SUPPORTED ONTO RETAINING WALL | 1      |
| C103                  | 203 x 203 UC 60 | S275        | C               | SUPPORTED ONTO RETAINING WALL | 1      |
| C104                  | 203 x 203 UC 60 | S275        | C               | SUPPORTED ONTO RETAINING WALL | 1      |
| C105                  | 203 x 203 UC 46 | S275        | C               | SUPPORTED ONTO RETAINING WALL | 1      |
| C106                  | 203 x 203 UC 46 | S275        | C               | SUPPORTED ONTO RETAINING WALL | 1      |

| STEEL BEAM SCHEDULE |                 |             |                   |   |
|---------------------|-----------------|-------------|-------------------|---|
| SECTION Ref.        | SIZE            | STEEL GRADE | SURFACE TREATMENT | NOTES   |
| B001                | 203 x 203 UC 46 | S275        | C                 | TO SUPPORT EXTERNAL WALL & GLAZING              |
| B002                | 203 x 133 UB 30 | S275        | C                 | -   |
| B003                | 203 x 133 UB 30 | S275        | C                 | -   |
| B004                | 203 x 133 UB 30 | S275        | C                 | -   |
| B005                | 203 x 133 UB 30 | S275        | C                 | -   |
| B006                | 203 x 203 UC 46 | S275        | C                 | TO SUPPORT EXTERNAL WALL & BI FOLD              |
| B007-B013           | 150 x 90 PFC 24 | S275        | F                 | TO SUPPORT SKYLIGHTS/LIGHTWELL [ALL GALVANIZED] |

**PRELIMINARY**

- GENERAL NOTES:**
- DO NOT SCALE THIS DRAWING OR MODEL. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE. ANY DISCREPANCIES ARE TO BE RECORDED AND REPORTED TO THE ENGINEERS IMMEDIATELY.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER ENGINEERS AND ARCHITECTS DRAWINGS AND THE SPECIFICATION.
  - ALL WORK IS TO BE TO THE SATISFACTION OF THE ENGINEER AND LOCAL AUTHORITY BUILDING CONTROL.
  - THE CONTRACTOR IS RESPONSIBLE FOR AND MUST TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THE STABILITY OF THE WORKS AT ALL TIMES DURING CONSTRUCTION.
  - ALL WORKMANSHIP AND MATERIALS ARE TO BE TO CURRENT BRITISH STANDARDS OR EUROCODES. ALL CONSTRUCTION PRODUCTS AND STRUCTURAL STEELWORK SHOULD BE CE MARKED IN ACCORDANCE WITH CURRENT LEGISLATION.
  - ALL SERVICES ARE TO BE LOCATED AND PROTECTED AS NECESSARY BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF THE WORKS.
  - ANY EXISTING DETAILS WHICH ARE SHOWN ON THIS DRAWING ARE FOR GUIDANCE ONLY AND ARE TO BE CHECKED ON SITE BY THE CONTRACTOR. ANY VARIATIONS ARE TO BE RECORDED AND REPORTED TO THE ENGINEER IMMEDIATELY.

**jms** CIVIL & STRUCTURAL CONSULTING ENGINEERS  
LONDON - MIDLANDS - EAST ANGLIA - MANCHESTER - GRECE

Document was issued from  
JMS East Anglia Tel: 01473 487250  
Unit 10 Brightwell Barns, Watlingfield Road, Suffolk IP10 0BJ

Other offices include:  
JMS London Tel: 0207 043 4619  
JMS Midlands Tel: 02476 350505  
JMS Manchester Tel: 0161 7904404  
JMS Greece Tel: 0030 2310 960636  
JMS Chelmsford Tel: 01245 905886

Project  
**74 FORTUNE GREEN ROAD**  
NW6 1DS

Drawing Title  
**PROPOSED FOUNDATION LAYOUT**  
**PROPOSED LOWER GROUND FLOOR PLAN**  
**SHOWING STRUCTURE OVER**

Client  
ENTIRE HOUSE Ltd

Drawn by  
KP

Designed by  
KP

Approved by  
DJS

Checked by  
DJS

Scale  
AS SHOWN @ A1

Date  
AUGUST 2018

Drawing No.  
EX18\_132\_07 / 500

Rev.  
P2