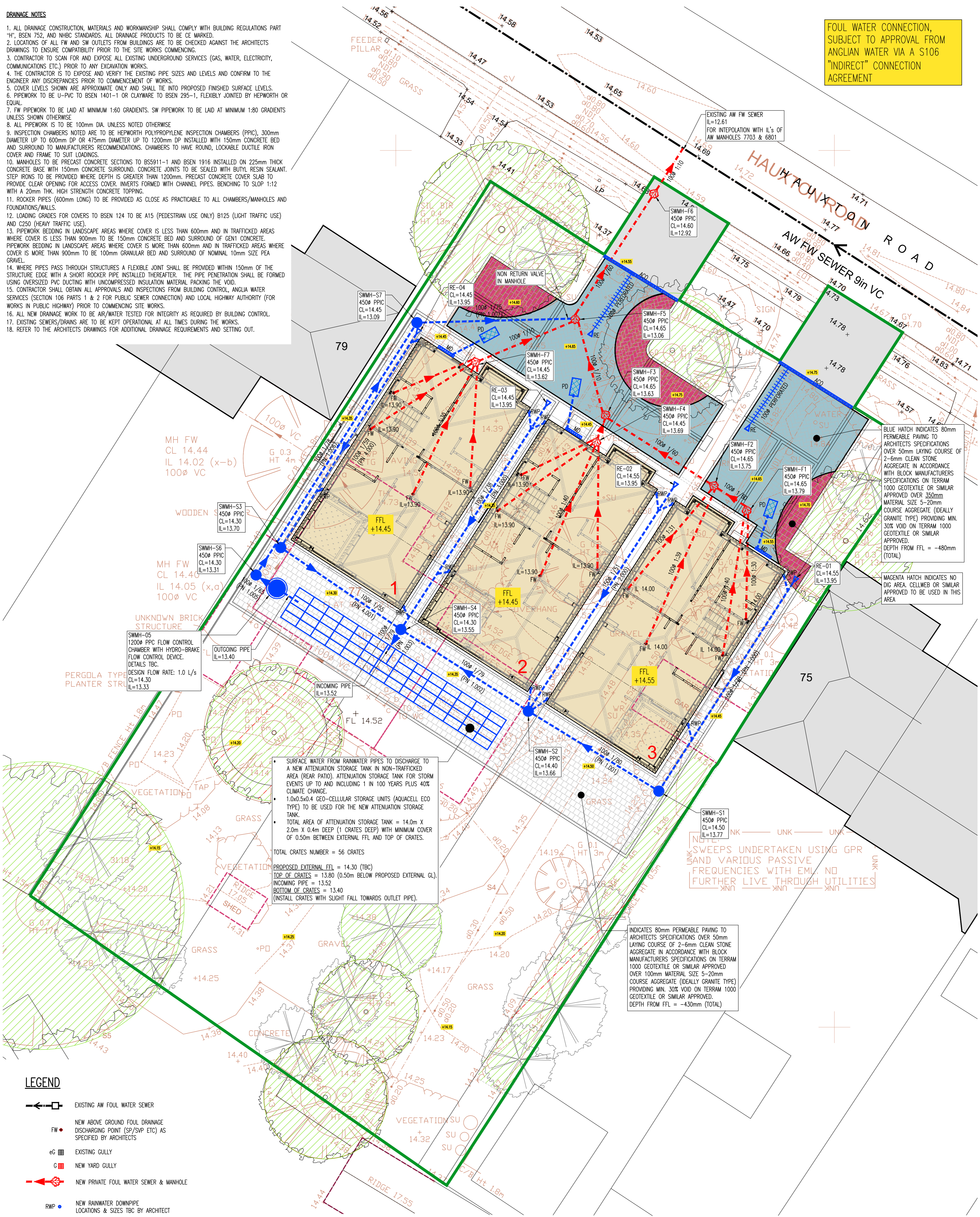


**DRAINAGE NOTES**

1. ALL DRAINAGE CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL COMPLY WITH BUILDING REGULATIONS PART "H", BSEN 752, AND NHBC STANDARDS. ALL DRAINAGE PRODUCTS TO BE CE MARKED.
2. LOCATIONS OF ALL FW AND SW OUTLETS FROM BUILDINGS ARE TO BE CHECKED AGAINST THE ARCHITECTS DRAWINGS TO ENSURE COMPATIBILITY PRIOR TO THE SITE WORKS COMMENCING.
3. CONTRACTOR TO SCAN FOR AND EXPOSE ALL EXISTING UNDERGROUND SERVICES (GAS, WATER, ELECTRICITY, COMMUNICATIONS ETC.) PRIOR TO ANY EXCAVATION WORKS.
4. THE CONTRACTOR IS TO EXPOSE AND VERIFY THE EXISTING PIPE SIZES AND LEVELS AND CONFIRM TO THE ENGINEER ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORKS.
5. COVER LEVELS SHOWN ARE APPROXIMATE ONLY AND SHALL TIE INTO PROPOSED FINISHED SURFACE LEVELS.
6. PIPEWORK TO BE U-PVC TO BSEN 1401-1 OR CLAYWARE TO BSEN 295-1, FLEXIBLY JOINTED BY HEPWORTH OR EQUAL.
7. FW PIPEWORK TO BE LAID AT MINIMUM 1:60 GRADIENTS. SW PIPEWORK TO BE LAID AT MINIMUM 1:80 GRADIENTS UNLESS SHOWN OTHERWISE.
8. ALL PIPEWORK IS TO BE 100mm DIA. UNLESS NOTED OTHERWISE.
9. INSPECTION CHAMBERS NOTED ARE TO BE HEPWORTH POLYPROPYLENE INSPECTION CHAMBERS (PPIC), 300mm DIAMETER UP TO 600mm DP OR 475mm DIAMETER UP TO 1200mm DP INSTALLED WITH 150mm CONCRETE BED AND SURROUND TO MANUFACTURERS RECOMMENDATIONS. CHAMBERS TO HAVE ROUND, LOCKABLE DUCTILE IRON COVER AND FRAME TO SUIT LOADINGS.
10. MANHOLES TO BE PRECAST CONCRETE SECTIONS TO BS5911-1 AND BSEN 1916 INSTALLED ON 225mm THICK CONCRETE BASE WITH 150mm CONCRETE SURROUND. CONCRETE JOINTS TO BE SEALED WITH BUTYL RESIN SEALANT. STEP IRONS TO BE PROVIDED WHERE DEPTH IS GREATER THAN 1200mm. PRECAST CONCRETE COVER SLAB TO PROVIDE CLEAR OPENING FOR ACCESS COVER. INVERTS FORMED WITH CHANNEL PIPES. BENCHING TO SLOP 1:12 WITH A 20mm THK. HIGH STRENGTH CONCRETE TOPPING.
11. ROCKER PIPES (600mm LONG) TO BE PROVIDED AS CLOSE AS PRACTICABLE TO ALL CHAMBERS/MANHOLES AND FOUNDATIONS/WALLS.
12. LOADING GRADES FOR COVERS TO BSEN 124 TO BE A15 (PEDESTRIAN USE ONLY) B125 (LIGHT TRAFFIC USE) AND C250 (HEAVY TRAFFIC USE).
13. PIPEWORK BEDDING IN LANDSCAPE AREAS WHERE COVER IS LESS THAN 600mm AND IN TRAFFICKED AREAS WHERE COVER IS LESS THAN 900mm TO BE 150mm CONCRETE BED AND SURROUND OF GEN1 CONCRETE. PIPEWORK BEDDING IN LANDSCAPE AREAS WHERE COVER IS MORE THAN 600mm AND IN TRAFFICKED AREAS WHERE COVER IS MORE THAN 900mm TO BE 100mm GRANULAR BED AND SURROUND OF NOMINAL 10mm SIZE PEA GRAVEL.
14. WHERE PIPES PASS THROUGH STRUCTURES A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN 150mm OF THE STRUCTURE EDGE WITH A SHORT ROCKER PIPE INSTALLED THEREAFTER. THE PIPE PENETRATION SHALL BE FORMED USING OVERSIZED PVC DUCTING WITH UNCOMPRESSED INSULATION MATERIAL PACKING THE VOID.
15. CONTRACTOR SHALL OBTAIN ALL APPROVALS AND INSPECTIONS FROM BUILDING CONTROL, ANGLIA WATER SERVICES (SECTION 106 PARTS 1 & 2 FOR PUBLIC SEWER CONNECTION) AND LOCAL HIGHWAY AUTHORITY (FOR WORKS IN PUBLIC HIGHWAY) PRIOR TO COMMENCING SITE WORKS.
16. ALL NEW DRAINAGE WORK TO BE AIR/WATER TESTED FOR INTEGRITY AS REQUIRED BY BUILDING CONTROL.
17. EXISTING SEWERS/DRAINS ARE TO BE KEPT OPERATIONAL AT ALL TIMES DURING THE WORKS.
18. REFER TO THE ARCHITECTS DRAWINGS FOR ADDITIONAL DRAINAGE REQUIREMENTS AND SETTING OUT.

FOUL WATER CONNECTION, SUBJECT TO APPROVAL FROM ANGLIAN WATER VIA A S106 "INDIRECT" CONNECTION AGREEMENT



BLUE HATCH INDICATES 80mm PERMEABLE PAVING TO ARCHITECTS SPECIFICATIONS OVER 50mm LAYING COURSE OF 2-6mm CLEAN STONE AGGREGATE IN ACCORDANCE WITH BLOCK MANUFACTURERS SPECIFICATIONS ON TERRAM 1000 GEOTEXTILE OR SIMILAR APPROVED OVER 350mm MATERIAL SIZE 5-20mm COURSE AGGREGATE (IDEALLY GRANITE TYPE) PROVIDING MIN. 30% VOID ON TERRAM 1000 GEOTEXTILE OR SIMILAR APPROVED. DEPTH FROM FFL = -480mm (TOTAL)

MAGENTA HATCH INDICATES NO DIG AREA. CELLWEB OR SIMILAR APPROVED TO BE USED IN THIS AREA

SURFACE WATER FROM RAINWATER PIPES TO DISCHARGE TO A NEW ATTENUATION STORAGE TANK IN NON-TRAFFICKED AREA (REAR PATIO). ATTENUATION STORAGE TANK FOR STORM EVENTS UP TO AND INCLUDING 1 IN 100 YEARS PLUS 40% CLIMATE CHANGE.

- 1.0x0.5x0.4 GEO-CELLULAR STORAGE UNITS (AQUACELL ECO TYPE) TO BE USED FOR THE NEW ATTENUATION STORAGE TANK.
- TOTAL AREA OF ATTENUATION STORAGE TANK = 14.0m X 2.0m X 0.4m DEEP (1 CRATES DEEP) WITH MINIMUM COVER OF 0.50m BETWEEN EXTERNAL FFL AND TOP OF CRATES.

TOTAL CRATES NUMBER = 56 CRATES  
 PROPOSED EXTERNAL FFL = 14.30 (TBC)  
 TOP OF CRATES = 13.80 (0.50m BELOW PROPOSED EXTERNAL GL)  
 INCOMING PIPE = 13.52  
 BOTTOM OF CRATES = 13.40  
 (INSTALL CRATES WITH SLIGHT FALL TOWARDS OUTLET PIPE).

INDICATES 80mm PERMEABLE PAVING TO ARCHITECTS SPECIFICATIONS OVER 50mm LAYING COURSE OF 2-6mm CLEAN STONE AGGREGATE IN ACCORDANCE WITH BLOCK MANUFACTURERS SPECIFICATIONS ON TERRAM 1000 GEOTEXTILE OR SIMILAR APPROVED OVER 100mm MATERIAL SIZE 5-20mm COURSE AGGREGATE (IDEALLY GRANITE TYPE) PROVIDING MIN. 30% VOID ON TERRAM 1000 GEOTEXTILE OR SIMILAR APPROVED. DEPTH FROM FFL = -430mm (TOTAL)

**BELOW GROUND DRAINAGE LAYOUT (SCALE 1:100)**

- LEGEND**
- EXISTING AW FOUL WATER SEWER
  - NEW ABOVE GROUND FOUL DRAINAGE DISCHARGING POINT (SP/SVP ETC) AS SPECIFIED BY ARCHITECTS
  - EXISTING GULLY
  - NEW YARD GULLY
  - NEW PRIVATE FOUL WATER SEWER & MANHOLE
  - NEW RAINWATER DOWNPIPE LOCATIONS & SIZES TBC BY ARCHITECT
  - NEW ACO CHANNEL
  - NEW ACO MD BRICKSLOT
  - NEW SURFACE WATER SEWER & MANHOLE
  - RODDING EYE
  - 100ø PERFORATED PIPE FOR DIFFUSION
  - PERMAVOD DIFFUSER
  - NEW GEO-CELLULAR ATTENUATION STORAGE TANK
  - PROPOSED LEVELS (TBC BY ARCHITECTS)
  - SITE BOUNDARY

- GENERAL NOTES**
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
  2. ANY GRID LINES, BUILDING LINES, ETC. ARE TO BE SET OUT IN ACCORDANCE WITH THE RELEVANT ARCHITECT'S PLAN.
  3. DIMENSIONS ARE NOT TO BE SCALED FROM THIS DRAWING, EITHER MANUALLY OR ELECTRONICALLY.
  4. DIMENSIONS MARKED \* ARE SUBJECT TO CONFIRMATION BY SITE MEASUREMENT BEFORE CONSTRUCTION COMMENCES.
  5. ANY DIMENSIONAL DISCREPANCIES ON THIS DRAWING ARE TO BE REFERRED TO THE ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.
  6. ALL CALCULATIONS AND DRAWINGS ARE PREPARED ON THE ASSUMPTION THAT THE WORKS WILL BE UNDERTAKEN BY A WELL-ESTABLISHED COMPETENT BUILDING CONTRACTOR, FULLY EXPERIENCED IN CARRYING OUT PROJECTS OF THIS NATURE AND THAT THE WORKS ON SITE WILL BE SUPERVISED AND ADMINISTERED BY A SUITABLY EXPERIENCED PERSON.
  7. ALL WORKS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF:
    - RELEVANT BRITISH STANDARDS AND CODES OF PRACTICE.
    - NATIONAL SPECIFICATION FOR STRUCTURAL STEELWORK.
    - NHBC STANDARDS
    - AS APPLICABLE AND IN ACCORDANCE WITH GOOD BUILDING PRACTICE.
  8. IN PARTICULAR, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CARRYING OUT THE WORKS IN A SAFE MANNER, ALL DUE ATTENTION BEING GIVEN TO STABILITY DURING DEMOLITION AND NEW BUILDING WORK. ADEQUATE SHORING, PROPPING AND THE LIKE SHOULD BE PROVIDED, WHICH SHOULD REMAIN IN PLACE UNTIL THE NEW STRUCTURE IS IN PLACE AND MORTAR PACKING AND MASONRY MORTAR HAS HARDENED.

ALL RAINWATER PIPES TO HAVE ABOVE GROUND ACCESS

- CAST/DUCTILE IRON MANHOLE COVER WEIGHT CLASSES TO BS EN 124
- CLASS A15 TO BE USED IN PEDESTRIAN AREAS LIKE GARDENS AND PATIOS
  - CLASS B125 TO BE USED IN DOMESTIC DRIVEWAYS
  - CLASS C250 TO BE USED IN LIGHT TRAFFICKED ROAD AND SMALL PRIVATE CAR-PARKS
  - CLASS D400 TO BE USED IN AREAS SUBJECT TO HEAVY LOAD (HGV'S)

P2	08/04/24	FRONT DOOR THRESHOLD CHANNELS DRAIN ADDED.
P1	03/04/24	PRELIMINARY ISSUE FOR COMMENTS
Rev	Date	Description
STATUS		
<b>PRELIMINARY</b>		
<b>AFP ANDREW FIREBRACE PARTNERSHIP</b> STRUCTURAL & CIVIL ENGINEERING CONSULTANTS Stable Barn, Park End, Swaffham Bulbeck, Cambridge CB25 0NA. Tel: 01223 811572 Fax: 01223 812219 E-mail: info@afpcconsult.co.uk		
CLIENT		
PROJECT <b>77 HAUXTON ROAD LITTLE SHELFORD</b>		
TITLE <b>BELOW GROUND DRAINAGE LAYOUT</b>		
DRAWN CV	CHECKED HP	DRG No.
AS SHOWN A1	DATE APR'24	23/0692/100
Andrew Firebrace Partnership Limited		ACAD FILE No. 23.0692.100A1.DWG
REV		P2
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