

## KEY:

- SITE BOUNDARY BASED ON LANDSCAPE ARCHITECT'S LAYOUT
- CV — CV — EXISTING PUBLIC COMBINED SEWER
- CV — CV — EXISTING PRIVATE COMBINED DRAINAGE
- — — EXISTING PRIVATE SURFACE WATER DRAINAGE
- — — EXISTING PRIVATE FOUL DRAINAGE
- PROPOSED COMBINED MANHOLE
- — — PROPOSED FOUL DRAINAGE
- PROPOSED FOUL DRAINAGE MANHOLE/ INSPECTION CHAMBER
- — — PROPOSED SURFACE WATER DRAINAGE
- — — PROPOSED SURFACE WATER ROUTED THROUGH PETROL INTERCEPTOR
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED FLOW CONTROL MANHOLE
- PROPOSED CELLULAR ATTENUATION TANK
- PROPOSED ARBORCELL
- PROPOSED BACKDROP
- — — PROPOSED LINEAR DRAINAGE CHANNEL GATIC CASTSLOT OR SIMILAR APPROVED
- — — PERFORATED PIPE IN LAND DRAIN/ PERMEABLE SUB-BASE & SOFT LANDSCAPING
- — — RETAINING WALL DRAIN

DRAINAGE TO BE ABANDONED NOT SHOWN FOR CLARITY. REFER TO DRAINAGE REMOVAL DRAWING NMGNPH-VV-XX-DR-C-9254

NOTE: SOME SYMBOLS & LABELS NOT NOTED FOR CLARITY - REFER TO 1:200 DRAINAGE LAYOUTS FOR FULL KEY.

## DESIGN PHILOSOPHY

## SURFACE WATER DESIGN

THE DESIGN PROVIDES CAPACITY UP TO THE 1 IN 100-YEAR STORM EVENT +40% CLIMATE CHANGE EVENT.  
SW FLOW RATE: 50% REDUCTION OF EXISTING FLOWS, BASED ON MCC REQUIREMENTS. (REFER TO TABLE 1 FOR FLOWS) AS AGREED WITH UNITED UTILITIES (REFER TO E-MAIL DATED 16.12.20)

STORAGE REQUIREMENT 374M<sup>3</sup>

ATTENUATION PROVIDED WITHIN CELLULAR ATTENUATION TANKS & OVERSIZED PIPES  
FOR DETAILS REFER TO TABLE 2

## OUTFALLS:

WESTERN SIDE (OUTFALL 1) OUTFALLS TO EXISTING COMBINED DRAINAGE AT MANHOLE C1  
EASTERN SIDE (OUTFALL 2) OUTFALLS TO EXISTING COMBINED DRAINAGE AT MANHOLE C2  
CAR PARK (OUTFALL 3) OUTFALLS TO FUTURE CONNECTION TO MASTERPLAN DRAINAGE

## LEVELS INDICATE THAT PUMPING WILL NOT BE REQUIRED.

POLLUTION TREATMENT: HARDSTANDING SLOPES TOWARDS SOFT LANDSCAPE. PARTIAL INFILTRATION WITHIN SOFT LANDSCAPE AND TYPE 3 SUB-BASE AREAS.  
REFER TO EXTERNAL WORKS PLAN NMGNPH-VV-XX-DR-C-9470 & 9471

## FOUL WATER DESIGN

FW PEAK FLOW RATE: 35.9 L/S (BASED ON ESTIMATES USING DISCHARGE UNIT METHOD. CONFIRMATION OF DISCHARGE UNITS REQUIRED FROM M&E DESIGNER)

OUTFALL: DRAINAGE OUTFALLS TO EXISTING COMBINED DRAINAGE AT MANHOLES CA2 & CB2  
LEVELS INDICATE THAT PUMPING WILL NOT BE REQUIRED.

## DESIGN NOTES:

- DISCHARGE RATES ARE BASED ON A 50% REDUCTION OF EXISTING RATES AS PER LLFA REQUIREMENTS AND AGREEMENT WITH UU.
- ONLY MAIN DRAINAGE RUNS ARE LABELLED FOR CLARITY. REFER TO DRAWINGS NMGNPH-CUR-00-XX-DR-C-9251 - 9253 FOR 1:200 DRAINAGE LAYOUTS.
- FOUL DRAINAGE HAS BEEN DESIGNED USING ESTIMATES TAKEN BASED ON DISCHARGE UNIT METHOD. CONFIRMATION OF DISCHARGE UNITS REQUIRED FROM M&E DESIGNER.

## GENERAL NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
- DESIGN BASED ON TOPOGRAPHICAL SURVEY AND UNDERGROUND UTILITY SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.
- ALL EXISTING SEWERS, CONNECTIONS, PIPE SIZES AND INVERT LEVELS TO BE CONFIRMED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS TO ENSURE CONNECTIVITY. ANY VARIANCE FROM THE INFORMATION SHOWN SHOULD BE REPORTED TO THE ENGINEER FOR REVIEW.
- DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
- ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
- WHERE EXISTING DRAINAGE IS BEING USED, ALLOWANCES SHOULD BE MADE TO REMEDIATE THIS DRAINAGE IN LINE WITH AVAILABLE CCTV SURVEY INFORMATION.
- ALL EXISTING SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS, AND WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORK.
- BUILDING LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/ LANDSCAPE ARCHITECT.
- OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
- THIS DRAWING IS PRELIMINARY AND IS SUBJECT TO CHANGE AT LATER STAGES.
- CONNECTION AND OUTFALL TO THE EXISTING SEWER NETWORK WITHIN THE EASTERN AREA OF THE SITE IS SUBJECT TO APPROVAL.

FOR FULL DRAINAGE NOTES REFER TO DRAWING NMGNPH-CUR-VV-XX-DR-C-9250

## DRAWING BASED ON:

## EXISTING INFORMATION

- UNITED UTILITIES PUBLIC SEWER RECORDS EXTRACT DATED NOVEMBER 2018
- 2018 TOPOGRAPHICAL SURVEY 3654\_GMMH BY AXIS SURVEYS DATED FEBRUARY 2020.
- UNDERGROUND SERVICES SURVEY 20B201/001-011 BY SURVEY OPERATIONS DATED MAY 2020.
- CCTV SURVEY BY LAYER SURVEYS DATED OCTOBER 2020

## PROPOSED INFORMATION

## ARCHITECTS LAYOUT: GILLING DOD ARCHITECTS

- NMGNPH-GDA-VV-01-DR-A-0001\_P11
- NMGNPH-GDA-VV-01-DR-A-0001\_P10

## LANDSCAPE PLAN: ITERIAD

- NMGNPH-ITR-00-LG-DR-L-0010 P11

## PROPOSED LEVELS: CURTINS,

- 07856-CUR-00-XX-DR-C-9102 P08 WIP

## FOUNDATIONS: CURTINS

- NMGNPH-CUR-V1-FN-DR-L-1601 P01 WIP
- NMGNPH-CUR-V2-FN-DR-L-1601 P01 WIP
- NMGNPH-CUR-V3-FN-DR-L-1601 P01 WIP
- NMGNPH-CUR-V4-FN-DR-L-1601 P01 WIP

## FOUL POP-UPS

- NMGNPH-RAM-V1-00-DR-M-5221\_P01
- NMGNPH-RAM-V2-00-DR-M-5222\_P01
- NMGNPH-RAM-V3-00-DR-M-5223\_P01
- NMGNPH-RAM-V4-00-DR-M-5224\_P01
- NMGNPH-RAM-V5-01-DR-M-5225\_P01
- NMGNPH-RAM-V6-01-DR-M-5226\_P01
- NMGNPH-RAM-V7-01-DR-M-5227\_P01
- NMGNPH-RAM-V8-01-DR-M-5228\_P01

## RWP's

- NMGNPH-GDA-VV-ZZ-DR-A-2000\_P01

## PROPOSED EXTERNAL SERVICES INFORMATION

- NMGNPH-RAM-VV-00-DR-E-6321 P02
- NMGNPH-RAM-VV-00-DR-P-S800 P06

TABLE 1 PROPOSED AND EXISTING SURFACE WATER DISCHARGE RATES

| CATCHMENT                                                  | IMPERMEABLE AREA (Ha) | DISCHARGE FLOW RATES (l/s) |             |              |
|------------------------------------------------------------|-----------------------|----------------------------|-------------|--------------|
|                                                            |                       | 1-YR EVENT                 | 30-YR EVENT | 100-YR EVENT |
| CATCHMENT A                                                | 0.28                  | 32                         | 74          | 92           |
| CATCHMENT B                                                | 0.55                  | 62                         | 124         | 131          |
| CATCHMENT C                                                | 0.81                  | 52                         | 63          | 63           |
| CATCHMENT D                                                | 0.74                  | 81                         | 173         | 173          |
| TOTAL IMPERMEABLE AREA                                     | 2.38                  | 227                        | 434         | 459          |
| INCLUDES 50% REDUCTION IN ACCORDANCE WITH MCC REQUIREMENTS |                       |                            |             |              |
| WESTERN SIDE (OUTFALL 1)                                   | 0.90                  | 61                         | 118         | 125          |
| EASTERN SIDE (OUTFALL 2)                                   | 0.72                  | 48                         | 94          | 100          |
| CAR PARK (OUTFALL 3)*                                      | 0.19                  | 5                          | 5           | 5            |
| PROPOSED                                                   | 1.83                  | 114                        | 217         | 230          |

\*CAR PARK DISCHARGE RATE SET AT 5 l/s AS CALCULATED GREENFIELD RUN-OFF IS TOO LOW TO RESTRICT.

|      |                                         |          |     |       |
|------|-----------------------------------------|----------|-----|-------|
| P12  | UPDATES TO IHP COMMENTS                 | 01/06/22 | LK  | AR    |
| P11  | ISSUED FOR DISCHARGE CONDITIONS         | 27/05/22 | TK  | MW    |
| P10  | ISSUED FOR S106 APPLICATION             | 14/01/22 | TH  | ATL   |
| P09  | ISSUED FOR PLANNING UPDATE              | 17/12/21 | ATL | ATL   |
| P08  | ISSUED FOR PLANNING CONDITION DISCHARGE | 22/11/21 | ATL | MW    |
| P07  | ISSUED FOR STAGE 4                      | 29/10/21 | ATL | MW    |
| P06  | AMENDED TO VALUE ENGINEERING DESIGN     | 24/06/21 | RH  | CG    |
| P05  | STAGE 3 ISSUE                           | 18/01/21 | ATL | MW    |
| P04  | ISSUED FOR PLANNING                     | 16/09/20 | ATL | MW    |
| P04  | ISSUED FOR PLANNING                     | 16/09/20 | ATL | MW    |
| Rev: | Description:                            | Date:    | By: | Chkd: |



Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG  
0161 235 2384  
manchester@curtins.com  
www.curtins.com

Status:

STAGE 4

Project:

NEW PARK HOUSE

Orig Title:

PROPOSED DRAINAGE LAYOUT

| Size:        | Date:       | Drawn By: | Designed By: | Checked By:        |
|--------------|-------------|-----------|--------------|--------------------|
| A1           | 30/03/20    | QJT       | QJT          | MW                 |
| Scale: 1:500 |             |           |              |                    |
| Project No:  | Originator: | Volume:   | Level:       | Type:              |
|              |             |           |              | Role:              |
|              |             |           |              | Category / Number: |
|              |             |           |              | Rev:               |

NMGNPH - CUR - VV - XX - DR - C - 9250 - P12