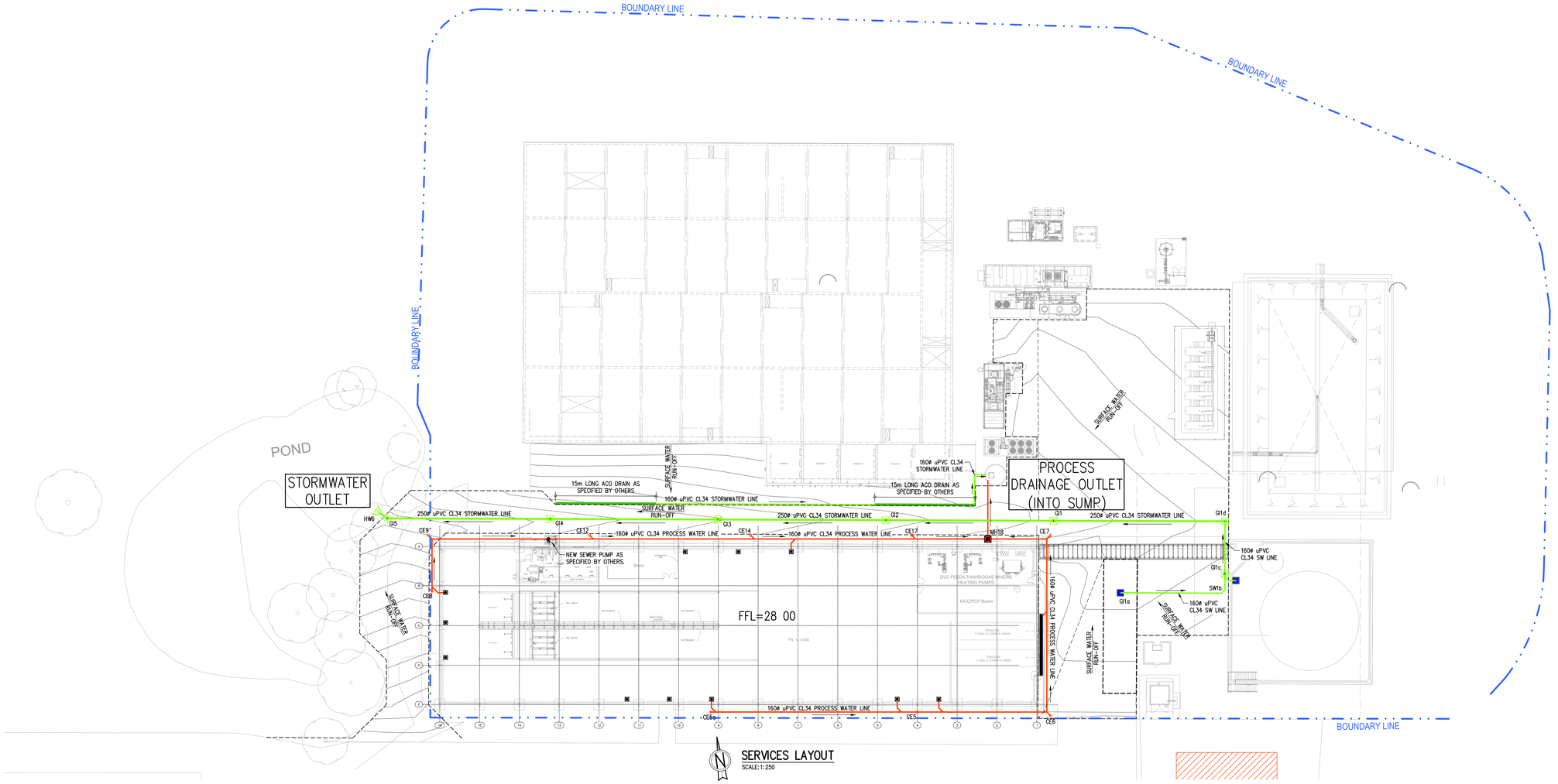
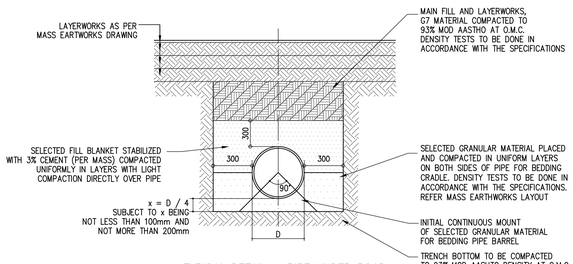


SERVICES LAYOUT

SCALE: 1:250



TYPICAL DETAIL – PIPE UNDER ROAD

SCALE 1 : 25

NOTES FOR INSTALLATION OF SLEEVES

A. ALL SLEEVES TO BE SMOOTH LINED NEXTUBE OR SIMILAR APPROVED

B. ALL SLEEVES POSITIONS TO BE MARKED ON THE KERBS DIRECTLY ABOVE LINE OF DUCTS. REFER TO DETAIL

C. DUCTS SHALL BE LEFT CLEAN AND FREE FROM SOIL, FOREIGN MATERIALS OR ANY OBSTRUCTIONS. A 2,5mm THICK GALVANISED DRAW WIRE SHALL BE LEFT IN EVERY DUCT. ALL DRAW WIRES SHALL EXTEND TO APPROX 0,5m ABOVE GROUND LEVEL AND SHALL BE TIED TO A TAG PLATE.

D. ALL DUCT ENDS TO BE SEALED WITH PVC DANGER TAPE OR OTHER SUITABLE MATERIAL TO PREVENT THE INGRESS OF FOREIGN MATERIAL.

E. DUCTS SHALL BE INSTALLED SO AS NOT TO END AGAINST OTHER SERVICES, LEAVING SUFFICIENT SPACE FOR THE INSTALLATION OF CABLES THROUGH DUCTS.

F. WHERE DUCTS ARE INSTALLED UNDERNEATH EXISTING SURFACES SUCH SURFACES TOGETHER WITH ALL COURSES SHALL BE REINSTATED TO THE ORIGINAL CONDITION.

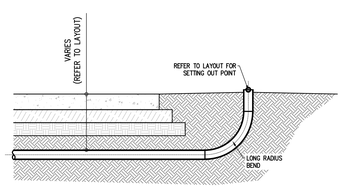
G. ALL CABLE DUCTS TO BE SUPPLIED AND INSTALLED BY CIVIL CONTRACTOR UNLESS SHOWN OTHERWISE.

H. ANY DEVIATIONS FROM THIS LAYOUT MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

J. ALL DUCTS TO BE INSTALLED AFTER MASS EARTHWORKS HAS BEEN COMPLETED, PRIOR TO CONSTRUCTION OF SUB-BASE.

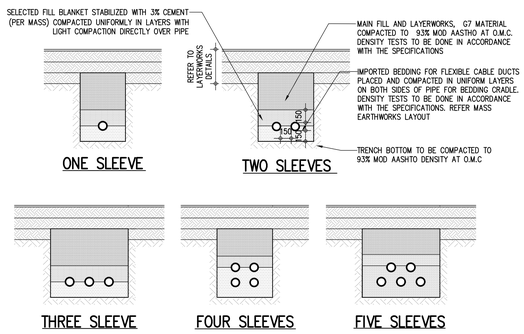
K. DUCTS TO BE LAID HORIZONTALLY.

L. THE MINIMUM DISTANCE BETWEEN ELECTRICAL AND OTHER DUCTS TO BE 0,3m.



TYPICAL DETAIL OF SLEEVE BENDING THROUGH SURFACE BED

SCALE: 1:25



PROCESS WATER SETTING OUT COORDINATES

TAG	EAST	NORTH
CE5	579450.340	141147.071
CE5a	579419.806	141151.367
CE6	579469.486	141144.379
CE7	579473.078	141169.930
CE8	579381.265	141174.845
CE9	579382.366	141182.678
CE12	579406.163	141179.337
CE14	579429.929	141175.996
CE17	579453.696	141172.656
MH18	579464.376	141171.153

STORMWATER SETTING OUT COORDINATES

TAG	EAST	NORTH
G1a	579482.812	141160.459
SW1b	579498.206	141158.228
G1c	579498.621	141161.123
G1d	579499.736	141168.835
G1	579474.452	141172.482
G2	579449.708	141176.051
G3	579424.964	141179.621
G4	579400.220	141183.190
G5	579376.211	141186.653
HW6	579375.172	141187.615

SERVICES KEY:

- R — EXISTING SEWER
- W — EXISTING WATER
- SW — EXISTING STORMWATER
- ø — NEW STORMWATER LINE
- ø — NEW PROCESS WATER LINE
- ø — NEW SEWER LINE
- ø — NEW BOOSTED WATER LINE
- ø — NEW DOMESTIC WATER LINE
- ø — NEW SPRINKLER WATER LINE
- CLASS 16, WATERWORKS TYPE GATE VALVE TO SABS 664, WITH COMPRESSION TYPE SEALS, CAP TOP, NON-RISING SPINDLE, ANT-CLOCKWISE CLOSING, WITH FLANGED ENDS.
- F.H. — 65mm FIRE HYDRANT
- T.B — TWIN BOOSTER HYDRANT
- M.H — NEW PROCESS WATER MANHOLE
- C.E. — NEW CLEANING AND INSPECTION EYE
- M.H. — NEW SEWER MANHOLE
- NEW KERB INLET
- G.I. — NEW GRID INLET (450x450 HD COVER)
- S.I. — NEW GRID INLET (450x450 LD COVER)
- J.B. — JUNCTION BOX (REFER TO DETAILS)
- ACC J.B. — ACCESSIBLE JUNCTION BOX (REFER TO DETAILS)
- F.I. — FIELD INLET (REFER TO DETAILS)
- H.W. — HEAD WALL OUTLET STRUCTURE (REFER TO DETAILS)
- OUT. — POND OUTLET STRUCTURE (REFER TO DETAILS)

1:250 0m 5m 10m 15m 20m 25m

CONSTRUCTION NOTES

NOTES ON STORMWATER:

1. CONSTRUCTION:

1.1 ALL CONSTRUCTION, TESTING AND MATERIALS TO COMPLY WITH LOCAL AUTHORITY SPECIFICATIONS.
1.2 PIPE BEDDING TO BE CLASS B AS PER DETAIL WITH BEDDING CRADLE OF SELECTED FILL QUALITY.
1.3 PIPES AS PER DRAWING.
1.4 WHERE SEWER LINES CROSS STORMWATER LINES, ENCASE SEWER LINE IN CONCRETE UP TO THE STORMWATER LINE.
1.5 MINIMUM FALLS ON ALL PIPES = 1:100 U.O.S.

2. MATERIALS:

2.1 ALL BRICKS TO BE ENGINEERING UNITS TYPE NFXE-14
2.2 ALL MANHOLE COVERS TO BE 650x400 HEAVY DUTY
2.3 OGEE STORMWATER PIPES TO BE NON-PRESSURE PIPES CLASS 75D.
2.4 HDPE STORMWATER PIPES TO BE 8kN/m² RING STIFFNESS CORRUGATED PIPES AS SUPPLIED BY MAGNUM OR SIMILAR APPROVED.
2.5 DUE TO THE CORROSIVE NATURE OF THE SOIL NO GALVANISED MATERIAL MAY BE USED.

NOTE ON STORMWATER CONNECTIONS:

1. CONTRACTOR TO LOCATE THE EXSTING STORMWATER PIPES ON SITE AND VERIFY ALL INVERT LEVELS WITH THE ENGINEER PRIOR TO ANY CONSTRUCTION.
2. THE EXSTING SERVICES ARE TO ADEQUATELY PROTECTED AND ANY DAMAGE IS TO REPAIRED AT THE CONTRACTORS COST.
3. ALL NEW STROMWATER PIPES MUST BE LAID AT AN ANGLE OF NOT LESS THAN 30 DEG. AND NOT MORE THAN 60 DEG. TO THE EXISTING PIPE.
4. ALL PIPES MUST BE LAID SOFFIT TO SOFFIT.

NOTES ON SEWER:

1. CONSTRUCTION:

1.1 ALL CONSTRUCTION, TESTING AND MATERIALS TO COMPLY WITH LOCAL AUTHORITY SPECIFICATIONS.
1.2 PIPE BEDDING TO BE CLASS B AS PER DETAIL WITH BEDDING CRADLE OF SELECTED FILL QUALITY.
1.3 POSITIONS OF EXISTING SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED BY THE CONTRACTOR.
1.4 ALL DRAINAGE RUNS TO BE ACCESSIBLE ALONG THEIR ENTIRE LENGTH.
1.5 ALL DRAINAGE RUNS TO DROP A MINIMUM OF 50mm IN MANHOLES.
1.6 WHERE SEWER LINES CROSS STORMWATER LINES, ENCASE SEWER LINE IN CONCRETE UP TO THE STORMWATER LINE.

2. MATERIALS:

2.1 ALL UNDERGROUND PIPES TO BE uPVC MAINCORE CL34 AS SUPLIED BY MAIN INDUSTRIES.
2.2 ALL PIPES MUST HAVE A FLEXIBLE MECHANICAL JOINT.
2.4 ALL PRECAST MANHOLE SECTIONS TO COMPLY WITH LOCAL AUTHORITY STANDARDS WITH STEP IRONS.
2.5 BENCHING TO BE WITH DOLOMITIC AGGREGATE.
1.8 CONTRACTOR TO LOCATE THE EXSTING SEWER PIPES ON SITE AND VERIFY ALL INVERT LEVELS WITH THE ENGINEERS PRIOR TO ANY CONSTRUCTION.
1.9 THE EXSTING SERVICES ARE TO ADEQUATELY PROTECTED AND ANY DAMAGE IS TO REPAIRED AT THE CONTRACTORS COST.

GENERAL NOTES:

1. ALL SEWER RUNS TO END IN CLEANING AND INSPECTION EYES WITH CAST IRON COVERS.
2. ALL SEWER PIPES TO HAVE A MINIMUM FALL OF 1:60.

NOTES ON WATER:

1. CONSTRUCTION:

1.1 ALL CONSTRUCTION, TESTING AND MATERIALS TO COMPLY WITH LOCAL AUTHORITY SPECIFICATIONS.
1.2 PIPE BEDDING TO BE CLASS B AS PER DETAIL WITH BEDDING CRADLE OF SELECTED FILL QUALITY.
1.3 POSITIONS OF EXISTING SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED BY THE CONTRACTOR.
1.4 TRENCHES FOR THE FIRE MAINS MAY NOT BE BACKFILLED BEFORE THE PIPES HAVE BEEN PRESSURE TESTED TO 18 bar AND INSPECTED BY THE FIRE DEPARTMENT
1.5 MINIMUM COVER OVER PIPES 0,5m (MAX. 1.5m DEEP)
1.6 PLACE THE WATER PIPES IN THE SAME TRENCHES AS THE SEWER WHERE POSSIBLE.

2. MATERIALS:

2.1 ALL BOOSTED 110ø &160ø PIPES TO BE uPVC CLASS 16 AND DOMESTIC PIPES TO BE CLASS 12.
2.2 DOMESTIC PIPES < 110ø TO BE HDPE PE 100 PN12.5
2.3 DUE TO THE CORROSIVE NATURE OF THE SOIL NO GALVANISED MATERIAL MAY BE USED.

3. GENERAL:

3.1 ALL HOUSE CONNECTIONS TO BE FLEXABLE USING Z JOINTS.
3.2 ALL BENDS IN THE HDPE WATER PIPES TO BE SELF ANCHORING WITHOUT ANCHOR BLOCKS.
3.3 ALL BENDS IN THE uPVC PIPES TO BE BUILT WITH ANCHOR BLOCKS AS PER DETAILS.
3.4 ALL GARDEN TAPS ARE ALLOWED UNLESS THESE TAPS ARE AGAINST A BUILDING WITH A GULLY TRAP DIRECTLY BELOW.

REVIEWED BY:	SIGNATURE/STAMP:
DATE:	

COMMENTS

NO	DATE	REVISION	DRAWN	CHECKED

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SIGNATURE	DATE	1374-310.dwg
DESIGNED R.NEL	04/2020	SCALE AS SHOWN
DRAWN R.NEL	04/2020	SHEET SIZE A0

D&G DRAWING NUMBER: 1374-310

CLIENT: GREEN CREATE – KENT

ARCHITECT/MAIN AGENT: –

PROJECT: KENT – W2V PLANT

DRAWING TITLE: SERVICES LAYOUT