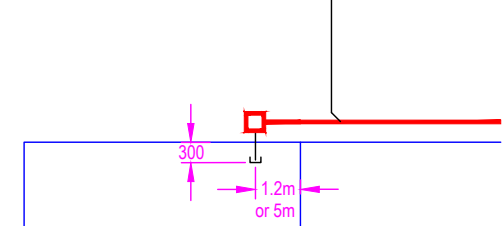
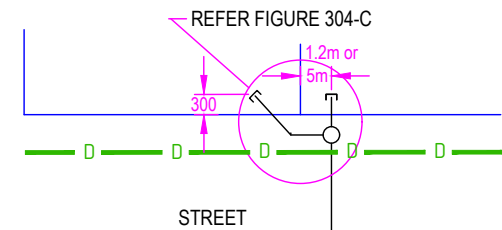
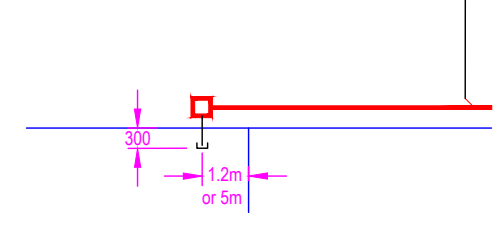
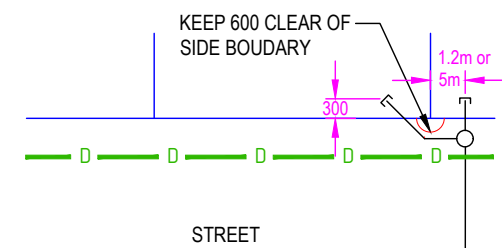


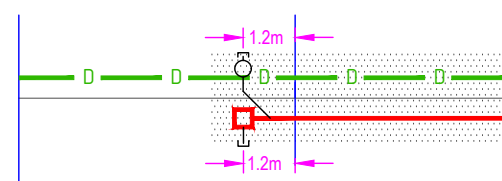
**FIGURE 304-A: TYPICAL PROPERTY CONNECTION SCHEMATIC ARRANGEMENTS AT END OF LINE**



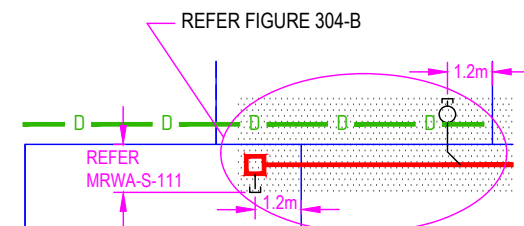
**FIGURE 304-A1: LOTS ALIGNED ACROSS STREET**



**FIGURE 304-A2: LOTS STAGGERED ACROSS STREET**

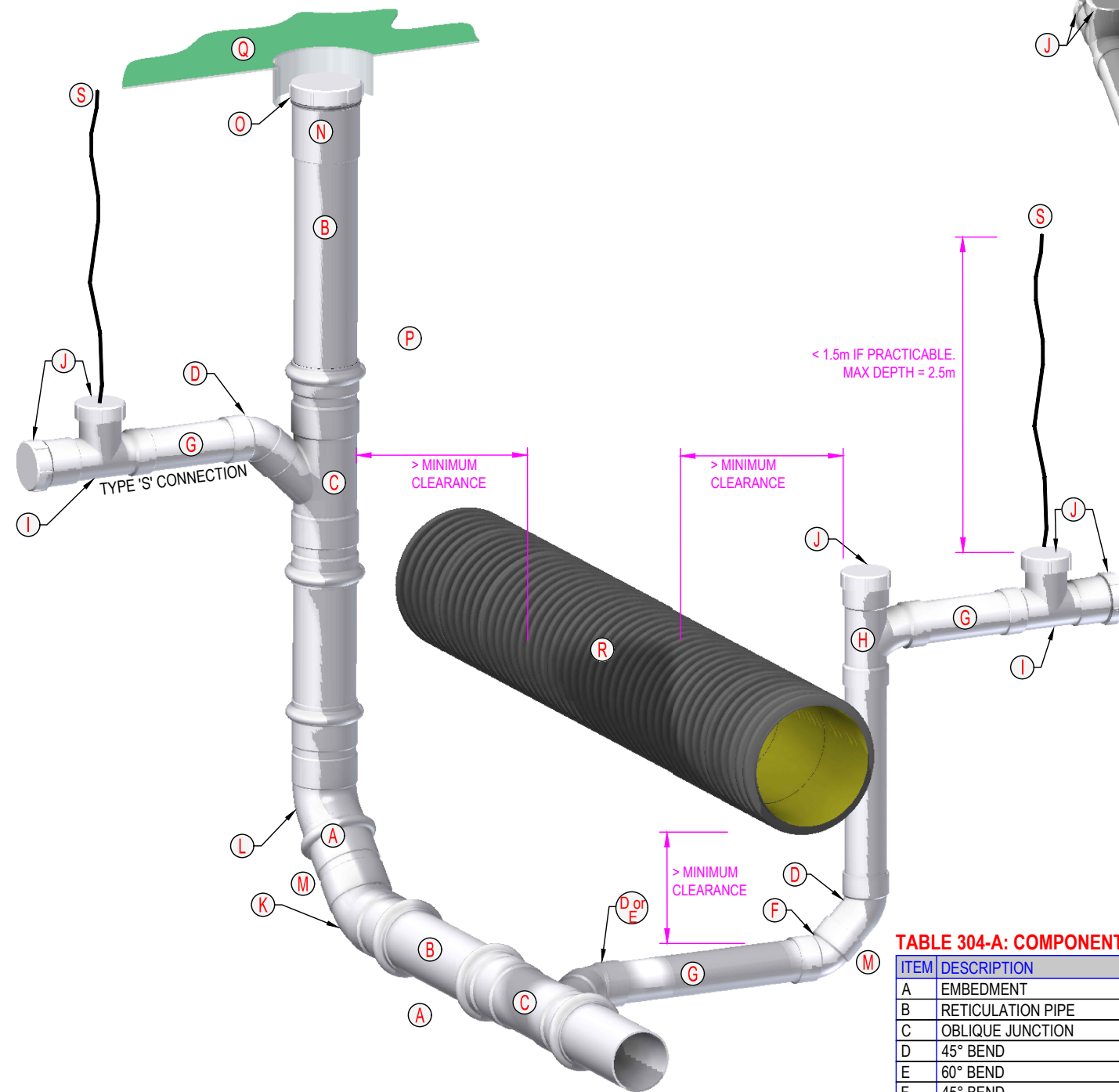


**FIGURE 304-A3: ALIGNED BACKYARD LOTS**

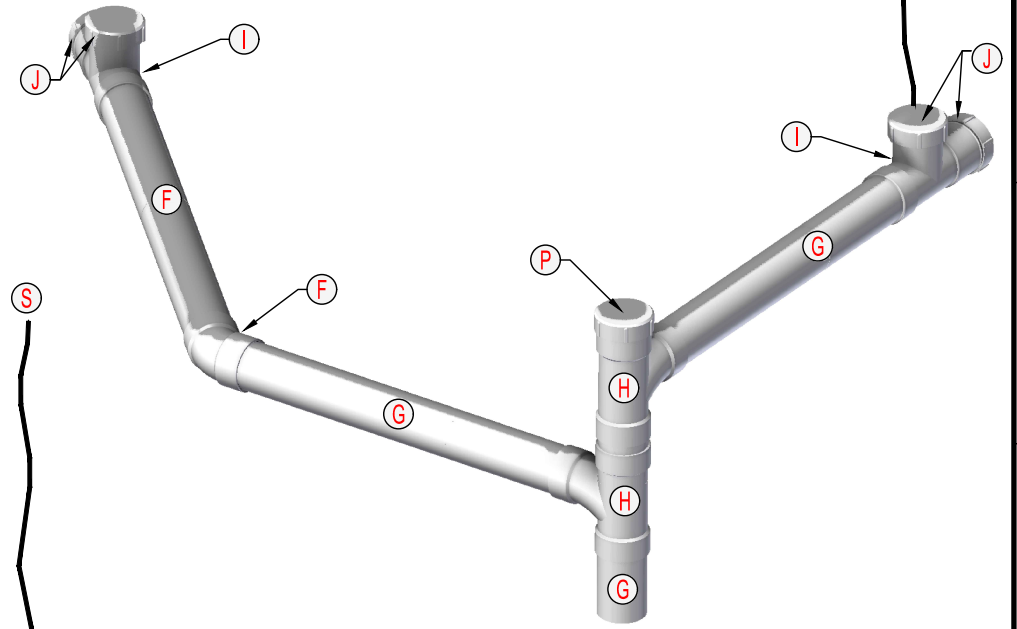


**FIGURE 304-A4: STAGGERED BACKYARD LOTS**

**FIGURE 304-B: TYPICAL END OF LINE ARRANGEMENT (ISOMETRIC VIEW)**



**FIGURE 304-C: Y BRANCH ARRANGEMENT WITH RISER (ISOMETRIC VIEW)**



**Type 4 Property Connection Options:**

- Fully construct Type 4 property connection to the point of connection unless the conditions described in MRWA-S-111 allow otherwise.
- New connections to existing IS or jump up shafts are permitted provided:
  - There are no more than 2 connections to the shaft in total.
  - The new connection's length is extended by less than 5m to get to the shaft (compared to the length it could be if it were to connect to a sewer).
  - Connection to the shaft is as per MRWA-S-104A.
- Property connections may cross over an obstruction only when:
  - The overtop of the obstruction is low enough, and
  - The obstruction is or will be too low to enable a connection below the obstruction (while achieving minimum clearance), or
  - The property connection is to cross over an existing obstruction to connect to an existing sewer.

**TABLE 304-A: COMPONENTS (in Approximate Order of Construction)**

ITEM	DESCRIPTION	MATERIAL	NOTES
A	EMBEDMENT	APPROVED MATERIAL	REFER MRWA-S-202
B	RETICULATION PIPE	TYPICALLY PVC DWV, PP, GRP	REFER MRWA-S-103
C	OBLIQUE JUNCTION	PVC DWV / GRP	REFER MRWA-S-104
D	45° BEND	PVC DWV, SCJ	TYPICALLY M-F. TYPE 4A USES 45° BEND AFTER O.B.
E	60° BEND	PVC DWV, SCJ	TYPICALLY M-F. TYPE 4B USES 60° BEND AFTER O.B.
F	45° BEND	PVC DWV, SCJ	TYPICALLY F-F. SIZE TO MATCH PROPERTY CONNECTION PIPE
G	PROPERTY CONNECTION PIPE	PVC DWV, SCJ	LAY IN A VERTICAL ALIGNMENT OR 1 IN 60 GRADE (FOR LATERAL)
H	88 deg SWEEP TEE	PVC DWV, SCJ	ORIENTATE AT 90 deg FROM RETICULATION PIPE
I	INSPECTION OPENING	PVC DWV, SCJ	SIZED TO MATCH PROPERTY CONNECTION PIPE
J	SCREW CAP	PVC DWV, SCJ	SIZED TO MATCH PROPERTY INSPECTION OPENING
K	45 deg BEND	PVC DWV, RRJ OR SCJ	F-M OR F-F TO SUIT. SIZE TO MATCH RETICULATION PIPE
L	45 deg BEND	PVC DWV, RRJ OR SCJ	TYPICALLY M-F. SIZE TO MATCH RETICULATION PIPE
M	RISER PIPE SUPPORT	CEMENT STABILIZED BEDDING	REFER FIGURE 301-C
N	ACCESS COUPLING	PVC DWV, SCJ	SIZED TO MATCH RETICULATION PIPE
O	SCREW COUPLING	PVC DWV, SCJ	INSTALL ONE AT END OF ACCESS COUPLING
P	COMPACTED BACKFILL	CLASS 2 OR CLASS 4 FCR	REFER MRWA BACKFILL SPEC
Q	SURFACE ARRANGEMENT	CONCRETE / DUCTILE IRON	REFER FIGURE 301-B
R	OTHER ASSET	eg: DRAIN, GAS, WATER MAIN	REFER TO OTHER AUTHORITIES REQUIREMENTS
S	MARKER TAPE	AS PER WSA PS 319. CREAM	FROM CENTRE OF CAP. LAY VERTICALLY TO SURFACE

**LEGEND**

- RETICULATION SEWERAGE PIPE
- INSPECTION SHAFT (TO SURFACE)
- PROPERTY CONNECTION RISER ("JUMP UP", BURIED)
- PROPERTY CONNECTION PIPE
- OBSTRUCTION
- ... EASEMENT AREA

**Additional Notes Regarding Table 304-A items:**

- Item D/ E. Use Item E and orientate as per Figure 302-C, unless the lot is setting the level of the sewer main, in which case use Item D.
- Item G. Size as per Table 104-A.
- Item H. For IO ties and offsets, refer Table 108-B and 109-A.

ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE

REV	DESCRIPTION	DATE	APPROVED
2	PUBLISHED FIRST ISSUE	01/10/15	CP / JT / KD / RJ
1	PRE-PUBLISHED DRAFT	01/03/15	CP / JT / KD / RJ

DESIGNED:	R. JAGGER	DATE:	1 JULY 2015
DRAWN:	R. JAGGER	DATE:	1 JULY 2015
CHECKED:	NAME	DATE	APPROVED: NAME
	☑ CWW D. MOORE	01/09/15	☑ CWW R. CARRUTHERS
	☑ SEW C. PAXMAN	01/09/15	☑ SEW D. O'DONOVAN
	☑ YVW K. DAWSON	01/09/15	☑ YVW J. TOMASI
ISSUED	2015	VERSION	1

MELBOURNE RETAIL WATER AGENCIES

MRWA SEWERAGE STANDARDS

OFFSET "JUMP UP" (TYPE 4)  
PROPERTY CONNECTIONS TO SEWERAGE  
MAINS & INSPECTION SHAFTS

NOT TO SCALE

**MRWA-S-304**

Planning	Design	Construction
		✓✓✓✓