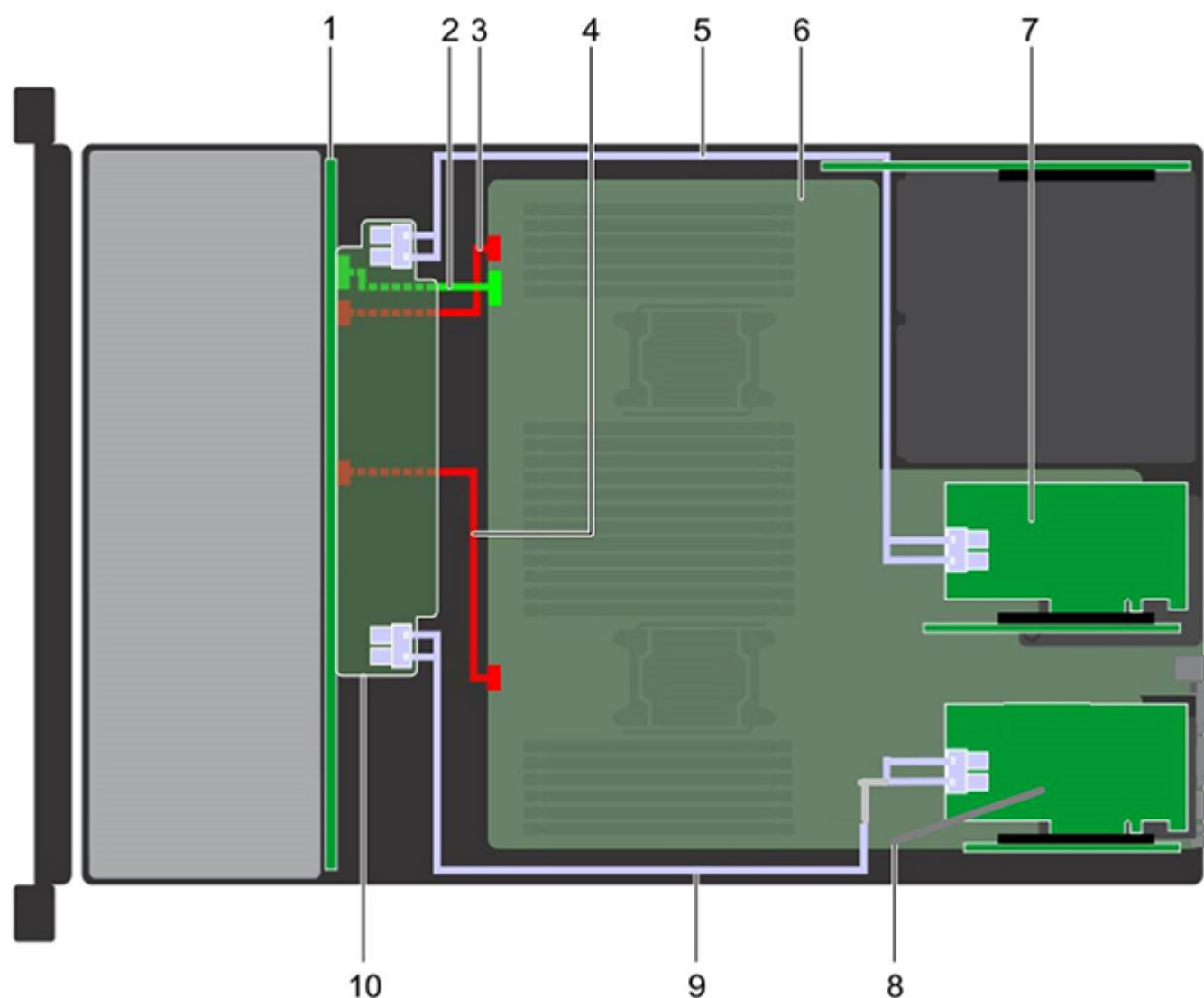




Dell EMC PowerEdge R740xd Installation and Service Manual

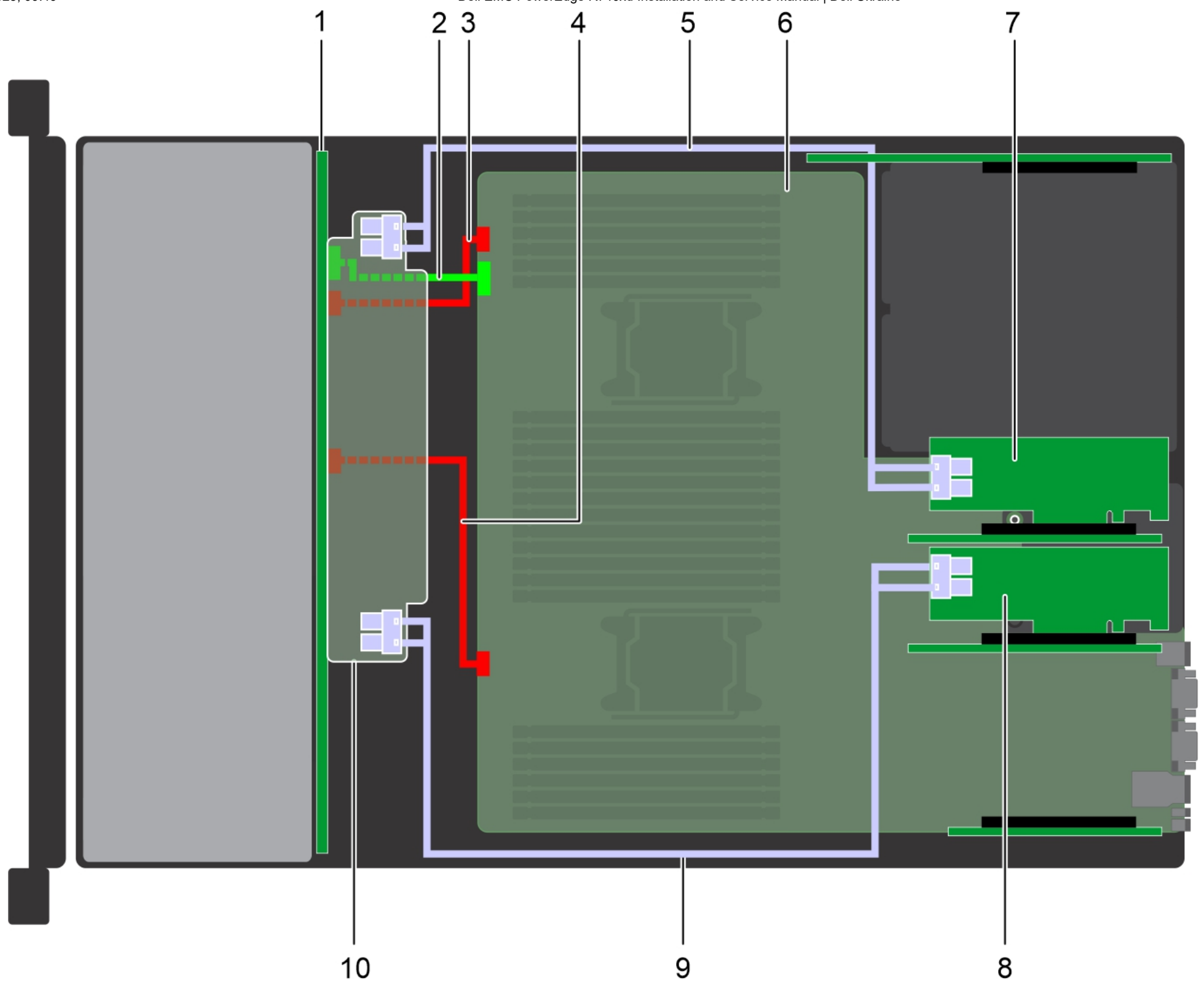
Cable routing

Figure 1. Cable routing – 24 x 2.5 inch drive backplane with dual adapter PERC11/HBA



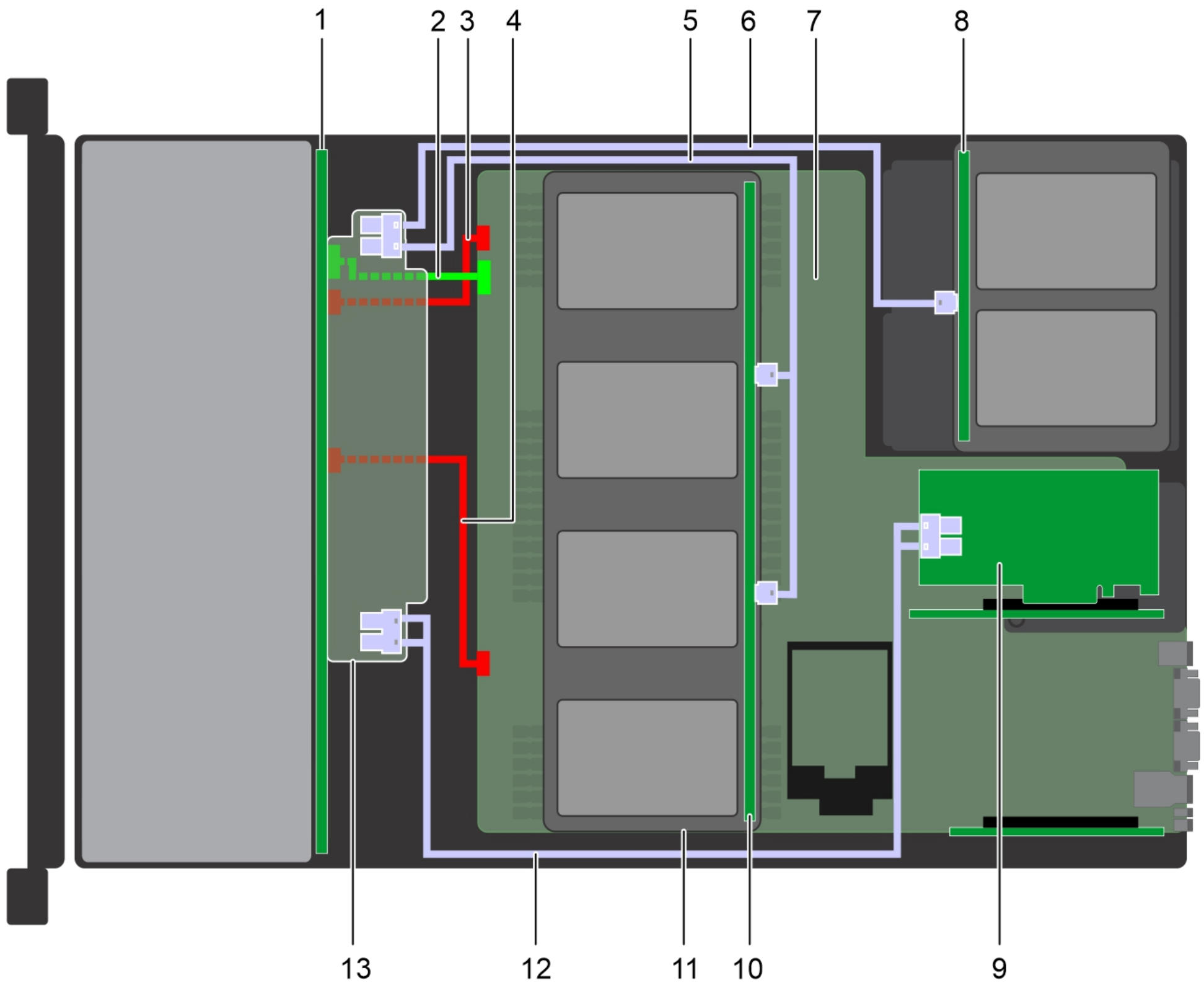
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B (BP: BP3 to MB: BP3)
5. SAS cable (BP: PE2_A to adapter PERC11/HBA)
6. system board
7. adapter PERC11/HBA
8. adapter PERC11/HBA
9. SAS cable (BP: PE1_B to adapter PERC11/HBA)
10. backplane expander

Figure 2. Cable routing – 24 x 2.5 inch drive backplane with dual adapter PERC11/HBA



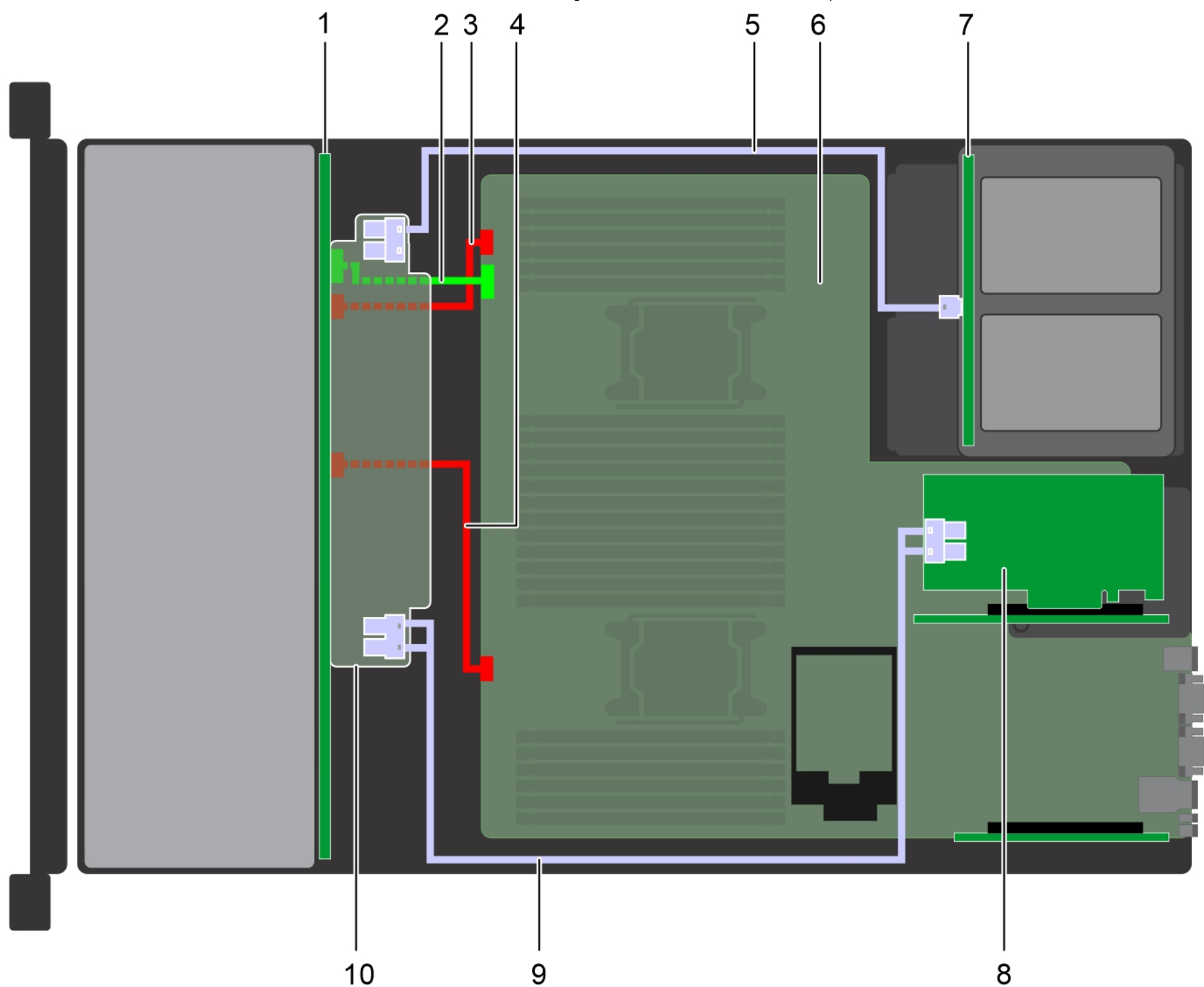
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B (BP: BP3 to MB: BP3)
5. SAS cable (BP: PE2_A to adapter PERC11/HBA)
6. system board
7. adapter PERC11/HBA
8. adapter PERC11/HBA
9. SAS cable (BP: PE1_B to adapter PERC11/HBA)
10. backplane expander

Figure 3. Cable routing – 24 x 2.5 inch drive backplane with 4 x 2.5 inch adapter mid drive tray backplane and 4 x 2.5 inch rear drive backplane with adapter PERC11/HBA



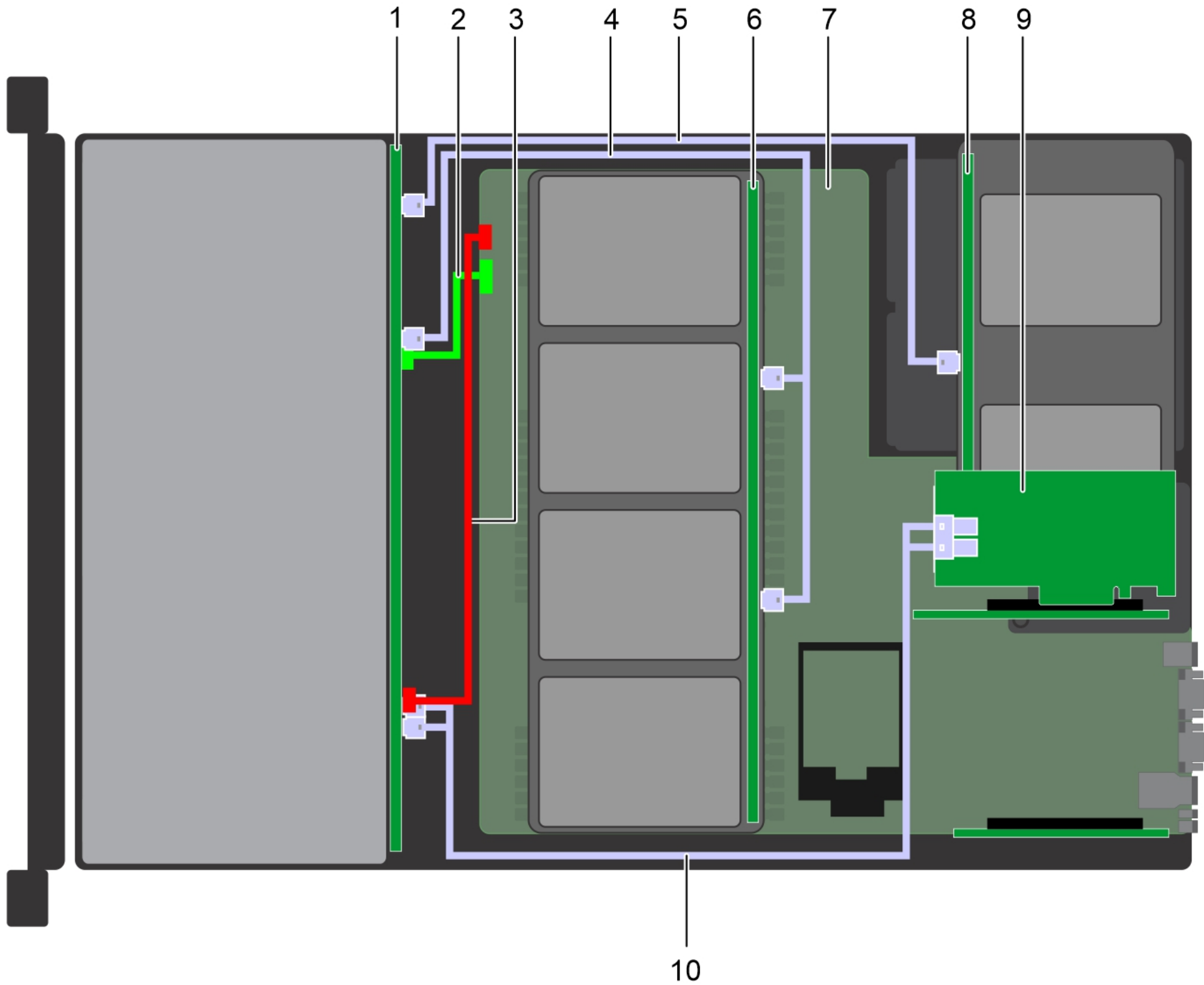
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B (BP: BP3 to MB: BP3)
5. SAS cable (BP to rear BP)
6. SAS cable (BP to Mid BP)
7. system board
8. rear drive backplane
9. adapter PERC11/HBA
10. mid drive backplane
11. 4 x 2.5 (with 4 x 2.5 adapter) inch drives
12. SAS cable (BP: PE1_B to adapter PERC11/HBA)
13. backplane expander

Figure 4. Cable routing – 24 x 2.5 inch drive backplane with 4 x 2.5 inch rear drive backplane with adapter PERC11/HBA



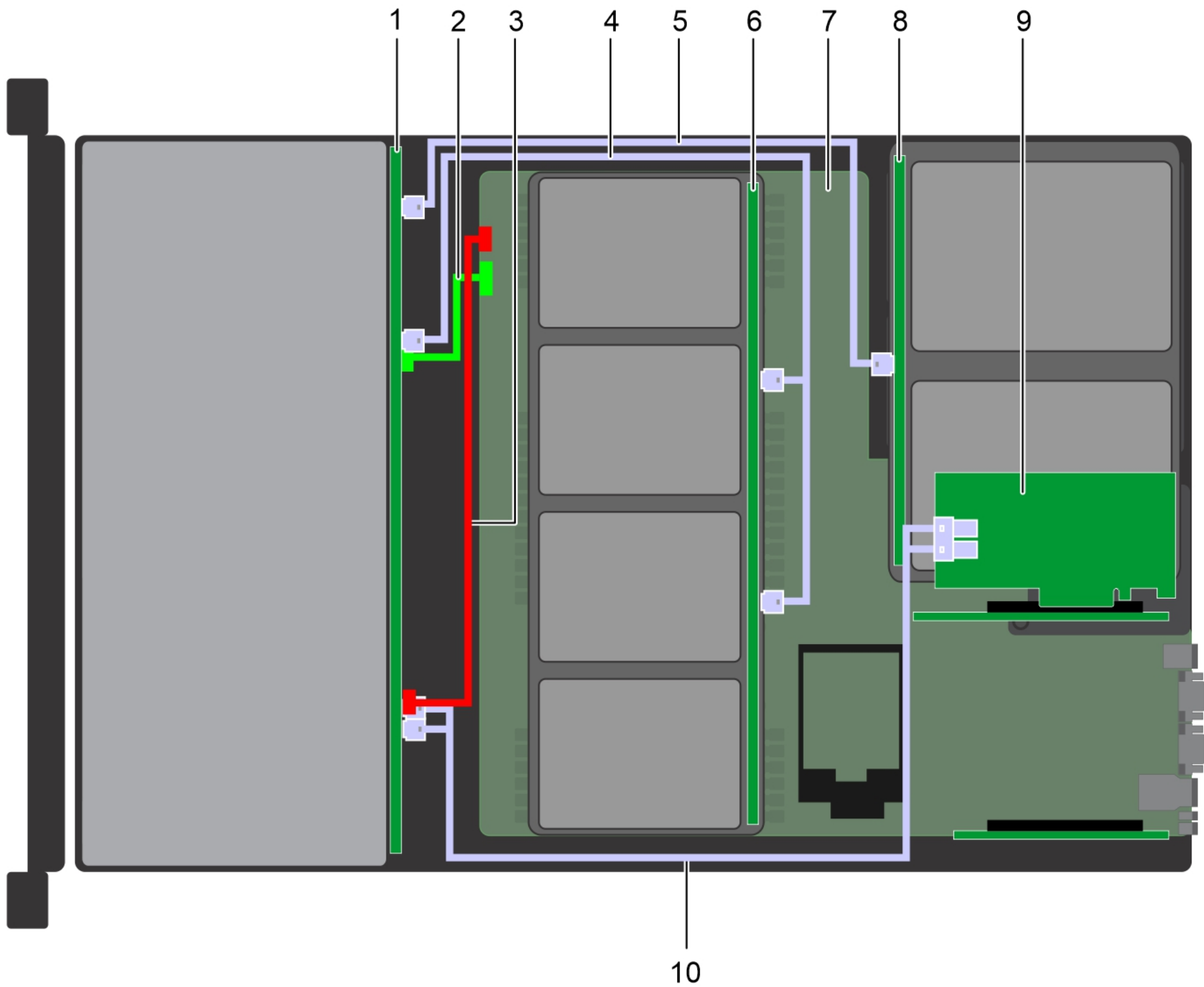
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B (BP: BP3 to MB: BP3)
5. SAS cable (BP to rear BP)
6. system board
7. rear drive backplane
8. adapter PERC11/HBA
9. SAS cable (BP: PE1_B to adapter PERC11/HBA)
10. backplane expander

Figure 5. Cable routing – 12 x 3.5 inch drive backplane with 4 x 3.5 inch (4 x 2.5 inch adapter) mid drive tray backplane and 4 x 2.5 inch rear drive backplane with adapter PERC11/HBA



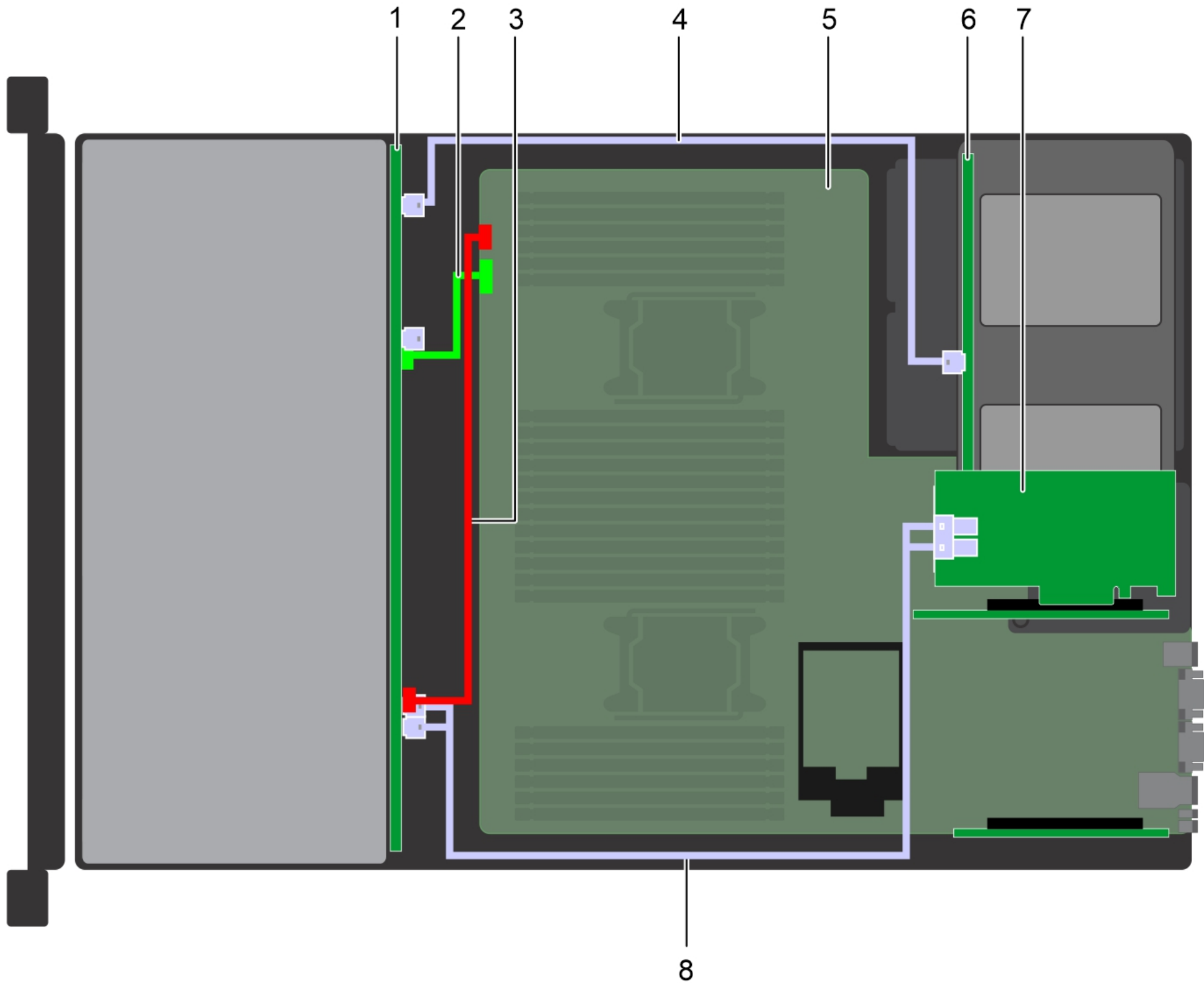
- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable (BP: BP1 to MB: BP1)
- 4. SAS cable (BP: A1 BP SAS to mid BP: J_SAS_A1, J_SAS_B1)
- 5. SAS cable (BP: A2 BP SAS to rear BP: J_SAS_1)
- 6. mid drive tray backplane
- 7. system board
- 8. rear drive backplane
- 9. adapter PERC11/HBA
- 10. SAS cable (BP: J_SAS_A0_B0 to adapter PERC11/HBA)

Figure 6. Cable routing – 12 x 3.5 inch drive backplane with 4 x 3.5 inch (4 x 2.5 inch adapter) mid drive tray backplane and 2 x 3.5 inch rear drive backplane with adapter PERC11/HBA



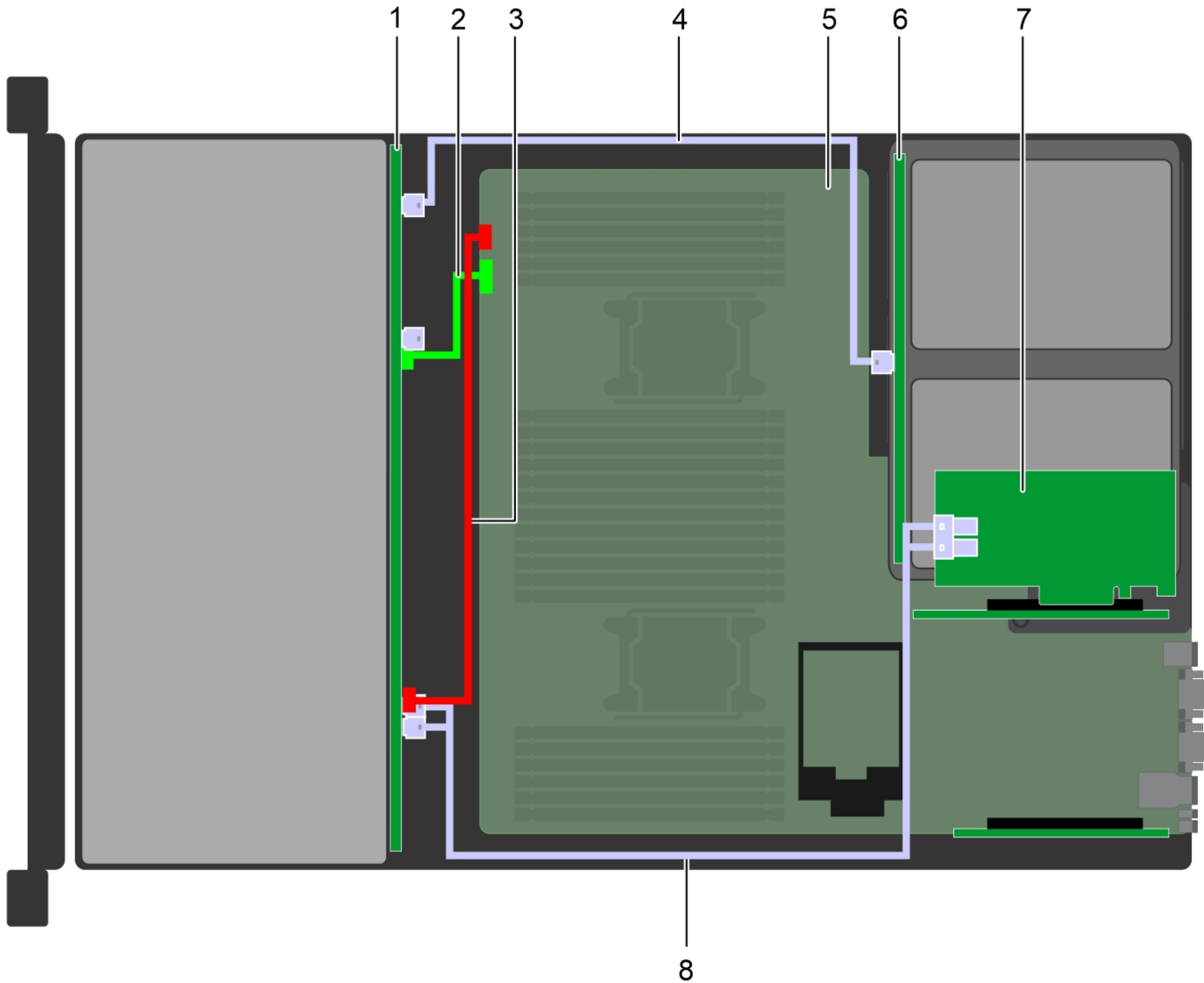
- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable (BP: BP1 to MB: BP1)
- 4. SAS cable (BP: A1 BP SAS to mid BP: J_SAS_A1, J_SAS_B1)
- 5. SAS cable (BP: A2 BP SAS to rear BP: J_SAS_1)
- 6. mid drive tray backplane
- 7. system board
- 8. rear drive backplane
- 9. adapter PERC11/HBA
- 10. SAS cable (BP: J_SAS_A0_B0 to adapter PERC11/HBA)

Figure 7. Cable routing – 12 x 3.5 inch drive backplane with 4 x 2.5 inch rear drive backplane with adapter PERC11/HBA



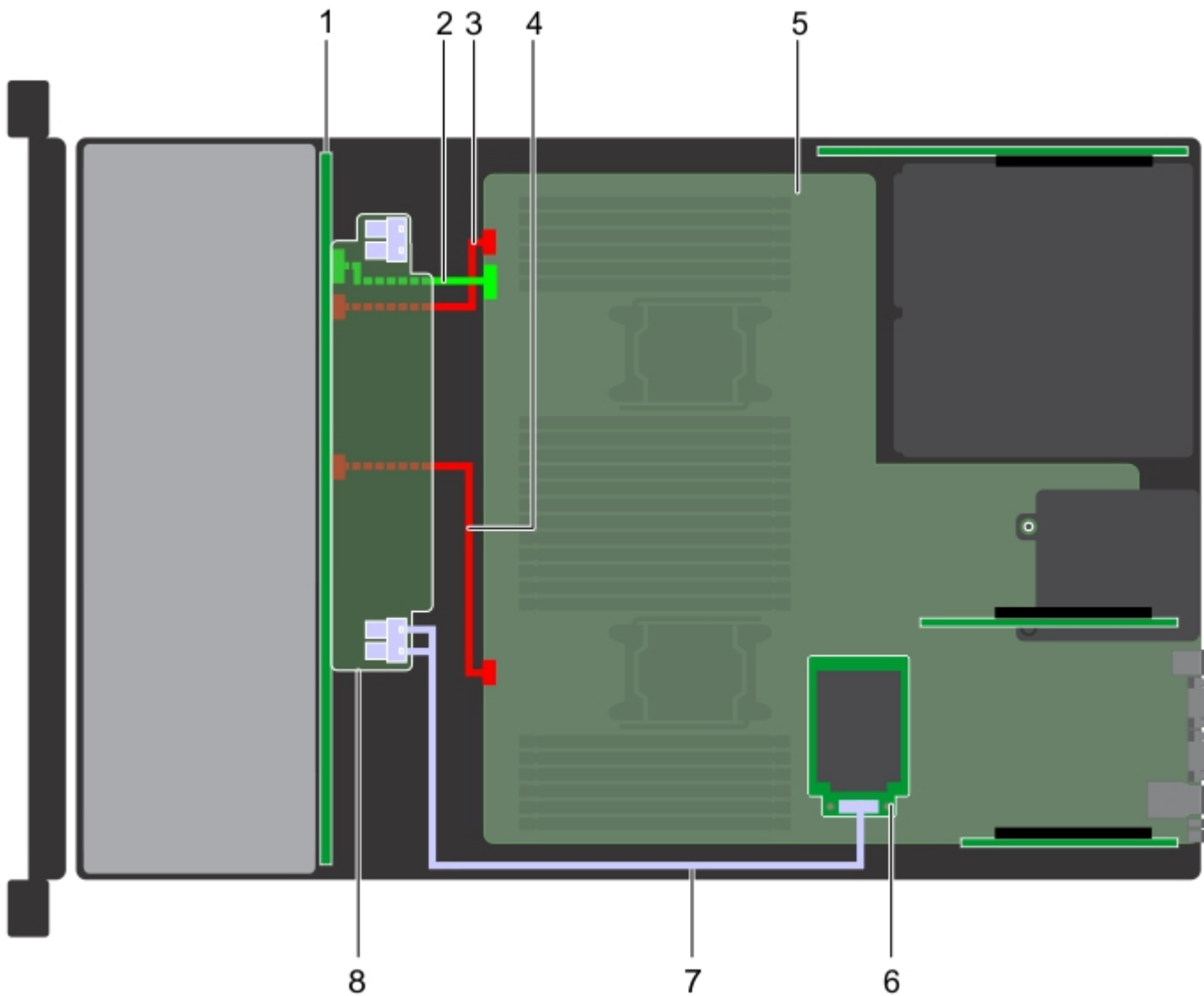
- 1. backplane
- 2. backplane signal cable (Mid BP: J_BP_SIG to MB)
- 3. backplane power cable (Mid BP: J_BP_PWR to MB)
- 4. SAS cable (BP: BP: A1 BP SAS to rear BP: J_SAS_A1, J_SAS_B1)
- 5. system board
- 6. rear drive backplane
- 7. adapter PERC11/HBA
- 8. SAS cable (BP: J_SAS_A0_B0 to adapter PERC11/HBA)

Figure 8. Cable routing – 12 x 3.5 inch drive backplane with 2 x 3.5 inch rear drive backplane with adapter PERC11/HBA



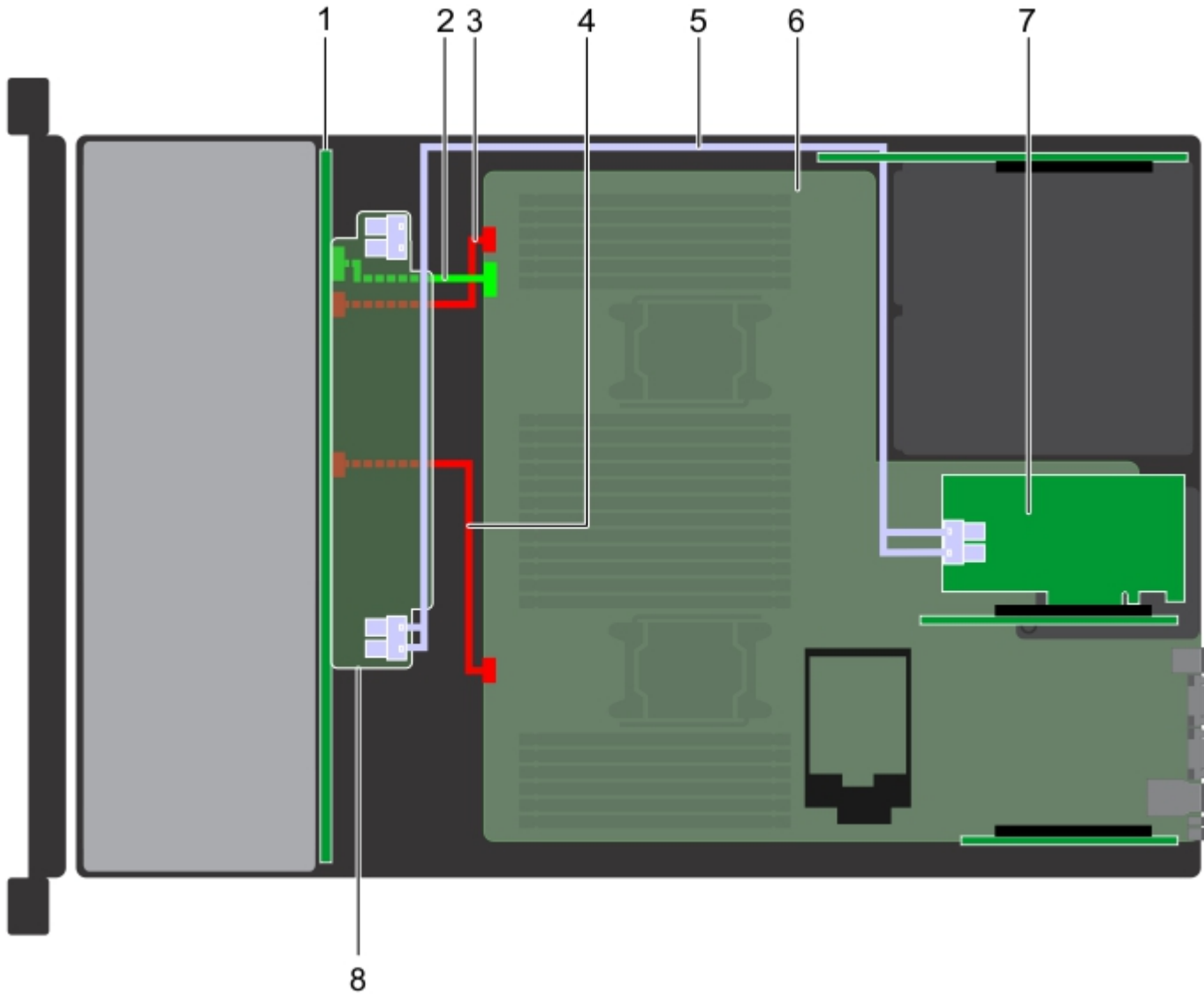
- 1. backplane
- 2. backplane signal cable (Mid BP: J_BP_SIG to MB)
- 3. backplane power cable (Mid BP: J_BP_PWR to MB)
- 4. SAS cable (BP: BP: A1 BP SAS to rear BP: J_SAS_A1, J_SAS_B1)
- 5. system board
- 6. rear drive backplane
- 7. adapter PERC11/HBA
- 8. SAS cable (BP: J_SAS_A0_B0 to adapter PERC11/HBA)

Figure 9. Cable routing – 24 x 2.5 inch drive backplane with mini PERC



- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable A (BP: BP1 to MB: BP1)
- 4. backplane power cable B (BP: BP3 to MB: BP3)
- 5. system board
- 6. mini PERC
- 7. SAS cable (BP: PE1_B to mini PERC)
- 8. backplane expander

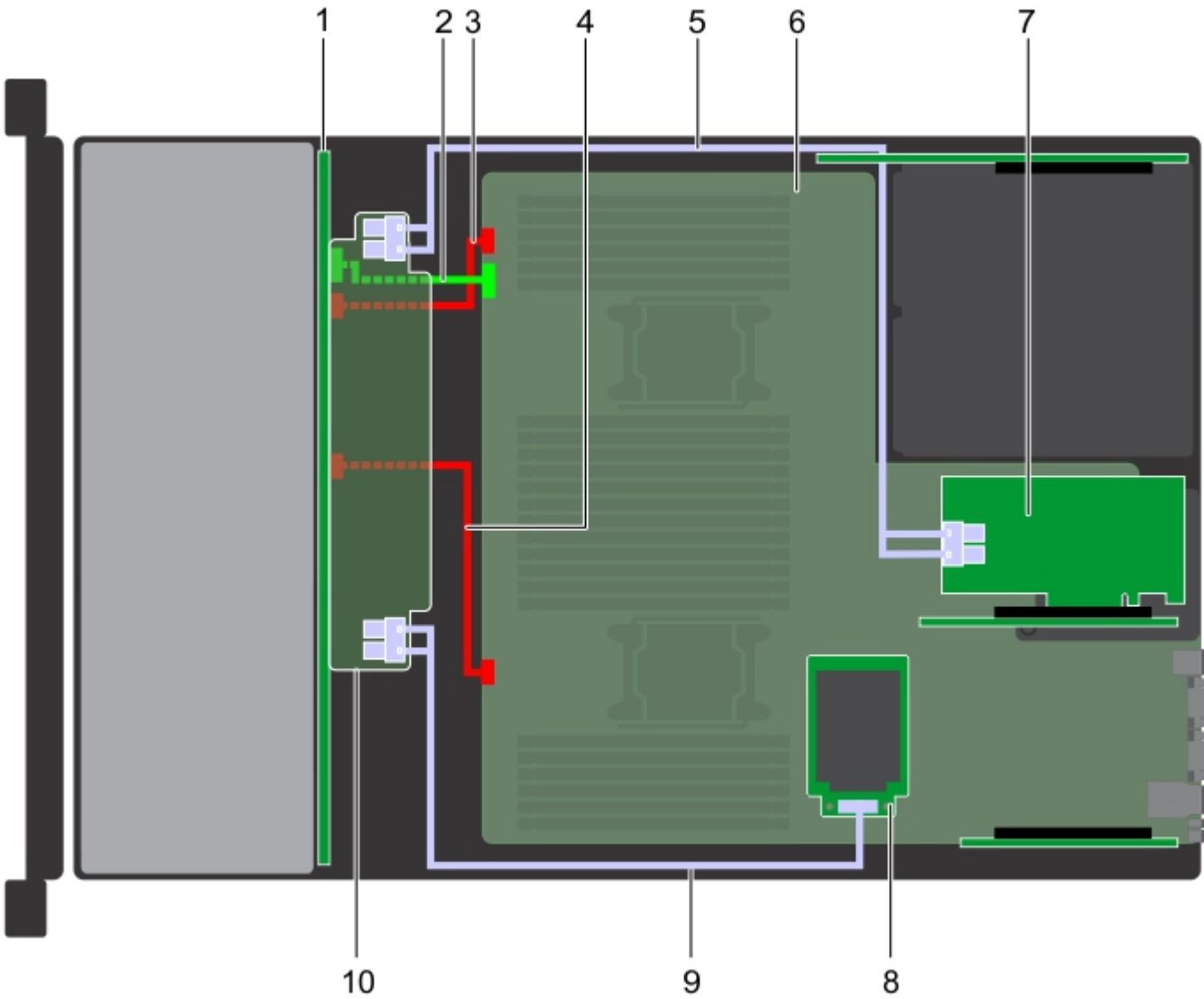
Figure 10. Cable routing – 24 x 2.5 inch drive backplane with adapter PERC



- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable A (BP: BP1 to MB: BP1)
- 4. backplane power cable B (BP: BP3 to MB: BP3)
- 5. SAS cable (BP: PE1_B to adapter PERC)
- 6. system board

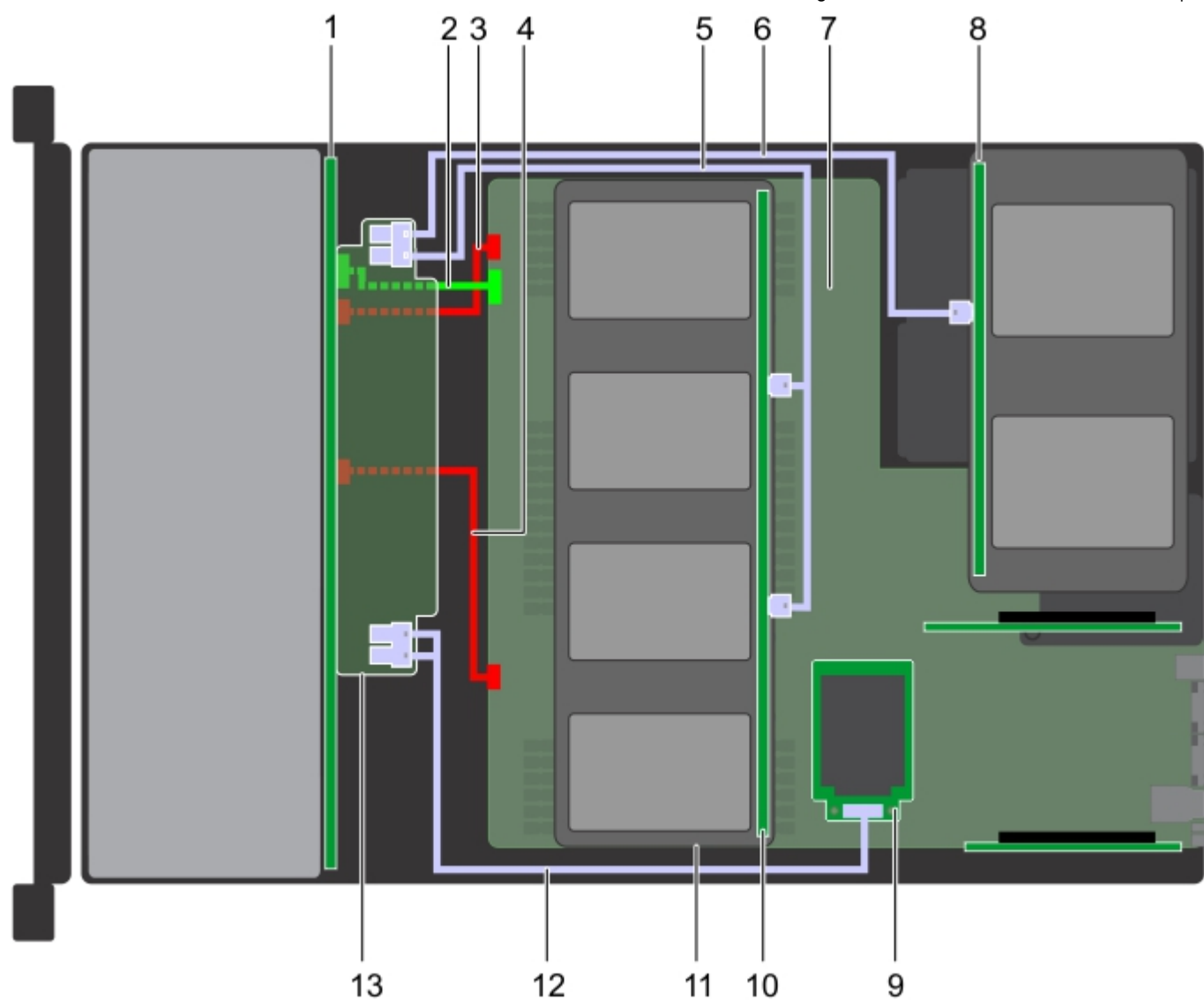
- 7. adapter PERC
- 8. backplane expander

Figure 11. Cable routing – 24 x 2.5 inch drive backplane with mini PERC/HBA and adapter PERC/HBA



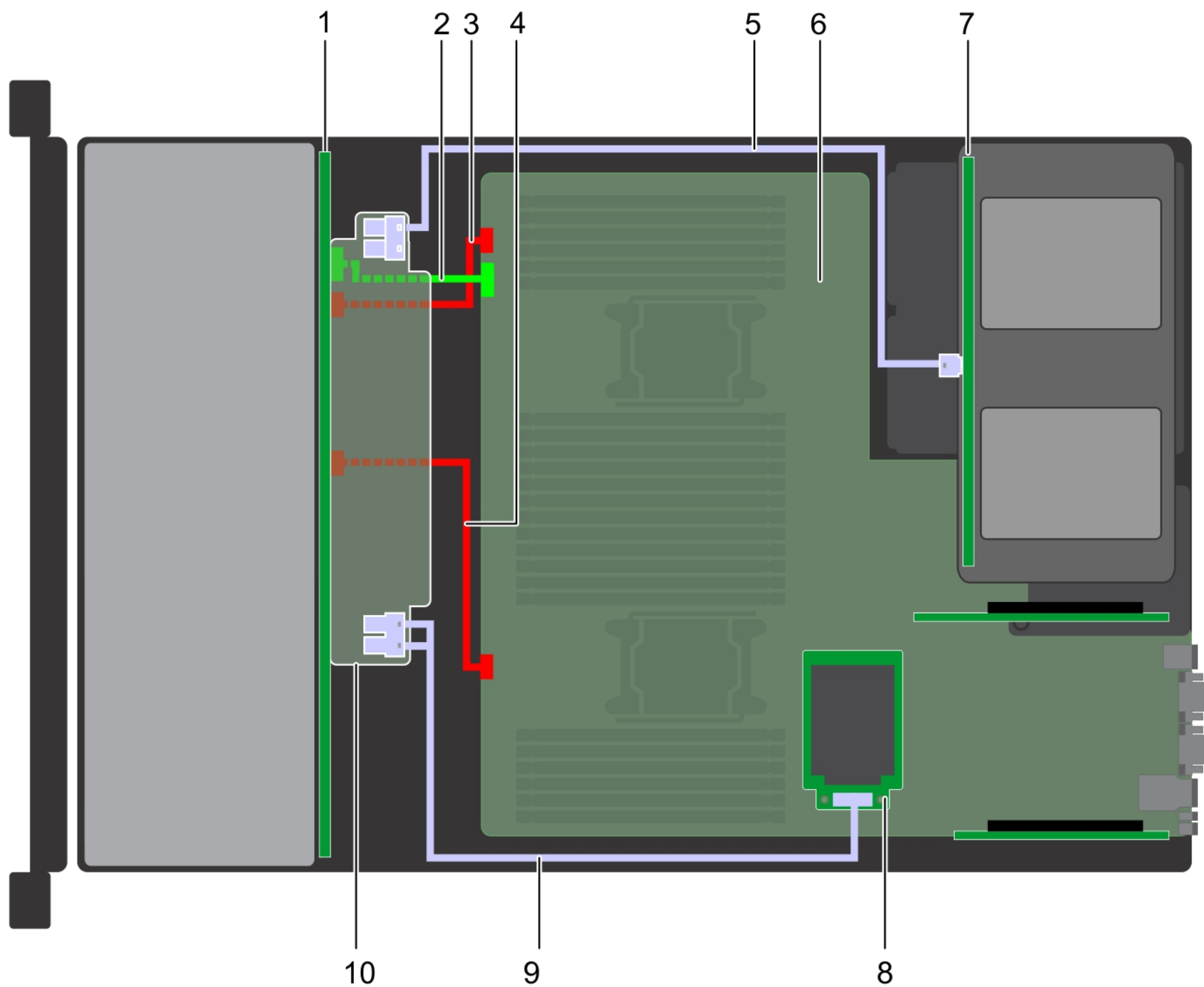
- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable A (BP: BP1 to MB: BP1)
- 4. backplane power cable B (BP: BP3 to MB: BP3)
- 5. SAS cable (BP: PE2_A to adapter PERC/HBA)
- 6. system board
- 7. adapter PERC/HBA
- 8. mini PERC/HBA
- 9. SAS cable (BP: PE1_B to mini PERC/HBA)
- 10. backplane expander

Figure 12. Cable routing – 24 x 2.5 inch drive backplane with 4 x 2.5 inch adapter mid drive tray backplane and 4 x 2.5 inch rear drive backplane



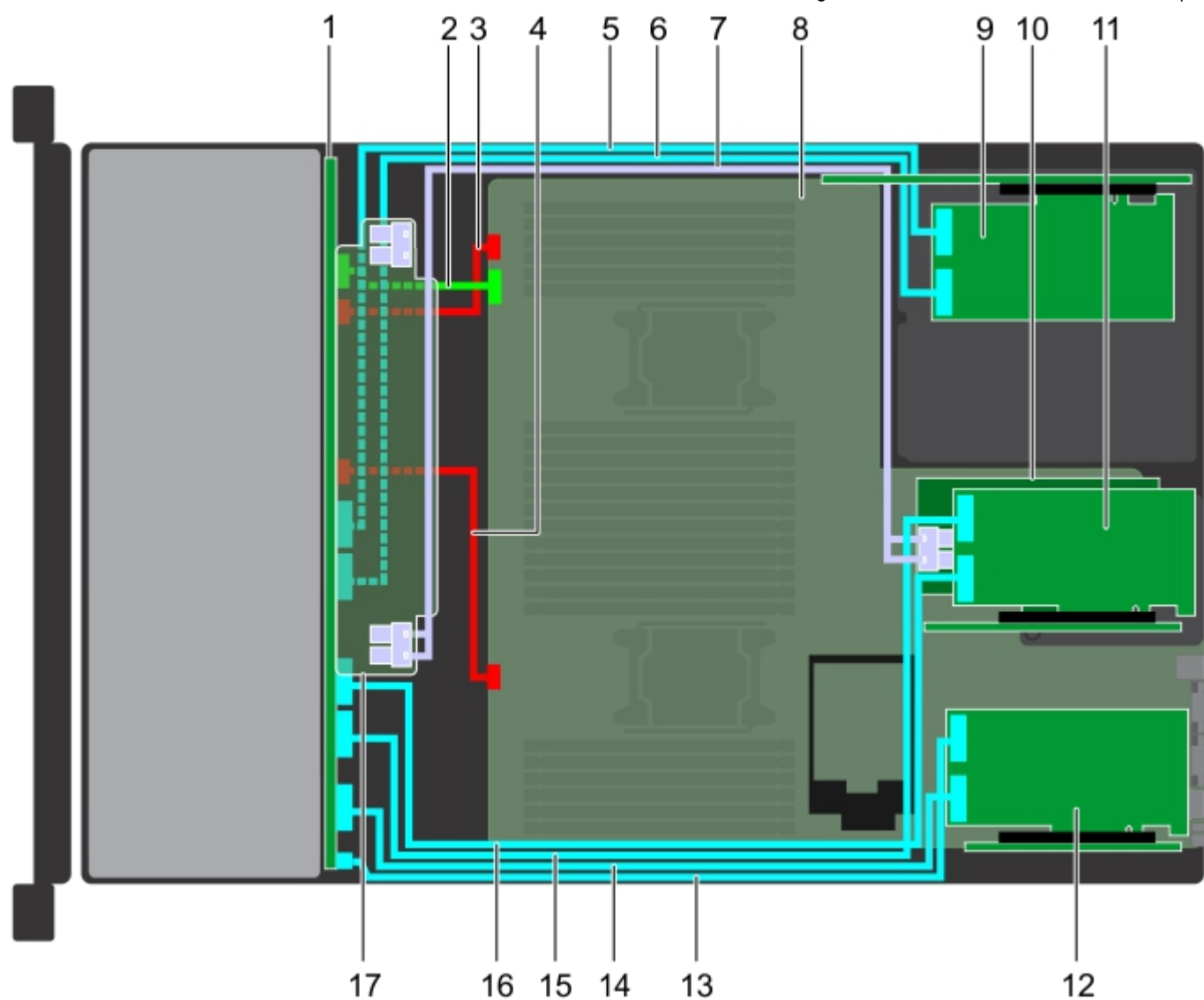
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B (BP: BP3 to MB: BP3)
5. SAS cable (BP to mid BP)
6. SAS cable (BP to rear BP)
7. system board
8. rear drive backplane
9. mini PERC
10. mid drive backplane
11. 4 x 3.5 (with 4 x 2.5 adapter) inch drives
12. SAS cable (BP: PE1_B to mini PERC)
13. backplane expander

Figure 13. Cable routing – 24 x 2.5 inch drive backplane with 4 x 2.5 inch rear drive backplane



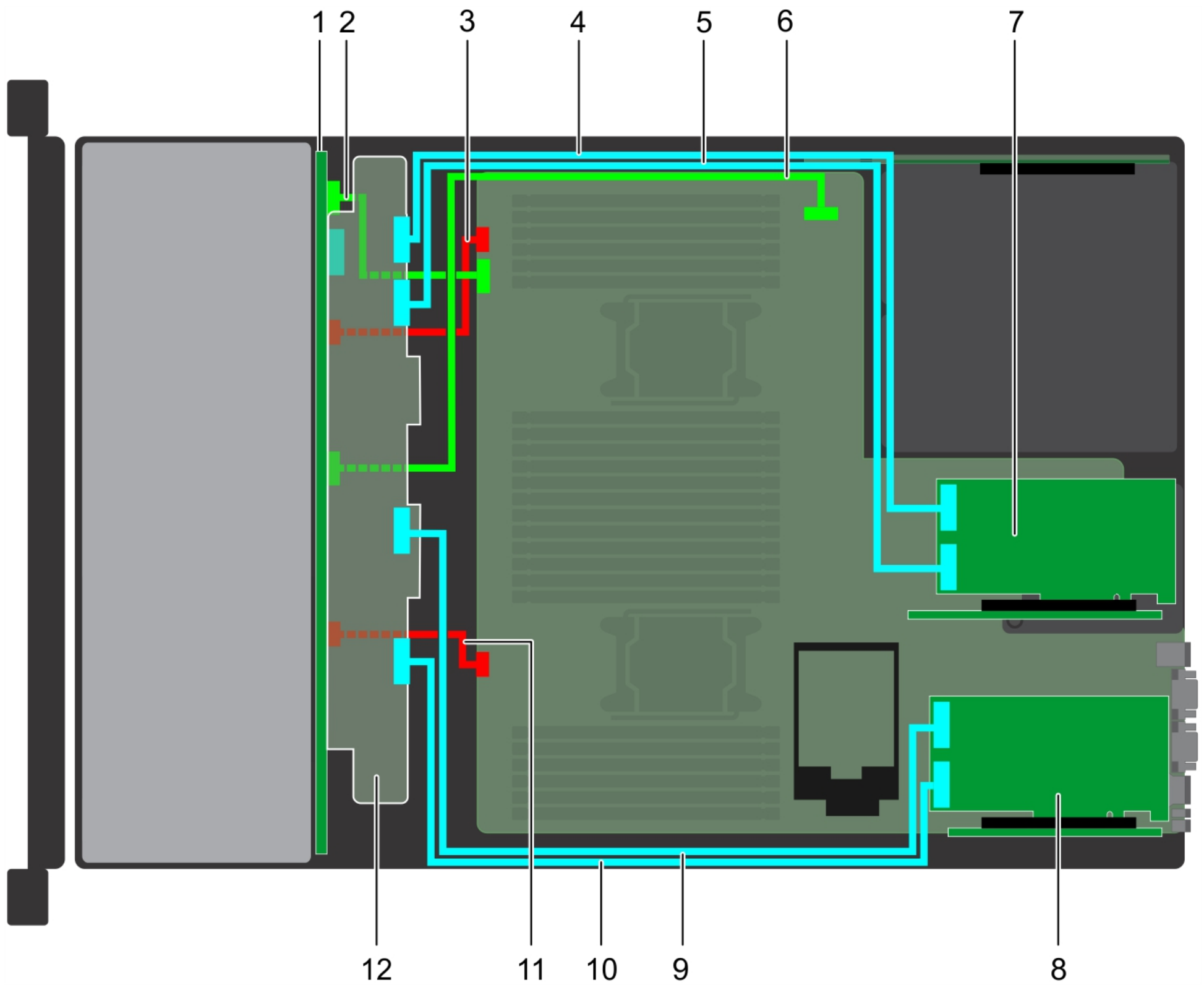
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B (BP: BP3 to MB: BP3)
5. SAS cable (BP to rear BP)
6. system board
7. rear drive backplane
8. mini PERC
9. SAS cable (BP: PE1_B to mini PERC)
10. backplane expander

Figure 14. Cable routing – 24 x 2.5 inch drive backplane with 12 SAS plus 12 PCIe and adapter PERC



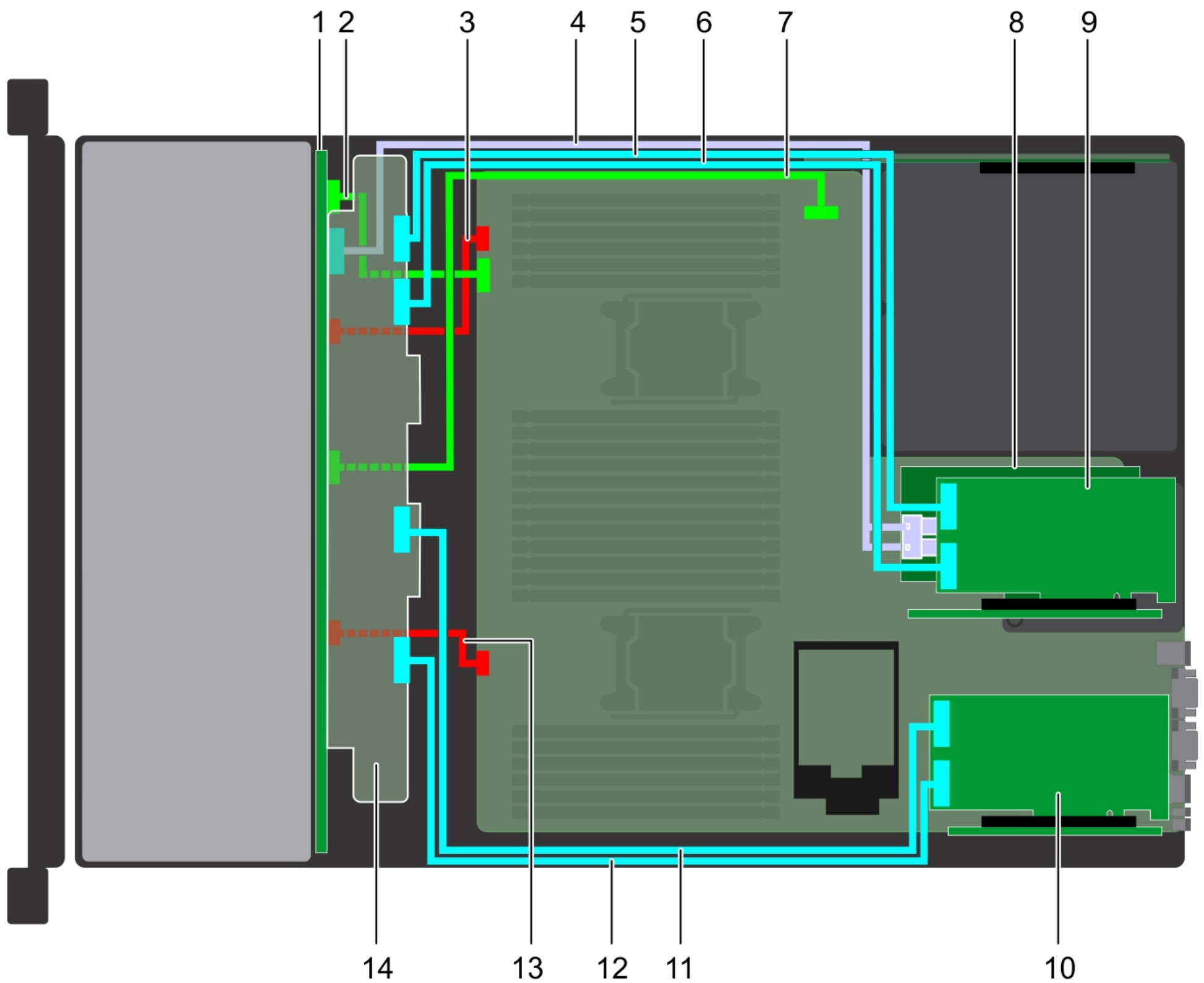
1. backplane
2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
3. backplane power cable A (BP: BP1 to MB: BP1)
4. backplane power cable B [BP: BP3 to MB (BP3)]
5. PCIe cable A of PCIe card 1 (BP: BP PCIE A2 to RAID controller)
6. PCIe cable B of PCIe card 1 (BP: BP PCIE B2 to RAID controller)
7. SAS cable (BP to adapter PERC)
8. system board
9. PCIe card 1 on riser 3A (slot 8)
10. adapter PERC on riser 2A (slot 6)
11. PCIe card 2 on riser 2A (slot 4)
12. PCIe card 3 on riser 1D (slot 1)
13. PCIe cable A of PCIe card 3 (BP: BP PCIE B0 to RAID controller)
14. PCIe cable B of PCIe card 3 (BP: BP PCIE A0 to RAID controller)
15. PCIe cable A of PCIe card 2 (BP: BP PCIE B1 to RAID controller)
16. PCIe cable B of PCIe card 2 (BP: BP PCIE A1 to RAID controller)
17. backplane expander

Figure 15. Cable routing – 24 x 2.5 inch NVMe drive backplane



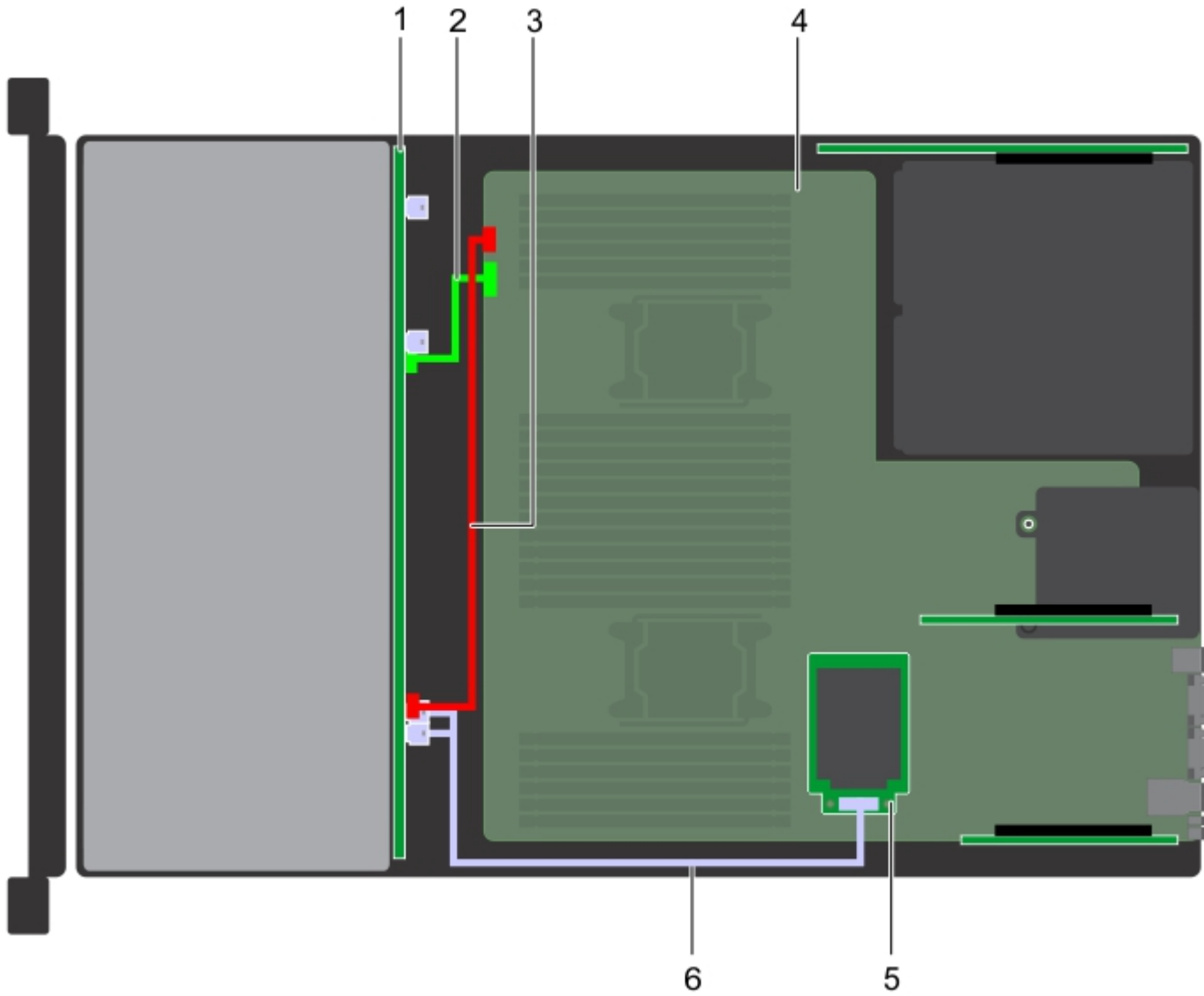
1. backplane
2. backplane signal cable A (BP: J_BP_SIG to MB)
3. backplane power cable A (BP: J_PWR_A to MB)
4. PCIe cable A (BP: PE2_A to RAID controller)
5. PCIe cable B (BP: PE2_B to RAID controller)
6. backplane signal cable B
7. PCIe card on riser 2 (slot 4)
8. PCIe card on riser 1 (slot 3)
9. PCIe cable A (BP: PE1_A to RAID controller)
10. PCIe cable B (BP: PE1_B to RAID controller)
11. backplane power cable B (BP: J_PWR_B to MB)
12. backplane expander

Figure 16. Cable routing – 24 x 2.5 inch drive backplane with up to 24 NVMe or up to 8 SAS/SATA drives with NVMe



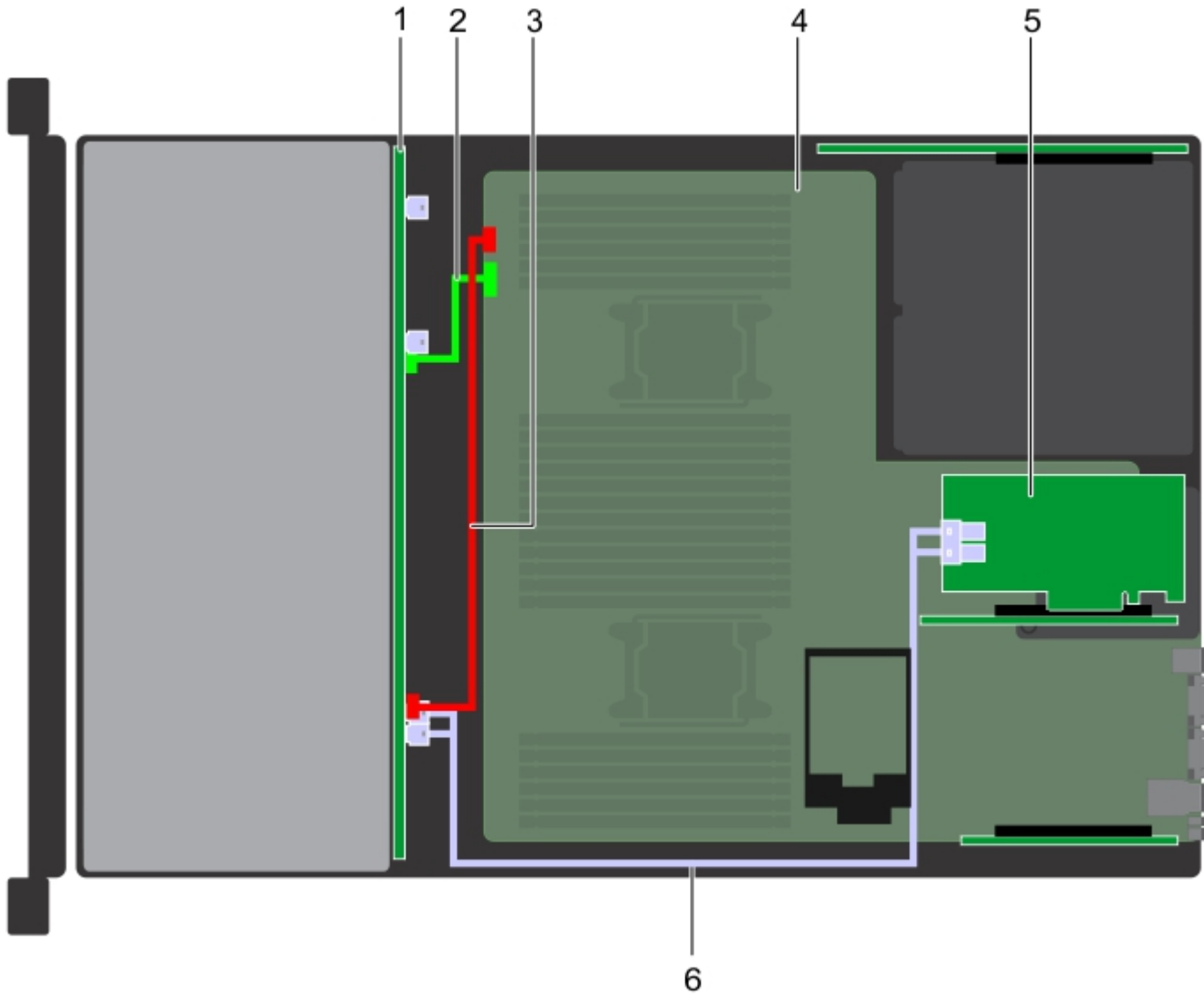
1. backplane
2. backplane signal cable A (BP: J_BP_SIG to MB)
3. backplane power cable A (BP: J_PWR_A to MB)
4. SAS cable (BP to adapter PERC)
5. PCIe cable A (BP: PE2_A to RAID controller)
6. PCIe cable B (BP: PE2_B to RAID controller)
7. backplane signal cable B
8. adapter PERC on riser 2 (slot 6)
9. PCIe card on riser 2 (slot 4)
10. PCIe card on riser 1 (slot 3)
11. PCIe cable A (BP: PE1_A to RAID controller)
12. PCIe cable B (BP: PE1_B to RAID controller)
13. backplane power cable B (BP: J_PWR_B to MB)
14. backplane expander

Figure 17. Cable routing – 12 x 3.5 inch drive backplane with mini PERC



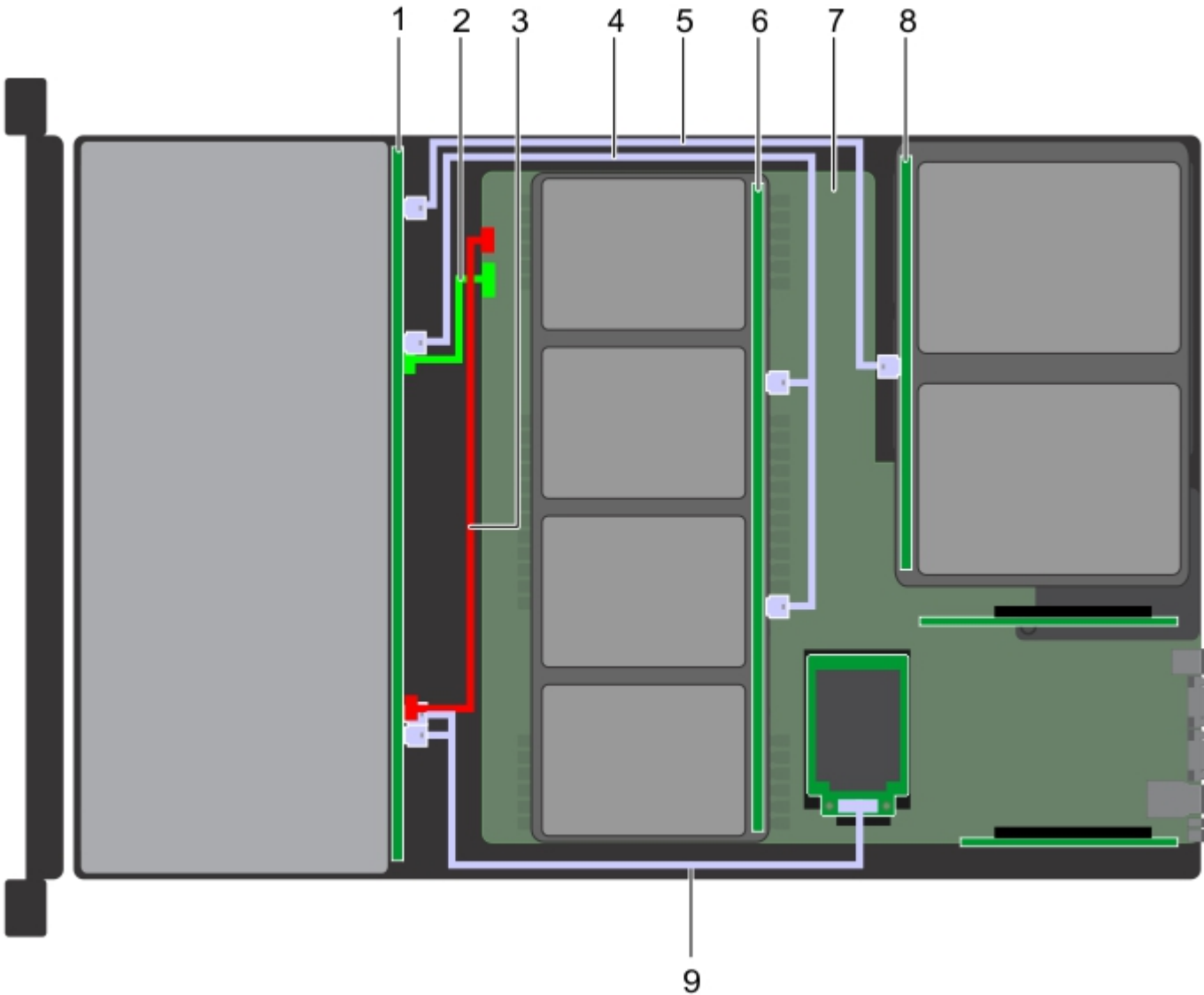
- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable (BP: BP1 to MB: BP1)
- 4. system board
- 5. mini PERC
- 6. SAS cable (BP: J_SAS_A0_B0 to mini PERC)

Figure 18. 12 x 3.5 inch drive backplane with adapter PERC



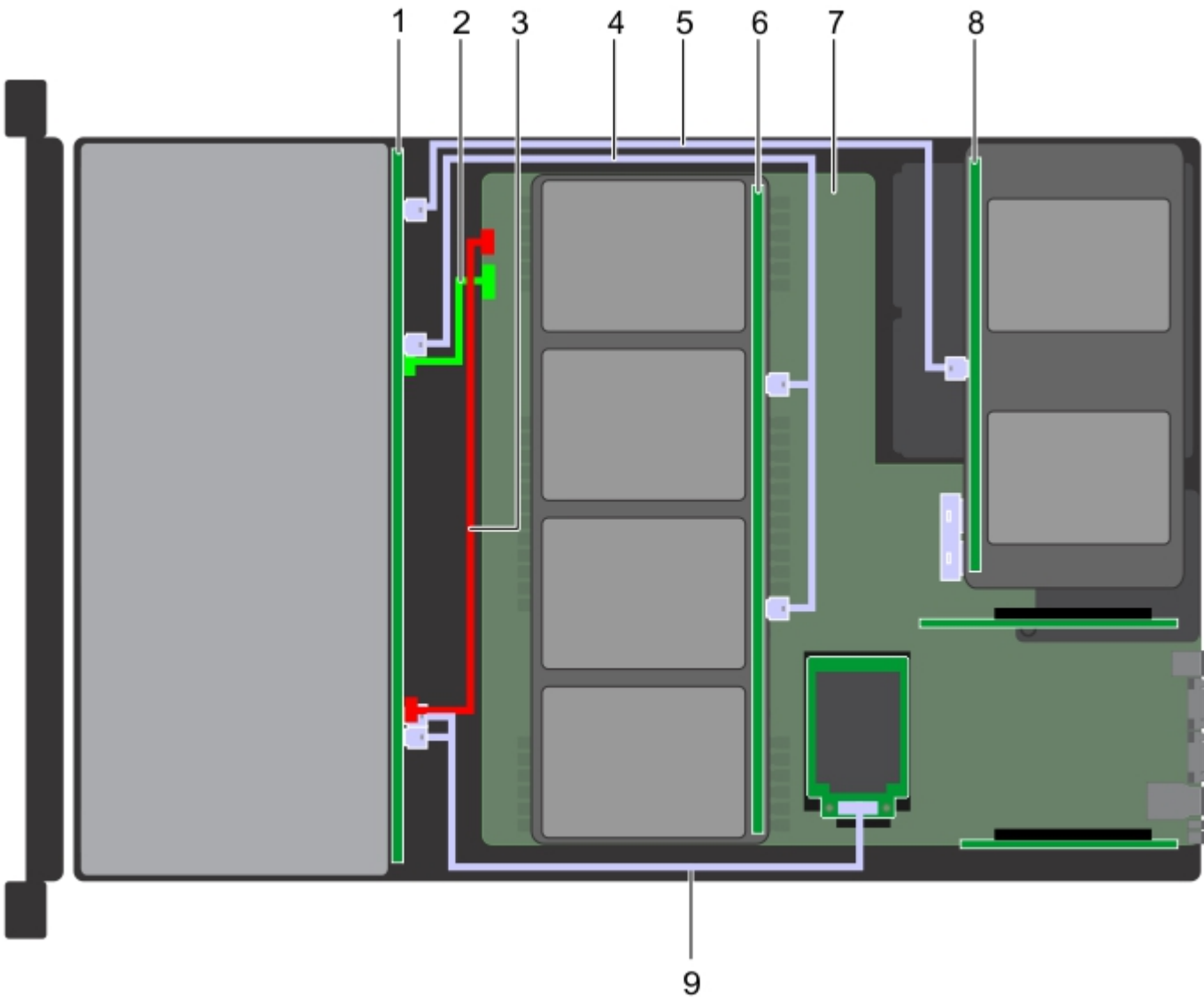
- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable (BP: BP1 to MB: BP1)
- 4. system board
- 5. adapter PERC
- 6. SAS cable (BP: J_SAS_A0_B0 to adapter PERC)

Figure 19. Cable routing – 12 x 3.5 inch drive backplane with 4 x 3.5 inch (4 x 2.5 inch adapter) mid drive tray backplane and 2 x 3.5 inch rear drive backplane



- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)
- 3. backplane power cable (BP: BP1 to MB: BP1)
- 4. SAS cable (BP: A1 BP SAS to mid BP: J_SAS_A1, J_SAS_B1)
- 5. SAS cable (BP: A2 BP SAS to rear BP: J_SAS_1)
- 6. mid drive backplane
- 7. system board
- 8. rear drive backplane
- 9. SAS cable (BP: J_SAS_A0_B0 to mini PERC)

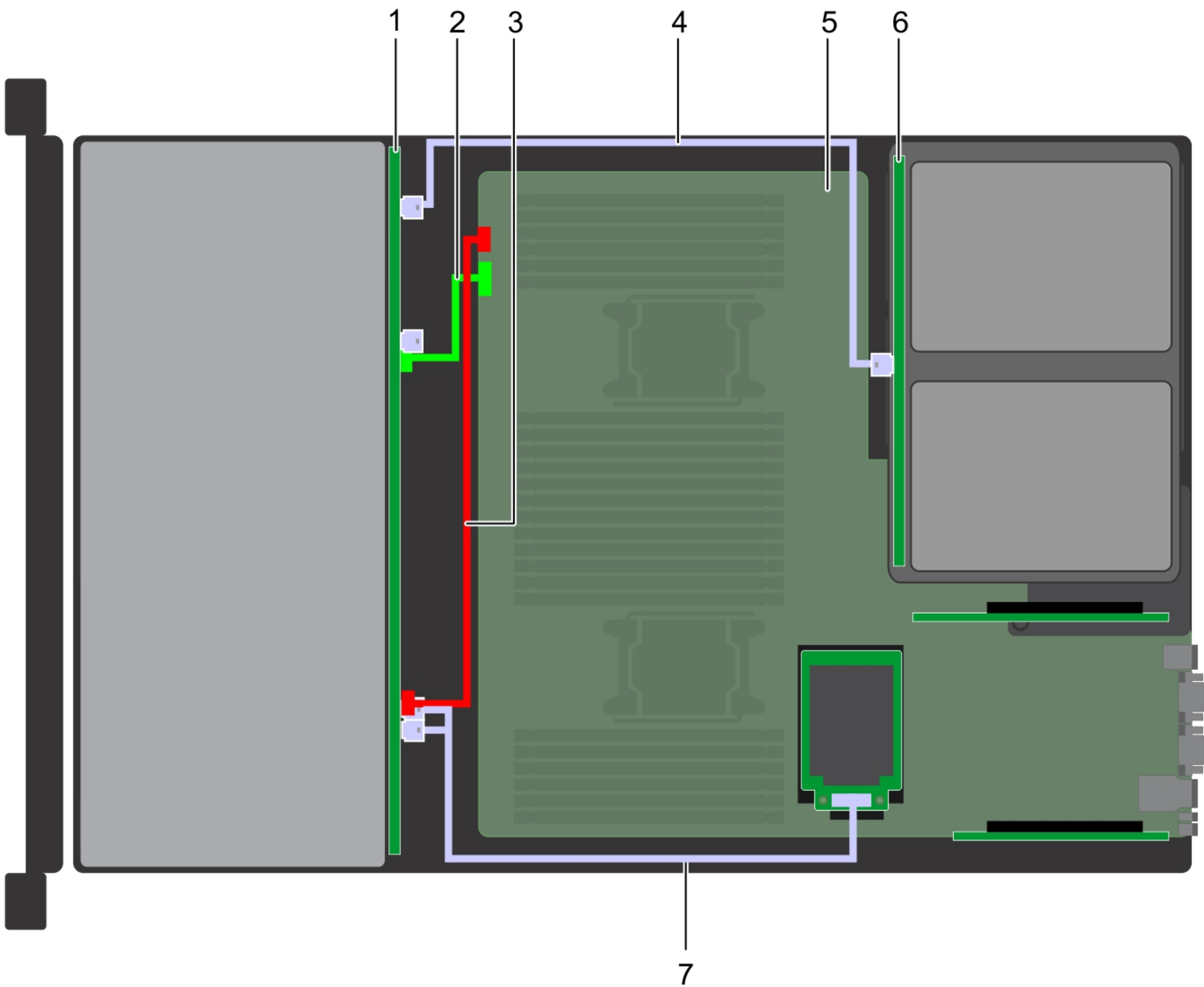
Figure 20. Cable routing – 12 x 3.5 inch drive backplane with 4 x 3.5 inch (4 x 2.5 inch adapter) mid drive tray backplane and 4 x 2.5 inch rear drive backplane



- 1. backplane
- 2. backplane signal cable (BP: BPSIG1 to MB: BPSIG1)

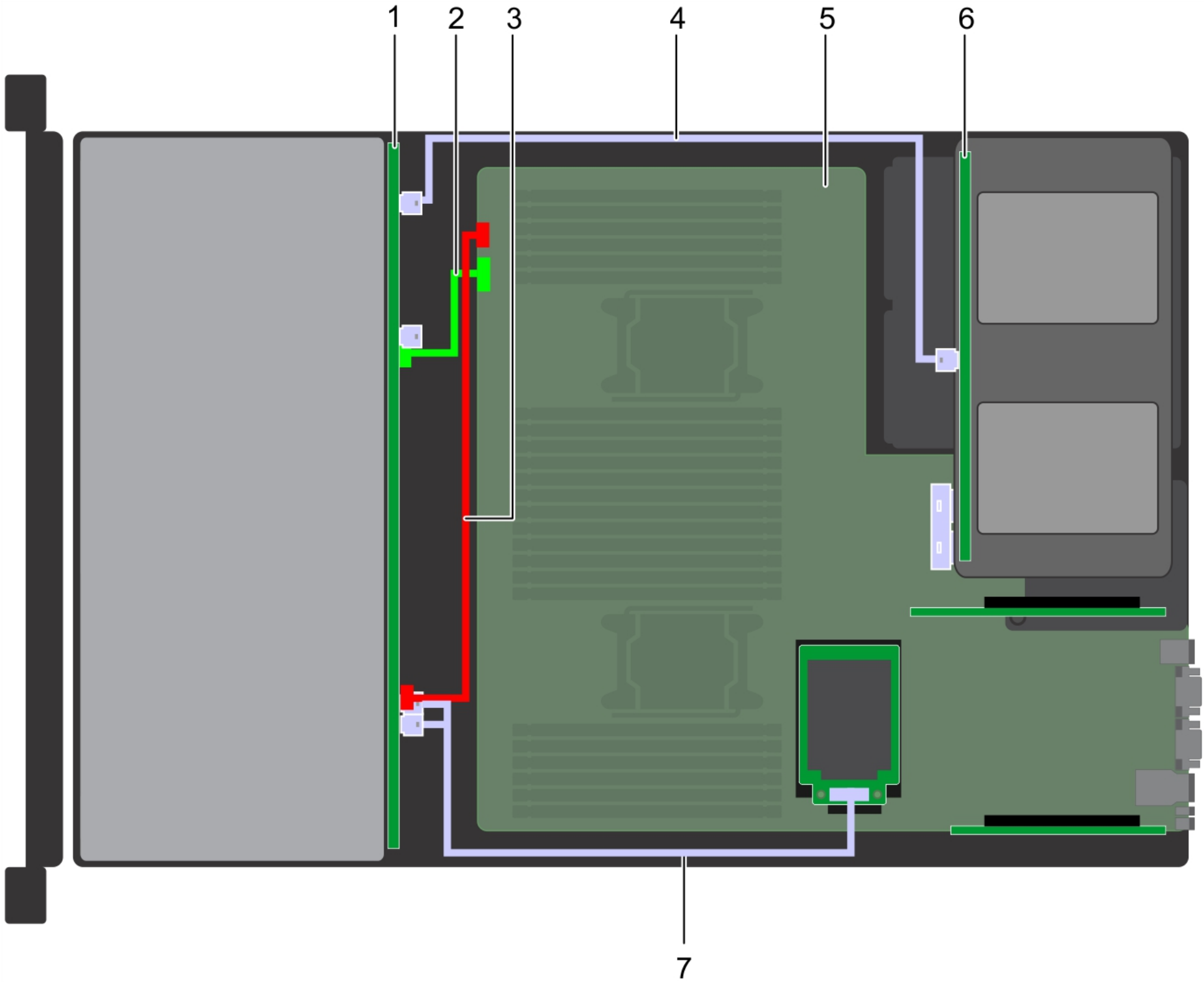
- 3. backplane power cable (BP: BP1 to MB: BP1)
- 4. SAS cable (BP: A1 BP SAS to mid BP: J_SAS_A1, J_SAS_B1)
- 5. SAS cable (BP: A2 BP SAS to rear BP: J_SAS_1)
- 6. mid drive tray backplane
- 7. system board
- 8. rear drive backplane
- 9. SAS cable (BP: J_SAS_A0_B0 to mini PERC)

Figure 21. Cable routing – 12 x 3.5 inch drive backplane with 2 x 3.5 inch rear drive backplane



- 1. backplane
- 2. backplane signal cable (Mid BP: J_BP_SIG to MB)
- 3. backplane power cable (Mid BP: J_BP_PWR to MB)
- 4. SAS cable (BP: BP: A1 BP SAS to rear BP: J_SAS_A1, J_SAS_B1)
- 5. system board
- 6. rear drive backplane
- 7. SAS cable (BP: J_SAS_A0_B0 to mini PERC)

Figure 22. Cable routing – 12 x 3.5 inch drive backplane with 4 x 2.5 inch rear drive backplane



- 1. backplane
- 2. backplane signal cable (Mid BP: J_BP_SIG to MB)
- 3. backplane power cable (Mid BP: J_BP_PWR to MB)
- 4. SAS cable (BP: BP: A1 BP SAS to rear BP: J_SAS_A1, J_SAS_B1)
- 5. system board
- 6. rear drive backplane
- 7. SAS cable (BP: J_SAS_A0_B0 to mini PERC)

i NOTE: The PERC11 H750 and HBA350i cards are not supported on 4x3.5 + 2x2.5 dual PERC, 10x2.5 + 2x2.5 dual PERC, or x10 NVMe configurations.