```cpp
// =================== DetectorConstruction.hh Head File =====================
//
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// Modified by Darren Holland 2020-11-02
// ==========================================================================
//
// This file is the mandatory initialization class for detector setup.
// ==========================================================================
//
#ifndef B4DetectorConstruction_h  // Required
#define B4DetectorConstruction_h 1  // Required
#include "G4VUserDetectorConstruction.hh"
#include "globals.hh"
// ==========================================================================
//
class G4VPhysicalVolume;
class B4DetectorConstruction : public G4VUserDetectorConstruction
{
  public:
    B4DetectorConstruction();
    virtual ~B4DetectorConstruction();
  public:
    virtual G4VPhysicalVolume* Construct();
    // Detector class (NOTE won't work properly if function name is changed)
    virtual void ConstructSDandField();
  private:
    G4VPhysicalVolume* DefineVolumes();
    // Option to activate checking of volumes overlaps
    G4bool  fCheckOverlaps;
};
#endif
```