

2.5 Indirect Addressing, INDF and FSR Registers

The INDF register is not a physical register. Addressing the INDF register will cause indirect addressing.

Indirect addressing is possible by using the INDF register. Any instruction using the INDF register actually accesses the register pointed to by the File Select Register, FSR. Reading the INDF register itself indirectly (FSR = '0') will read 00h. Writing to the INDF register indirectly results in a no-operation (although status bits may be affected). An effective 9-bit address is obtained by concatenating the 8-bit FSR register and the IRP bit (STATUS<7>), as shown in Figure 2-6.

A simple program to clear RAM locations 20h-2Fh using indirect addressing is shown in Example 2-2.

EXAMPLE 2-2: INDIRECT ADDRESSING

```

movlw 0x20 ;initialize pointer
movwf FSR ;to RAM
NEXT   clrf INDF ;clear INDF register
       incf FSR,F ;inc pointer
       btfss FSR,4 ;all done?
       goto NEXT ;no clear next

CONTINUE
:      ;yes continue
    
```

FIGURE 2-6: DIRECT/INDIRECT ADDRESSING

