raw materials, waste products, finished products, intermediate products, byproducts, and other materials associated with industrial activities.

When an industrial facility, described by the above eligibility provisions of this section, has industrial activities being conducted onsite that meet the description(s) of industrial activities in another section(s), that industrial facility shall comply with any and all applicable monitoring and pollution prevention plan requirements of the other section(s) in addition to all applicable requirements in this section. The monitoring and pollution prevention plan terms and conditions of this multi-sector permit are additive for industrial activities being conducted at the same industrial facility (co-located industrial activities). The operator of the facility shall determine which other monitoring and pollution prevention plan section(s) of this permit (if any) are applicable to the facility.

The printing and publishing industry is composed of a heterogeneous collection of over 38,000 companies that range in size from a few employees to several thousand.98 Some companies are involved in both printing and publishing, while others are exclusively one or the other. The industrial activities of these facilities are similar, but the finished products vary. The finished products include magazines, newspapers, books, and labels. The printing activities covered under this section occur strictly indoors, and are separated into distinct operations. They include book printing, commercial printing (lithographic and gravure), and platemaking for printing purposes. The lithographic printing operation, which is based on the premise that grease and water do not mix, consists of a printing plate or cylinder, ink, a blanket and paper. Areas on the printing plate which will be transferred are coated with grease, and the rest of the plate is kept moist with water. The ink adheres to the grease and is repelled by the water. The printing image is then transferred to a blanket, which is transferred to paper. The gravure printing process uses printing plates or cylinders, ink, and paper. In the gravure process, the image is engraved on the printing plate or cylinder, the ink is then picked up by the engraved cells and directly transferred to paper. Other printing methods include screen, letter press, and flexographic printing. In the platemaking process, plates are cut from metal (usually steel), formed, engraved

with the image, and coated with copper sulfate or chromic acid. The plates are later used in the printing processes described above.

Aside from the specific printing activities, other types of industrial activities are shared by facilities covered under this section. For example, the majority of these facilities have outdoor material handling and storage activities, and share the same types of raw and waste materials.

The primary raw materials utilized by this industry group include paper (including wax paper and card stock at some facilities), printing inks (hydrocarbon based, solvent based), and solvents. Other raw materials include steel (for facilities which manufacture printing plates), toner, paints, lubricating fluids, fuels, coating materials, and adhesives/glues. The paper products are stored indoors because exposure to precipitation would destroy the quality. The other raw materials arrive at the facilities in drums and either remain in the drums or are stored in aboveground or underground tanks, depending on the facilities' space and primary activity. The outdoor storage areas for drums are sometimes covered, but when the drums are directly exposed to precipitation, the storage areas are diked. Within the facilities, drums are stored on wooden pallets or skids, which may become contaminated from spills of the stored materials. After use the pallets and skids are stored outside for disposal and have the potential to contaminate storm water discharges.

Both nonhazardous and hazardous wastes are produced from the printing process. Hazardous wastes including ink wastes, solvent wastes, and waste chromic and sulfuric acid. These wastes are generated in small quantities at some of the facilities within this industrial group. Solvent wastes result from cleaning of printing plates and metal cutting operations. Ink wastes are generated from the cleaning of printing plates and from excess ink used in printing. Chromic and sulfuric acid wastes are generated from facilities which manufacture and coat rotogravure printing plates.

Nonhazardous wastes from this industry group include waste paper, paper dust, scrap steel, and used wooden pallets. All of these waste materials have the potential to pollute storm water discharges.

Significant materials exposed to storm water at these facilities may include raw materials and waste materials. They include solvents (toluene, xylene, acetone, 1,1,1-trichloroethane), fuels (gasoline and diesel), inks, metal, lubricating oils, pallets, copper, chromium, acids (sulfuric and chromic), oil and grease, and waste paper. Some of these materials may be directly exposed to storm water, while others may be covered. Pollutants that may be associated with these materials include TSS, pH, heavy metals, oil and grease, and COD.

Material handling activities such as loading and unloading areas, and liquid transfer (solvents from outdoor storage tanks to facility) may be exposed to storm water discharges. Exposure of these areas to storm water may be minimized by covering of the shipping/ receiving and liquid transfer areas.

For those facilities engaged in fueling and vehicle maintenance, gasoline and diesel fuel are frequently stored outdoors in aboveground storage tanks and drums. Most vehicles and equipment require oil, hydraulic fluids, antifreeze, and other fluids that may leak and contaminate storm water discharges.

2. Pollutants Found in Storm Water Discharges From Printing and Publishing Facilities

The impact of industrial activities on storm water discharges at printing and publishing facilities will vary. Factors at a site which influence the water quality include geographic location, hydrogeology, the industrial activities exposed to storm water discharges, the facility's size, the types of pollution prevention measures/best management practices in place, and the type, duration, and intensity of storm events. Taken together or separately, these factors determine how polluted the storm water discharges will be at a given facility. Additionally, pollutant sources other than storm water, such as illicit connections,99 spills, and other improperly dumped materials, may increase the pollutant loading discharged into Waters of the United States. Table X-1 lists industrial activities that commonly occur at printing and publishing facilities, the pollutant sources at these facilities, and the pollutants associated with these activities. Table X-1 identifies heavy metals, oil and other parameters as potential pollutants associated with printing and publishing facilities.

⁹⁸ "Economic Analysis of Proposed Effluent Guidelines, Printing Industry." Office of Planning and Evaluation, EPA. August 1974.

⁹⁹ Illicit connections are contributions of unpermitted non-storm water discharges to storm sewers from any number of sources including improper connections, dumping or spills from industrial facilities, commercial establishments, or residential dwellings. The probability of illicit connections at facilities manufacturing transportation equipment, industrial or commercial machinery is low but it may be applicable at some operations.