Guidelines

As a general rule for improved appearance, manmade structures should blend and harmonize with their environment. The suggestions presented here are intended to be used as guidelines in this effort for different type facilities.

Buildings

For sun shelters, visitor centers, comfort stations maintenance buildings, administrative quarters, entrance stations, substation buildings and powerplants, including the interior, fixtures and equipment, employ low profile structures generally using native structural and/or finish materials whenever possible. Repaint buildings when called for in maintenance schedules using architecturally approved color schemes. Use earth tones for this work rather than pastels, as the former generally assist in harmonizing with natural environments. Avoid harsh lighting.

Design buildings to fit the ground rather than shaping the ground to fit the building. Avoid locations that silhouette the structures on the skyline. The pumphouse shown in Photographs 35 and 36 was designed to be mostly underground when completed so as not to restrict the view of surrounding area from a nearby highway.

Picnic shelters, Job Corps buildings, and similar structures should be properly oriented for sun and wind protection and colored to harmonize with the environment. Plant around the structure to provide transition in form between the structure and the ground and to provide shade. Design structures to fit the ground rather than shape the ground to fit the structure.

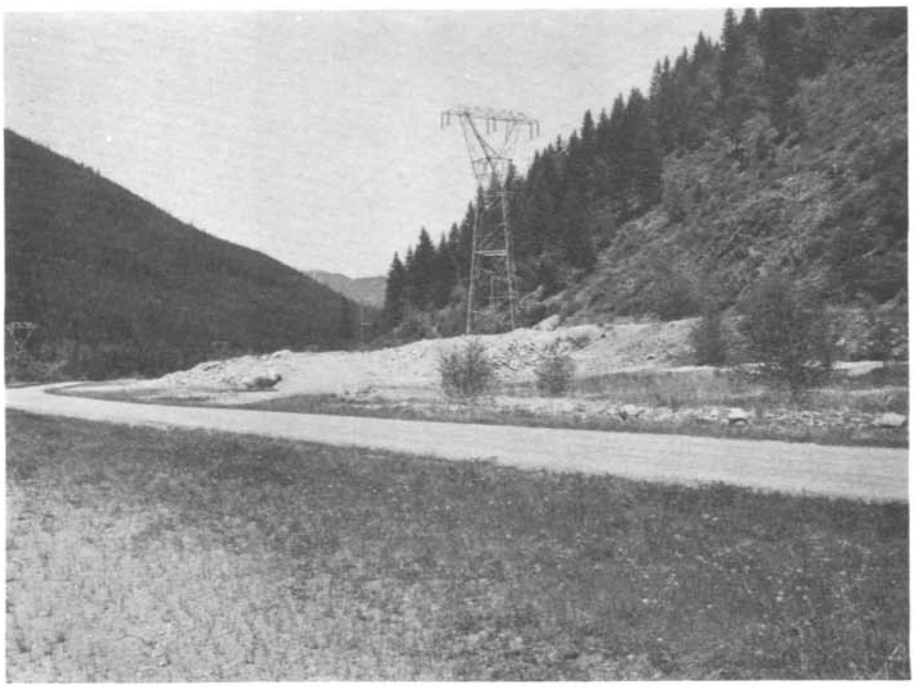
Road Structures

The suggestions under this topic apply equally well to parking areas, substation paved areas, maintenance areas, foot and vehicular bridges, highways, access roads, scenic roads, and vista point turnouts. Carefully locate road grades and alinements to follow the contour of the land whenever possible. Minimize cuts and fills. Employ Bureau of Public Roads grade and landscape standards. Provide turnouts and overlooks which incorporate safety with excellence of views.

Control contractor removal and disposal of vegetative cover. Require repairs of damage and scars to natural roadside features. Spoil piles west of a switchyard and under 230-kilovolt transmission line on right of way, Photograph 37, were leveled and seeded with grass as in Photograph 38. Replace topsoil in borrow areas, leaving it smooth and even, and blending it with the terrain. Seed exposed cuts and fills, or provide suitable low-growing cover, and provide adequate drainage.

Photograph 35 - P222-D-64031

Photograph 36 - P222-D-64032



Photograph 37 - P447-D-64033

Photograph 38 - P447-D-64034

Obliterate temporary roads by restoring to the original slopes. Round the tops of slopes and reseed or plant ground cover where possible, replacing trees and shrubs along the right-of-way. Clean up approach roads, reshape existing low-standard roads, and provide proper drainage. Remove weeds and resurface roads where necessary.

Design bridges to blend with other facilities and the environment. If possible keep bridge rails or parapet walls below eye level of automobile passengers, permitting unobstructed vision. Paint bridges earth tone colors.

The road as shown in Photograph 39 presents a very pleasing appearance. This was accomplished by relocation of a powerline. The powerline was relocated parallel to highway but at a higher elevation.

Where highways are to be relocated in conjunction with other agencies, the Bureau of Reclamation now requires that the Chief Engineer be advised in the early stages of negotiations as to what specific measures are being proposed for the improvement of appearance of the relocated facilities together with the estimated amount such measures will add to the cost of the relocated project.

Photograph 39 - P569-D-64035

Utility Structures

Locate, design, and color pumphouses and water and sewage treatment plants to recede into their surroundings. Use adequate screening and control spray field or other effluent outfall to avoid watershed contamination. These suggestions include water and sewage treatment plants, oxidation ponds, lift stations, incinerators, and maintenance and chlorinator buildings.

Maintain oxidation ponds devoid of plant material at flow line, screen and properly fence these ponds from public view, install sewage lift stations in underground vaults where possible, and screen with plant material when above ground. Locate incinerators unobstrusively but generally related to maintenance facilities. Maintenance buildings should be painted with earth colored paints and the present extensive use of aluminum pigments minimized.

Hydraulic Structures

There are innumerable ways to improve the appearance of dams, pumping stations, penstocks, surge tanks, canals, storage ponds, detention reservoirs, spillways, diversion tunnels, siltation ponds, boat docks, boat harbors, water storage tanks, siphons, levees, existing waste banks, and like facilities. Modify external appearance of dams and powerplants; i.e., texture and finish, by seeding and planting shallow-rooted shrubbery on downstream slopes of earthfill dams in those areas where such treatment can be applied with satisfactory results. Canal treatment should include acquisition of additional right-of-way for proper excess material disposal and consider bankline treatment and waste disposal in low areas or on hillsides where the line of the hill may be smoothly extended on lower cost right-of-way. Planting and seeding of slopes, flattening canal wastebank slopes as they approach highways, rounding inside and outside top edges, and seeding for erosion control will enhance appearance.

Penstocks, surge tanks, pumping stations, water storage tanks, etc., should receive paints having earth colors that will blend with the adjacent terrain.

Ponds and reservoirs should be maintained debris and litter free. Access should be managed to preserve scenic and recreation values, siltation ponds should be planned for and converted to recreation use upon completion of their function, boat docks and harbors should be functionally and aesthetically located, designed to avoid debris accumulations related to shoreline development.

Power Structures

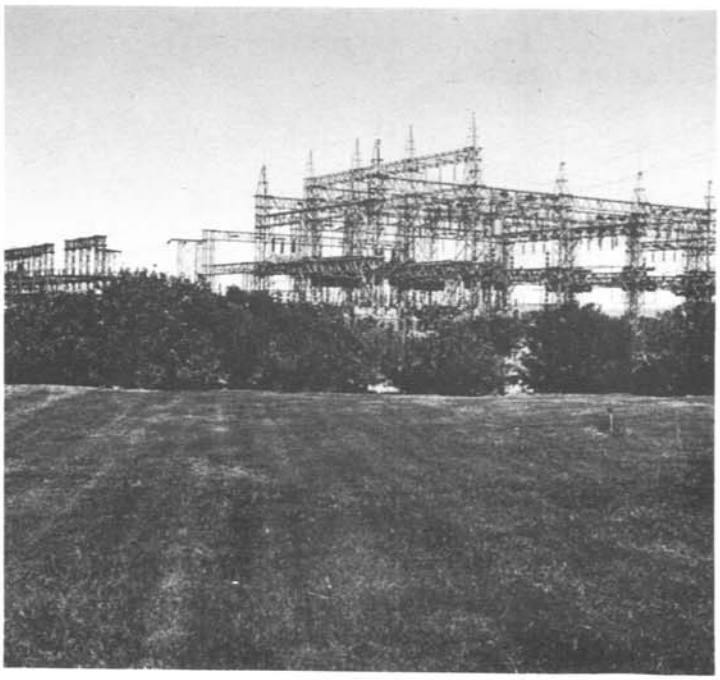
Transmission lines should follow contours when possible. Structures can be screened with trees, ground rises, and evergreen shrubs on rights-of-way at highway intersections or in recreation areas. Consider the use of underground powerlines in recreation

areas or in areas of outstanding view. Where needed, plant growth should be controlled with selective herbicides. Work with nature in determining locations and locate alinements diagonally across a wooded hill. Over unforested areas no special treatment is needed. Consider either widely separated or parallel location of new lines. Use common corridors.

Completely avoid location of transmission lines in major areas of high amenity value even if a longer route results. Other things being equal, choose the most direct route, reduce angle towers, use tree and hill backgrounds in preference to sky backgrounds, cross ridges in a saddle, but otherwise use the ridge as an opaque background. Prefer moderately open valleys with woods where tower height is reduced and view of lines are broken by trees. Avoid existing or proposed interstate highways or state primary highways. Use self-supporting steel towers for approach spans and where it would improve overall appearances.

During construction of transmission lines, confine contractors to designated access roads, such as those that eventually will be required for operation and maintenance. Avoid linear clearing, blend clearing with the topography, and reseed scars.

When line replacement is necessary, remove or camouflage unneeded foundations. Avoid views of installations from principal highways. Remove cut timber and slash from right-of-way; develop and use new tower configurations such as with tubular steel or prestressed concrete poles. When feasible use stand-off insulators in lieu of crossarms and strings of insulators.



Photograph 40 - CP214-D-64026

Switchyards and substations should be tastefully screened with trees and shrubs such as that shown in Photograph 40, with the objective of visually breaking up the installation rather than solidly screening it. Select locations away from areas of public travel wherever possible, considering both basic function for power delivery and the avoidance of obstructing public view toward scenic or recreation areas. Replace wood poles with simplified steel structures where both exist. Reduce

the busy appearance of the installation by not employing multi-membered trusses. Provide screening panels, reduce silhouettes, simplify incoming and outgoing transmission line arrangements, and use color coding to set off the features of the installation. Improve yard surfaces and repair eroded cut and fill banks. Avoid harsh lighting.

Fish Structures

Provide an attractive, well-landscaped setting for the fish facility such as fish hatchery, ladders, laboratories, maintenance facilities, and their administrative quarters. Design circulation to properly separate fish truck movements from visitors and permit visitors ample room to view operations. Provide adequate safety protection to visitors and operators. Properly relate facilities to other adjacent recreation facilities. Provide adequate visitor parking facilities, well separated from the fish installation.

Informational Structures

Develop an interpretive program in conjunction with improved appearance effort to provide the public with educational information regarding the construction, operation, purpose, and function of our projects and facilities. This applies to signs, interpretive facilities, and flags. Signs should be designed to blend in and harmonize with buildings in the locality and the landscape. Avoid stereotyped patterns for sign designs. Provide roadside turnouts, landscaping protective railing where needed, and interpretive facilities, i.e., dioramas, aluminum relief descriptions mounted on pedestals, scale models, visitor centers with sequential pictures of the construction story, etc. Provide attractive settings for flagpoles near administrative quarters.

Water-oriented Structures

Provide finished structures, well landscaped, but of simplified maintenance for boat storage and other water-oriented buildings along the shoreline. Provide adequate shoreline protection from water and wind erosion.

Landscaping

Provide sound land use and proper site planning including drainage, recognition of the land forms and natural features, safe and simplified road circulation, proper utility locations and screening, all with the objective of presenting a functional installation in a pleasing setting. Reseed scarred areas, plant trees and shrubs to further improve appearance.

Consider the use of approved plant materials that can withstand periodic inundation in mudflats of reservoir shorelines exposed by annual drawdowns. To prevent wind erosion, use windbreaks utilizing conifers and evergreens. Use trees and shrubs to break

up large parking areas. Plant with native plant materials where semiarid conditions exist. Dispose of or conceal waste materials. Use good ground cover on areas too steep or shady for lawns. Plant shrubs and trees which provide food and cover for wildlife and avoid unnecessary drainage of marshes and swamps.

Design fences to compliment the landscape, avoiding the use of chain link and other steel fence when possible. Provide proper pruning of plants along trail roads and in other public-use areas. Remove dead or diseased plant material. Use controlled grazing. If farming is permitted, use contour farming, diversion terraces, strip cropping, grassed waterways, crop rotation.

Construction Areas

This topic includes borrow areas, construction camps, quarry sites, construction sites, roads, etc. Areas cleared for construction should be kept to a minimum compatible with safe construction and installation requirements. Clearing and grubbing should consist of clearing the designated areas of all trees, down timber, snags, brush, and other vegetation, rubbish and all other objectionable material, and should include grubbing stumps, roots, and matted roots, and disposing of all spoils material resulting from the clearing and grubbing. Prune damaged tree limbs and paint pruned surface black to prevent insect infestation.

Within the construction right-of-way, fence off localized areas where trees, rocks, outcroppings, and other natural features fall within the right-of-way and must be preserved to minimize the damage to natural features. Obliterate equipment tracks and other construction marks by handraking, brooming, or other satisfactory methods. Where applicable, plant materials including trees, shrubs, ground cover, and other vegetation should be replaced at the contractor's expense.

During construction require spark arrestors in areas of potential forest or grassfire hazard. Adjust all ground surfaces to fit new construction within the site limits and provide adequate nonerosive area drainage. Scatter excavated rock over adjacent terrain rather than leaving a windrow along the trench. Construction campsites should be restored as nearly as possible to their original condition and character. Require the contractor to dismantle and remove all abandoned or useless equipment, supplies, and personal property. Restore old road alinements to original ground forms, remove drainage structures, and restore natural drainage.

Quarries or other rock excavations should be controlled to present a neat appearance. Methods such as presplitting should be employed. Loose rock should be scaled off and consideration given to controlling erosion of shale banks.

Paint

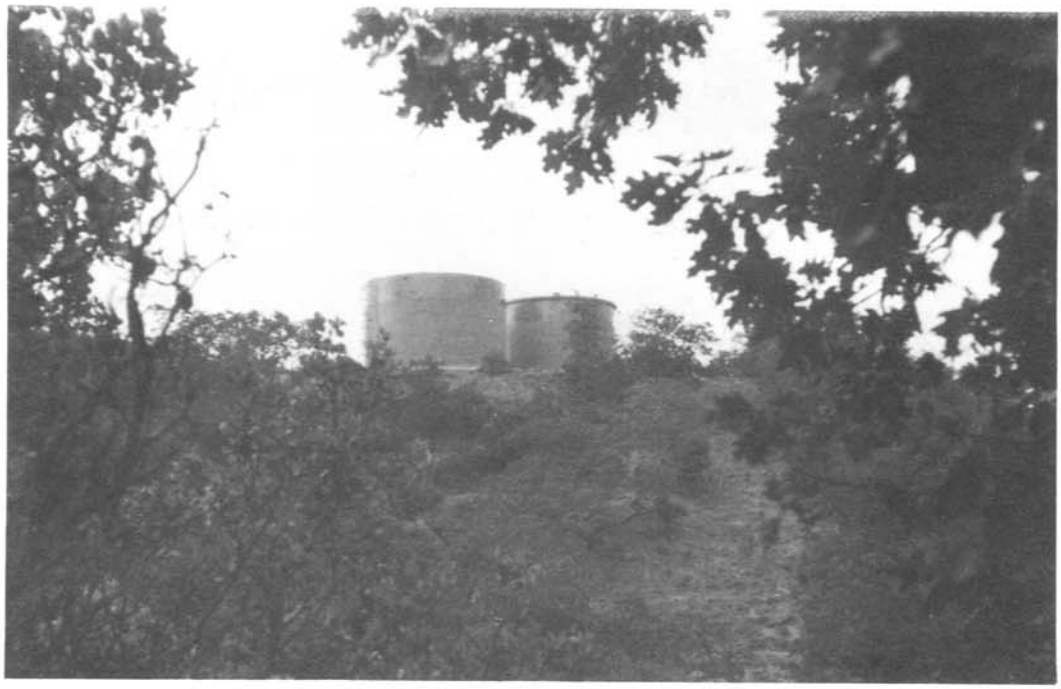
Paint can quickly change the appearance of any structure and with the use of the right shades and colors, a most pleasing appearance can be the result. Routine maintenance, such as painting, need not be considered extra expense. More frequently than one would think a change in color alone can accomplish wonders when the routine maintenance painting job is being done.

The pumping plant on the Arbuckle Project in Oklahoma was designed and built to present an attractive appearance. This appearance also was greatly enhanced by the color of paint used. The plant was painted a cream-beige color with olive-green trim and enclosed with a chain link fence. With the green seeded slope of Arbuckle Dam as a background, the plant presents a very pleasant appearance.

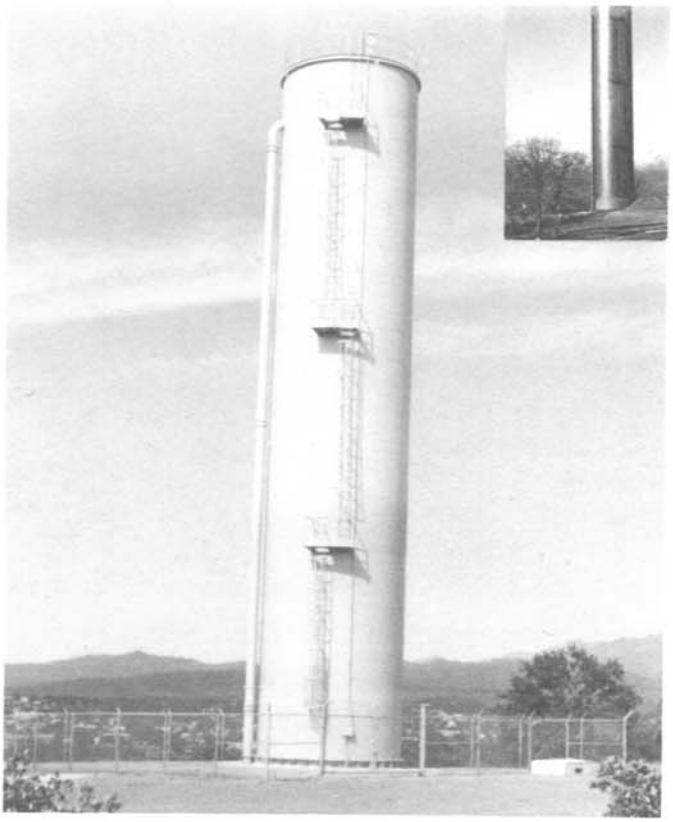
Photograph 41 - CP485-D-64057

The exposed penstock sections shown in Photograph 41, are painted a metallic green instead of the customary aluminum. Many favorable comments have been received from the general public.

Two large water tanks shown in Photograph 42, were painted a light pastel color to help blend into their surroundings. Photograph 43, shows a view of a surge tank located on the bluffs above one of our western cities. The tank, 20 feet in diameter by 110 feet high was primed with red lead in preparation for the aluminum color usually specified. Comments by local residents resulted in the tank being painted with three shades of blue which become progressively lighter towards the top of the tank.



Photograph 42 - CP485-D-64058

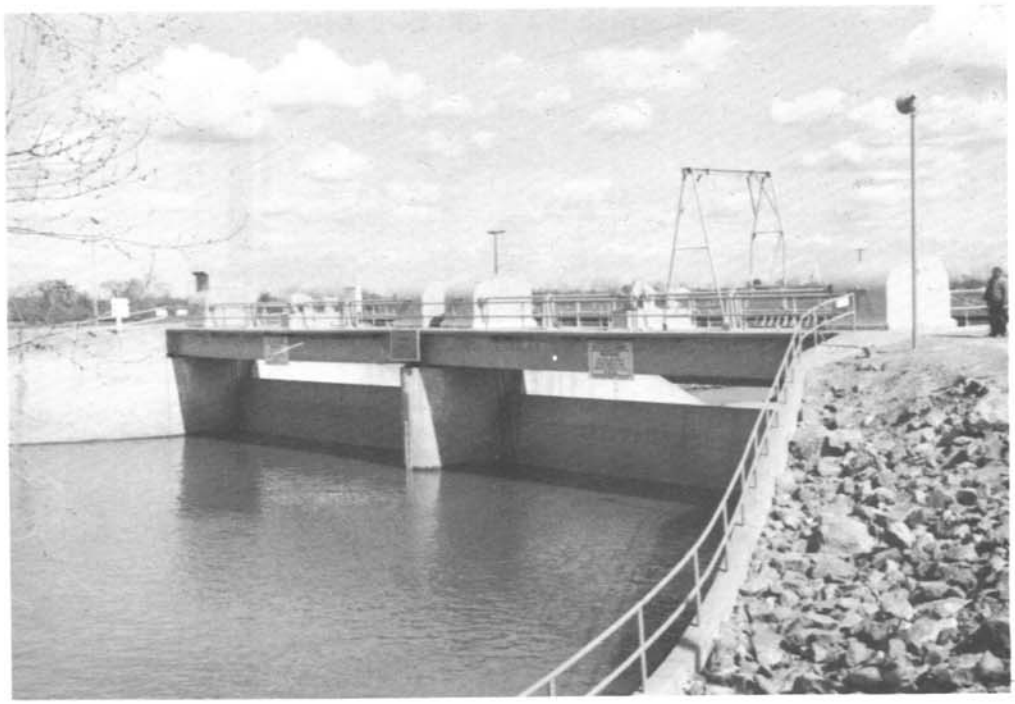


Photograph 43 - CP859-D-64059

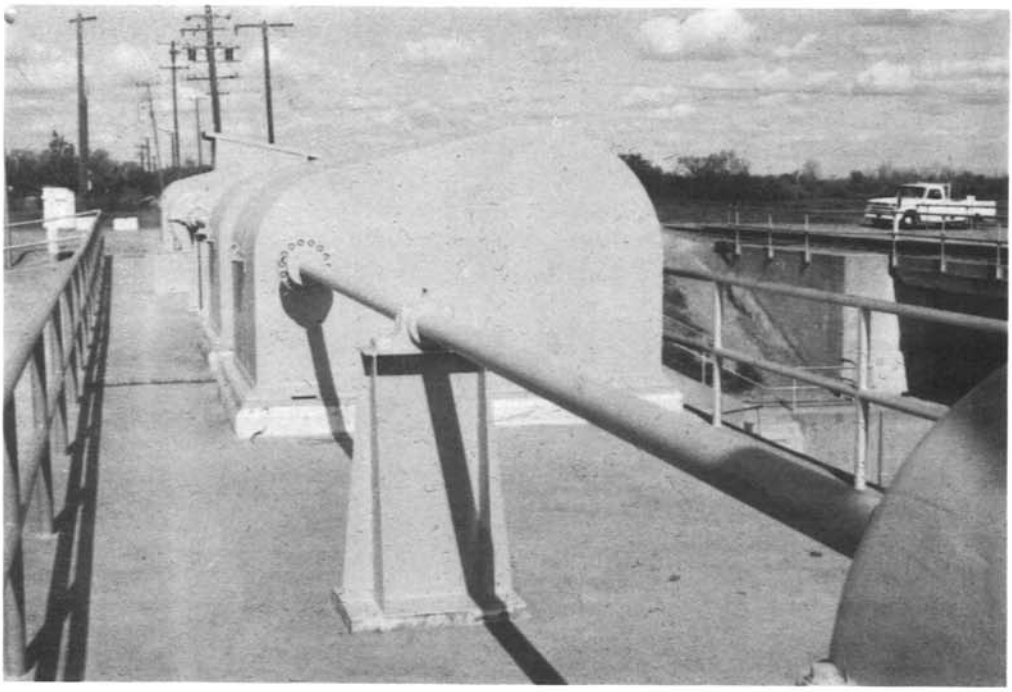
Photographs 44, 45, and 46, show a floodgate structure deck. They are shown to illustrate the color scheme used to paint the cable drum covers, railing, light standards, and other features. A light pastel green or aqua color was used for the cable drum covers. The railing and light standards were painted an old rose. This color scheme is to be used when equipment, structures, buildings, and related facilities at this particular facility require repainting.

Use less drab, uninteresting aluminum and light pearl gray colors and more livelier colors for locations such as those described above. Focal safety yellow, strange greens, russets, grayed blues, browns, white, black, etc., are suggested. The appearance of metal parts, buildings, and machinery for an entire canal and reservoir system can be given a big lift by routinely repainting with an attractive color scheme.

A side benefit to the use of the pastel shades of paint is the reduction of eye strain caused by the glare of the sunlight shining on a standard aluminum color.



Photograph 44 - CP214-D-64024



Photograph 45 - CP124-D-64028

Photograph 46 - CP214-D-64027

The Bureau stands ready to assist in choosing the proper coating materials and in developing appropriate color designs. Also, 3- by 5-inch color chips of Federal Standard No. 595 are available in complete sets at a price of $15.00 from G.S.A. Business Service Center, Region 3, Washington, D.C. 20407. Smaller chips 1 inch by 1 inch square are available at $2.25 a set.

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