horrible modernistic stuff
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Figure 1:
Map of Manhattan Repaving Project, from Borough of Manhattan Annual Report, 1940-1941. Streets designated for resurfacing are shown in black.

Depression-weary visitors to the New York World's Fair in 1933 and 1934 were understandably enthralled by the optimistic vision of the future on display in Flushing Meadow, especially as embodied in the fair's most prominent and popular buildings and exhibitions: the Democracy of the Typhon and Perisphere Theme Center and the Futurama of the General Motors Pavilion. Whether the World of Tomorrow was imagined as a skyscraper metropolis or an industrial-agrarian town, it was supported by ultra-efficient, technologically-advanced infrastructures and linked by cross-country super expressways. This was a future which promised a frictionless flow of goods, services, and people along with a felicitous synergy of man and machine. Though derived principally from the ideal and visionary planning schemes of Le Corbusier and Frank Lloyd Wright, Democracy and the Futurama also evoked a number of realized projects—those factories and plants, dams and power stations, bridges and highways which had transformed the American landscape during the past decade. If tomorrow looked suspiciously like today, that was the point of the fair, to convince the public that the future was not only within its grasp, but that it was already in progress thanks to the productive forces and apparently benevolent operations of big business, big industry, and big government.
To underscore this message, a fruitful collision of the present with the future was everywhere explicit, as in the prescribed route visitors followed to reach the GM Pavilion. Crossing a pedestrian bridge suspended over the Grand Central Parkway, a high-speed, limited-access monorailway terminating nearby in one of the most complex interchanges ever engineered, visitors were afforded a sneak preview of the sort of imaginary automobile landscapes awaiting them in the Futurama. A glimpse of the future was likewise permitted the drivers on the Grand Central as they sped through the fairgrounds situated on land reclaimed from the infamous Corona Dump (Fitzgerald’s “valley of ashes”) through a massive public work orchestrated by Robert Moses. Where motorists were once subjected to a dark landscape of urban refuse and industrial waste they now experienced a panorama of fountains, trees, and streamlined buildings, all intended as a portent of things to come for the city of the future. This vision lasted only as long as the fair itself. However, by the time the imagined future was dismantled in the fall of 1940, the City of New York had already announced plans for a project which, though unrealized and far more modest in scale, had clearly absorbed the spectacular lessons of the World of Tomorrow.

In June 1940, New York City Mayor Fiorello La Guardia and Manhattan Borough President Stanley Isaacs made public their plans to build a new Municipal Asphalt Plant at the easternmost end of 90th Street in upper Manhattan (Figure 2). Designed by the engineering firm of Sylva & Hennessy and the architectural firm of...
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Kahn & Jacobs, the new plant was to rise on the waterfront site of an existing facility erected in 1914 and regarded as seriously outdated twenty-five years later. While the ostensible motivation for the project was simply the replacement of this original, now obsolete plant, its actual impetus was far more complicated, bound up with civic issues touching upon the city’s political, economic, and social life. While public works in

New York (and elsewhere) always engaged the civic realm, this engagement had a particular urgency circa 1940 as the city, still recovering from the shock of the Depression, envisioned a prosperous future which might be realized through the dynamic transformation of the public landscape. This landscape had broadened considerably during the past decade, largely as a result of the New Deal, to include sites of housing, recreation, and transportation, as well as industry and utility. As a group, the projects constructed upon this landscape, by public fiar and under the aegis of the municipal government, represented in form and program a civic culture

Figure 2

Figure 3
that embraced the same optimistic modernity and progressive efficiency so much in evidence in the futuristic fantasies of the World of Tomorrow—even in an unlikely civic project as an asphalt plant. A public work and an industrial site, the new plant was charged with a double objective. It had to modernize asphalt production and monumentize asphalt production. In meeting these objectives, the plant’s designers consciously sought an appropriate visual expression of modernity and efficiency capable of representing industry’s locus within the civic culture and asphalt’s material contribution to it.

The importance of asphalt in the construction of modern and efficient New York had become apparent only gradually since this type of paving was introduced in the late 19th century. Municipal engineers regarded asphalt as superior to cut stone because it was labor-intensive, less expensive, and more durable. But by 1912 most streets were still paved with standard blocks of New England granite, apparently due to Tammany Hall’s ownership of many stone quarries, and its doling of civil service street maintenance jobs to the scores of unskilled workers who made up its political machine.1 This changed with the 1914 election of reform-minded Mayor John Mitchell who determined that a municipal asphalt plant would save the city money and give it with better streets. Selecting a six-acre plot of city-owned land on the East River, bounded by 90th and 91st Streets and York Avenue, Mitchell’s administration built an ensemble of steel-framed brick structures which included a tall pitched-roof mixing building and lower skyful sheds (Figure 3). The complex was visually dominated by a hoist tower at the river’s edge, a dust collector exhaust stack east of the mixing building, and three wooden railway creels (with gravity-suspended cars) which began at the waterfront, where raw materials arrived via barge and continued to the sand, stone, and coal storage sheds. In 1915, after a year’s operation, the asphalt plant was working to capacity, producing nearly 3,000 square yards of pavement per day. According to the plant superintendent William Goldsmith, this success was attributable not only to the plant’s mechanical efficiency but also to management’s adoption of an anti-Tammany, anti-corruption worker evaluation system.2 Created by Robert Moses (then a member of the Civil Service Commission), this system eliminated political favoritism and placed qualified workers in positions from Plant Supervisor to street gang tamperers, rakers, and smoothers.

Though the first municipal asphalt plant promised a future of smooth streets and good government reforms, these civic improvements were to be short-lived.

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2 Goldsmith, 202.
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Two decades later, newly-elected Borough President Stanley Isaacs found what he called a "flagrant example of
Tammany extravagance" in the "continued indiscriminate use of granite paving blocks on over 40% of
Manhattan's streets and highways." Though the city could produce asphalt paving in the municipal plant for
only $1.50 per yard, Isaacs discovered that it was regularly paying $5.00 per yard for granite block which he
vigorously denounced as an "expensive luxury" that was "inefficient and dangerous." Citing one particularly
egregious example, Isaacs noted that the entire length of Park Commissioner Robert Moses's newly completed
West Side Expressway from 72nd Street to Canal Street was paved in granite block, resulting in an
additional expenditure of half a million dollars. Even aside from cost, engineering practice dictated asphalt or
concrete for such roadways to prevent the hazardous vibrations produced by cars traveling over cut blocks at
high speed. According to Isaacs, the construction of the West Side Highway reeked of old-style Tammany
corruption.

In response, he embarked on a series of borough improvements—public works intended as models of efficiency
and modernity and as sterling examples of good government. These included the construction of the East

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1 Goldsmith, 302.

2 Quoted in Borough President's Office, "Gold Bricks and Granite Blocks," Borough of Manhattan Re-
port, July 1, 1940-June 30, 1941 (New York, 1941), 19. Isaacs swept
into office on a Guardian's fusion ticket of 1938.

3 "Gold Bricks and Granite Blocks," 19.

4 See for example: "Animal Highway Design," Engineering News-Record
123 (21 December 1915): 161-16 and H. J. Gilkey, "Concrete Pavement

5 Quoted in Borough President's Office, "Gold Bricks and Granite Blocks," Borough of Manhattan Re-
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into office on a Guardian's fusion ticket of 1938.

6 Goldsmith, 302.

7 William Goldsmith, "One Year's Operation of Manhattan Asphalt Plant," Municipal Engineer's Journal
1 (October 1915): 240.


9 Quoted in Borough President's Office, "Gold Bricks and Granite Blocks," Borough of Manhattan Re-
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10 "Gold Bricks and Granite Blocks," 19.

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12 William Goldsmith, "One Year's Operation of Manhattan Asphalt Plant," Municipal Engineer's Journal
1 (October 1915): 240.

13 Goldsmith, 302.

Figure 4:
First Municipal Asphalt Plant, ca. 1940, from Borough of Manhattan
Annual Report, 1940-41.
a cathedral of asphalt for an automotive age

River Drive express highway and an ambitious street repaving effort. For Isaac, these projects were not just roadwork; they were "the backbone of a broad civic development" that would produce a city that was, in his words, "clean, modern, and streamlined." The repaving program, while obviously improving city streets in disrepair due to an increasing volume of motor vehicle traffic, would also aid the maintenance of property values since smooth asphalt-paved streets reduced traffic vibrations and noise, facilitating the rent and sale of apartments facing Manhattan's north/south avenues. Isaac's program would also be cost-effective, saving the city an estimated 80% of its current paving expenditures by replacing granite blocks with asphalt and by reducing the cost of the asphalt itself. To meet these goals it was necessary to double the productive capacity of the existing asphalt facility.

Clearly, a new and improved plant was required, though the buildings which eventually rose on the 90th Street site were informed by more than the exigencies of efficient production to which an industrial complex typically responded. They were equally informed by Isaac's vision (shared by Moses and La Guardia) for "reclaiming the beauty of the historic East Side waterfront" which had decayed into "an unsightly succession of grimy industrial areas." The existing asphalt plant was one of the chief offenders, declared by Isaac as "noisome" and "nightmarish." Isaac's vision called for the removal of such industrial sites from the waterfront, but for their coordinated improvement in operation and appearance. Such steps had been taken at the sanitation dump immediately to the north where dust-reducing equipment was installed to improve the environs. Here, Isaac was obviously influenced by the 1929 Regional Plan of New York which, through its generally advocated industrial decentralization and the relocation of municipal service facilities to outlying areas, recognized the impracticality of enforcing such a policy on the East Side waterfront. The Plan proposed that some industrial sites and service facilities be preserved, noting that if they were "conducted with proper tidiness and under reasonable control [they were] really utilities."3 Responding to such a proposal in the new asphalt plant, the city was inclined to give equal programmatic importance to aesthetic considerations and functional requirements—partly a reflection of the city's symbolic importance as a public work, and partly a response to the changing character of the district.

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2. See "Relation of Public Improvements to Realty Values," Real Estate Record (November 1941), 2.
3. Ibid.
4. Ibid.
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* Borough of Manhattan Report, July 1, 1940-June 30, 1941, 13.

* See "Relation of Public Improvements to Realty Values," Real Estate Record (1 November 1941), 2.


* See for example "Changes are Cited in Grace Square Area," New York Times (8 September 1940), Sec. 11, 1.

These changes predated Isaacs' own interest in improving the waterfront. When the first asphalt plant was built on East 90th Street in 1914 the area was a working class district of bowery-run flats and old-law tenements inhabited mainly by German and Hungarian immigrants employed in the local breweries. The area began to change in the late 1920s when Vincent Astor set out to develop the upper blocks of East End Avenue into a "city's most fashionable addresses. By 1940 luxury apartment buildings dominated the waterfront. At the waterfront's edge, Carl Schurz Park had been landscaped and expanded with a riverside esplanade over the new East River Drive. Grace Mansion, the abandoned Federal-style country house that dominated the park's northern end, had been renovated into the Museum of the City of New York and would shortly become the official residence of the city's Mayors. But this new residential enclaves, characterized by the New York Times as striking, picturesque, and modern, was marred by the industrial site at its northern end. For by then the old asphalt plant had become loud, dirty, and malodorous (Figure 5)." When Isaacs determined to rebuild the plant he was keenly aware of the new upscale character of the area in which he, along with Moses and other prominent New Yorkers, now lived. Isaacs stated that the new plant was "designed to protect real estate valuations in the adjoining residential neighborhood" and even
confidently predicted that the plant would cause an "appreciable increase in property values" and, he implied, tax dollars.11 Borough Works Commissioner Walter Binger echoed these sentiments a few years later, noting that because public officials now possessed "corner appreciation of land values" the design of the asphalt plant "would be pleasing to proposed residential developments within the vicinity."12 This intention is obvious in Arthur Fraenkel’s 1940 rendering of the project which depicts the facility with a tree-lined perimeter and planned piazza, with fashionably dressed women strolling past it along a landscaped riverside quay (Figure 5). The city clearly envisioned the asphalt plant within a distinctly political framework, as an attractive appeasement to powerful real estate interests. Apparently the strategy worked, for almost immediately after plans for new


11 This according to the Real Est. Record, "Resettling Camps Stresses Open Areas," Real Est. Record (27 December 1941), 4.

12 Binger was one of nine engineers brought into the laid administration to replace Terry

hickas.
asphalt plant were made public, the Hanover Trust Company announced a $5,000,000 redevelopment scheme for the entire adjacent block of 90th Street. Formerly the site of two religious institutions, the 125,000 square foot lot had been cleared in the early 1950s but the blighting industrial presence, as well as the Depression, had squashed all previous improvement projects. Now, however, plans for the new asphalt plant had encouraged the investors to build a 500-unit complex of garden court apartments.17

Those plans, prepared by the engineering firm of Syksa & Hennessey under the supervision of Commissioner Binger, called for the complete internalization of asphalt production in an efficient industrial complex to utilize silent, dustless, and odorless machinery enclosed in three discrete buildings.18 (Figure 6) Building No. 1 contained...
the plant's hot water heating system and its fuel oil tank. Building No. II housed the drying, mixing and finishing equipment as well as storage for limestone dust and asphalt cement. Building No. III held sand and stone in concrete bins large enough to eliminate the dumping of excess materials in haphazard outdoor piles which had marred the old plant. Another significant improvement was the elimination of the railway trestle. Raw materials still a river by barge, but were now conducted to storage bins underground through below-grade pipes and a tunnel beneath the East River Drive. This tunnel emerged above ground on the north side of Building No. II as an enclosed, ovoid-shaped conveyor which inched upward into Building No. III. A secondary elevated conveyor connected the two buildings.

The asphalt production process itself, which took place in the mixing unit (Building No. II), was greatly streamlined and automated. In the old plant the processing equipment sprawled out horizontally from the mixing building into a series of adjoining sheds. In the new plant the equipment was organized into a compact vertical manufacturing unit with a split-level beehive arrangement (Figure 7). It featured automated bucket elevators for lifting sand and stone, electric motors for regulating temperature, flow, and cycle duration, and fully mechanized, electrically powered dryers and mixers. An automatic discharge unit dumped complete 4-ton batches of asphalt directly into trucks waiting below on the driveway which ran straight through the building. An important technological advance was the imposed condition of the raw bituminous asphalt, the key ingredient in the manufacturing process. While the old plant had utilized hardened asphalt which had to be chopped by hand and melted in large kettles prior to mixing, the new plant eliminated this labor-intensive process with liquid asphalt in electrically-heated pipes and storage tanks. Most significant for Louis' vision of industrial improvement and neighborhood enhancement, the manufacturing unit was equipped with a state-of-the-art dust eliminator. This not only rendered the interior environment dust-free, but vented exhaust that was supposedly cleaner than outdoor air.

Once Spack & Hansen finalized their arrangement of the asphalt production machinery, a cross-section of the beehive-shaped manufacturing unit was presented to architects Ely Jacques Kahn and Robert Allan Jacobs. According to Commissioner Binget, the designers were directed to produce an "architectural treatment" which would "blend harmoniously with that accorded the neighboring East River drive as well as one that would be..."
drain of asphalt for an automotive age

While this streamlining and automation of plant operations obviously reduced the number of workers required to produce asphalt, the increased yield meant that larger street crews were required for laying the asphalt. As a result, low-skilled workers were shifted rather than eliminated.

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Robert Jacobs was well acquainted with the International Style. Graduating from Columbia’s School of Architecture in 1934, just as modernist pedagogy was beginning to infiltrate the school’s entrenched Beaux-Arts system, Jacobs traveled to Paris where he spent a year in the office of Le Corbusier, apparently the only American on the staff at that time.* In 1935 he returned to the United States in the company of the Swiss architect, having been hired by the Museum of Modern Art to act as interpreter during Le Corbusier’s three-month Museum of Modern Art-sponsored lecture tour. Jacobs then spent several years with the firm of Harrison & Fouilloux, where he was criticized for his excessive “Corbusier-isms.” In 1938 he entered Kahn’s office, becoming his partner in 1940, the year they received the municipal asphalt plant commission.†

At that time, Ely Jacques Kahn was a well-respected specialist for the design of manufacturing lofts in dense urban areas, the locus of which made them, in Kahn’s view, a distinctive type of industrial building. Kahn believed that the urban industrial loft should be conceived of as a “machine for the production of a commodity…the structure [of which] must answer its purpose” in the provision of light, air, and flexible floor plans to accommodate machinery. He also posited that “there can be no modernity” in designs not based upon engineering principles, but did not consider those principles an end in themselves. Rather, the successful “city factory” must likewise “be conscious of the existence of an aesthetic problem”—a problem solved not through ornamental devices “to satisfy some yearning for decoration,” but through “fine proportion, balance of mass, and agreeable color of materials.”‡ Kahn’s design principles and his two decades of experience in industrial architecture must have accorded well with the aspirations of his young partner. Though Robert Jacobs had no comparable experience in industrial architecture, he was well-versed in an industrial aesthetic. This he had assimilated from Le Corbusier who, along with Walter Gropius and other European modernists, had been impressed by the powerful industrial typologies of the daylight factory and the grain elevator. As proponents of an “International Style” they sought to produce an architecture in a similar spirit of efficiency and functional planning, utilizing bold, spare, elementary forms they regarded as appropriate for all modern buildings whether industrial or non-industrial.

Programmatically, the asphalt plant was obviously industrial: it was a site of production whose architectural disposition was to be guided by the utilitarian requirements of the manufacturing process. The architects had

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been cautioned, however, that a typical industrial structure—unsanesthetic in the conception of the Department of Borough Works—was not desired here; the plant was regarded as very nearly a civic amenity, not that the limited budget reflected this intention. The designers were restricted to using exposed reinforced concrete, the standard material for the Department's industrial projects, with little possibility of additional expenditures for facing materials or other enhancements to the architectural treatment. For a modernist like Robert Jacobs, who was the plant's principal designer, this type of challenge was a necessary part of architecture. But, as Le Corbusier had taught him, he could privilege function and utility without sacrificing those aesthetic concerns such as volume, surface, and harmony which, if handled correctly, would give the asphalt plant the requisite "eye appeal."

Thus, Jacobs turned to the section of the asphalt production machinery prepared by the engineers. Allowing the distinctive beehive shape of the manufacturing units to dictate the form of the building sheltering them, Jacobs created what Commissioner Binger called the "logical elliptical design" of the plant's prominent mixing unit. By employing sweeping elliptical arches in lieu of a more conventional rectangular structure, which would have resulted in unusable upper level space, Jacobs found the most efficient means for enclosing the machinery. The core barrel sections, delineated by the projecting arches, were also an accommodation to the mixing equipment inside, with each section able to house one of the three manufacturing units intended for eventual installation (Figures 8 & 9). Similarly, in the auxiliary storage unit (Building No. 1) projecting flanges articulated each of the six individual sheds housed within (Figure 12).
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If the function of each unit of the asphalt plant had indeed generated its form, in the case of the mixing unit this particular arched form had a modernist architectural provenance—Eugène Freyssinet's Olyr airship hangars of 1916–24—of which Jacobs was surely cognizant. These had been illustrated in Le Corbusier's Vers une Architecture (1927) and formally quoted in his Palace of the Soviets project from 1931. Indeed, Jacobs later recalled that while working for Le Corbusier in Paris he had admired the hangars while riding his bike past the Olyr airship. Though the arch represents a logical structural choice, it was also filtered through Le Corbusier's work and represents a reiteration by Jacobs into a similar context since, like the Olyr hangars, the mixing unit was basically a vast shell for housing oddly-shaped equipment.

The plant's materials had a similar double significance. The mixing unit was constructed of reinforced concrete with four structural steel ribs which served as both form and reinforcement and eliminated the need for elaborate scaffolding during construction (Figure 11). These ribs, spaced 22 feet apart with clear spans of 99 feet, were prefabricated in three sections and assembled on-site. The thin barrel walls between the ribs are 8 inches thick and use traditional reinforcing bars. The mixing unit's end walls are of concrete slab, beam and girdler construction (Figure 13). This same method was used in the construction of the two storage units. Reinforced concrete had long served as a basis for Le Corbusier's architectural investigations and he admired its powerful formal qualities, particularly as expressed in such industrial structures as grain elevators and airship hangars. Modernist and industrial, aesthetic and economical, reinforced concrete was an obvious choice for the asphalt plant even if it had not been prescribed by Boroughs Works.
Once concrete was selected Jacobs determined to exploit the material fully to enhance what Le Corbusier would have called the plant's maçonnerie, its profile or definition. A writer for Civil Engineering put it more simply, the "architectural effect [was] enhanced by forming." For example, the presence of the structurally crucial bosses of the mixing unit are fully expressed in the finished building by positioning the barrel walls flush with the inner rather than outer edges of the ribs. These ribs were poured in five separate stages, each of which is carefully articulated by sectional scoring on the finished arch (Figure 13). On the north and south end walls (as on the walls of the storage units) the intentional grooving of the plywood formwork resulted in a large-scale, squared grid pattern expressive of the beam and girder frame beneath (Figure 14). This grid gave a formal coherence to the ensemble of buildings and also served as a modular unit. The imprint of the formwork's plywood sheeting was left intact on all of the buildings to create a molded-like waling effect on exterior and interior walls (Figure 15). Jacobs' use of this characteristic Corbusian device on the east and west barrel walls of the mixing unit demonstrates the ends to which he was willing to go to achieve a desired architectural effect. For the exterior lagging of the barrel forms had to be constructed of costly long-leaf pine, since cheaper wood was not available in the 20 foot lengths needed to span the distance between ribs and using shorter lengths would have left vertical joints which violated the carefully realized waling pattern.

Other conscious Corbusian devices can be discerned throughout the plant: the ribbon windows of the storage units are unmistakable fenêtres en longueur inside the mixing unit the free plan dominates, with all machinery supported on carriages and platforms entirely independent of the exterior structure (Figure 12). Outside, the conveyors, carrioles, ramps and driveway form an industrial promenade-architecture. This is especially evident in a 1940 perspective rendering of the north side of the plant by Arthur Frappen (Figure 3). Here the composition formed by the small block of the transformer house, the smooth cylinder of the (asbuilt) free-standing hopper, and the wood and square conveyors seems, without stretching the point, to mimic certain elements of the Villa Savoye. Of course, dynamic compositions of conveyors and ramps can be found in many industrial facilities, as for example in Albert Kahn's Ford Factory at River Rouge (and so evident in Charles Sheeler's photographs of it). However, here at the asphalt plant such a composition appears to result not only from functional determinants (which dictated the arrangement of building units and conveyors to minimize distance), but also from proportional manipulation, or given Jacobs' Corbusian bent, from much réglementation.
concrete was selected, Jacobs determined to exploit the material fully to enhance what Le Corbusier have called the plant's "modulor," its profile or delineation. A writer for Civil Engineering put it more o, the "architectural effect [was] enhanced by forming."

For example, the presence of the structurally structural reuses of the mixing unit are fully expressed in the finished building by positioning the barrel walls with the inner rather than outer edges of the ribs. These ribs were poured in five separate stages, each of which was carefully articulated by sectional scoring on the finished ash (Figure 13). On the north and south end (as on the walls of the storage units) the intentional grooving of the plywood formwork resulted in a large-squared grid pattern expressive of the beam and girder frame beneath (Figure 14). This grid gave a formal resonance to the ensemble of buildings and also served as a modular unit. The imprint of the formwork's pine sheathing was left intact on all of the buildings to create a candour-like wailing effect on exterior and mildurer walls (Figure 15). Jacobs' use of this characteristic Corbusian device on the east and west barrel walls of the mixing unit demonstrates the ends to which he was willing to go to achieve a desired architectural effect.

The exterior lagging of the barrel forms had to be constructed of costly long-leaf pine, since cheaper wood was not available in the 20 foot lengths needed to span the distance between ribs and using shorter lengths would have left vertical joints which violated the carefully realized wailing pattern.

Conscious Corbusian devices can be discerned throughout the plant: the ribbon windows of the storage are unmistakable fenêtres en longueur, inside the mixing unit the free plan dominates, with all machinery mounted on carriages and platforms entirely independent of the exterior structure (Figure 12). Outside, the eaves, curvatures, ramps, and driveway form an industrial promenade architectonique. This is especially evident in 1940 perspective rendering of the north side of the plant by Arthur Frappen (Figure 5). Here the position formed by the small block of the transformer house, the smooth cylinder of the (unbuilt) feeding hopper, and the round and square conveyors seem, without stretching the point, to mimic certain ends of the Villa Savoye. Of course, dynamic compositions of conveyors and ramps can be found in many industrial facilities, as for example in Albert Kahn's Ford Factory at River Rouge (and so evident in Charles Le's photographs of it). However, here at the asphalt plant such a composition appears to result not only from functional determinants (which dictated the arrangement of building units and conveyors to minimize distance), but also from proportional manipulation, or given Jacobs' Corbusian bent, from modulor regulations.

Other flashier features of the asphalt plant derive less from strictly European modernist precedents than from commercial American variants, including the streamlined moderne, as for example in Kahn & Jacobs' own Marine Transportation Building at the World's Fair. These streamlined features, which the asphalt plant shares with such canonical American modernist works as Howe and Lescar's PSFS Building and Stone and Goodwin's Museum of Modern Art, included the projecting flanges of the auxiliary storage building, the great swelling canopies on the north and south facades of the mixing unit, and the large sans serif letters of beaded aluminum embossed off-center across the main facade (Figure 16). The style and dynamic placement of this signage on the finished building indicate an evolution in the design from its earlier stage in which the seal of the City of New York and a more conservative serif typeface were centered on the facade. Equally flamboyant, and redolent of contemporary commercial design, was the Mond Metal sheathing intended for the exterior conveyor...
belts and the barrel sections of the mixing unit above the level of the windows, the application of which was precluded by the imposition of World War II material restrictions (Figure 10). Even without this shielding, the mixing unit is a sleek streamlined shell, hiding the complex mechanical workings within, thus concealing the dirty, messy business of making asphalt paving. In this respect Jacob's design appears as a "skin job," analogous to the work of industrial designers such as Raymond Loewy. Like Loewy's Coldspot refrigerator, Jacob's asphalt plant is calculated to give the appearance of simplicity, efficiency and attractiveness. 30

In the early 1940s, even in New York, the asphalt plant, and especially the mixing unit, was modern architecture to its most startling at least in the public's perception. 31 Such bold unornamented visual expressions were still uncommon in the city, among them Cory & Cory's Statler-Lahigh building of 1931, Luce's townhouse of 1934; and of course, the Museum of Modern Art, which had, by contemporary accounts, "been disturbing New Yorkers, even the most up-to-date among them," since it opened 1939. 32 Such "stark and machine-made simplicity" might have been expected from the reputedly avant-garde Museum of Modern Art, but it was far more surprising coming from the government of the City of New York. Even under the progressive leadership of Mayor La Guardia.

![Figure 17: Mixing Plant Building, photo by William Ward, from Architectural Forum, March 1944.](image)

30 This appearance is all the more striking when the New York facility is compared with other municipal asphalt plants, such as those found in St. Louis and Los Angeles, which were also built in the 1940s. As in New York, St. Louis and Los Angeles both utilize advanced technology and electrical power, but in both cities the manufacturing equipment stands independent of any housing structures, in open air. See "Asphalt Plants Serving Our Cities," American City, February 1951, 92-93.

31 The scoring concrete curves of the mixing unit remained unique in New York until the revived expressionism of the late 1950s, as in Eero Saarinen's TWA Terminal (1956-62). As late as 1960, Progressive Architect criticized the mixing unit as a notable example of concrete design. See "Exposed Concrete Today," Progressive Architecture 47 (October 1960): 151. A design similar to that of the mixing unit had been projected earlier, in Oscar Niemeyer's 1947 proposal for the United Nations (study #32). Niemeyer's general assembly strongly resembles Jacob's mixing unit, though laid on its side. Given the asphalt plant's prominent location on the East River, only a few miles north of the UN site, and that Niemeyer, like Jacob, was a follower and friend of Le Corbusier, it seems possible that the Brazilian architect would have known the mixing unit.

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... For a full discussion of the conflicts between Robert Moses and Stanley Halsey over municipal public works, see Core, 643, 665, and 759.


... “Municipal Asphalt Plant,” Architectural Forum 60 (March 1944), 110.

... Certainly the contrast of cube and ellipse offered by the two main buildings is a radical departure from the conventional brick fortification style of older industrial buildings, but this novel form is fully justified by the functions and machinery it encloses. The arch shape of the processing building was determined by the parabolic flow of the equipment layout.

... The Forum’s accompanying photograph was offered as a further modernist defense—William Ward’s oblique, abstracted view of the mixing unit which recalled the propagandizing architectural photographs of Ken Hedebrich and E.S. Lincoln [Figure 17]. The Forum’s edition also featured Moses’ “Cathedral of Asphalt” with a drawing of a gritted mixing unit [Figure 18].
In the New York Times, other letters and responses followed—praising and condemning the plant, questioning its location, even citing its relationship to the architecture of ancient Persia. There the matter would have rested, except that in the meantime an architecture exhibition, Built in USA, had opened at the Museum of Modern Art which included Kahn & Jacobs’ Municipal Asphalt Plant as one of 47 buildings representative of developments in American architecture since the 1952 International Style show.26 Curator Elizabeth Mack’s pointed catalogue essay seemed calculated to defend the plant against public criticism: “The bold semi-ellipse of the mixing plant is no affectation,” she wrote, further explaining that “sharply differentiated industrial operations invite sharply differentiated architectural forms.”27 No sooner had Built in USA opened than the New York Times stirred things up once again, calling attention to the difference of opinion between Moses and the Museum over the “aesthetic lure” of the asphalt plant. Here the Times editors were unequivocal about their own position, complaining not that the mixing units looked like a factory, but rather like an open-air band shell, one “big enough to accommodate three Toscaninis and an equal number of Kaunevskys simultaneously proclaiming seven Shostakovich symphonies.” It was no wonder, they concluded, that the bombastic asphalt plant appealed to Mayor La Guardia, “always a foe of resistance.”28 Elsewhere the editors continued to balk at recent architectural developments griping that “all modernistic buildings look alike” with their “heavy rectangles...sharp edges and lots of glass.”29

This editorial in particular occasioned a lengthy response from the architect G.E. Kidder Smith who wrote on behalf of the American Institute of Architects. Smith, in addition, was well acquainted with the asphalt plant, having documented the redevelopment of the Upper East Side waterfront in photographs that were later published in municipal government reports and Architectural Review.30 Though the suitability of the mixing units’ shape was once again defended by invoking the modernist doctrine of form follows function, Smith was more concerned with explaining why the asphalt plant was “modern” and not “modernistic.” The former “springs from the ‘logical evolution and solution of utilitarian problems’” while the latter “connotes a flashy, funereal, streamliner amnesia.” According to Smith, calling the asphalt plant modernistic “represent[ed] to a modern architect a damnation of complete apprehension.”31 In coming to the defense of the asphalt plant, these diverse individuals and institutions seemed as interested in preserving the reputation of Modernism as they were in swaying public opinion.

26 With only three other industrial buildings, three other New York City buildings, and two comparable public works (dictated by the Tennessee Valley Authority) included in the show, the selection of the new asphalt plant was not insignificant—but neither was it surprising. Though MoMA had been openly disdainful of the type of art deco skyscrapers on which Elly Jacques Kahn’s reputation rested, it had been favorably disposed toward the younger Jacobs, having hired him for Le Corbusier’s lecture tour. In addition, Jacobs’ former employee, Wallace K. Harrison, was a member of the museum’s Board of Trustees and also a former Columbia dean. Joseph Hudnut, was a member of the Architecture Committee. MoMA records are inconclusive as to whether it was good connections or genuine interest in the work itself which ultimately resulted in the asphalt plant’s selection.

27 Elizabeth Mock, Built in USA since 1932 (New York, 1944), 99.


30 See Borough President’s Office, Borough of Manhattan Report (New York, 1941) 20-21 and “East River Drive, New York,” Architectural Review 95 (December 1944), 177-182. Smith also had ties to MoMA having been hired by Philip Goodwin as photographer for Brazil Bulle, a MoMA exhibition and book of 1945.
the New York Times, other letters and responses followed—praising and condemning the plant, questioning location, even citing its relationship to the architecture of ancient Persia. There the matter would have ended, except that in the meantime an architecture exhibition, Built in USA, had opened at the Museum of Modern Art which included Kahn & Jacob’s Municipal Asphal Plant as one of its 47 buildings representative of developments in American architecture since the 1932 International Style show. Curator Elizabeth Mock’s...n catalogue entry seemed calculated to defend the plant against public criticism: “The bold semi-elliptical...mixing plant is not an affront.” She wrote, further explaining that “sharply diversified industrial operations...sharply differentiated architectural forms.” No sooner had Built in USA opened than the New York...ew stirred things up once again, calling attention to the difference of opinion between Moses and the...mow the “aesthetic line” of the asphalt plants. Here the Times editors were unequivocal about their...position, acknowledging that the mixing unit looked like a factory, but rather like an open-air band shell, or “big enough to accommodate three Tocatins and an equal number of Kossovyts simultaneously proclaiming seven Shostakovich Sevenths.” It was no wonder, they concluded, that the bombastic asphalt plant appealed to Mayor La Guardia, “always a foe of resistance.” Elsewhere the editors continued with...lt of “all modernistic buildings look alike” with their “heavy...l very much public;

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Elizabeth Mock, Built in USA: the times (New York, 1944), 99.


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Serber, 439.


Mock, 99.

What exactly about the new asphalt plant made it such a community asset—such that real estate developers were now willing to build a 500-unit apartment complex across the street? After all, despite Jacobs’s successful combination of utility and eye appeal, this was still an industrial site, and even realtors availed of misted-use zoning, of whom there were not many among contemporary deconstructive planners, would hardly imagine a factory and a luxury apartment complex as harmonious neighbors. In contrast to other municipal industrial sites, notably a Queens asphalt plant built near Flushing Meadow in preparation for the World’s Fair, there was no use of elaborate landscaping to “screen industrial activity” or “hide the true nature of the factory,” though production had been rendered significantly less ominous through internalization. Nor is it likely that the plant’s insistent modernism appealed to the developers’ sense of aesthetics, since their own buildings, by architect Sylvia Bien, were executed in a restrained neo-colonial manner (Figure 19). But in some way it was precisely the plant’s modernism which was finally so convincing since, as one journalist observed, it gave the new facility “anything but the appearance of an industrial plant.” Transcending weekday industrial architecture, the new asphalt plant could thus signify a
neighborhood's gentrification, an administration's crusade against corruption, a city's burgeoning modernity.

This signification of modernity, it shared with other public works of the era like the George Washington and Triborough Bridges and especially the neighboring East River Drive, whose completion to 92nd Street in 1940 was an important impetus to the asphalt plant project. One of the most highly regarded public works of the era (and one of the few not built by Robert Moses), the drive was characterized by Borough President Isaac as a "clean, streamlined, modern super highway." Stretching nine miles from the Battery to 125th Street, for much of its upstate length the drive travels on a platform built out over the river, a double or triple deck roadway topped by gardens, esplanades, and apartment towers (Figure 20). Plunging into a tunnel at 50th Street northbound motorists travel for two miles on what Robert Stern has described as "one of the world's most thrilling stretches of multilevel highway." Emerging at 90th Street motorists in the 1940s (and still today) witnessed a spectacular panorama of modern New York—the four arms of the Triborough Bridge stretching out to the east; the four arches of the asphalt plant souring to the west (Figures 21 and 22). MoMA curator Elizabeth Mock rightly called the plan "an exciting experience for motorists on the adjacent superhighway"—an experience which surely rivaled any automotive age spectacle witnessed in the Futurama.

Robert Jacobs had taken up Le Corbusier's Gauntlet to "use the motor-car as a challenge to our great buildings" and he created an asphalt plant as a modern, efficient machine which purposefully shared the East River Drive's "bold scale [and] genuine, uncompromising concrete character." But even as Jacobs' design responded to the implicit modernity of the cars and the highway on which they travelled, it laid down a challenge of its own. The unabashed monumentalism and power of the plant's spart geometric forms were calculated to inspire awe.
and reverence for modern industry, enabling the production of asphalt taking place within—production which granted the modern highway its very existence. Robert Moses had intended the ultimate insult when he denounced the plant as a "cathedral of asphalt." But within the efficiency-worshiping civic culture in which the project was conceived, and the modernist aesthetic in which the design was executed (remembering that Le Corbusier himself compared the Orly airstrip hangars to Notre Dame), Moses could not possibly have paid New York City’s Municipal Asphalt Plant a higher compliment.

The Municipal Asphalt Plant served the borough of Manhattan from 1944 until 1968, when, as an economy measure, the city consolidated all asphalt production at a single facility in Queens. In 1970, the city announced plans to clear the site and build a mixed-income, high-rise housing project. Though the storage units and all auxiliary structures were razed, the mixing unit was spared because its use issues made conventional demolition difficult and costly. A neighborhood community group opposed the housing project rallied successfully to save the building. The mixing unit was declared a New York City landmark in 1976 and listed on the National Register of Historic Places in 1980. In 1985 the building was renovated by HOK (the successor firm to Kahn & Jacobs) in association with Peter Thorne & Klein into Asphalt Green, Inc., a non-profit sports and arts center. The transformed asphalt plant stands today as a fine example of the creative adaptive re-use of urban industrial buildings.

This article is based on research which began informally in 1989 when I joined the staff of Asphalt Green, Inc. An early version of this work was presented at the Hagley Museum and Library’s Conference on Industrial Modernism in 1995. Since then this work has benefited from the insightful criticism of numerous colleagues, including a pair of reviewers who prompted me to rethink several key issues and in whom I extend my thanks.
Bioinformation

Gabrielle Esperdy is an architectural historian who received her Ph.D. from the CUNY Graduate Center in May 1999. A College Art Association Professional Development Fellow and a member of the History/Theory faculty at the Pratt Institute School of Architecture, She is currently working to turn her dissertation, Modernizing Main Streets: Everyday Architecture and the New Deal, into a book.

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cathedral of asphalt for an automotive age

Figure 22: Mies' Pan Pacific Building from East River Drive, photo by the author, 1996.

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