

Appendix B Photographs

- B–1. Historical Aerial Photograph Review (Figures B-1 through B-8)
- B–2. Oblique Shoreline Photographs (Figures B-9 through B-11)
Source: Washington State Department of Ecology Coastal Atlas
- B–3. Outfall 2018 (Glacier Northwest)
Source: Schmoyer 2008b
- B–4. Seattle Biodiesel Spill and Cleanup (July 2007)
Source: Ecology 2007n

Appendix B-1
Historical Aerial Photograph Review

Appendix B1

Historical Aerial Photograph Review

Lower Duwamish Waterway RM 1.7–2.0 East (Slip 2 to Slip 3)

In an effort to more thoroughly understand and evaluate historical facility operations and development in the RM 1.7–2.0 East source control area, SAIC reviewed historical aerial photographs from 1936 to 2002. At a minimum, these photographs represent conditions of roughly each decade. Additional photographs are available; however, if during a cursory assessment there were no apparent changes, photographs less than a decade apart were not included in this summary. The aerial photographs for the years 1936, 1946, 1956, 1969, 1980, 1990, and 2002 are described below.

For purposes of discussion, aerial photos are split up into four general locations using current-day street names as reference points. **Slip 2** is described as the wetted area bounded by shoreline inside the slip itself. **Glacier NW** consists of parcel 9075 and 4505 along the north and east sides of Slip 2. **The Duwamish Marine Center** is bordered by Glacier NW and Slip 2 on the northwest, the LDW on the southwest and south, and East Marginal Way on the east. **Upland Properties** are considered to be the area south of S Fidalgo St, east of East Marginal Way, north of 1st Ave S NE off-ramp/ S Michigan Street, and west of 4th Ave S.

1936

Slip 2 is already well defined with clear shoreline definition. Timber rafts are stored on the north side and numerous small docks and above-water structures, possibly used to house small boats, are located along the south side of the slip. 1st Ave S is relatively close to the east side of Slip 2. There is either the early development or decaying remains of a structure resembling a pier along the north side of the slip.

Glacier NW is virtually undeveloped and consists of possible grassland and/or floodplain. A long narrow building of unknown use or identity is located adjacent to the northeast side of Slip 1 and has a smaller adjacent building. East Marginal Way runs north and south through the middle of parcel 4505 fairly close to the east side of Slip 2.

The Duwamish Marine Center property is also relatively undeveloped. Several roads are located on the property. The only structural development is in the northwest area where the aforementioned overwater buildings are located. Several small docks appear to extend a short way out into the LDW. A feature resembling an open ditch appears to run from the Upland Properties area under 1st Ave S and likely connects to Slip 2. This is in the same general location as the 2021 Gilmore James Bldg. outfall.

The **Upland Properties** appear to consist of mostly farmland or undeveloped grassland. East Marginal Way bisects this area but there is no other road development within this

specific location. Several small buildings, possibly residential in nature, are located near the northern and southern edges.

1946

Slip 2 underwent significant changes due to the apparent filling and subsequent reduction in size of approximately one third of the original open surface-water area. There appears to be a small dock or log boom present along the north and east sides of the slip.

Glacier NW appears to be in the early stages of development. Several buildings underwent construction including cylindrical silos on the northwest side of the property. The long narrow building adjacent to Slip 2 has been removed and replaced by an access road.

The Duwamish Marine Center gained a considerable amount of property as a result of the filling process, which took place within Slip 2. Several additional buildings are located along the west and south sides of the area. It appears that the structural remains of a wharf remain on the northwest side. Two barges are docked on the east side of the LDW along the west side of the Duwamish Marine Center. The ditch-like feature can still be observed; however, the discharge into Slip 2 is obscured by the fill material.

The **Upland Property** area underwent the most drastic change due to the development of the 901-unit Duwamish Bend housing project and associated school buildings. Developed streets and alleyways are in place. The area to the southwest remains fairly undeveloped with just the addition of a few buildings in the north.

1956

Slip 2 has two long docks paralleling the north and south sides. The primary purpose of the north dock appears to be for ship mooring. The function of the south dock is unknown. The south side of the slip remains mostly mudflats from when the slip shape was reconfigured and filled.

Glacier NW underwent the development and construction of various small buildings and roads, which is similar to the modern-day configuration. A dock which extends into the east side of the LDW is present.

The Duwamish Marine Center has increased development of small buildings. Most notably is the early stages of rerouting of the 1st Ave Bridge, which moves the roadway to the east. The ditch-like feature appears to have been filled or covered and is no longer present on the landscape. However, there is discoloration in the water of Slip 2 near where the 2021 Gilmore James Bldg. outfall is located. This may indicate water oxygenation from churning water associated with an outflow of some type.

The **Upland Properties** underwent the demolition of the Duwamish Bend housing project; only the footprints of buildings remain visible. Two exceptions include a large building located towards the north of the area and another long narrow building to the

south. The property between East Marginal Way and where the new 1st Ave Bridge currently is located appears to be under development for road use.

1969

Slip 2 remains generally the same shape with some increased definition along the southern shoreline, which shifts from mudflats to usable developable land. Boat moorage appears to be the primary function of the slip.

The **Glacier NW** parcel 9075 located to the north remains virtually unchanged. However, the usable space for parcel 4505 increased due to the relocation of East Marginal Way farther to the east. No buildings or other infrastructure is present on this parcel.

The Duwamish Marine Center has more overwater structures on the south end and various larger buildings have been constructed within the area.

The **Upland Properties** underwent substantial redevelopment, which included many large buildings and warehouses. The two buildings from the Duwamish Bend housing project still remain but now appear dwarfed in comparison.

1980

Slip 2 underwent the removal of the southern dock. Two large barges were moored on the north side of the slip. A small pier located on the south side of the slip near the mouth was also constructed.

Glacier NW parcel 9075 remains unchanged whereas parcel 4505 underwent the construction of a large warehouse-type building that covers most of the parcel.

The Duwamish Marine Center area had numerous small buildings and structures removed.

The **Upland Properties** underwent no obvious changes or development.

1990

Slip 2 continues to accommodate large barge moorage along the north side. The pier located on the south side underwent the addition of a wharf at the end, which facilitated large barge moorage.

Glacier NW appears relatively unchanged with the exception of removing a small building located on the south side of parcel 9075.

The Duwamish Marine Center had an additional wharf constructed just outside the mouth of Slip 2 on the east side of the LDW. An additional building was built on the southern end of the area.

The **Upland Properties** appear unchanged.

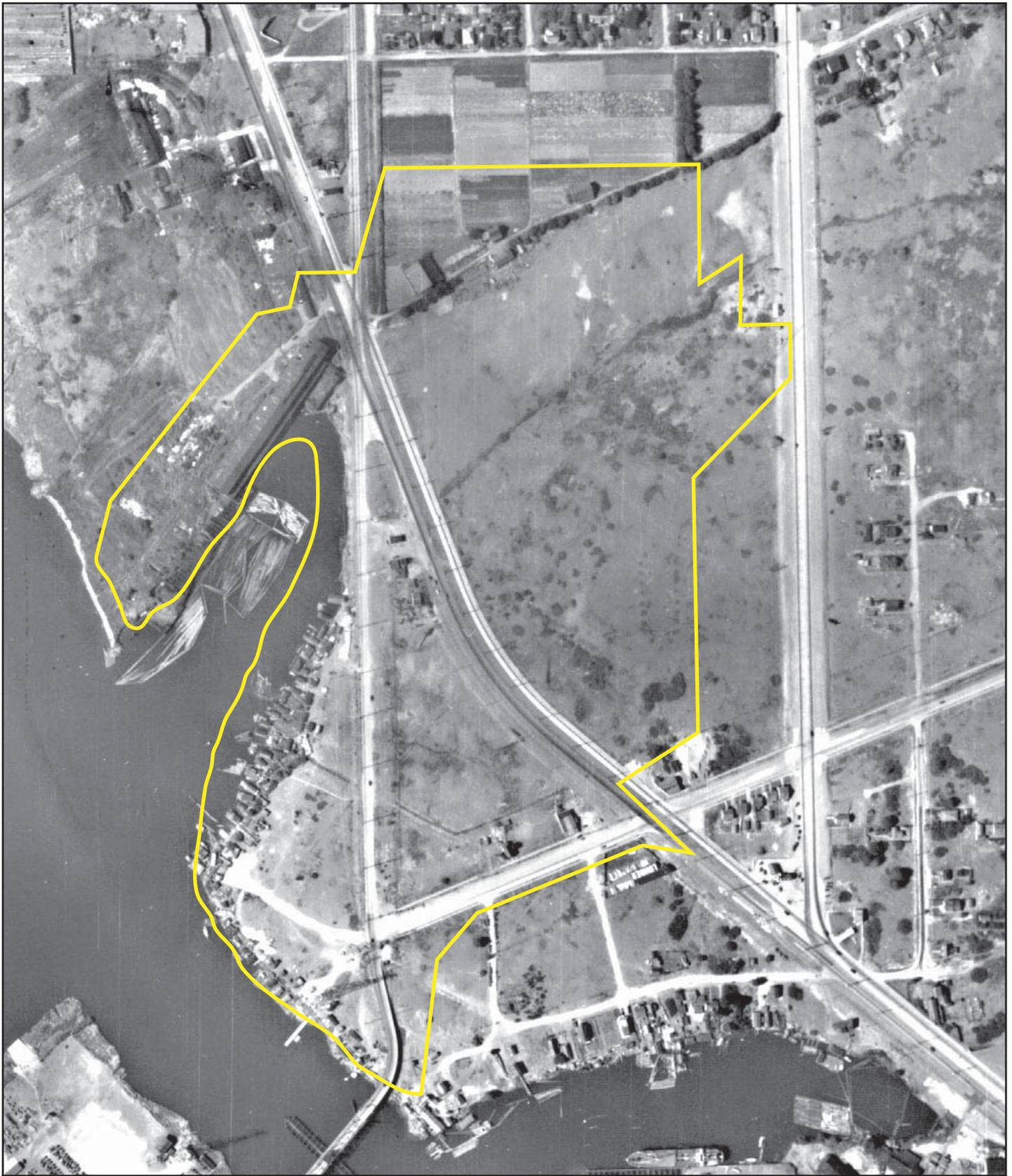
2002

No significant changes were visible to **Slip 2**.

Glacier NW continues to have undergone little to no change and is very similar to modern day design.

The Duwamish Marine Center appears to have undergone no observable changes.

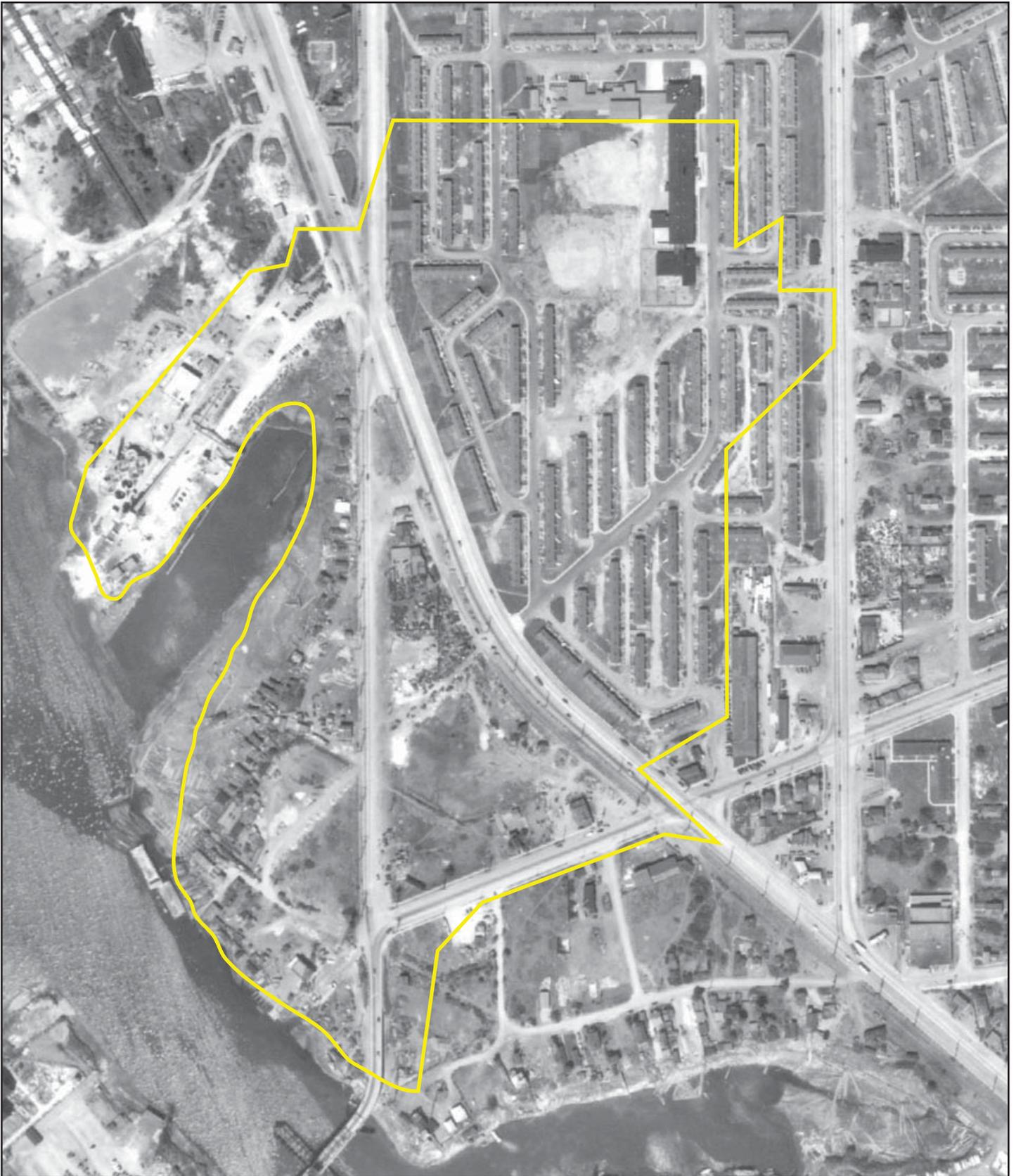
The **Upland Properties** also appear to have had relatively little changes made with regard to development. Site reconnaissance indicates that the large rectangular building located on parcel 4646 was demolished and removed sometime between 2002, when this photo was taken, and April 2008.



Legend

 Drainage Basin
Boundary

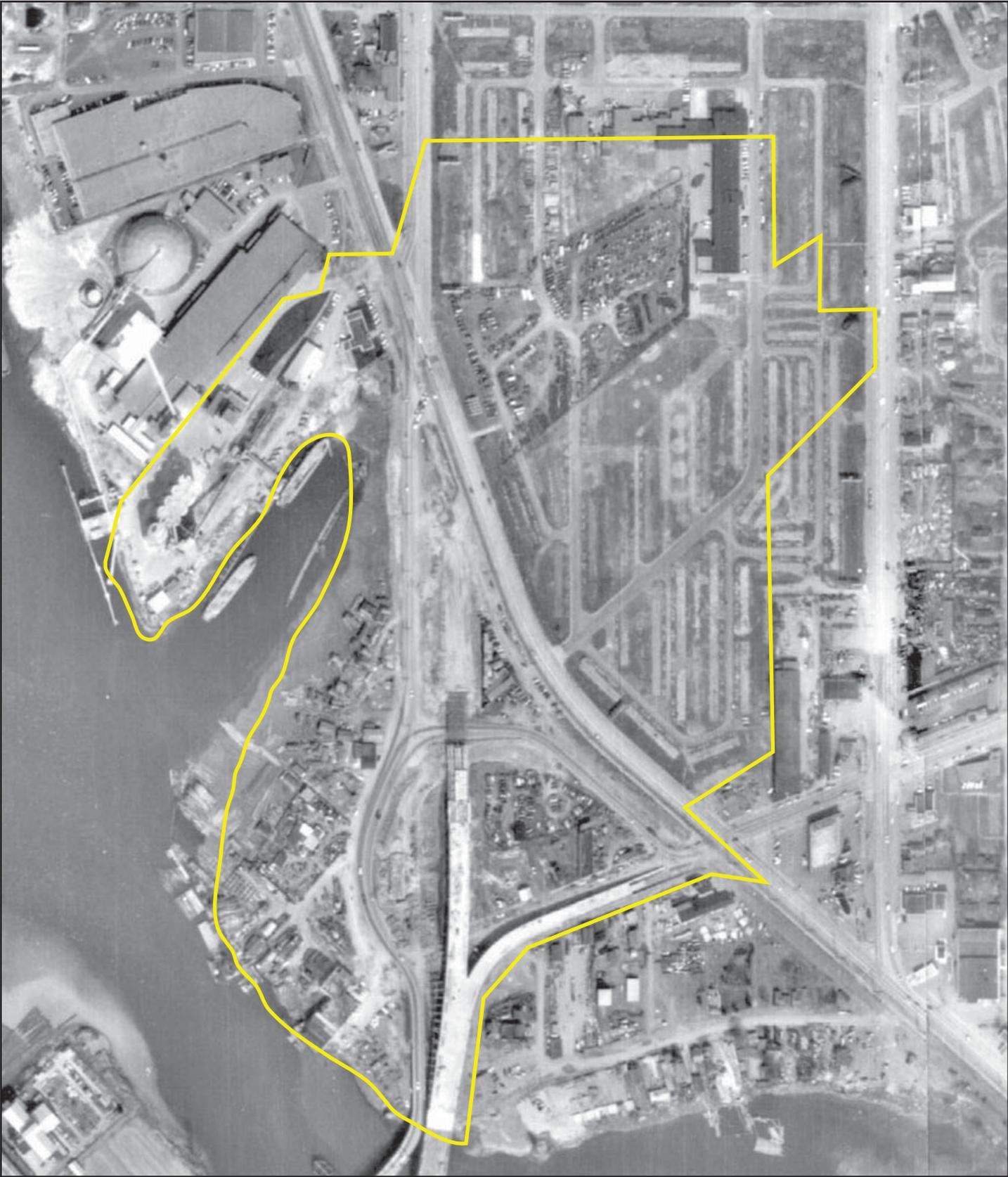
Figure B-1. RM 1.7-2.0 East (Slip 2 to Slip 3): 1936



Legend
 Drainage Basin
Boundary

Figure B-2. RM 1.7-2.0 East (Slip 2 to Slip 3): 1946

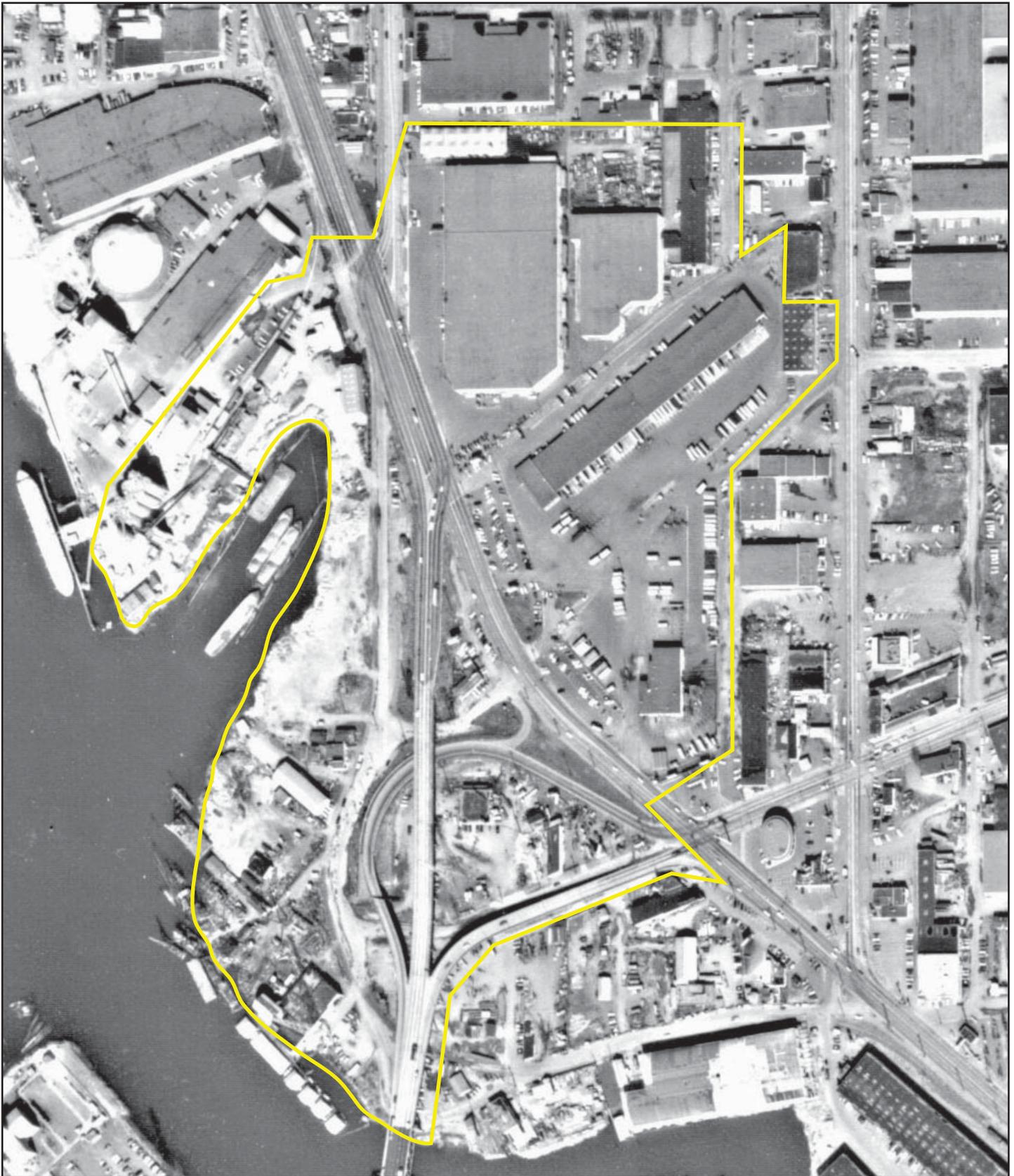




Legend

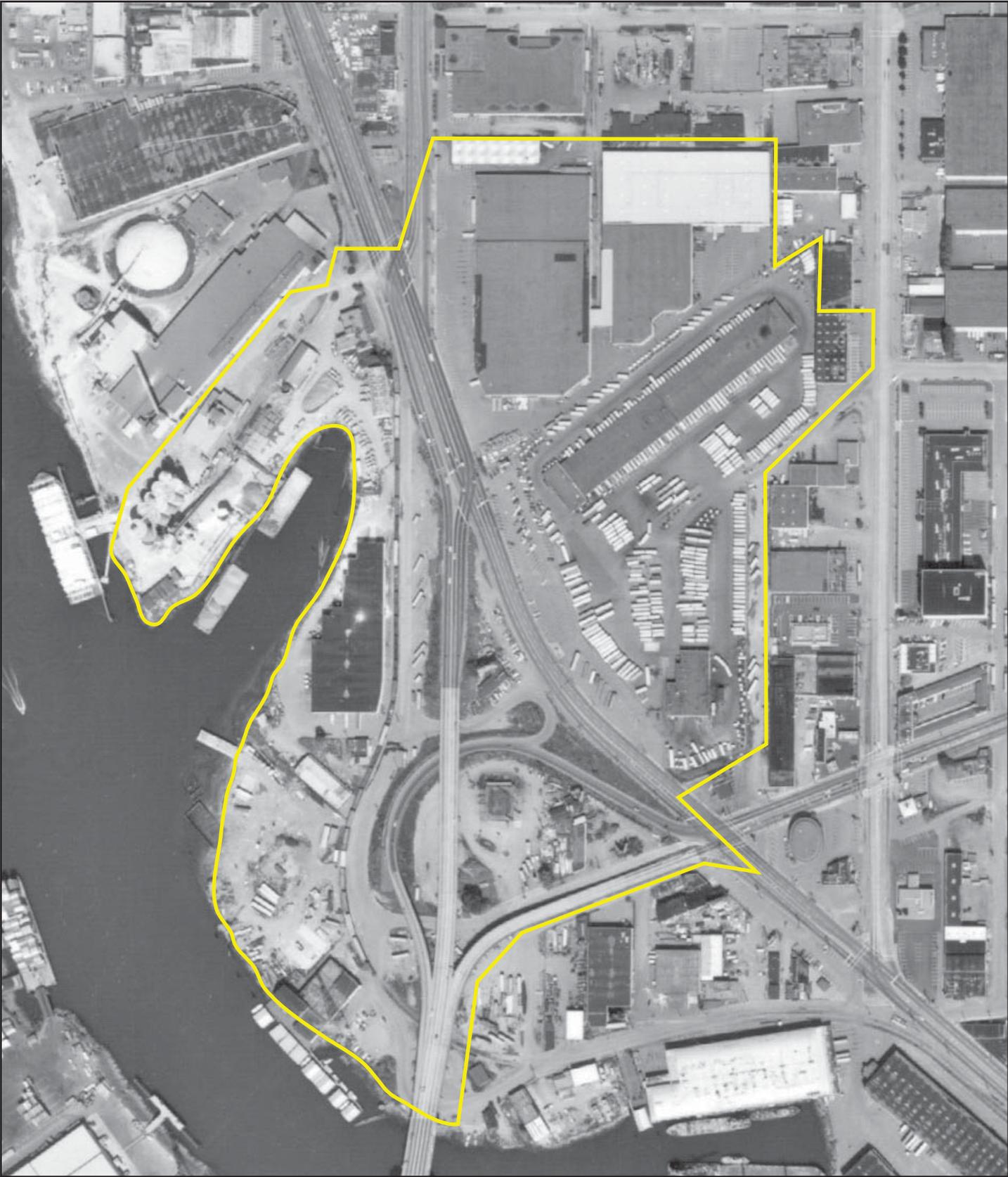
 Drainage Basin Boundary

Figure B-3. RM 1.7-2.0 East (Slip 2 to Slip 3): 1956



Legend
— Drainage Basin Boundary

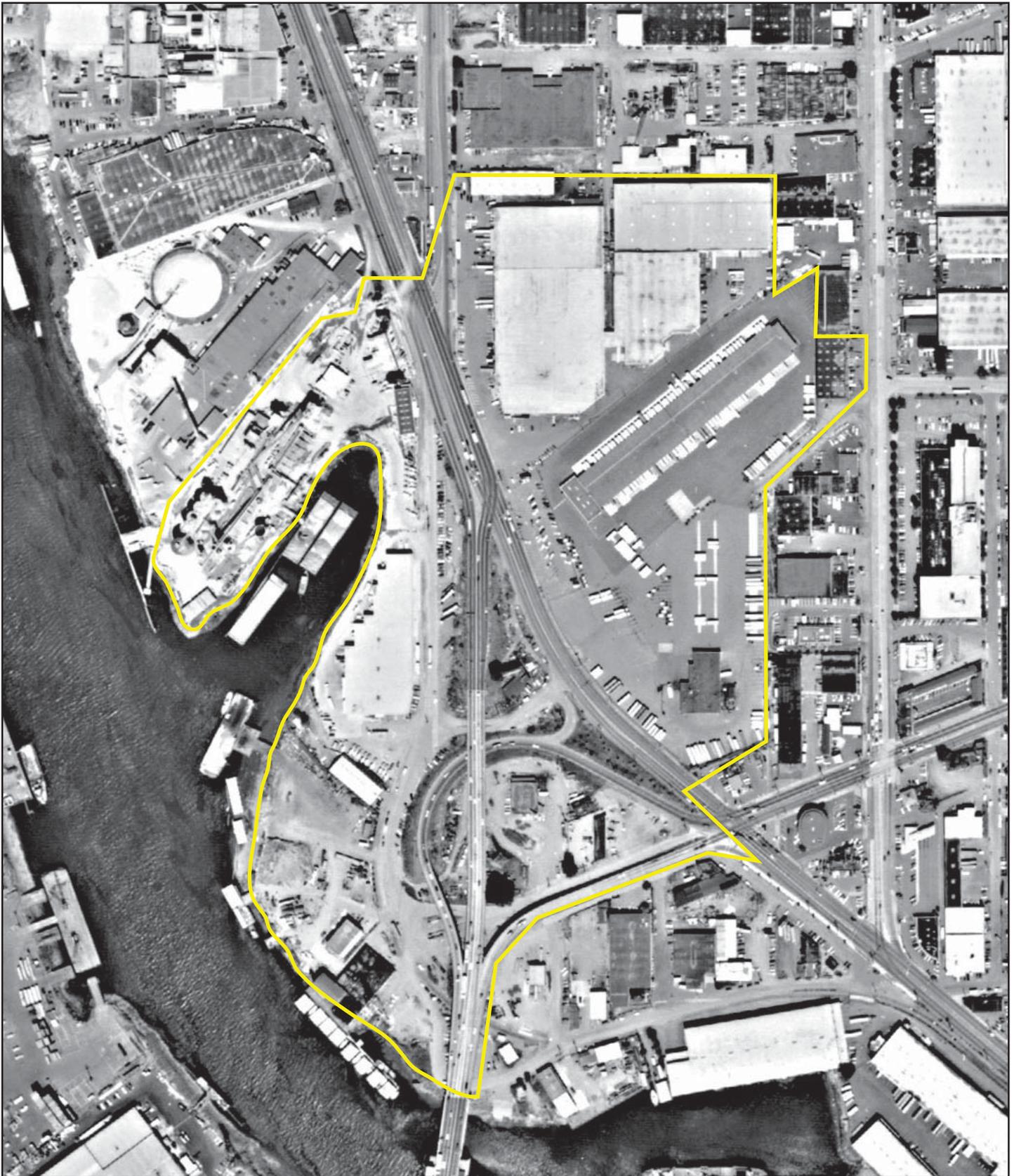
Figure B-4. RM 1.7-2.0 East (Slip 2 to Slip 3): 1969



Legend

 Drainage Basin Boundary

Figure B-5. RM 1.7-2.0 East (Slip 2 to Slip 3): 1980



Legend
— Drainage Basin
Boundary

Figure B-6. RM 1.7-2.0 East (Slip 2 to Slip 3): 1990



Legend
— Drainage Basin Boundary

Figure B-7. RM 1.7-2.0 East (Slip 2 to Slip 3): 2000



Legend
— Drainage Basin
Boundary

Figure B-8. RM 1.7-2.0 East (Slip 2 to Slip 3): 2002

