

Appendix A3

A New York State Canal Bibliography

The history and charm of the Erie Canal is recorded in numerous volumes. The following is an abbreviated canal bibliography, not intended to be complete but rather a sampler for those who wish to delve further into the concept of the inland waterway and its particular application in New York State.

New York State Canals

- Adams, Samuel Hopkins, *The Erie Canal*. New York, 1953.
- American Guide Series, *New York - A Guide to the Empire State*. New York, 1940.
- Andrist, Ralph K., *The Erie Canal*. (American Heritage Junior Library) New York, 1964. (S)
- Bourne, Russell, *Floating West - The Erie And Other American Canals*. New York, 1992.
- Chalmers, Harvey II, *The Birth of the Erie Canal*. New York, 1960. *How the Irish Built the Erie*. New York, 1964.
- Colden, Cadwallader, D., *MEMOIR at the Celebration of the Completion of the New York Canals*. New York, 1825 (reprinted 1967).
- Fitzgerald, John R., *The New Erie Canal - Travel Guide & History: The Erie, Champlain, Cayuga & Seneca, Oswego Canals, Finger Lakes, and Hudson and Mohawk Rivers*. Red Hook, 1993.
- Frankel, Jeremy G., with Capt. Peter Wiles Jr., Capt. Peter Wiles Sr. and Capt. Dan Wiles, *New York State Canal Guide - Western Region - Tonawanda to Syracuse - Everything the Canaller Needs to Know about Sightseeing, Locking, Shopping & More*. Skaneateles, NY, 1991.
- Garrity, Richard, *Canal Boatman - My Life on Upstate Waterways*. Syracuse, New York, 1977.
- Harlow, Alvin, *Old Towpaths*. Port Washington, New York, 1964.
- Hill, Henry Wayland, *Waterways and Canal Construction in New York State (Buffalo Historical Society Publications, XII)*. Buffalo, 1908.
- Hudowalski, Edward C., *New York State Barge Canal System (Journal of Waterways and Harbors Division, Proceedings of the American Society of Civil Engineers, September, 1959)*. Reprint.
- Kimball, Francis P., *New York - The Canal State*. Albany, New York, 1937.
- Lewis, Clarence O., *The Erie Canal*. Lockport, New York, 1967.
- Merill, Arch, *The Towpath*. Rochester, New York, 1945.
- National Park Service, *Impacts of Rail Trails*. Washington, D.C., 1992.
- National Park Service, *Navarre/Bethlehem Township: Canal Greenway Action Guidelines*. 1955.
- Ryan, Karen-Lee, ed., *Rails-to-Trails Conservancy, Trails for the Twenty-First Century: Planning, Design, and Management Manual for Multi-Use Trails*. Washington, D.C., 1993.
- Shaw, Ronald E., *Erie Water West - A History of the Erie Canal 1792-1854*. Lexington, Kentucky, 1966.
- Shelton, Ronald L., *The New York State Barge Canal* (Richard J. McNeil, ed., *Current Topics in Conservation, Series II*). Ithaca, New York, 1965.
- The Trust For Public Land, *Annual Report: 1994*. New York.
- Waggoner, Madeline S., *The Long Haul West - the Great Canal Era, 1817-1850*. New York, 1958.
- Walker, Barbara K. and Warren S. Walker (eds.), *The Erie Canal - Gateway to Empire: Selected Source Materials for College Research Papers*. Boston, 1963.
- Whitford, Noble E., *History of the Canal System of the State of New York, Volume I, Parts 1 & 2 and Volume II*. Albany, 1906. *History of the Barge Canal of New York State (Supplement to the Annual Report of the State Engineer and Surveyor for 1921)*. Albany, 1922.

The Canal Era

- Goodrich, Carter (ed.), *Canals and American Economic Development*. New York, 1961.
 Payne, Robert, *The Canal Builders*. New York, 1961.
 Taylor, George R., *The Transportation Revolution 1815-1860 (The Economic History of the United States, IV)*. New York, 1951.

Folklore and Fiction

- Adams, Samuel Hopkins, *Canal Town*. Chicago, 1944. *Chingo Smith of the Erie Canal*. New York 1958. *Grandfather Stories*. New York, 1947.
 Edmonds, Walter D., *Chad Hanna*. Boston, 1940. *Erie Water*. Boston, 1933. *Mostly Canallers – Collected Stories*. Boston, 1934. *Rome Haul*. Boston, 1929.
 Meadowcroft, Enid LaMonte, *We Were There at the Opening of the Erie Canal*. New York, 1958.
 Rapp, Marvin A., *Canal Water and Whiskey*, New York, 1992.
 Spier, Peter. *The Erie Canal*. New York, 1970.
 Thompson, Harold W., *Body, Boots and Bitches*. Philadelphia, 1940.
 Wyld, Lionel D., *Low Bridge! Folklore and the Erie Canal*. Syracuse, 1962.

Bibliography assembled courtesy of Marvin Rapp and Nutter Associates.

Appendix A4 Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
1	City of North Tonawanda Terminal Site; North Side of Canal	Urban waterfront dockwalls at Niagara River Junction	Narrow strips along the dockwalls; follows Sweeney Street	0.1 acre or less	Downtown; attractive design potential; good boating via river; WCTB	In conjunction with adjacent development, river boating	E/N E/B 31-11
2	City of Tonawanda Terminal Site; South Side of Canal	Urban waterfront dockwalls at Niagara River junction	Narrow strips along the dockwalls	0.1 acre or less	Downtown; Riverwalk; historic Long Homestead; good boating via river	Connect with rediscovered transfer lock; extend Riverwalk to end-to-end trail	E/N E/B 31-11
3	City of North Tonawanda Mayor's Park/ Sweeney Street Waterfront	Park plus neighborhood context of long-standing	Large parcel between Sweeney Street and canal edge; up to 700-foot depth of land	10 acres or more	Access via Sweeney Street; many docks without permits	Boating, recreation added potentials; needs permitting work	E/N E/B 31-11
4	City of North Tonawanda along Sweeney Street	East edge of city along Tonawanda Creek; much boating	Large undeveloped parcel along Sweeney Street	15 acres	Access via Sweeney Street is limited; many docks without permits	Boating, recreation added potentials	E/N E/B 31-9
5	City of North Tonawanda - North Bank of Canal; Niagara County	West of Robinson Road on Sweeney	Large parcels adjacent to rapid suburban growth; much boating	18 acres	Good road and water access; existing club use	Public or private development potential	E/N E/B 31-9
6	Town of Pendleton along Tonawanda Creek Road	Suburban, growing rapidly	Wide strip	Use as county park; 15 acres or more	Good road and water access; existing county park use	Potential for enhanced use	E/N E/B 31-7
7	Town of Pendleton - 1000 feet west of Campbell Road	Suburban growth, some remaining agriculture	Bend in Canal close to Old Tonawanda Creek Road	8-10 acres	Would need new access link	Potential for enhanced or increased use	E/N E/B 31-5
8	Town of Pendleton - 2500 feet east of Campbell Road	Suburban growth, mixed with agriculture	2 parcels, north (upland) and south (canalside) of Tonawanda Creek Road	20 acres	Existing park use; good Tonawanda Creek Road access	Park development potential	E/N E/B 31-5

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
9	Town of Amherst, Erie County - East of Campbell Road	Rural area northwest of Town of Amherst	Long 200 to 300-foot wide strip of land, approximately 4,000 feet long	20 acres; park use	Good Tonawanda Creek Road access	Park development potential	E/N E/B 31-5
10	Nine Mile Island, Town of Amherst	Rural area northwest of Town of Amherst, on Tonawanda Creek Road	Horseshoe-shaped island between Clinton's Ditch and Barge Canal	45-50 acres	Existing club use; good site, size, setting, access	Potential for more active development	E/N E/B 31-3
11	City of Lockport - West entrance to Lockport Cut	West gateway into both city center and dramatic cut from farmland area	400 to 500-foot wide strip of land along south edge of cut	30 acres or more, former (now disused) spoils area; hiking today	Very interesting site from natural and man-made points of view	Park, trail development are possibilities	E/N E/B 30-4
12	City of Lockport - Upper and Lower Canal Two Terminal Sites	West and east of the landmark Lockport Locks E-34,35, near the center of the city	Upper - narrow strip east end of cut; Lower - in gorge, with historic canal buildings	Upper: 1.4 acres Lower: 1.5 acres	Dramatic setting between Lockport cut, city center, lowertown district;WCTB	Potential for adaptive and shared use; Lower has Canal Corp. drydock	E/N E/B 30-4
13	Hamlet of Gasport Terminal Site	Focuses a charming country hamlet on the Canal	Vertical terminal and guide walls, small parklet, grocery	0.2 acre or less	Attractive rural hamlet with great canal history and interest	Potential enhancement, tie-in to nearby uses	E/N E/B 29-25
14	Middleport Terminal Site	Focuses a charming country hamlet on the Canal	Vertical terminal and guide walls, small parklet, restaurant, grocery	0.25 acre	Vernon Street lift bridge	Potential enhancement, tie-in to nearby uses	E/N E/B 29-19
15	Village of Medina Terminal Site	An urban village center mid-way along western section	Terminal site in waterfront "corner" of village center	0.5 acre or less	Backs of Main and East Center Street shops "front" on site at Canal turn	Potential direct tie-in with village center commercial revitalization	G/FL E/B 29-15
16	Medina - East of Village Center, North side of Canal	East edge of village near Orchard Creek Aqueduct, at Horan Street	Close to village center	3-5 acres	Easy access to Horan and State Streets	Tie-in with nearby uses	G/FL E/B 29-15

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
17	Knowlesville Terminal Site	Country canal hamlet centered on Knowlesville lift bridge	Classic lift bridge location	0.6 acre	Hamlet center	Tie-in with hamlet planning	G/FL E/B 29-11
18	Village of Albion Canal Maintenance and Terminal Site	Urban village center	Small tract on south side with freight building converted to section headquarters	0.9 acre	Village center immediately adjacent; WCTB	Future shared use potential	G/FL E/B 29-5
19	Hamlet of Hulberton, Orleans County	Rural countryside canal segment	Long strip on south side of Canal	40 acres	Canal maintenance area; both land and water areas within site	Potential new winter boat storage and work area using old quarry	G/FL E/B 28W-8
20	Village of Holley Terminal Site	A classic canal village	Small tract with 300-foot long vertical dock walls	1.1 acres	At Holley lift bridge	Future shared use potential for recreational and tourism uses	G/FL E/B 28W-6
21	Village of Holley Sandy Creek Waterfall	Unique waterfall created by Canal at village edge	Picturesque, canal history site, farmlands on one side, village on the other	15 acres, 2 parcels, north and south	Waterfall	Park development with village	G/FL E/B 28W-6
22	Route 272 Bridge, Town of Clarkson	Parcel on north side at new road and bridge configuration	Excellent north-south access via new road and bridge	25 acres	Good road access, bridge	Town of Clarkson park development potential	G/FL E/B 28E-15
23	Village of Brockport Terminal Site	Major urban village, SUNY University Center alongside Canal	Urban terminal site at lift bridge	0.1 acre or less	Busy village center	Village center, canal village revitalization tie-in	G/FL E/B 28E-13
24	Adams Basin Terminal Site	Small country hamlet with bed-and-breakfast (the only original tavern on the Canal System)	Picturesque country atmosphere; Adams Basin lift bridge	0.1 acre or less	Existing bed-and-breakfast	Shared use	G/FL E/B 28E-9

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
25	Trimmer Road west of Spencerport	Remnants of Clinton's Ditch	Active spoils disposal site for Canal	60 acres	Active spoils site	Shared use, canal access center proposed; viewed as good shared use project	G/FL E/B 28E-7
26	Village of Spencerport Terminal Site	Small canal village center with lift bridge, west Rochester suburbs	Terminal dock wall south side of Canal, small village center	0.5 acre or less	Good access via Canal Street, Union Street lift bridge	Enhanced shared use	G/FL E/B 28E-7
27	Route 261 Bridge, Town of Ogden	West edge fast growing suburban area	South edge of Canal with agricultural land behind	5 acres	Manitou Road gives good access	General waterside development relationship	G/FL E/B 28E-3
28	Junction Lock - Barge Canal/Old Erie Canal, Town of Greece	At west gateway to more dense suburban, urban conditions	North edge of Canal at old hamlet of Henpeck, south of Ridgeway Road	4 acres	Earth junction lock at hamlet; plans to switch trail over to north side here	Develop around historic theme of canal transition; bed-and-breakfast here?	G/FL E/B 27-5
29	Canal Frontage, Canal Ponds Business Park Site, Town of Greece	Just west of Canal/I-390 junction, major business development	North edge of Canal, frontage to multi-site business park	15 acres	Desire of developer to have water access, view Canal as image address	Careful development relationship	G/FL E/B 27-5
30	Town of Henrietta, Lock E-33 Development Site	Just south of Lock E-33 in developing town	South edge of Canal, was part of power building spillway	15 acres	Barge Canal powerhouse prominent landmark, site is well located	Carefully designed, appropriate private development	G/FL E/B 26-8
31	Town of Pittsford Lock E-32	Active suburban growth area in town conscious of canal planning	Significant canal lands south of lock	25-30 acres	Barge Canal/Old Erie Canal junction with Lock 62 canal park and trail	Enhanced park, recreation uses	G/FL E/B 26-6
32	Town/Village of Pittsford Canal Maintenance Yard Terminal Site	On NYS Route 31 (Monroe Avenue) canal crossing, trail, near Schoen Place	Major and actively used maintenance area	1 acre or less	Need to thread trail through maintenance site? MCTB	Careful planning for some future shared use	G/FL E/B 26-4

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
33	Village of Fairport Terminal Site	North bank site at prominent canal location, bend in Canal	Narrow canal edge with trail	1 acre or less	How to use canal edge toward canal/village revitalization goals	Work with adjacent planning for development	G/FL E/B 25-21
34	Village of Palmyra Terminal Site	Many Canal historic elements at a very historic village location	Barge Canal lock and terminal at Lock E-29	3.5 acres	Adjacent to Aqueduct County Park with aqueduct, power building	How to best interpret the historic significance of all elements	G/FL E/S 25-11
35	Village of Newark Terminal Site	Large village with downtown, hotel on canal front	Terminal west of Lock E-28B	1 acre	Motel/hotel adjacent to Canal	How to fit with village trends, needs, market	G/FL E/S 25-3
36	Poorhouse Lock (Enlarged Erie Canal) west of Lock E 28-A	Countryside with institutions, some businesses scattered	Very historic complex of Old Erie lock, canal-owned brick 19th-century building	5 acres	Rewatering feasibility, how to bring about appropriate building use within context	Strive for rewatering, visitor use/ appreciation of lock and building	G/FL E/S 24-7
37	Village of Lyons - Lock E 28-A; Canal Drydock and Maintenance Yard	Lyons Lock, active Canal Corporation maintenance and drydock center	A busy complex, much activity with potential	20 acres	Integrate history and much-needed present use and activity. WCTB	Plan for some shared boating use/ development potential	G/FL E/S 24-7
38	Village of Lyons Terminal Site at Lock E-27	Village is county seat, county buildings, village center next to lock	Terminal, dock and guidewalls, narrow strips alongside	4 acres	Revitalization needs of village center	Integrate with overall plans	G/FL E/S 24-5
39	East of Lyons Village Center at Conrail Crossing	Rural southeast corner of village, between Canal, railroad, Route 31	Open land on south bank of Canal	50 acres	Adjacent to Agway, rural industry, railroad, highway direct access needed	Possible shipping, processing, trans-shipment	G/FL E/S 24-5
40	Village of Seneca Falls Locks CS-2 & 3	East edge of nationally prominent historic village and Van Cleef Lake at locks	Small parcels at top of Locks CS-2 & 3 directly adjacent to Stanton House	1 acre or less	Adjacent to National Women's Rights Historical Park/Urban Cultural Park	Visitors interpretive center linkage	G/FL C&S/S 2C-6

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
41	Village of Seneca Falls Village Center Terminal Site	Urban village center	Terminal area at canal edge directly adjacent to backs of 4-story shops	2 acres	Integral with village urban center of high density, plus historic themes	Work with village and park to relate to larger development program	G/FL C&S/S 2C-6
42	Village of Seneca Falls South Side by Old Railroad Right-of-Way	Canal, NYS Routes 5 & 20 corridor between Seneca Falls and Waterloo	South edge of Canal near abandoned railroad right-of-way	8 acres	Housing proposed adjacent; end-to-end trail needs plan here	Integrate with Waterloo to Seneca Falls trail work	G/FL C&S/S 2C-6
43	Village of Waterloo Village Center/ Island Terminal Site	Picturesque junction of Seneca River islands, Canal and Waterloo historic center	Island in middle of Seneca River/C&S Canal - many waterway structures	5 acres	At Lock C&S 4; wooden maintenance building complex	Tourism and recreation involving use of island	G/FL C&S/S 2C-8
44	Weedsport Terminal Site	Thruway Exit, Canal, Route 31 merge here in close proximity	Route 38 bridge crosses Canal north of Thruway; restaurant adjacent	0.3 acre	Farms adjoin; nature area; yet Old Canal and village are close by	Increase boating activity center	CNY E/S 20-2
45	Village of Baldwinsville Terminal Site	Urban village, a canal passage challenge since the 18th century	Baldwinsville dam, terminal come together here	0.5 acre	Picturesque area, close to center of Syracuse region; canal maintenance buildings	Integrate with other plans	CNY E/S 18-5
46	Syracuse Inner Harbor Terminal Site and Canal Maintenance Yard	In Onondaga Lake "Oil City" redevelopment area	Full Barge Canal terminal with maintenance, freight and other buildings	42 acres	Syracuse Canal Harbor development under way with City; WCTB/MCTB	Restaurant, shops, private development with canal operations	CNY E/S 18A-1
47	Three Rivers Junction Oneida River	Rural and scattered settlement area at Seneca, Oneida and Oswego Rivers	Strip of land along edges of Seneca and Oneida Rivers	1.4 acres	Key junction for water traffic for entire Canal System	Redevelopment of larger site, properties required	CNY E,O/S 1B-1

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
48	Village of Phoenix Lock O-1	Busy boating area, village center, Lock Island, Lock O-1	Smaller parcels	5 acres	Heavy boating activity, good location connected with village center	Assist village in planning	CNY O/S 1B-3
49	City of Fulton Terminal Site	Small city center focused on Oswego Canal	Strips of land along double lock area, Locks O-3,4	0.6 acre	Shops back on to canal edge, along linear city downtown; Route 481 nearby	Shared use, joint development potential	CNY O/S 1B-11
50	City of Oswego Terminal Site	Dramatic man-made Canal as spine of city center	Strips of land adjacent to Canal, terminal site, 4-5 parcels, part of hotel site	1 acre	Canal owns land beneath hotel; major salmon fishing site	Shared use potential	CNY O/S 2B-11
51	Bonsted Island Oneida River	Fishing, boating, camping area along Oneida River section of Erie Canal	Just east of Three River junction	6-acre island in river	Island environment	Dredging issues along inside water channel; uses limited to camping, etc.	CNY E/S 16A-5
52	Schroepfel Island Oneida River	Island created by geometry of the Canal	Just west of the Anthony cut	6-acre island	Island environment	Dredging issues along inside water channel; uses limited to camping, etc.	CNY E/S 16A-3
53	Glosky Island Oneida River	Island created by geometry of the Canal	Just west of the Anthony cut	50-acre island	Island environment	Dredging issues along inside water channel; uses limited to camping, etc.	CNY E/S 16A-1
54	Brewerton Terminal Site Oneida Lake	West entrance to Oneida Lake from the Oneida River and Erie Canal	Small area	0.8 acre	Intense boating area	Could be strong market	CNY E/S 16A-1
55	Cleveland Terminal Site Oneida Lake	Middle area, north side of Oneida Lake	Terminal site	0.4 acre	Intense boating, fishing activity in area; WCTB	Could be strong market for boating uses	CNY E/S 16A-1

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
56	Village of Sylvan Beach Terminal Site Oneida Lake	Summer resort, vacation village, with amusement park, etc.	Terminal site on north side of Canal	3 acres	Most intensive summer fun environment along the Canal	Determine markets	HOM E/S 15-19
57	Verona Beach South Side of Canal	Near Holmes Marina	South side of Canal, water access very good	12-15 acres	Classic marina frontage and land area; land access may need improvement	Determine markets	HOM E/S 15-19
58	City of Rome Terminal Site	Historic city center at Mohawk River headwaters and dam	Barge Canal terminal site with buildings at key location	7 acres	WCTB planned for shared use; center of planned revitalization area	Link to Fort Stanwix, Erie Canal Village, Old Erie Canal State Park, and downtown revitalization	HOM E/S 15-3
59	Griffis Air Force Base Off-Load Facility	East edge of the city; mixed older suburban conditions	One mile east of terminal site, north side of Canal	25-30 acres	Pipeline connection to base	Possible link with Griffis Air Force Base redevelopment	HOM E/S 15-5
60	Oriskany Battlefield Battlefield Access Site	Town of Floyd, rural town	Canal strip of vacant lands adjacent to battlefield site to the south	Varies	At Rome, summit level, therefore embankments along Canal	Create dock, trail to establish access to battlefield	HOM E/S 14-1
61	City of Utica Harbor Terminal Site and Canal Maintenance Yard	Man-made canal harbor next to Mohawk River in valley	Urban canal terminal with many buildings and harbor lock	19 acres	Adjacent to Genesee Street and Adirondack Park Gateway; WCTB/MCTB	Work with city, NiMo to implement Harbor Point plans	HOM E/S 13-3
62	Village of Frankfurt Terminal Site	Rural Mohawk Valley settlement	Adjacent to village, well used as marina in part, dock, other improvements	3.6 acres	Near NYS Route 5S	Continue work with village	HOM E/S 13-3
63	Village of Ilion Terminal Site	Rural Mohawk Valley settlement	Adjacent to village, well used as marina in part, dock, other improvements	3.5 acres	Near NYS Route 5S; WCTB now renovated to serve Ilion Marina	Continue work with village	HOM E/S 13-1

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
64	Village of Herkimer Terminal Site	Rural Mohawk Valley settlement	Canal maintenance, next to Thruway entrance, between Canal and Thruway	1.4 acres	Difficult public works barriers but canalside location good; WCTB	Explore potential as boating center	HOM E/S 11-11
65	City of Little Falls Terminal Site	Rural Mohawk Valley settlement, at center of "Mohawk Gap"	West of city center, well used as marina in part, dock, buildings	2.2 acres	Attractive site, somewhat distant from Canal Square on opposite side; WCTB	Enhance boating use	HOM E/S 11-9
66	Village of St. Johnsville Terminal Site	Rural Mohawk Valley settlement	Adjacent to village, well used as marina in part, dock, other improvements	2 acres	Near Route 5S	Enhance boating use	HOM E/A 11-1
67	Village of Canajoharie Terminal Site	Rural Mohawk Valley historic village, major industry, cultural center	Adjacent to village, library, dock, other improvements	1.4 acres	At Thruway, Thruway exit immediately east	Enhance boating use, add boat launch, possible restaurant, work with village	HOM E/A 9-3
68	Lock E-13 and NYS Thruway Site	Near "The Noses" in the Mohawk Valley, sweeping scenery	Large canal tract with classic Mohawk Dam/Lock complex on it	40 acres	Immediate access to westbound Thruway; underpass access to eastbound	Could become a joint Canal/ Thruway service area	HOM E/A 8-5
69	Village of Fonda Terminal Site and Canal Maintenance Yard	Village center, Barge Canal terminal, county fairgrounds	Large canal tract on water's edge	34 acres	Old spoils area at west end; very busy canal maintenance use	Explore shared use on a large, well-oriented site	HOM E/A 8-1
70	Lock E-12/ Mohawk River Schoharie Crossing, Fort Hunter, Yankee Hill Lock	Historic focus of canal history in Mohawk Valley, opposite Tribes Hill	Varied parcels scattered	60 acres total	Some wet areas, older canal remnants; NYS historic site, interpretation	Reconsider earlier "Canaltown" proposal	HOM E/A 7-2

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
71	City of Amsterdam Lock E-11/ Guy Manor North Side	Mohawk River environment, north edge of City of Amsterdam	Parcel at Barge Canal lock terminal with buildings	20 acres	Railroad, NYS Route 5; highway divides site from city; NYS historic site	Shared use potentials - enhance Guy Manor/Park visitation	HOM E/A 6-10
72	City of Amsterdam Terminal Site Downtown Canalfront Site	Center of city, north side of Canal, below Route 30 bridge	Small site opposite mall; with dockwall; separated by Conrail/ Amtrak tracks	2 acres	Constricted size, highway divides from downtown, Old Canal segment	Explore development potentials; work with city and waterfront plan	HOM E/A 6-8
73	Mohawk River Lock E-10 Cranesville	Remote Mohawk Valley River environment, industry adjacent	Barge Canal complex with heavy extraction and industry adjacent	10 acres	Cushing Stone Co. uses for shipment, loading, extraction adjacent	Explore industrial potentials to help industry	CD E/A 6-6
74	Mohawk River South Side of Canal between Locks E-10 and E-9 Schenectady County	Remote Mohawk Valley River environment, industry adjacent	Large tract of canal land on south side	200 acres	Some water areas	Explore industrial potentials to help industry	CD E/A 6-4
75	Pattersonville South Side	Remote site east of Pattersonville	Large tract	20 acres	No direct road access	Possible residential development potential	CD E/A 5-11
76	Glenville South Side Site	Railway and Route 5 adjacent to site.	2 parcels near Lock E-9	65 acres	No direct road access	Possible development potential for a variety of uses	CD E/A 5-9
77	Scotia Lock E-8 North Side	City/ suburban edge with more rural environment	Parcel at Lock E-8	15 acres	Road access is via lock/dam road	Recreational potential - work with Town of Glenville	CD E/A 5-3
78	Rexford North Side at Route 146	Crescent area, very attractive, a major recreational boating area	Opposite Rexford Aqueduct ruin site, with Old Canal remnant on site	5-10 acres	Canal lands, mixed with private access via canal lands	Review conditions and potentials	CD E/A 3-10
79	Locks E-4 to E-7, Crescent Dam, North and South Sides	Dramatic river/dam area; historic flight of locks from Crescent to Waterford	Various canal lands opposite Goat Island and adjacent to dam, terminal	200 acres total; various parcels	Remote and scenic area with limited access	Potential residential, park, boating development throughout	CD E/A 2-2

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
80	Lock E-3 Waterford Flight Canal Maintenance Yard with Drydock	Location at north edge of Waterford urban area	Divisional Canal Corporation drydock and active maintenance center	40 acres	Drydock, partly scenic area with unused canal lands; maintenance buildings.	Explore shared use potentials for drydock and canal lands	CD E/A 2-2
81	City of Waterford Terminal Site Base of Waterford Flight	Waterford Flight entry at Lock E-2; adjacent to downtown Waterford	Key location at Hudson River Gateway to Waterford Flight	0.6 acre	Opposite Peebles Island State Park; former railroad bridge provides sole link	Potential for shared use of terminal, link with Peebles Island	CD E/A 1-3
82	City of Troy Terminal Site Hudson River	Eastern Gateway to Erie Canal from the Hudson River; downtown location	Urban terminal wall at center of major city downtown	Wall only	Urban context - revitalizing downtown on Hudson River	Explore potential for shared uses	CD E/A 1-1, 1-3
83	West Side Hudson River Champlain Canal South of Campbell's Island	Mixed uses adjacent - residential, commercial, industrial, vacant lands	Large waterside tract on west side of Hudson River - prominent	40 acres	Rare waterfront parcel, high ground, remnant of Old Champlain Canal	Explore camping, development potentials	CD C/A 1A-2
84	Mechanicville Terminal Site	Dockwall west side of river at Mechanicville	Directly adjacent to urban center	1 acre	Heavily used by transient boaters	Relate to urban center revitalization	CD C/A 1A-8
85	Village of Schuylerville / Saratoga National Battlefield	Canal frontage of a historic Hudson River village; battlefield to south	Parcels adjacent to the Schuyler Mansion, south edge of the village	50 acres at village; battlefield access site on Hudson riverfront	Old Champlain Canal lock remnants, paths; new dock and sign at battlefield	Important historical and riverfront sites - interpret through trail, development	CD C/A 2A-2
86	Thomson Terminal Site	Opposite Schuylerville	A Barge Canal terminal site, presently used as commercial terminal	0.3 acre	Good location on river/ Canal; used for aggregate shipping	Continue, enhance commercial terminal use	CD C/A 2A-2

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
87	Village of Fort Edward Village Center/"Hudson" Terminal Site	Fort Edward Yacht Basin, downtown location	Outstanding adaptive use of a canal terminal site	3 acres	Protected location behind Rogers Island - French and Indian War historic site	Continue present course of development	LC-LG C/A 3A-10
88	Fort Edward "Lock C-7" Canal Maintenance Yard	Strategic junction in waterway, where the Hudson joins the Canal	Vertical dock walls, maintenance operation and strip on Rogers Island	15 acres	Adjacent to ruins of fort, Old Canal remnants; old wooden lock house	Develop special master plan for marina, other uses	LC-LG C/A 3A-10
89	Dunham Basin	Rural countryside where Glens Falls feeder joins the Champlain Canal	Small parcel along Canal edge at important junction area	5 acres	Adjacent to Route 196 bridge	Explore potential for appropriate site development at junction	LC-LG C/A 4A-4
90	Village of Fort Ann	Canal frontage of historic village	Parcels with historic remnants, locks, railroad to Montreal	5-10 acres	Historical environment	Potential for new boating area on east side of Canal	LC-LG C/A 4A-12
91	Clay Creek West Side	Very remote countryside environment	Parcel on west side of Canal, remnant of Old Champlain Canal, Route 4	5-10 acres	Proposal for facility to transfer aggregate from truck to canal barges	Transfer potentials, commercial shipping	LC-LG C/A 4A-18
92	Village of Whitehall Terminal Site	Highly urban but distressed village at Champlain Valley wilderness gateway	Canal edge strips of land adjacent to lock, urban cultural park visitors center	2 acres	Dock walls, lock, bulkheads, American Naval Museum, MCTB	Continue work with village and Urban Cultural Park	LC-LG C/A 4A-22
93	Village of Port Henry Lake Champlain Terminal Site	Former railhead/ port industrial center for Moriah/ Mineville area	Pier area on lakefront	0.7 acre	Existing dock area, sometimes submerged; seasonal arts and crafts	Explore variety of use potentials - public boat launch proposed (DEC)	LC-LG C/A No Aerial

Appendix A4 (continued)
Canal-Owned Lands - Key Development Parcels

Legend

Planning of Regions: E/N=Erie-Niagara; G/FL=Genesee-Finger Lakes; C=Central New York; HOM=Herkimer-Oneida-Montgomery; CD=Capital District; LC-LG=Lake Champlain-Lake George
 Canal Divisions: E=Erie Canal; C&S=Cayuga-Seneca Canal; O=Oswego Canal; C=Champlain Canal; B=Buffalo; S=Syracuse; A=Albany.
 WCTB = Existing Wooden Canal Terminal Building at Terminal site.
 MCTB = Existing Masonry Canal Terminal Building at Terminal site.

Note: This table is not a listing of permits

Site #	Location	General Area Description	Parcel(s) Description	Approximate Size Range	Special Characteristics	Use/Leasing Potentials	Region /Canal /Div. Photo Sheet
94	City of Plattsburgh Lake Champlain Terminal Site	Pier at Plattsburgh Air Force base for jet fuel off loading	Pier area on lakefront	3 acres	Existing sailboat moorings around old Wilcox Dock, sometimes submerged	Explore variety of use potentials - public boat launch proposed (DEC)	LC-LG C/A No Aerial
95	Village of Watkins Glen Catherine Creek	Village center at junction of gorge, Seneca Lake and Canal/ Catherine Creek	Land along Catherine Creek marsh	10-20 acres	Existing marina uses	Explore proposals per LWRP for area	ECST C&S/S No Aerial
96	Village of Montour Falls	Village at falls, creek and Canal	Land along canal edge	10-20 acres	Existing marina uses	Explore plan proposals from area	ECST C&S/S No Aerial
97	City of Ithaca - Former Terminal Site	Urban center at mouth of Cayuga Lake	Harbor Island area, deteriorated conditions, former terminal, dockwall	1 acre	Various existing uses along waterfront	Explore community proposals	ECST C&S/S No Aerial
98	Rochester Airport/ Holiday Inn - Canal Site	Genesee River, city gateway, expressway junction and Rochester Airport	Canal guardlock, dockwalls, trail along deep cut in city	12-15 acres	Trails, hotel, city, Genesee Valley Park, and adjacent to airport	Explore feasibility of Airport-to-Canal interchange to downtown	G/FL E/B 26-12
99	City of Rochester - Genesee River/ Exchange Boulevard - Downtown	Genesee River in the heart of downtown Rochester; floating docks	Former major canal terminal, now narrow strip on west side	5 acres	At Court Street Dam, near Broad Street Aqueduct, Corn Hill residential area	Explore with region and city feasibility of canalway -related development	G/FL E/B 26A-3
100	Village of Clyde - South side of Clyde River/Erie Canal West of Route 414	Attractive rural village filled with canal history, west edge of Montezuma	Bounded by river/canal edge, Geneva Street, old West Shore Railroad right-of-way	4 acres	Opposite village center, near Route 414 bridge, next to industrial complex	Combine with economic development with reuse of industrial complex	G/FL E/S 22-7, 22-8

Appendix A6-a Design Guidelines

Design guidelines will help maintain the image, coherence and integrity of the Canal by encouraging development that enhances the canal experience and character of adjacent communities. Conceptual design guidelines are recommended for use by the Canal Corporation and for evaluating proposals by others for improvements on canal-owned land. Although it is recognized that the state has no jurisdiction over local land use and zoning, it is urged that canal municipalities further develop the guidelines, tailor them to specific local needs, and incorporate them into their appropriate ordinances. See Chapter 11, "Implementation," for state assistance to municipalities.

Conceptual guidelines are provided for:

1. public waterfront spaces;
2. site and building development along the Canal;
3. preservation and maintenance of Canal structures.

1. Public Space Standards

Public-space standards will guide the design of Canal waterfront projects by establishing a strong Canal identity and high level of quality for canal-related improvements. They are intended to encourage design freedom and diversity which is respectful of local history, extant architectural styles and the overall Canal experience.

Establishment of a single consistent design for each community's urban waterfront based on design standards and local architecture and history will create a unified, memorable community identity.

Design of public spaces should be compatible with the historic fabric of each community and specific sites. A common vocabulary of architecture, site design, landscaping, lighting materials, graphics and signage should be established.

The following public-space standards are recommended:

1. Vehicular Access: Vehicular access to the Canal on towpaths should be prohibited except for emergency vehicles.

2. Vehicular Drop-Offs: Vehicular drop-offs at canal facilities should be set well back from the water's edge to minimize visibility from the Canal and reduce the impact of headlight glare, noise and exhaust pollution. Driveways, curb cuts and parking lot entrances should not conflict with pedestrian access and vehicular movement through and around the Canal and adjacent areas.

3. Buildings and Other Structures: New buildings and other structures should be located where they will have minimal negative impact on the visual environment.

When possible, building design should be evocative of historic canal structures and/or follow local building-design traditions. Exhibits A6-1 and A6-5 illustrate designs of the 1920 Canal hydroelectric power plant and an historic wooden canal terminal building.

Service, storage, maintenance, loading and refuse collection areas should be located out of view of the Canal, public open spaces, public roadways and buildings on adjacent sites. When not within a building, service areas should be screened from ground-level view by dense landscaping and/or architectural barriers.

Service areas should not obstruct service-vehicle access or disrupt vehicular and pedestrian circulation.

4. Parking: The visual impact of parking adjacent to the Canal should be minimized. Multiple, small parking lots are preferred over single large lots. Screening of exposed parking with privacy fencing, planting and shrubs should be required, but should not compromise parking area security

or functional attributes (e.g. storage or snow removal). To eliminate long vistas of uninterrupted parking-lot pavement, parking areas should be interspersed with planting beds and tree canopies.

Parking areas adjacent to parks and plazas should be designed and treated as extensions of those areas, as in the case of a plaza-like parking area adjacent to a plaza. Where possible, pedestrian movement should take precedence over vehicular circulation.

5. Pedestrian Circulation: A continuous pedestrian-circulation system should be designed to link the Canal with the adjacent community, facilities, parking areas, attractions and businesses. All buildings fronting the Canal should use this system as a means to enhance the Canal experience by providing access to services and amenities.

General criteria for the pedestrian system include:

- A linked, integrated, continuous relationship to the Canal.
- Consistent use of materials and public-space elements such as surface treatment, lighting, and planting.
- Use of active, animated adjacent first-floor building uses and site amenities such as outdoor shopping and dining.

6. Landscape Elements: Landscape structures, such as walls, curbs and steps, should be composed of materials compatible with the overall intent of the landscape concept and respect adjacent site design. Wall materials should be compatible with those of adjacent buildings.

7. Signage: Standards should apply to all signage and graphics visible from the Canal. Information about local businesses, services, cultural and recreational opportunities should be aggregated on groups of panels and located near transient docking and at parking lots for use of landside visitors. Freestanding signs advertising local businesses should not be permitted at the water's edge.

See the following section, "Design Guidelines for Development," for building signage standards.

Systemwide canal signage should be located at urban waterfronts. Local signage and graphic programs should be coordinated with system sign standards..

See Exhibit A6-10, "Public Space Elements - Lighting Fixtures and Signage" for more information. Exhibit A6-11, "Public Space elements - Trail and Scenic Road Signage," displays the official signs for these areas.

8. Bicycle Circulation: A bicycle circulation system should be designed to link the Canalway Trail with the adjacent community, particularly with trail support facilities including Canal Landing, parking areas, attractions and businesses. Preferably, such a system would be designed as part of a community-wide bicycle and pedestrian plan.

General criteria for a bicycle circulation system include:

- A linked and integrated relationship to the Canal and the Canalway Trail.
- Bicycle lanes or on-road bicycle routes constructed to NYSDOT standards.
- Adequate signs and directional striping.
- Bicycle racks or bicycle lockers at Canal Landing and parking areas, and near shops, restaurants and activity centers.

9. Site Accessories and Furnishings: Site accessories and furnishings should require low maintenance, be composed of commercial-grade materials and finishes compatible with adjacent construction, and be of quality construction. Recommended building materials include cast iron, iron and wood. Improvements should also match established canal standards, and not conflict stylistically with adjacent historic features.

See Exhibits A6-12 and A6-13, "Public Space Elements - Site Furnishings" for examples of appropriate elements.

10. *Planting*: Planting in public areas adjacent to the Canal should use native indigenous species for the majority of the area, with a small percentage of nonnative species allowed, particularly in urban areas.

When adjacent areas sharing a common open space are developed, and the planting palette established in the first area is appropriate and compatible with the canal guidelines, it should be used in the remaining opening space.

11. *Paving*: Paving shall conform to the minimum standards established in the Public Space Elements Exhibits. When developing adjacent areas sharing common space, the paving palette established in the first area, if appropriate, should be used for the remainder. See Exhibit A6-6, "Public Space Elements - Paving" for more information.

12. *Site Lighting*: Minimum lighting standards should conform with local code or municipality standards and where possible, use the examples shown in Exhibits A6-4, "Lock Site Elements - Canal Lighting Fixtures" and A6-10, "Public Space Elements - Lighting Fixtures and Signage." Where possible, fixture heights should not exceed 12 feet in pedestrian and 20 feet in vehicular access areas, respectively. Brightly lighted waterfronts and lighting between canal communities is discouraged unless necessary to accommodate navigation or safety requirements.

When adjacent areas sharing common open space are developed, the lighting pattern established in the first area should be utilized in the remaining open space.

13. *Power Lines*: Where possible and economically feasible, utilities adjacent to the Canal should be located underground. Utility locations should not inhibit tree planting, other plantings, or general landscape unity. Utility structures that must protrude above grade should be located where they have the least negative impact, and be masked with walls or landscaped screening. Necessary above-ground equipment, such as transformers and switching gear, should not impact off-site and canal views.

In addition to the above, site planning and design of public spaces should be in conformance with applicable federal, state and local regulations. The above guidelines have been applied to the seven Canal Harbor development projects, exemplifying methods to incorporate them in plans for varying types of communities.

2. Design Guidelines for Site and Building Development

Design guidelines for development are intended for both public and private land improvements on land adjacent to the Canal, with the intent of preserving the existing character of canal regions through development that reinforces and enhances the canal experience and corridor.

The guidelines are organized in two parts: site development and building development. Exhibit A6-14 "Generic Design Development Guidelines" provides a graphic summary of site-design principles.

Site-Design Principles for Development in Established Communities

- The first priority for new residential and commercial development sites should be infill of vacant or underutilized land within the existing street and utility network.
- New development that is not infill should be arranged along extensions of existing historic street patterns rather than in a new and unrelated network. Blocks of a generally rectangular shape should be the principal organizing feature of new development within existing communities.
- Building setbacks traditional to the local community and appropriate to the use and scale of the street should form a visual streetscape edge and pedestrian-friendly environment that promotes walking to local destinations rather than driving .
- New development and infill development should incorporate parks, squares, greens and landscaped streets.

- Where development abuts the canal greenway or end-to-end trail, canal open space should be incorporated into the neighborhood circulation and open-space plan, including provisions for public access.
- Development should provide drainage patterns and landscape planting that protects canal waters from polluting runoff.
- Street alignment should minimize alteration of natural site features and be consistent with existing patterns of vegetation, open space, walls, fence lines and significant landmarks. Topography and vegetation should influence block shape and size.
- A hierarchy of streets responsive to various levels of vehicular and pedestrian traffic that discourages high-speed traffic is recommended. Street widths should be scaled to the existing neighborhood.
- Bicycle and pedestrian paths should link residential areas and town centers, recreational amenities, and the Canal. Landscaping, lighting, safe walking surfaces, and directional signage are recommended.
- Parking should generally be located at the rear of buildings or along the street in front of lots. No off-street parking should be permitted in front yards. Curb cuts along primary streets should be limited. To the extent possible, access should be from side streets or alleys or, in the case of commercial areas, off-street connections between adjacent lots.

Site-Design Principles for Development in Agricultural or Open-Space Areas

- New development in the center of fields and open areas should be avoided. Development should be sited within wooded areas bordering a field or at the edges of fields.
- New development that is at the edge of and/or within an open area should include landscape elements emulating the existing or traditional pattern of planting
- Development should be clustered in groupings typical of farm settlement, or arranged in patterns consistent with local design traditions.
- Siting of development should utilize existing patterns of fences, hedgerows, walls, roadways, and other landscape elements.
- Siting of development on hilltops, drumlins, or other visually prominent topography should be avoided.
- Where new development in agricultural areas will result in reduction of the size of a farmable area or the segmentation of a farmable area, attention must be given to retaining appropriate farmable units.
- Turf grass, ornamental planting and other high-maintenance planting should be minimized and kept within specified development envelopes. Preference should be given to low-maintenance, indigenous plant material and retention of native and natural vegetation to the extent possible.
- New landscape planting should be limited to areas where development is clustered or along roads. New planting in the center of fields should be avoided.
- Grading for construction and storm-water management should avoid removal of natural topsoil and vegetation, and be accomplished in a manner that maximizes the advantages of natural swales and infiltration.
- New roadways should emulate existing rural roadway patterns by following the edges of fields and conforming to natural contours and grading.
- Roadways should be of minimum feasible width; 18 feet is recommended, with no on-street parking permitted.
- To minimize curb cuts wherever possible, shared drives are encouraged.
- All open space, whether it be the canal greenway or preserved farmland, should be integrated into a comprehensive community open-space system.
- Canalside and trailside development should create and protect the greenway to preserve

habitat, water quality, visual character, and/or public access.

- Siting of new development should protect the sense of open space viewed from the Canal. This can be accomplished through locating development within existing or new woodlands or hedgerows, clustering development in farmlike patterns, and conserving significant open fields.

Site-Design Principles for Development in Woodland Areas

The extensive amount of woodland along the Canal, both in large uninterrupted areas and interspersed with farmland, provides opportunities for siting new development in a manner that protects the sense of open space. The goal is to accommodate development in wooded areas while conserving views, farmland, woodland resources, and woodland habitat. Suggested guidelines for development within woodlands follow:

- Clustering and other forms of more compact development are recommended as a way of maximizing conservation of significant contiguous undeveloped areas. Natural screening provided by wooded sites permits flexibility in accomplishing this goal without damaging the visual environment.
- Site design should take advantage of the location and pattern of existing roadways, walls, significant trees, and other landscape elements.
- Siting development on hilltops, steep slopes, or other areas where clearings and buildings will be visible from the Canal should be avoided.
- Building heights in woodland areas should be limited to the height of the underside of the tree canopy.
- Cutting of woodland vegetation should be selective and limited to those areas needed for buildings and limited cultivated landscape.
- Turf grass and/or other ornamental planting should be minimized and kept within specific development envelopes. Preference should be given to low-maintenance, indigenous plant

materials, and retention of native or natural vegetation to the extent possible.

- Siting of roads and buildings should minimize clearing and grading.
- Roadways should follow the contour of the land and traditional roadway patterns.
- Roadways should be of the minimum feasible width; 18 feet is recommended, with no on-street parking permitted.
- Shared drives are encouraged wherever possible to avoid clearing of woodland and to minimize curb cuts.
- Canal and trailside development should create and protect a greenway to conserve habitat, water quality and visual character, and/or maintain public access. Greenways and protected woodlands beyond the greenway should be incorporated into community-wide open-space plans.

Topography and Landscaping

Site development should retain existing natural features. Existing mature vegetation, wetlands, water features, and prominent topography should be conserved and incorporated into the development design. Within 100 feet of the canal right-of-way, no major alterations to the topography and landscape should be allowed.

In suburban and rural areas, native vegetation should be planted to contribute to the surrounding natural landscape and provide a buffer between buildings and the Canal. In urban areas, plantings should be used to provide shelter for the upland user, visual interest from the Canal, buffering at rear yards and service areas, and a consistent community image.

Canal Access

All new development should provide continuous pedestrian access parallel and adjacent to the Canal. Pedestrian access paths should be a minimum of 15 feet wide with an appropriate walking surface of at least 6 feet. Accommodation should be made on large development sites to allow emergency-vehicle access to the Canal.

Utilities and Services

Site drainage and utilities should be designed to prohibit point-source pollution such as storm-water runoff and combined sewer overflows, and minimize nonpoint discharge of excess nutrients, organic substances and eroded soils into the Canal or other waterways.

Where feasible, within 100 feet of the Canal, utilities such as electric and communications services should be installed below grade. All services fronting the Canal should be screened from view either architecturally, using materials consistent with the principal building, or with dense landscaping which includes evergreen plantings.

Parking

All at-grade parking fronting or in view of the Canal should be screened from view with dense landscaping which includes evergreen plantings or fencing of appropriate materials. Parking structures should be enclosed architecturally with building materials and fenestration consistent with principal buildings or adjacent structures.

Site Amenities

Site lighting should not impede navigation, compromise safety, or disturb boaters. Within 100 feet of the Canal, lighting should only be provided for pedestrians. Pedestrian lighting should be a "white" light source. Sodium should be discouraged because of poor grey-brown color rendition.

Where necessary, fencing that parallels and is adjacent to the Canal should be no higher than 6 feet and not less than 50 percent open unless screening of unsightly views is desirable, in which case, 100 percent closed screening is required. All fencing should use materials and colors compatible with the principal building on the site.

Building Development

- *Existing Buildings and Structures*

The rehabilitation of existing buildings and structures should take precedence over new construction in canalfront locations. Adaptive reuse of buildings is encouraged. Developers

are encouraged to use the US Department of the Interior's *Standards for Historic Preservation Projects* or the *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, regardless of the status or existence of historic designation. Removal of sound structures which contribute to the character of the community and canal experience is discouraged.

- *New Building Location and Orientation*

A 100-foot minimum building setback should be required from the canal right-of-way, except where right-of-way requirements are greater, or when a new building is located adjacent to existing buildings in urban areas. In this case, an exemption could be granted so that the new building could be oriented similarly to adjacent buildings. New buildings should reinforce the existing community building patterns by continuing the same general siting and orientation. Existing natural, historical and cultural features of the site should be protected when locating new building.

Buildings should front major spaces and have an entrance on the Canal. Outdoor living spaces, including porches, decks, balconies and terraces are also encouraged, facing the Canal.

- *Height and Massing*

Local zoning restrictions shall apply where applicable. In addition, general height and massing of buildings should reflect the character of adjacent buildings. Buildings higher than their neighbors are discouraged.

- *Facade Treatments*

Exterior materials should be compatible in texture and color with adjacent buildings if they are appropriate to the character of the Canal.

Fenestration and roof shapes facing the Canal should be an important design element of the building. Highly reflective glazing should not be allowed.

- *Auxiliary Structures*

Auxiliary structures should have the same architectural quality and exterior materials as the principal building on the site. Structures not exceeding 300 square feet and 20 feet in height should be permitted 75 feet from the canal right-of-way.

- *Building Signage*

- One primary sign per building, no closer than 100 feet from the Canal right-of-way, should be permitted. The total area of this sign should not exceed 100 square feet and be no higher than 15 feet above grade level.
- Two additional signs might be permitted provided they are flush with the building facade or structure and located adjacent to an entranceway. These should not exceed 4 square feet each.
- Flashing and animated signs or plastic backlit sign boxes should not be used.
- Signage should be designed to reflect the historic character of the Canal, be compatible with adjacent buildings, and oriented for intended users.
- Light sources for signs should not be directly visible from the Canal or adjacent pedestrian pathways.

- *Temporary Structures*

Seasonal structures such as tents, kiosks, and fabric/frame pavilions for seasonal use along the Canal are encouraged within Canal Ports and may be located within the 100-foot minimum setback providing they do not impinge on public access to and along the Canal. Such structures should be approved by local code officials and clearly appear to be temporary.

3. Preservation and Maintenance Guidelines for Canal Structures

The following historic-preservation guidelines are recommended for canal maintenance activities. They are intended to provide a basis for the

preparation of a comprehensive preservation plan, as discussed previously, and can serve as guidelines during the interim period prior to completion of the National Register process.

Of the 1,835 total canal structures, approximately 250 represent primary historic elements, including 57 locks (with multiple structures), guard gates, movable and fixed bridges, movable and fixed dams, and terminal buildings. Other structures, such as breakwaters, retaining walls, dry docks, weirs, feeders, and culverts are considered to be of secondary historic significance.

Except for ongoing maintenance, safety and engineering enhancements, many of the primary canal structures remain unchanged and operate as they did originally. Rehabilitation programs have, for the most part, repaired or replaced canal components "in kind" or with a design sympathetic with the original.

In some instances original structures or engineering components have been removed or significantly altered, including original power-generating equipment, roofs of generator buildings, lock gates, and equipment, lighting, handrails, and signal lights.

Original detailed drawings and specifications of the primary canal structures are on file at the Canal Corporation. Any future changes should be based upon the original intent of the design or in accordance with new guidelines for additions or new construction. Guidelines should encompass the following:

Locks

Locks are the locations where local residents and boaters interface most directly with the workings of the Canal. These magnificent 20th-century engineering accomplishments strike a memorable image and contrast sharply with the surrounding rural or urban setting.

All the present operating locks were built in the Barge Canal era, with the same chamber size – 328 feet by 45 feet. Depth varies according to terrain. The maximum size of vessel that can transit through a lock is 300 feet by 43.5 feet. The typical lock includes extensive operating

equipment, a hydroelectric generating building (now used mostly as a storage area or machine shop), equipment cabinets, a lockmaster's office (not an original structure), a variety of cable bridges, signals, walkways, handrails, and lighting.

Many locks retain their original structural components with little or no change except for those required for ongoing maintenance and safety. In most places, however, the handrails, circa-1920s lighting, historic boat-traffic signals, and other ancillary elements have been lost. The sloping roofs on many power houses have been removed and replaced with flat roofs. A variety of buildings have been added to lock sites over the years, including lock offices, workshops and public toilets. The design of most lock offices is compatible with the historic structures; the workshops and public toilets often are not.

Unless public safety and operational considerations warrant immediate attention, a staged program of restoring original canal structures should be initiated based on the normal replacement cycle of facilities. The program should include: removing inappropriate additions; constructing new appropriate structures; retrofitting lighting, handrails and marine fittings; and signage. The traditional blue-and-gold color scheme should be continued.

Land area and facilities vary at lock sites. The Canal Corporation initiated a community program to provide picnic tables, barbecue, trash receptacles, benches and other enhancements at lock sites. These improvements provide a necessary and well-used community resource. It is recommended that a consistent, high-quality package of community amenities supplement these facilities, and that information and interpretation be provided along with visitor services.

Dams, Guard Gates and Bridges

Hundreds of guard gates, guard locks, fixed dams, Mohawk River dams, and taintor dams are operated and maintained by the Canal Corporation. Lift bridges spanning the Canal are operated by the Canal Corporation; maintenance is shared by the Canal Corporation and the NYS

Department of Transportation. Fixed bridges spanning the Canal are owned, operated, and maintained by the NYS Department of Transportation. These large engineering structures dominate the landscape, contributing significantly to the boating and landside experience. Therefore, it is important that these dams, guard gates and bridges be included in the historic preservation program and be maintained, altered, painted, and lighted in accordance with established guidelines. Structures beyond repair should be replaced in kind, unless not structurally or economically feasible. New bridges should be designed using contemporary engineering standards but with materials, scale and proportions sympathetic to the historic fabric of the Canal. Truss bridges similar to historic canal bridges are desirable.

Canal Terminal Structures

Many of the wood-frame clapboard freight buildings at the terminals have been demolished. The twelve existing buildings contribute to the historic memory and character of the Canal, and should be stabilized, waterproofed and painted. The terminal bulkhead walls are also important historic features, reminiscent of their original industrial purpose, and useful today as boat tie-ups.

Canal Banks and Towpaths

As it did historically, at least 95 percent of the Canal traverses open space. The composition and condition of the banks are highly visible from land and water. Ongoing maintenance and regulated speed at 10 miles per hour or less is required to minimize erosion in the dug sections and retain the historic slow-moving experience.

Overgrown trees, weeds and shrubs at the water's edge in the dug section of the Canal should be removed to reveal existing towpaths and to maintain the stability of the bank. Removal of trees set back from the bank should be minimized, since trees contribute to the visual experience and shade the route for boaters, hikers and cyclists.

Appendix A6-b

Policies for Use and Occupancy Permits, Leases and Abandonments of Canal-Owned Land

Introduction

Policies are required for consistent actions by the Canal Corporation on applications for permits, leases and abandonments affecting canal-owned land. Lands owned by the Canal Corporation are a particularly important resource for the Canal Recreationway Plan, because they are the lands over which the Corporation has the most control and which it can use most directly to implement the Plan. These lands are also expected to be the source of the largest amount of canal-related revenue that will be available for implementing the Plan.

Canal Corporation regulations and procedures, inherited from the NYS Department of Transportation, will be reviewed by the Canal Corporation and revised, as necessary, to assure that they reflect these policies. The Canal Recreationway Commission shall review these policies after a year of their application and make recommendations for revision as necessary. The Canal Corporation will provide the Commission with periodic summaries of the status of real property, all real-property actions related to leases and abandonments and real-property income.

These policies focus on use and occupancy permits, leases and abandonments of canal-owned land. However, the law prohibits the lease of canal-owned land in the Adirondack Park.

A number of important principles bear on policies for Canal Corporation real-property actions.

- Actions should advance the development of the Canal according to the Canal Recreationway Plan, including use for recreational boating, open space, landside recreation, interpretive, trail and historic preservation projects, economic development, commercial shipping and any other use compatible with the Canal Recreationway Plan.
- Abandonment of vacant land between clusters of development should be minimized in order to preserve open space and to protect the beauty and environmental integrity of the canal corridor for future generations.
- Flexibility for the applicant and the Canal Corporation should be sufficient to accommodate many kinds of future development and to take advantage of opportunities that may arise.
- The same use may be appropriate for a lease or a permit depending on the degree of permanency and/or financial commitment by the applicant. The permanency of use or enhancement, rather than the kind of use or enhancement, should determine whether a proposed action is granted by permit or lease.
- Generation of revenue to the Canal System Development Fund for use of canal-owned land is an important goal which must be balanced with the impact that fees or rents might have on development.
- Fairness and equity should be governing principles in establishing fees and lease payments and in the treatment of existing permit holders and upland property owners.

Policies

A. Criteria for Granting Use and Occupancy Permits, Leases or Abandonments

In general, permits and leases are the means preferred by the Canal Corporation for the use of canal-owned land. They offer the greatest flexibility to the Canal Corporation and the greatest control of proposed uses, both now and in the future.

While the applicant may request a use and occupancy permit¹, lease or abandonment, the Canal Corporation will make the final determination of the property interest to be conveyed.

The range of potential uses and investments is so great as to make it impossible to define in advance lists of uses appropriate for different kinds of actions.

A lease may be appropriate where a long-term and costly improvement is proposed on canal-owned land or on property that abuts canal-owned land.

While abandonment will generally not be the method for conveyance of property interest related to development, there may be instances where abandonment of canal-owned land is appropriate. Abandonments may be made if the Canal Corporation determines that there is no future need for ownership of the land for either the Canal or the Canal Recreationway, and a long-term lease is not appropriate. Abandonments may also be done on an exception basis, to remedy a significant hardship due to an encroachment, where canal operation and navigation are not compromised and where a long-term lease is not appropriate.

B. Eligibility for Permits, Leases and Abandonments

Any person who has access to canal-owned land or to canal water from land may apply for a permit, lease or abandonment. Access may be from a public road, their own land, canal land under lease or permit to them or via an easement through other land.

Much canal-owned land is too narrow or has no access other than through an upland property to be used by other than the upland property owner. But some is of sufficient size and has sufficient access to be usable by anyone. The owner of property across a public road from canal-owned land is not considered to be an upland owner. Holders of permits for canal-owned land should

understand that they run the risk that they may be displaced by the Canal Corporation or, if the land can be accessed other than through their property, by another private party.

Out of consideration for current permittees or upland property owners, they may be given the option of first refusal for a permit, lease or abandonment of canal-owned land.

The Corporation may require an applicant to provide property surveys, environmental studies, maps and photographs, site plans and such other documents and studies as the Corporation may determine to be necessary to ascertain the compatibility of the proposed action with the Plan and/or for the Corporation to select a qualified applicant. Prior to a lease involving substantial commercial improvement, the Corporation will require a reconnaissance-level survey within 3,000² feet of the property of the type, location and significance of historic buildings, sites and districts listed on, or eligible for, the State or National Registers of Historic Places.

C. Rights of Permittees/Lesseees

Permittees/lessees will be granted the privilege of use and occupancy of canal-owned land and access to canal waters as specified in the permit or lease, subject to entry by the Canal Corporation as may be necessary for maintenance and operation needs, and any reservations for public trail use.

D. Allowable Uses of Canal-Owned Land

Leases and permits can be for permanent or seasonal residential, commercial, water supply or any other use that:

- does not interfere with navigation and the operation of the Canal;
- is consistent with the Canal Recreationway Plan and the Plan's recommended use of canal-owned land;
- considers security and public safety;

¹Canal work permits and permits for spoil removal, snow dumping, and vending are not dealt with in this policy.

²Per par. (m), subdiv. 7, sec. 382, Public Authorities Law, as amended 1993.

- provides for trail use and access where appropriate;
- is consistent with applicable flood-plain-management regulations³;
- is consistent with any Canal Recreationway Plan standards for design, setback, sanitation, and maintenance;
- considers compatibility with local zoning regulations on adjacent land;
- provides for landscaping or natural vegetation to protect canal embankments from erosion, maintain view corridors and shade canal waters against algae accumulation.

These provisions will be written into standard permit forms and lease agreements. Both permits and leases can be revoked if provisions of the permit or lease are violated. If any of the above concerns are deemed to be significant and they cannot be assured by restrictive covenants written into abandonments, the land should not be abandoned.

Article 8 of the Environmental Conservation Law contains the State Environmental Quality Review Act which establishes a template for reviewing certain actions and their impact on the environment. Certain actions of the Canal Corporation come under the purview of this Act. As part of that process, the Canal Corporation will consider the impact of any action on property that is listed on, or eligible for, the National or State Registers of Historic Places.⁴

E. Terms of Permits and Leases

Permits will be renewable annually, but revocable by the Canal Corporation for any public purpose on 30-days notice, as they are now; leases will be limited to occupancy greater than one year and would only be revocable within the term of the lease for breach of provisions of the lease.

³Per 6NYCRR Part 502, Floodplain Management Criteria for State Projects; and 44 CFR Part 60, Subpart B of the National Flood Insurance Program.

⁴Per Sec 14.09 of the Parks, Recreation and Historic Preservation Law.

While the term of a lease, by law, may not exceed 40 years, the Canal Corporation may wish to limit leases in some areas to extend no longer than a specific date to assure the availability of the land for proposals in later stages of the Plan.

It may also set a shorter lease term, 10 or 15 years, for example, for minor improvements, such as a residential dock, or for the "phase-out" of more substantial, but inappropriate, existing uses.

F. Fees to be Charged

Fees will be based on the fair-market value of the land to be permitted, leased or abandoned. In the case of all abandonments, many leases and some permits, the Canal Corporation will make an appraisal to determine the fair-market value. An administrative-appeals process will be made available to resolve disputes related to valuation.

If revenues are to be collected for the use of canal-owned lands or improvements thereon, the applicant will be considered a commercial user, and the Canal Corporation will have the option of negotiating a lease rent or permit fee that is related to the revenue collected.

For many uses, standard permit or lease fees may be set by the Canal Corporation to simplify administration. The standard fee need not be uniform across the entire Canal System and may include an escalation clause. Use of canal water could reflect the amount used or, if not metered, maximum pipe size.

Lease rents may be negotiated on a different basis as an inducement to implement a specific proposal of the Plan that might not otherwise be economically feasible. Fees may also be waived, or reduced for projects of municipalities or not-for-profit corporations. This will depend on the use, degree of public access and benefit, and the revenue potential of the project. Subleases to concessionaires may call for a review of lease fees.

G. Review of Canal Corporation Actions by the Canal Recreationway Commission

The Canal Recreationway Commission will adopt procedures for the review of proposed abandonments and leases for consistency with the Canal Recreationway Plan.

As specified in the Law, Commission review and comment on proposed leases shall not exceed sixty days. The Commission may determine that certain categories of leases do not require its review and the Canal Corporation will act on those without Commission review. The Commission will consider in its review zoning on land adjacent to canal-owned land.

The Canal Corporation will consider Canal Recreationway Commission comments and recommendations, but it has the final authority by law to issue or withhold leases and abandonments. The appraisal and the negotiation of the lease rent or abandonment sale price will be done after the Commission recommendation and, in the case of an abandonment, the Corporation decision, as well.

Appendix A7-a Canal Boating in Canada and Europe

While there are few examples of active canals used for recreation and tourism in the US, in Canada and Europe canals are major recreational resources and contribute to the local economy through tourism, including boating vacations, visitors traveling the adjacent motorways, and hiking and cycling. The following describes the tourism history of the Canadian, British and French canal systems.

- *Canadian Heritage Canal System
(Exhibit A7-1, Canadian Canal System)*

The Rideau Canal, completed in 1832, connects Kingston to Montreal via Ottawa. The Rideau Canal system is almost 200 kilometers in length and has 47 locks.

The Rideau Canal currently falls under the jurisdiction of Parks Canada, which has managed it as part of the Heritage Canal System since 1972, primarily for recreational use. Parks Canada has the authority to restrict or prohibit some activities along the canal through the Heritage Canal Regulations. Access to certain areas and certain types of boating activities are limited, and speeds regulated. Generally, speeds are limited to 9 km/hr (5.6 mph).

The Ontario Division of Parks Canada covers both the Rideau Canal and the Trent-Severn Waterway. These regions recorded over 305,000 boats in 1991. Boat types include hotel boats, tour boats, private boats and paddle boats. Canal user fees are charged based upon four categories of vessel length and commercial or pleasure-boat status. In 1992 user fees covered almost six percent of the Canal's \$6.8 million operating budget.

Boater services, including washrooms and picnic facilities, are provided at 24 lock stations. Most also have overnight mooring, camping and day-use docking. Exhibits or interpretive programs are available at about a third of the lock stations. Only a few offer hiking trails, boat launches and public telephones.

Other Canadian canals providing attractive boating opportunities include the Chambly Canal, the Trent-Severn Waterway, and the Welland Canal.

- *The British Canal System
(Exhibit A7-2, British Canal System)*

The British Canal System is a network of canals and rivers. Canal construction began in the 1700s during the U.K.'s "Canal Age." In the 18th and early-19th centuries, when usage was at a peak, the navigable portion of the British waterway system was almost double today's 2,000 miles. As it did in the United States, commercial canal usage dropped dramatically in Britain by the mid-19th century, when railroad systems gained prominence in freight transportation. The major usage of the British canals today is recreational, although a significant flow of commercial traffic is still maintained in parts of the country.

The British Canal System falls under the jurisdiction of the British Waterways Board which reports to the Department of the Environment. Annual operating cost for 1991/1992 were almost \$15 million. It is estimated that user fees for licenses, registrations and permits covered over 25 percent of the operating costs for 1992. The fee structure is complex and incorporates factors such as vessel length, powered/unpowered, lock access, length of time of use and single/multi-user status. There are also discounts available for various categories of users and boats, and for complying with certain boater-safety regulations. Fees are also generated from fishing rights, water usage and real-estate development.

A variety of boat types use the British Canals, including single-user and multi-user pleasure boats, commercial boats, hire boats, and houseboats. British Waterways' 1992 statistics show the following boats:

- 25,121 licensed private motor boats.
- 1,206 self-drive holiday rental boats.
- 111 self-drive day rental boats.
- 22 cruising hotel boats.
- 120 day-trip and restaurant boats.

Boating holidays with self-drive rental boats first started in England and became popular in three different regions: the Thames, the canals and the Norfolk Broads. The activity reached its height at the end of the 1970s but has since declined, and the number of hire boats operating on these three networks is now static. The decline in hire boats corresponded with an increase in the number of privately owned boats on the Thames and the Norfolk Broads.

- *The French Canal System*
(Exhibit A7-3, *French Canal System*)

The French Canal System is an extensive network of rivers and canals connecting inland locations in France with the Mediterranean Sea and Atlantic Ocean, the English Channel, and canals in neighboring Belgium and Holland. The French Canal System is an impressive 8,500 km (5,312 miles) long. The first French canal project was the Canal de Briare, completed in 1642. Innovations in engineering that were developed later in the 17th century created the impetus for the construction of additional canals throughout France, and canal development continued through the 19th century. As with canals elsewhere, however, the introduction of rail service in the mid-19th century led to the decline of commercial traffic on the French canals.

In recent years, portions of the French Canal system have been revived for recreational boating. In 1991 part of the Canal de Nantes à Brest, over 100 hundred years old, was restored and rewatered, and the Charente was put back into service for pleasure boats in 1977.

The French Canal System is now used predominantly for recreational boating and tourism. Boating types include hotel boats,

hire boats (bare-boat charters), and privately owned pleasure boats. The user-fee structure is not as well developed as in the United Kingdom and, in fact, the French government is currently studying the U.K. fee system for possible implementation on the French Canal System.

Hotel boats on the French waterways generally accommodate from 8 to 20 people and cater largely to the older tourist and to the American market. They provide a full-serviced holiday, with meals on board and excursions to points of tourist interest. The boats are usually converted 38-meter-long barges, the biggest size permissible on the French canal network. This limits the number of cabins on board and means that the activity has remained marginal financially.

Bare-boat chartering was started in France in 1970 by a few English operators who wished to take advantage of the large size of the French canal network. Growth in the hire-boat fleet has been consistent since that date, although it peaked in 1986 and has slowed down since. Crown Blue Line 1993 research shows 2,200 charter boats on the French canals, of which half are operated by companies owning between 200 and 400 boats or more, and the other half operated by smaller companies with between 5 and 20 boats.

Hire-boat activity in France was first concentrated on canals that offer easy cruising, such as the Canal du Midi and the Canal du Nivernais. As repeat customers became more confident, however, they wished to try different waterways and especially rivers. Rivers recently developed for boating holidays include the Charente, the Lot, and the Marne. A major expansion for boating activities is currently underway along the Lot.

French hire-boat cruises usually last a week or multiples of a week. A boating holiday is often a second vacation taken during the year, in addition to the main summer vacation (annual holidays in Europe range from 4 to 5 weeks). The average holiday is in excess of one week, although hirers generally also accept short breaks, weekends and long weekends.

Hire-boat customers come from Germany, Switzerland, France and England in that order. Markets in Italy and Spain had been developing, but have slowed substantially due to the recent difficult economic conditions in those two countries. Italian and Spanish customers have been partially replaced by a new group from Holland and Belgium. Most customers come by car and prefer to leave from a base which is the closest to the town where they live.

The French hire-boat companies have also developed a limited overseas market mainly from America, South Africa and Australia. People coming from these countries include a one-week canal cruise in a longer European holiday.

The typical customer group is a family with grown children or a group of friends. The formula is also successful for groups of young people accompanied by adults, though this particular clientele has not developed as much as the others.

Retired people are also a source of customers, but they are discouraged from cruising in the areas that are heavily locked or rivers that may be difficult.

Attempts have been made in France to build low-cost camping boats for youth groups, etc. This has generally proved unsuccessful because it is not much cheaper to build a camping boat than a luxury hire boat, and the younger clientele cannot afford the prices that have to be charged. On the other hand, government-organized low-cost hotel barges for youth groups have been quite successful. In some cases, they have even been used for school classes.

In general, excursion boats have been more successful than restaurant boats in France, except in major cities. This is partly due to the cost and difficulty of employing qualified seasonal staff to provide restaurant services.

Several theater barges operate on the French waterways and have been quite successful. These travel from town to town with theater groups, and the public is received on board.

Conclusion

Experience overseas would indicate that improved canal facilities on the NYS Canal System would encourage the expansion of a variety of boating activities and businesses for both local and transient users, and particularly for charter and tour boats.

Appendix A7-b Local Canal Projects

A wide variety of recreational facilities, heritage sites, parks, educational institutions and commercial enterprises are crucial to attracting tourists to the Canal. Many of these have been identified as local projects in the seven regional plans and were the basis for selecting Canal Harbor, Ports and Locks projects.

Those local projects that do not fit the criteria for selection as Harbor, Service Ports or Locks are nonetheless recognized as valuable toward the creation of the Canal Recreationway.

The list of 515 Regional Plan projects that follows is unedited and taken directly from the seven regional plans. Project names are those used in the respective Regional Plan reports.

Region 1 - Erie-Niagara

Erie Canal Economic Development Strategy Final Report, June 17, 1994

TONAWANDAS TO WENDELVILLE

1. Gratwick Riverside Park
2. Niagara Clipper Tourboat
3. Fisherman's Park
4. Proposed Riverwalk Extension
5. Proposed Weatherbest Park
6. Potential Future Expansion of Weatherbest Park
7. Niawanda Park
8. Riverwalk
9. Proposed Tonawandas Gateway Park
10. East Niagara Park
11. Proposed NFTA Light Rail Station
12. Inner Harbor Yacht Club
13. Proposed Oliver Street Transient Docking
14. Hi-Skipper Marina
15. Botanical Gardens
16. Nor-Ton Red Jacket Club
17. Proposed North Tonawanda Multi-Use Trail
18. Service Drive Boat Launch
19. Mayor's Park
20. Proposed Mayor's Park Extension Natural Area
21. Proposed Riverwalk Extension
22. Town of Amherst Sewage Treatment Plant
23. Creekside Golf Course
24. Crystal Cove Development Site

25. White Chapel Memorial Cemetery
26. Jamaica Joe's Restaurant
27. Ellicott Creek Park Improvements
28. Proposed Trail Linkages to Ellicott Creek Park and Riverwalk
29. Ellicott Creek Trailway
30. Proposed Beach Ridge Bicycle Route
31. Proposed Town of Pendleton Linear Park
32. West Canal Park Improvements
33. Acacia Park Cemetery
34. Tan Tara Golf Course
35. Proposed Amherst Veteran's Park
36. Six Mile Island Natural Area
37. Proposed Canal Trailway - Phase II

WENDELVILLE TO LOCKPORT

38. Pendleton Town Park
39. Pendleton Town Center
40. Proposed Bear Ridge Bicycle Route
41. Proposed Canal Trailway - Phase II
42. Amherst Marine Corp, Inc.
43. Canal Trailway - Phase I
44. Scout Island (9 Mile Island)
45. Proposed Beach Ridge Bicycle Route
46. Proposed Town of Pendleton Linear Park
47. Pendleton Guard Gate
48. Pendleton Canal Nature Trail
49. University of Buffalo Crew Rowing Course
50. Pendleton Canal Park Improvements
51. Clarke Family Cemetery
52. Proposed Clarke Conservation Area
53. Proposed Clarke Boat Launch
54. Ship'n Shore Restaurant
55. Old Amherst Colony Museum Park
56. 'Rock-cut' Section of the Erie Canal
57. Harrison Radiator

LOCKPORT TO ORANGEPORT

58. Thruway Authority Drydocks and Maintenance Facility
59. Proposed Lockport Heritage Park
60. Potential Future Intermodal Transportation Terminal
61. Proposed Commercial/Hotel Redevelopment
62. Niagara County Park and Golf Course
63. Proposed Class III Bicycle Route to Niagara County Park and Golf Course
64. Nelson Goehle Widewaters Park and Marina
65. Lockport Locks and Canal Tours
66. Lockport Memorial Tree Garden and Trail
67. Proposed Canalway Trail
68. Camp Margaret Castle

- 69. Proposed Niagara Falls/Buffalo to Albany Bikeway
- ORANGEPORT TO MIDDLEPORT**
- 70. Gasport Port Improvements
- 71. Proposed Class III Bicycle Route to Royalton Ravine County Park
- 72. Royalton Ravine County Park
- 73. Town of Royalton Sewage Treatment Plant
- 74. Bolton Road Boat Launch
- 75. East Canal Park Improvements
- 76. Niagara - Orleans Country Club
- 77. Canal Country Bed and Breakfast
- 78. Basket Factory Restaurant and Marina
- 79. Niagara Falls/Buffalo to Albany Bikeway
- 80. Middleport Port Improvements
- 81. Proposed Canalway Trail

Region 2 - Genesee-Finger Lakes

Erie Canal Corridor Plan: Final Draft, September 1993

FEDERAL ACTIONS

- F1 Montezuma National Wildlife Refuge
- F2 Chamberlain House
- NEW YORK STATE ACTIONS**
- S1 Erie Canal National Heritage Corridor
- S2 Erie Canal Heritage Trail
- S3 Statewide Signage Program
- S4 Promotions Program & Literature
- S5 Recreational Support Services
- S6 Boater Safety Program
- S7 Development Review Procedure
- S8 Speed, Use & Wake Regulations/Policies
- S9 Site Design, Landscape & Woodlot Mgt. Policy
- S10 Local Technical Assistance
- S11 Historic Resource Inventory & Interpretation
- S12 International Partnership Promotions
- S13 Lock & Lift Bridge Operating Hours
- S14 Canal Land Leasing & Permit Policies
- S15 Enhancement Project Funding
- S16 Albion Waterways Maintenance Facility
- S17 Lock 33
- S18 Lock 32 Park
- S19 Pittsford Canal Maintenance Facility
- S20 Lock 30 Park
- S21 Palmyra-Macedon Aqueduct Park
- S22 Lock 28B
- S23 Lock 28A & Maintenance Facility
- S24 Lock 27 & Lyons Canal Port
- S25 Lock 26
- S26 Lock 25
- S27 Seneca & Cayuga Lock 1
- S28 Seneca & Cayuga Locks 2 & 3

- S29 Seneca & Cayuga Lock 4 & Waterloo Maintenance Facility
- S30 Water Quality Agreements with Counties
- S31 Seneca Lake State Park
- S32 Cayuga Lake State Park
- S33 Wildlife, Habitat & Fishery Policies
- S34 Water Quality Goals & Dredging Policies
- S35 Water Quality & Monitoring
- S36 Galen Wildlife Management Area
- S37 Cayuga Lake Wildlife Management Area
- S38 Howland Island Wildlife Management Area
- S39 SUNY Brockport Sculpture Garden
- S40 SUNY Brockport Program Linkages
- REGIONAL ACTIONS**
- R1 Visitors Center
- R2 Walking, Biking & Skiing Tours
- R3 Promotions, Programs & Merchants Literature
- R4 Museum, Interpretation & Education Program
- ORLEANS COUNTY & LOCAL MUNICIPALITY ACTIONS**
- O1 Orleans County Tourism & Promotions Kit
- O2 Orleans County Public Safety Program
- O3 LWRP (Ridgeway, Shelby & Medina)
- O4 Route 31E Boat Launch
- O5 "The Culvert"
- O6 Knowlesville Port Improvements
- O7 Shelby Basin Trailhead & Pedestrian Bridge
- O8 Glenwood Lake Overlook & Natural Area
- O9 Lions Club Canal Park
- O10 Erie Basin Park
- O11 Erie Basin Marina
- O12 State Street Park
- O13 Medina Local Canal Interpretation or Museum
- O14 Medina Canal Access Center
- O15 LWRP (Albion Township & Village & Gaines Township)
- O16 Otter Creek Natural Area
- O17 Gaines Basin School
- O18 Future Eagle Harbor Port
- O19 Widewaters Preservation Area
- O20 Mt. Albion Cemetery Trail
- O21 McKenna and Orleans Sanitary Landfill
- O22 Albion Boat Launch
- O23 Albion Port Facilities
- O24 Carousel Park
- O25 Orleans County Canal Interpretive Center/Museum
- O26 Sandy Creek/Bollard Park Natural Area
- O27 LWRP (Murray & Holley)
- O28 Future Hulberton Port Improvements
- O29 Hulberton Canal Access Site
- O30 Town of Murray Preservation Area
- O31 Holley Port Improvements
- O32 Holley Local Canal Interpretation/Museum
- O33 Waterfalls Park & Natural Area

NEW YORK STATE CANAL RECREATION WAY PLAN

- | | |
|---|--|
| <p>O34 Fireman's Park</p> <p>MONROE COUNTY & LOCAL MUNICIPALITY ACTIONS</p> <p>M1 Regional or County-wide Administrative Body(ies)</p> <p>M2 Monroe County Tourism & Promotions Kit</p> <p>M3 Monroe County Public Safety Program</p> <p>M4 Greece Canal Park</p> <p>M5 Genesee Valley Park</p> <p>M6 Rochester Embayment Remedial Action Plan</p> <p>M7 Monroe Community College Natural Area</p> <p>M8 Genesee Canal Trail</p> <p>M9 South Genesee River Natural Area</p> <p>M10 Community Water Sports Center of Rochester</p> <p>M11 LWRP (Clarkson, Sweden & Brockport)</p> <p>M12 Clarkson Canal Access Center</p> <p>M13 Town of Sweden Preservation Area</p> <p>M14 Brockport Rural Civil War Cemetery</p> <p>M15 Town of Sweden Wildlife Refuge</p> <p>M16 Former Adam's Basin Marina</p> <p>M17 Harvester Park/Brockport Port Improvements</p> <p>M18 Brockport Local Canal Interpretation/Museum</p> <p>M19 Corbett Park</p> <p>M20 Sweden Senior Center</p> <p>M21 LWRP (Ogden & Spencerport)</p> <p>M22 Adam's Basin Future Canal Port</p> <p>M23 Adam's Basin Local Canal Interpretation</p> <p>M24 Salmon Creek Trail & Natural Area</p> <p>M25 Widewaters Canal Access Center</p> <p>M26 Turner Park</p> <p>M27 Spencerport School System</p> <p>M28 Spencerport Port Improvements</p> <p>M29 Spencerport Local Canal Interpretation/Museum</p> <p>M30 Greece LWRP</p> <p>M31 Henpeck Park & Future Canal Port</p> <p>M32 Canal Ponds Port Improvements</p> <p>M33 Greece Local Canal Interpretation/Museum</p> <p>M34 Greece Natural Area</p> <p>M35 Junction Lock</p> <p>M36 Greece Natural Area</p> <p>M37 I-390 Bikeway</p> <p>M38 LWRP (Gates & Rochester)</p> <p>M39 Gates Industrial Heritage Park</p> <p>M40 Rochester Upper Harbor/Corn Hill Port Improvements</p> <p>M41 Rochester Regional Canal Museum</p> <p>M42 Broad Street Bridge/Aqueduct</p> <p>M43 Broad Street/Bridge Square Canal Interpretation</p> <p>M44 Rochester Urban Cultural Park</p> <p>M45 Genesee River South Corridor Project</p> <p>M46 LWRP (Brighton & Henrietta)</p> <p>M47 Brighton Port Development</p> <p>M48 Brighton Local Canal Interpretation/Museum</p> <p>M49 Highland & Pinnacle Trail Loop</p> <p>M50 New Brighton Town Park</p> | <p>M51 Henrietta Sewage Treatment Facility</p> <p>M52 LWRP (Pittsford Town & Pittsford Village)</p> <p>M53 Historic Lock 62</p> <p>M54 Widewaters Natural Area</p> <p>M55 Historic Cartersville Port & The Great Embankment</p> <p>M56 Great Embankment Park</p> <p>M57 Pittsford Port Improvements</p> <p>M58 Pittsford Local Canal Interpretation/Museum</p> <p>M59 LWRP (Perinton & Fairport)</p> <p>M60 Bushnell's Basin Port Development</p> <p>M61 Bushnell's Basin Local Canal Interpretation</p> <p>M62 Irondequoit Creek Natural Area</p> <p>M63 Kregg Road Park</p> <p>M64 Oxbow Preservation Area</p> <p>M65 Perinton Park</p> <p>M66 Fairport Road Pedestrian Project</p> <p>M67 Whitebrook Wetlands</p> <p>M68 High Acres Landfill</p> <p>M69 Fairport High School & Village Schools</p> <p>M70 Fairport Port Development</p> <p>M71 Fairport Local Canal Interpretation/Museum</p> <p>M72 Thomas Creek Redevelopment & Wetlands Proj.</p> <p>M73 Fairport Dockmaster</p> <p>M74 Promotional Activities</p> <p>M75 Packett's Landing Commercial Project</p> <p>M76 Former Marina Property</p> <p>M77 Fairport DPW Grounds</p> <p>WAYNE COUNTY & LOCAL MUNICIPALITY ACTIONS</p> <p>W1 Wayne County Tourism & Promotions Kit</p> <p>W2 Wayne County Public Safety Program</p> <p>W3 Lock Berlin Park</p> <p>W4 Palmyra-Macedon Aqueduct Park & Museum</p> <p>W5 Purchase of available RR ROW</p> <p>W6 Clyde River Inlet Project</p> <p>W7 LWRP (Macedon Township & Macedon Village)</p> <p>W8 Wayneport Widewaters</p> <p>W9 Mid Lakes Navigation Marina</p> <p>W10 Bullis Park Canal Access Site</p> <p>W11 Town of Macedon Linear Park</p> <p>W12 Historic Lock 60 Park</p> <p>W13 Macedon South Bank Trail Project</p> <p>W14 Macedon Port Improvements</p> <p>W15 Macedon Local Canal Interpretation</p> <p>W16 LWRP (Palmyra Township, Palmyra Village & Manchester)</p> <p>W17 Swift's Landing Park & Natural Area</p> <p>W18 Palmyra Port Development</p> <p>W19 Palmyra Local Canal Interpretation/Museum</p> <p>W20 Palmyra Historic Canal Remnant</p> <p>W21 LWRP (Arcadia & Newark)</p> <p>W22 Widewaters Park</p> <p>W23 Route 31 Wetlands</p> <p>W24 Spillway Trail Improvements</p> |
|---|--|

- W25 Newark Port Development
- W26 Newark Local Canal Interpretation
- W27 Union Street Village Park
- W28 Lockville Park & Historic District
- W29 LWRP (Lyons Township & Lyons Village)
- W30 Poorhouse Lock
- W31 Lyons Port Development
- W32 Lyons Local Canal Interpretation
- W33 Abby Park
- W34 Hammett Building
- W35 Lyons Wetland & Canandaigua Outlet Natural Area
- W36 Lyons Linear Park
- W37 LWRP (Galen, Clyde & Savannah)
- W38 "15 Miles on the Erie Canal"
- W39 Grape Hill Gardens
- W40 Meadville Historic Site
- W41 Clyde Port Improvements
- W42 Clyde Local Canal Interpretation
- W43 Clyde Boat Launch
- W44 Owasco River Valley Rail Corridor
- W45 Proposed Hemmingway Housing/Marina Dev.
- SENECA COUNTY & LOCAL MUNICIPALITY ACTIONS**
- SC1 Seneca County Tourism & Promotions Kit
- SC2 Seneca County Public Safety Program
- SC3 LWRP (Tyre, Seneca Falls Township & Seneca Falls Village)
- SC4 Richmond Aqueduct
- SC5 Sucker Brook Trail
- SC6 Seneca Falls Fishing Access Site
- SC7 Seneca Falls Port Development
- SC8 Seneca Lock Co. Lock #7
- SC9 Seneca County and Seneca Falls Canal Interpretation
- SC10 LWRP (Waterloo Township, Fayette & Waterloo Village)
- SC11 Seneca Lake Waterfront
- SC12 Fayette Preservation Areas
- SC13 "The Inn at the Nest"
- SC14 Waterloo Access Site & Port Facility
- SC15 Waterloo Local Canal Interpretation
- SC16 Silver Creek Golf Course
- ONTARIO COUNTY & LOCAL MUNICIPALITY ACTIONS**
- OC1 Ontario County Tourism & Promotions Kit
- OC2 Ontario County Public Safety Program
- OC3 Port Gibson Future Canal Port Facility
- OC4 City of Geneva LWRP
- OC5 Geneva Port & Lakeshore Park Development
- OC6 Geneva Local Canal Interpretation
- OC7 Water Enhanced & Water Dependent Development Area

Region 3 - Eastern and Central Southern Tier

Finger Lakes Regional Canal Plan Final Report, December 1, 1994

SCHUYLER COUNTY

- Institute Best Management Practices in Catherine Creek Watershed
- Repair Glen Creek Retaining Wall above Canal - Watkins Glen
- Enhance Queen Catherine Fish and Wildlife Management Area
- Preserve Excelsior Glen - Watkins Glen
- Adopt Appropriate Land Use Controls along State Route 414 - Hector
- Secure Historic District Designation - Watkins Glen
- Organize Catherine Valley "Ecotour"
- Improve and Revise Montour Marina Lease Terms - Montour Falls
- Improve Smith Park - Hector
- Improve Tank Beach - Watkins Glen & Hector
- Improve Clute/Lakeside Park Complex - Watkins Glen
- Complete Development of Seneca Harbor Park Area - Watkins Glen
- Develop Public Access at Magee Point - Watkins Glen
- Develop Interactive Chemung Canal Transportation Exhibit - Elmira
- Install Regional Canal System Signage - County-wide

SENECA COUNTY

- Improve Water Management in Seneca River Watershed
- Protect Canoga Wetlands - Fayette
- Secure Historic Designation for Key Historic Resources, Richmond Aqueduct, Seneca Lock Co. Lock 7, etc.
- Install Interpretive Wayside Exhibits - Seneca Falls/Waterloo
- Install Canal Interpretation Exhibit - Waterloo
- Develop Finger Lakes Gateway Project at CS Lock #1
- Enhance Seneca Falls Harbor - Seneca Falls
- Develop Oak Island Boating Complex and DOT Site - Waterloo
- Develop Crows Nest Hotel/Conference Center - Fayette
- Establish Water Taxi Operation - Seneca Falls - Waterloo
- Develop Black Diamond Trail - Fayette et al.

Develop Cayuga Lake State Park Marina - Seneca Falls
 Enhance Dean's Cove State Boat Launch - Romulus
 Develop Romulus Town Lakefront Park - Romulus
 Install Regional Canal System Signage
TOMPKINS COUNTY
 Cayuga Lake Septic Systems Study - County-wide
 Flood Control Channel Bank Stabilization - Ithaca
 Protection of Eastern Shore White Cliffs and Glen Complex
 Preservation of Natural Areas in the City of Ithaca
 Restoration of Cascadilla Boathouse - Stewart Park, Ithaca
 Reconstruction of Steamboat Landing with Docking - Ithaca
 Convention Center Study, Ithaca
 Reorganize Inlet Island Land Uses - Ithaca
 DOT Maintenance Facility, Relocation or Integration - Ithaca
 Portland Point Trans-shipment Facility Feasibility Study - Lansing
 Bikeway/Walkway System Development - County-wide
 Identification of Dredge Spoil Site - Ithaca
 Accomplishment of Stewart Park Goals - Ithaca
 Expansion of Newman Golf Course Docking - Ithaca
 Acquisition and Development of Noah's Boat Club - Ithaca
 Enhancement of Native American Kayak Center - Ullyses
 Development of Signage and Interpretation Program - County-wide
YATES COUNTY
 Improve Water Level Management
 Reduce Non-Point Source Pollution
 Enhance Historic Structures and Sites
 Restore Steamboat Dock - Dresden
 Develop Outlet Trailhead, Marina and Canal Interpretation Complex
 Develop Lakeside Park - Starkey
 Install Canal Logos at Water-edge Service Facilities
CAYUGA COUNTY
 Establish Gateway Facilities at CS Lock #1 - Aurelius
 Develop Expanded Beacon Bay Marina - Cayuga
 Improve Harris Park including Depot Renovation - Cayuga

Improve Frontenac Park and vicinity - Union Springs
 Preserve Howland Point Natural Area - Union Springs
 Preserve Historic District - Aurora
 Develop Long Point State Park Harbor of Refuge - Ledyard
 Refine Land Use Controls to Protect Rural Areas outside Villages
 "Scenic Highway" designation for State Route 90
ONTARIO COUNTY
 Preserve Lakeshore Wetlands along Seneca Lake
 Preserve Kashong Glen Natural Area
 Pultney Park-Long Pier Preservation Project - Geneva
 Canal Interpretation Project - Geneva
 Lakefront Development Project - Geneva
 Finger Lakes Interpretive Center - Geneva
 Lakefront Linkage Trail - Geneva
 Local Waterfront Revitalization Program - Geneva

Region 4 - Central New York

**Central New York Canal Plan
 Draft Report, Winter 1993**

ONEIDA CORRIDOR
 Sylvan Beach Canal Port
 Brewerton Canal Port
 Lakeport Marine Service Center
 Bridgeport Marine Service Center
 Cicero Marine Service Center
 Cleveland Marine Service Center
 Constantia Marine Service Center
 Northern Oneida Lake Historic Trail Study
 Oneida State Fish Hatchery
 North Shore Recreation Trail
 Three Mile Bay Boat Launch at Phillips Point
 Chapman Park Dock Expansion
 Route 49 Improvements
 Lake Shore Road Improvements
 Oneida Shores County Park Marine Facilities
 Oneida Lake South Shore Boat Launch
 Riverfront Park Improvements
 Caughdenoy Road Fishing Access Site
 Lock E-23 Tourist/Visitor Information Center
 Lock E-23 Canal Park Facility Expansion
 Improve Historic Caughdenoy Lock
 Glosky Island Park Study
 Old Erie Canal State Park Improvements
 Canal Town Museum in Canastota Improvements

Chittenango Landing Canal Boat Museum Improvements
 Chenango Canal Improvements
OSWEGO CORRIDOR
 Oswego Canal Port
 Fulton Canal Port
 Phoenix/Three Rivers Canal Port
 Syracuse Canal Port
 Minetto Marine Service Center
 Cold Springs Marine Service Center
 East and West Linear Park
 Breneman Complex Redevelopment
 Lock O-7 and Leto Island Development
 Varick Overlook Development
 Lock O-3 and O-2 Fishing Access Sites
 Sealight Building Redevelopment
 Battle Island State Park Transient Docks
 Onondaga Lake Bikeway
 State Fairgrounds Transient Docks
CAYUGA-SENECA CORRIDOR
 Baldwinsville Canal Port
 Weedsport Canal Port
 Cayuga Canal Port
 Union Springs Canal Port
 Baldwinsville Mill/Boat Work Redevelopment
 Lock E-24 Dock Improvements
 Cayuga County Erie Canal Trail
 Centreport/Port Byron Park Improvements
 Richmond Aqueduct Historic Site
 Archer-Daniels-Midland Plant Redevelopment
 Village of Aurora Boater Access
 Montezuma Trail & Marina
 Lock 52 Heritage Site in Port Byron

Region 5 - Herkimer-Oneida-Montgomery

Canal Plan for the Mohawk Valley Region, Draft Report, August 1994

SECTION 1 - AMSTERDAM/FORT JOHNSON AREA
 Amsterdam Regional Canal Port
 Lock E-10 and E-11 Boat Launch Ramps
SECTION 2 - SCHOHARIE CROSSING/FONDA/FULTONVILLE AREA
 Schoharie Crossing Linkage to Amsterdam
 Schoharie Crossing Canal Port Improvements
 Fonda and Fultonville Regional Canal Center
SECTION 3 - SPRAKERS AREA
 Lock E-13 Canal Interest Point
SECTION 4 - FORT PLAIN/CANAJOHARIE AREA
 Village of Canajoharie Aquatic Park

Lock E-14 Island Access Improvements
 Palatine Bridge Village Park
 Lock E-15 Canal Interest Point
 Village of Fort Plain Aquatic Park
SECTION 5 - ST. JOHNSVILLE AREA
 St. Johnsville Regional Canal Center
 Lock E-16 Recreation Facility
SECTION 6 - LITTLE FALLS AREA
 City of Little Falls Regional Canal Port
 Lock E-17 Access Improvements
 Moss Island Access Improvements
 General Herkimer Home Canal Interest Point
SECTION 7 - HERKIMER/MOHAWK/FRANKFORT AREA
 Herkimer/Mohawk/Ilion Regional Canal Center
 Herkimer Canal Terminal Improvements
 Fort Herkimer Church Access Improvements
 Frankfort Harbor and Terminal Site
SECTION 8 - SCHUYLER AREA
 Lock E-19 Canal Interest Point
SECTION 9 - UTICA/MARCY AREA
 City of Utica Regional Canal Port
 Lock E-20 Marcy Canal Park Improvements
SECTION 10 - ORISKANY AREA
 Oriskany Battlefield State Historic Site
SECTION 11 - ROME AREA
 Rome Regional Canal Port
 Old Erie Canal State Park Improvements at New London
SECTION 12 - SYLVAN BEACH/ONEIDA LAKE AREA
 Village of Sylvan Beach Regional Canal Port
 Montezuma Trail & Marina Improvements
 Lock 52 Heritage Site in Port Byron
SECTION 13 - CANAL FEEDERS/RESERVOIRS AND LAKES
 Delta Lake and Hinckley Reservoir Upland Canal Greenways

Region 6 - Capital District

Eastern Gateway Canal Regional Plan Final Report, August 1994

WASHINGTON COUNTY
 WA-1 Champlain Canal Trail - Washington County Segment
 WA-2 Fort Miller Canal Pond and Environs
 WA-3 Champlain Canal Lock 6 Park Improvements
 WA-4 Schuylerville Prep School
 WA-5 Niagara-Mohawk Power Company Parcel Redevelopment
SARATOGA COUNTY
 SA-1 Saratoga County Heritage Trail

NEW YORK STATE CANAL RECREATION WAY PLAN

- SA-2 Champlain Canal Trail - Saratoga County Segment
- SA-3 *Schuylerville Node*
- SA-3A Historic and Recreation Improvements
- SA-3B Champlain Canal Lock 5 Park Improvements
- SA-3C Champlain Canal Trail - Schuylerville to the Saratoga National Historical Park
- SA-3D Saratoga National Historical Park Boat Dock
- SA-4 Westvaco Mill Redevelopment
- SA-5 Mechanicville Dock Improvements
- SA-6 Mechanicville Railyard
- SA-7 Peebles Island Bridge Rehabilitation
- SA-8 *Waterford Waterfront*
- SA-8A Waterford - Old Champlain Canal Linear Park
- SA-8B Waterford Docks
- SA-8C Battery Park to the Flight of Locks
- SA-8D Flight of Locks to Vischer Ferry Trail
- SA-9 Route 9 Bridge Enhancement
- SA-10 Halfmoon Park
- SA-11 Vischer Ferry Nature Preserve - Canoe Access on the Old Erie Canal
- SA-12 Old Erie Canal Towpath Improvements
- RENSSELAER COUNTY**
- RE-1 Champlain Canal Lock 4 Park Improvements
- RE-2 Quack Island Natural Area
- RE-3 Campbell Island Natural Area
- RE-4 Lansing's Ferry Canoe Launch
- RE-5 *Extensions to Existing Trails*
- RE-5A Uncle Sam Bikeway Extension
- RE-5B Troy Link to Mohawk-Hudson Bike-Hike Trail
- RE-6 *Historic Lansingburgh Village Revitalization and River Access Improvements*
- RE-6A Historic Lansingburgh Village Restoration
- RE-6B 119th-123rd Street Park
- RE-6C Foot of East-West Streets Reclamation and Restoration
- RE-6D 112th Street Park and Boat Launch
- RE-6E Hudson River Vista Park
- RE-7 Federal Dam Improvements
- RE-8 Ingalls Avenue Boat Launch
- RE-9 Adams Island Nature Preserve
- RE-10 *Troy Waterfront Improvements*
- RE-10A Broadway Landing
- RE-10B Repair to Existing Seawall
- RE-10C Expansion of the City Dock and Marina
- RE-10D Riverfront Park Improvements
- RE-11 *River Street Improvements*
- RE-11A River Street Historic District Improvements
- RE-11B Canal and Railroad Model Exhibit
- RE-12 Waterfront Pathway
- RE-13 Riverfront Trail
- RE-14 Rensselaer-Troy Trolley Link
- RE-15 South Troy Industrial Park
- RE-16 North Greenbush Waterfront Development
- RE-17 North Greenbush Trail System
- RE-18 Riverfront Park, Rensselaer
- ALBANY COUNTY**
- AL-1 Green Island-Waterfront D&H Railbed Trail
- AL-2 Mohawk-Hudson Bike-Hike Trail Linkage
- AL-3 Green Island Park/Waterfront Access/Troy Dam Fishing Improvements
- AL-4 Center Island Park & Greenway
- AL-5 Green Island Waterfront Access
- AL-6 Troy to Mohawk-Hudson Bike-Hike Trail Link
- AL-7 Harmony Mills
- AL-8 Cohoes Falls Overlook Park
- AL-9 Van Schaick Island Redevelopment
- AL-10 Crescent Bridge Fishing Access
- AL-11 Colonie Town Park
- AL-12 Colonie Boat Access Improvements
- AL-13 Historic Erie Canal Lock 4 Improvements
- AL-14 Hudson Shores Park Boat Launch
- AL-15 *Albany Waterfront*
- AL-15A Pedestrian Bridge over I-787
- AL-15B Albany Canal Gateway Marina
- AL-15C Broadway Hospitality Site
- AL-15D Corning Preserve Amphitheater
- AL-16 Port of Albany Visitor Center
- SCHENECTADY COUNTY**
- SC-1 Niskayuna Railroad Station
- SC-2 Erie Canal Lock 7 Park Improvements
- SC-3 *Mohawk-Hudson Bike Trail Extensions*
- SC-3A Trail Through Knolls Atomic Power Lab
- SC-3B Scotia Bikepath Connections
- SC-3C Glenville Riverfront Park Trail
- SC-3D Trail at the Exit 26 Interchange
- SC-3E Rotterdam Park Trail
- SC-3F Trail Extension to Montgomery County Line
- SC-4 Aqueduct Towpath Park
- SC-5 Mohawk Maritime Center/BOCES School
- SC-6 Maxon Road Industrial Park
- SC-7 Stockade Waterfront
- SC-8 Gateway Landing
- SC-9 Freedom Park Improvements
- SC-10 Scotia Boat Launch
- SC-11 Erie Canal Lock 8 Park Improvements
- SC-12 Glenville Riverfront Park
- SC-13 Rotterdam Park
- REGION-WIDE**
- EGC-1 Historic Canal Structures Stabilization and Interpretation

***Region 7 - Lake Champlain-Lake
George***

**The Champlain Canal Corridor Study
Final Report, December 1993**

Port Henry Waterfront Development
Whitehall - Lake/Northern Gateway
Hospitality Lock (12)
Whitehall Commercial Development Site and
Recreational Vehicle Park
Multi-Use, Four Season Canal Corridor
Proposed Camping Area
Fort Ann - Midway Point
Blue Heron Nesting Sites
Hudson Falls Commercial/Recreation
Enhancements
Glens Falls Feeder Canal Corridor
Glens Falls - Adirondack Gateway/Central City
Glens Falls Commercial Development Site
Fort Edward - River/Southern Gateway
Hospitality Lock (7)
Rogers Island Information and Cultural
Resource Center

**Appendix A7-c
Existing Support Facilities along the Canalway Trail**

Legend
 ● Existing
 ○ Not Existing

Trail Support Facility Number	Trail Support Facility Name	Town or Village	Publicly Operated Facility	Rest Rooms	Picnic Tables	Tent Camping	Potable Water	Showers
Existing Canal: Tonawanda to Montezuma (130.5 Miles)								
1	Niawanda Park	Tonawanda	✓	●	●	○	●	○
2	East Niagara Field	Tonawanda	✓	●	●	○	●	○
3	Ellicott Creek	North Tonawanda	✓	●	●	○	●	○
4	Lighthouse Marine	Pendleton		●	●	○	●	●
5	Nelson Goehle Marina	Lockport		●	●	○	●	●
6	Middleport Park	Middleport	✓	●	●	○	●	●
7	Bullard Park	Albion	✓	●	●	○	●	○
8	Fireman's Park	Holley	✓	●	●	○	●	○
9	Greece Canal Park	Greece	✓	●	●	○	●	○
10	Brighton Town Park	Brighton	✓	●	●	○	●	○
11	Lock 32 Canal Park	Pittsford	✓	●	●	○	●	○
12	Kraeg Road Park	Bushnell Basin	✓	●	●	○	●	○
13	Perinton Park	Perinton	✓	●	●	○	●	○
14	Potter Park	Fairport	✓	●	●	○	●	○
15	Lock 30 Canal Park	Macedon	✓	●	●	○	●	○
16	Palmyra Macedon Aqueduct	Palmyra	✓	●	●	○	●	○
17	Swifts Landing	Arcadia	✓	●	●	○	●	○
18	Widewaters Canal Park	Port Gibson	✓	●	●	○	●	○
19	Newark Canal County Park	Newark	✓	●	●	○	●	○
20	Colburn Park	Newark	✓	●	○	○	●	○
21	Blue Cut Country Nature Preserve	Lyons	✓	●	●	○	●	○
22	Black Brook Park	Clyde	✓	●	●	○	●	○
23	Oak Orchard Riverside	Tyre		●	●	●	●	●
Cayuga/Seneca Canal: Montezuma to Geneva (22.6 Miles)								
24	State Boat Launch - Montezuma	Montezuma	✓	●	○	○	●	●
25	Cayuga Lake State Park	Seneca Falls	✓	●	●	●	●	○
26	Seneca Falls Community Park	Seneca Falls	✓	●	●	○	●	○
27	Waterloo Harbor Campground	Waterloo		●	●	●	●	○
28	Seneca Lake State Park	East Geneva	✓	●	●	○	●	○
Old Canal and Existing Canal: Montezuma to Waterford (189.7 Miles)								
29	Erie Canal Towpath Park	Camillus	✓	●	○	●	●	●
30	Reid Webster Park	Camillus	✓	●	●	●	●	●
31	Onondaga Lake County Park	Syracuse	✓	●	●	●	●	○

Appendix A7-c (continued)
Existing Support Facilities along the Canalway Trail

Trail Support Facility Number	Trail Support Facility Name	Town or Village	Publicly Operated Facility	Rest Rooms	Picnic Tables	Tent Camping	Potable Water	Showers
32	Thornden Park	Syracuse	✓	●	●	●	●	○
33	Old Erie Canal State Park - Cedar Bay	DeWitt	✓	●	●	●	●	○
34	Old Erie Canal State Park - Pools Brook	Kirkville	✓	●	●	●	●	○
35	Chittenango Canal Boat Museum	Chittenango	✓	●	○	●	●	○
36	Harr-Pinti Field	Rome	✓	●	●	●	●	○
37	Oriskany Battlefield	Whitestown	?					
38	Lock E-20 Canal Park	Careys Corners	✓	●	●	●	●	○
39	Elm Tree Campsites	Schuyler		●	●	●	●	●
40	Herkimer County Fairground	Frankfort	✓	●	●	●	●	●
41	Ilion Village Marina	Ilion	✓	●	●	●	●	●
42	Terminal Park- Little Falls	Little Falls	✓	●	●	●	●	○
43	Moreland Park	Little Falls	✓	●	●	●	●	○
44	Herkimer Home State Historic Site	Danube	✓	●	○	○	○	○
45	St. Johnsville Marina	St. Johnsville	✓	●	●	●	●	○
46	State Boat Launch - Canajoharie	Canajoharie	✓	●	●	●	●	○
47	Rest Area	Fultonville	✓	●	●	●	●	○
48	Schoharie Crossing	Fort Hunter	✓	●	●	●	●	○
49	Guy Park State Historic Site	Amsterdam	✓	●	●	●	●	○
50	Lock E-9 Canal Park	Glenville	✓	●	●	●	●	○
51	Kiwanis Boat Launch	Rotterdam Junction		●	●	○	●	○
52	Collins Park	Scotia	✓	●	●	○	●	○
53	Blatnick Park	Niskayuna	✓	●	●	○	●	○
54	Old Niskayuna Railroad Station	Niskayuna	✓	●	●	○	○	○
55	Lock E-6 Canal Park	Halfmoon	✓	●	●	●	●	○
Champlain Canal: Waterford to Whitehall (62.2 Miles)								
56	Lock C-4 Canal Park	Stillwater	✓	●	●	●	●	○
57	Saratoga National Historic Site	Saratoga	✓	●	●	●	●	○
58	Fort Hardy Park	Schuylerville	✓	●	●	●	●	○
59	Fort Edward Yacht Basin	Fort Edward	✓	●	●	●	●	○
60	Skenesborough Park	Whitehall	✓	●	●	●	●	○
61	Lock C-12 Marina	Whitehall		●	●	●	●	●
Oswego Canal: Onondaga Lake to Lake Ontario (31.1 Miles)								
62	Henley Park	Phoenix	✓	●	●	●	●	○
63	Foster Park	Fulton	✓	●	●	●	●	○
64	Battle Island State Park	Minetto	✓	●	●	●	●	○
65	West Side Linear Park	Oswego	✓	●	●	●	●	○

Appendix A8

Market Analysis Methodology and Findings

Market Analysis Methodology

To analyze the overall market potential for the Canal Recreationway Plan and Canal Projects, the following four-part methodology was used:

1. A site analysis, which examined key factors such as:

- Access, which included a determination of the ease of access by automobile, air or train.
- Visibility of the Canal.
- Area characteristics and image, which determined whether canal site access is, for example, in a high-image residential or retail area, suburban, rural or urban.
- Area development trends, to identify any development trends under way or planned which would impact the canal site.

The two most important factors in the site-analysis component are the access and area development trends. Positive development trends proximate to a planned development site are a good indicator of market potential, particularly when existing trends relate to the planned use development.

2. A supply analysis, which examined the comparable and competitive supply – existing and planned. In the case of nearly all canal sites, the supply of uses, e.g., boating centers, related to canal projects is quite limited. The supply analysis also examined the existing supply of types of uses that may provide support to canal development or that will be enhanced by canal development and utilization.
3. An economic and demographic analysis, which examined key factors related to canal development, including:
- population
 - household formations
 - household income

- household expenditures (particularly for food and entertainment)

The factors were analyzed for time periods 1980-1990 and projected 1990-1998, and key comparative trends related to canal potential were identified.

4. A general demand analysis to identify any potential sources of existing demand or indicators of future demand for proposed uses.

The methodology and findings in each canal region were applied canalwide and to the market overview for each proposed Canal Harbor project.

General Market Findings

Although market conditions vary widely over the 25 New York State counties included in the Canal Region, the overall finding is that there are positive factors that support the Canal Recreationway Plan.

1. Site-analysis factors supporting this finding include the following:

- Access: The Canal Region has excellent access. Four major airports – Albany, Syracuse, Rochester and Buffalo – provide frequent, extensive national service, as well as good connections to international service. The NYS Thruway, which parallels the entire length of the Erie Canal, provides excellent access by automobile for the entire state, the national interstate system, and Canada. Amtrak provides scheduled service from New York City through Albany to Buffalo, and also to Canada. The state and local roads along the Canal also provide good access connections to air and rail service.
- Visibility: Although the Canal parallels much of the corridor's transportation system, in most places it is not visible. Alternatively, however, where the Canal

is visible it provides dramatic sights. From a market standpoint, lack of visibility and lack of signage are problems.

- Area Characteristics: The characteristics of the Canal Region are unusually varied. The Canal System winds through major urban areas, farmlands, small towns, university towns, suburban enclaves, wide lakes and rivers, and wilderness nature preserves. This variation is a market advantage in the sense that the Canal can provide a variety of experiences to diverse market segments.
- Development Trends: Although major developments along the Canal and associated with canal use are limited, the identifiable development trends are positive. Virtually every region along the Canal System demonstrates positive canalside-related developments.

Some of the developments have occurred slowly over time; some are 100 percent private-sector initiatives; and others – Syracuse and Fairport – for example are the result of public/private partnerships.

2. Supply Analysis: The real-estate uses specifically related to canal use and available to meet future demand are limited. These limitations include:

- full-service marinas
- docking facilities
- boating-related retail
- quality eating establishments
- tour boats and charter boats

Landside motel and hotel facilities, which cater to business travelers as well as to tourists, appear to be adequate.

3. Economics and Demographics: The canal regions exhibit an overall positive economic and demographic picture. Each region reversed the negative 1980-1990 population trend, and each region is projected to have increases in population, median household income, and the amount spent annually per household for recreation and tourism for the period of 1990-1998, as summarized in the table below.

From 1990-1998, the total population of the Canal Region is projected to increase by 183,100, from 4,055,200 to 4,240,000 persons. This represents approximately 35.6 percent of the state's total projected growth for the five-year period.

4. Demand: Demand indicators and demand sources for canal utilization are primarily the population base, income levels, tourism, and boat utilization. Analysis of these factors are fully described in Chapter 8.

Summary of Projected Population, Median Household Income, and Tourist/Recreation Expenditures					
Region	1990-1998 Change in Population Number and Percent		1993 Median Household Income Dollars and Percent Increase to 1998		1993 Household Expenditures for Recreation and Tourism Dollars and Percent Increase to 1998
Erie-Niagara	26,035	2.2%	\$30,947	10.8%	\$3,166 6.7%
Genesee-Finger Lakes	58,106	5.8	34,039	14.1	3,311 8.5
Eastern and Central Southern Tier	10,815	9.6	30,257	15.9	3,174 9.2
Herkimer-Oneida-Montgomery	8,084	2.2	27,487	12.9	2,938 8.1
Capital District	48,454	6.2	38,414	18.7	3,602 10.4
Lake Champlain-Lake George	21,286	8.8	31,719	18.0	3,210 10.3
Total Increase	183,138				

Appendix A9-a

Key Assumptions Used to Calculate Economic Benefits from Tourism

Tourism in Canal Regions

In 1993-94 the number of tourists in the 25-county canal region totaled 27 million persons, or 45 percent of the state's total, excluding New York City.

Tourist Expenditures

Typical individual daily expenditures are projected to average \$67 with an average trip duration of 2.3 days, based upon Arthur Andersen's analysis of industry standards. Tourism/leisure spending in canal counties is estimated to total approximately \$4.1 billion.

Tax Revenues

New York State sale tax was computed at the current rate of 4 percent and municipal sales tax in canal regions is assumed to average 3.5 percent.

Job Creation

Job creation only accounts for tourism-related increases; construction-related jobs are not reflected. The industry standard of 13 new permanent and part-time jobs for each \$1 million of expenditures is assumed.

Capture Rate

The Canal tourist capture rate was derived from an Arthur Andersen survey of canal-area tourist attractions and their relationship to total county tourist/leisure visitors. Surveyed attractions included the National Women's Rights Museum, the Herkimer House, the Saratoga Battlefield, and the Montezuma Wildlife Refuge.

Seasonality

All figures are calculated on a twelve-month basis and account for fluctuations in seasonality.

Lease Assumption

Rates/Revenues are as follows:

- Retail: \$10/square foot
- Restaurant: \$15/square foot
- Excursion-Boat Dockage: \$3,000/boat (average) per season
- Charter-Boat Dockage: \$900/boat (average per season)
- Transient-Boat Dockage: \$20/day
- Commercial/Tour Boats: \$26/boat-foot per day
- Charter-Boat Building and Repairs Shop: calculated at \$1,000 per slip/season

Lease increase at 5% after 5 years; housing has 50-year leases; charter-boat bases have 20-year leases.

- Bed-and-breakfasts assumed to pay ground lease equal to 10% of nightly room rate (average = \$60/night) equals \$2,190.
- Housing (Oswego) assumed to be 40 units at 1,500 square feet each, with land calculated as 10% of rental rates, which is assumed to be \$700/month (median for area) = \$840 per year = \$33,600 total.
- Because of traffic potential, lack of essential tourist attractions, and market condition, rates have been discounted by 20% at Little Falls, and 25% at Whitehall.

Sources of Information

Sources for the data used in calculating the projections include: the New York State Department of Economic Development, D.K. Shifflet & Associates, Ltd., 1994; Marshall, Macklin Monaghan Studies, 1993; Port Authority of New York & New Jersey, Tourism/Economic Reports, 1993; Arthur Andersen field and telephone surveys, 1994 and 1995.

Appendix A9-b
Assumptions Used to Calculate
Potential Hydroelectric Revenues

1. Capacity of the sixteen available sites will total 121 MW. Use of this capacity is estimated at 60 percent and the value of the power to a utility is estimated at \$.09 per kilowatt hour (KWH).
2. Total kilowatt hours generated annually at 60 percent of actual capacity are estimated to be 636 million KWH.
3. The Canal Corporation will be successful in negotiating leases on all sixteen sites over the next five years.

Appendix A11-a Phasing and Cost Assumptions Pertaining to Canal Recreationway Plan Elements

Canal Harbor Projects

In the initial phase of implementation it is assumed that, for each of the seven Harbor projects, compacts are developed; and executed with partnering municipalities; "Requests for Proposals" are prepared for the solicitation of private interest; and design work and project refinement is completed. Additionally, the Phase I costs reflect full construction of two Harbor projects, including preservation of canal infrastructure. In the second phase, construction is completed on three additional Harbor sites, and in the final years of implementation work on the remaining two projects will be concluded. An accelerated construction schedule for all Harbors or individual project components is desirable. Completion may be expedited based on the degree of public and private enthusiasm and financial support. In selecting early Harbor projects it is recommended that consideration be given to market conditions, project readiness (compact and RFP completion, land assembly, ease of implementation), private-sector interest, and the availability of project matching funds.

Service Ports and Locks Projects

An average cost of \$130,000 per project is assumed, with an average local match of 30 percent. A total of approximately 100 projects are completed in the first two phases of implementation. This would fully exhaust the list of suggested Service Ports and Locks Projects. It is also assumed that a small number of these projects would attract and leverage additional private investment in related facilities.

Local Projects

As discussed previously, Canal Corporation funding for Local Projects has not been provided for, and local projects are not exhibited as an element of the phasing table. It is assumed, however, that these projects will be constructed gradually over the life of the Plan and beyond, as funding becomes available from other sources.

Canalway Trail

The cost-per-mile will increase during the mid- and long-term phases as the more difficult sections will be developed during these periods. Cost estimates reflect expenditures related to trail signage and limited funding for right-of-way acquisition from willing sellers, if gaining easements is not possible.

Marketing and Promotion

Canal Corporation funding related to marketing and promotion is assumed to remain constant at current levels over the life of the Plan. Allocation of these resources is assumed to change from year to year in accordance with the Marketing Plan recommendations contained in Chapter 10. In addition, local matching funds are reflected assuming the continuation of current partnership programs, as is a modest contribution from New York State's "I Love NY" program. Non-governmental funding related to the advertising of new, privately operated services and facilities is also included.

Funding related to the promotion of Commercial Shipping is included in the Commercial Shipping element.

Canal Scenic Byway

Implementation of the Canal Scenic Byway reflects primarily the costs associated with signage and mapping of the approximately 600-mile system. As a supporting element, it is assumed that this program would be initiated and completed in the second phase of the Plan.

Historic Preservation

Phase I of this element focuses on assembling the documentation necessary to prepare the application for the National Register of Historic Places. Phase II costs reflect the completion of this effort and the preparation of a preservation plan. The costs associated with the preservation of historic canal infrastructure is assumed to be reflected in appropriate capital plans. However, it

is assumed that private and not-for-profit organizations will provide resources for the preservation of property not under the Canal Corporation's ownership.

Interpretation

Phase I assumes that a small amount of funding will be dedicated to the preparation of the comprehensive interpretive program. The lion's share of funding is reflected for the initiation of its implementation. Subsequent phases provide for its completion and future enhancement.

Conservation of Open Space and Natural Resources

The conservation of open space and natural resources assumes funding for the preparation of Local Waterfront Revitalization Programs by canalside communities and the costs associated with coordination, facilitation and promotion of the greenway.

Commercial Shipping

The initial phase to implement the commercial shipping recommendations reflects the start-up costs for the preparation and implementation of a marketing program; and additional resources to expedite dredging in critical areas. Funding for dredging is anticipated to be made available as a result of federal legislation relating to water resources. The subsequent phases continue to build on these efforts. Funds for a commercial shipping demonstration project are reflected in the Service Ports and Locks element. Promising locations suitable for commercial activity are included on the recommended list of projects. While private investment in commercial activity in the later phases of implementation is likely to occur, given the current declining trend on the canal, its magnitude is unknown.

Management of Canal Lands

It is assumed that the implementation costs associated with the management of canal lands will be absorbed within existing program budgets and thus are not reflected as an element of the phasing table.

Appendix A11-b Potential Funding Programs in support of the Canal Recreationway Plan

Federal, State and Local Programs

NYS Thruway Authority/ NYS Canal Corporation

- *Canal System Development Fund (CSDF)*: The CSDF, which was statutorily created in 1992, is the depository of all revenues generated by the Canal System including tolls, permits, hydroelectric easements and lease payments. While it can be utilized for development, maintenance and improvement of the Canal, pursuant to state appropriation, the legislation creating the Fund gives priority to marketing and promotion in the early years of the Canal's revitalization.
- *Municipal Canal Development Program (MCDP)*: The MCDP provides grants for municipally sponsored small-scale capital improvement projects along the Canal System. Matching funds in varying amounts are required.
- *Five-Year Canal Capital Plan*: The Canal Corporation annually prepares a detailed five-year capital plan for the maintenance and improvement of the canal system. Future plans will integrate recreationway elements.

NYS Urban Development Corporation

- *Regional Economic Development Partnership Program (REDPP)*: The REDPP provides loans and grants for business development, business infrastructure planning and feasibility studies for economic-development and tourism-destination projects. Matching funds may be required. There are four application cycles per year.

NYS Department of Economic Development

- *Erie/Barge Canal Challenge Matching Funds Program*: This matching grant program is for construction projects, festivals, promotions and planning related to the Canal.

NYS Department of Transportation

- *Intermodal Surface Transportation Efficiency Act (ISTEA)*: The federal ISTEA requires that 10 percent of federal transportation dollars be spent on enhancement projects such as streetscape improvements, pedestrian amenities, waterfront access, historic preservation, and trails. Projects must be approved by a regional advisory committee and be included in the state's Transportation Improvement Program. Grants require a 20 percent match from the project sponsor.
- *Scenic Byways Program*: Roads designated as Scenic Byways are eligible for transportation funds. Projects may include safety improvements, planning and design, trailways, water access, historic-resource protection and interpretation and tourism information and services. Applications are reviewed annually by the New York State Department of Transportation.
- *Transportation Improvement Program (TIP)*: The New York State Department of Transportation prepares an annual Transportation Improvement Program. Signage and safety projects are typical TIP improvements.

NYS Office of Parks, Recreation and Historic Preservation

- *Land and Water Conservation Fund*: The Office of Parks, Recreation and Historic Preservation administers this National Park Service program which has annual application

and funding rounds. Eligible projects include the acquisition, protection, development or rehabilitation of outdoor recreation facilities. A 50 percent local match is required.

- *Natural Heritage Trust - Zoos, Botanical Gardens and Aquariums:* A program for the funding of operating expenses, special projects or capital construction at municipal or not-for-profit institutions that house, care for and interpret systematically organized collections of living things.
- *Snowmobile Trail Development/Maintenance Program:* A funding program for counties for the development and/or maintenance of snowmobile trails. Funded trails or facilities must be compatible with established statewide plans.
- *National Recreational Trails Act Program:* This federal trails program requires a 20 percent local match, which can be provided through in-kind contributions. Eligible activities for this annual program include administration costs, environmental and safety education, urban trail linkages, trail maintenance, handicapped accessibility, acquisition and trail construction.
- *Boating Law Enforcement Program:* A program offering 75 percent reimbursement for costs incurred by municipal police agencies in the enforcement of navigation laws and regulations. Funding is provided from state boat-registration fees.
- *Environmental Protection Fund:* Created in 1994 by the Environmental Protection Act, this fund will provide over \$100 million in state funds for open-space land conservation; park, recreation and historic preservation projects; and Local Waterfront Revitalization Plans and projects. This fund replaces the now exhausted 1986 Environmental Quality Bond Act fund. Projects must be included in the New York State Open Space Plan in order to be eligible for funding.

NYS Department of Environmental Conservation

- *Environmental Protection Fund:* (See description provided under New York State Office of Parks, Recreation and Historic Preservation.)
- *Wallop-Breaux Fund:* This annual federal allocation to the New York State Department of Environmental Conservation is for upgrading boat-launch and access sites, pump-out facilities, fish restoration and aquatic resources education. Expenditure is governed by a statewide fishing-access needs plan. Funds are usually budgeted years in advance by the Bureau of Fisheries.

NYS Department of State

- *Environmental Protection Fund:* (See description provided under New York State Office of Parks, Recreation and Historic Preservation.)

United States Department of Housing and Urban Development

- *Community Development Block Grant Programs (CDBG):* CDBG's are federal funds distributed to qualifying local municipalities. Eligible projects include road and utility infrastructure, community recreation facilities, transportation, streetscape improvements, historic preservation, etc. Funds are distributed annually. The program requires that at least 51 percent of the population served be of low or moderate income.

National Endowments on the Arts and Humanities

- *National Endowment for the Humanities Projects Program:* Challenge and Endowment Grants of up to 25 percent are available for educational programs, fellowships, research, planning, construction and acquisition projects that feature the humanities.
- *National Endowment for the Arts:* Challenge and Endowment Grants of up to 50 percent are available for eligible museum and

visual-arts programs. Ineligible uses include construction, acquisition and operation.

Local Sources of Funding

- *County and Local Industrial Development Agencies:* These agencies make available low-interest loans and financing for a variety of economic development projects.
- *County and Municipal Capital Improvement Plans:* Local government funds a broad range of activities. County and municipal governments can finance projects through current income or by issuing debt.
- *Special Districts:* Local governments can create special tax districts, provide incentive zoning, or designate downtown improvement districts.
- *Chambers of Commerce and Regional Tourism Agencies:* Local chambers of commerce and tourism promotion agencies can provide funding assistance for a variety of tourism and marketing activities.

Not-for-Profit Organizations/Programs

- *The Nature Conservancy:* The Conservancy is an international organization committed to preserving natural diversity by protecting lands and waters. The Conservancy owns and manages a national system of some 900 preserves.
- *America the Beautiful Fund:* Founded in 1965, the fund supports community effort projects through seed grants.
- *National Trust for Historic Preservation:* A private, not-for-profit organization chartered by Congress to encourage public participation in the preservation of sites, districts, buildings, and objects significant in American history and culture. Members of the Trust's Preservation Forum are eligible for grants and loans.
- *Canal Society of New York State:* A not-for-profit organization concerned with the history of the canals of New York State. The Society sponsors day-long excursions to canal sites,

publishes field-trip guides, and maintains an extensive library and research files.

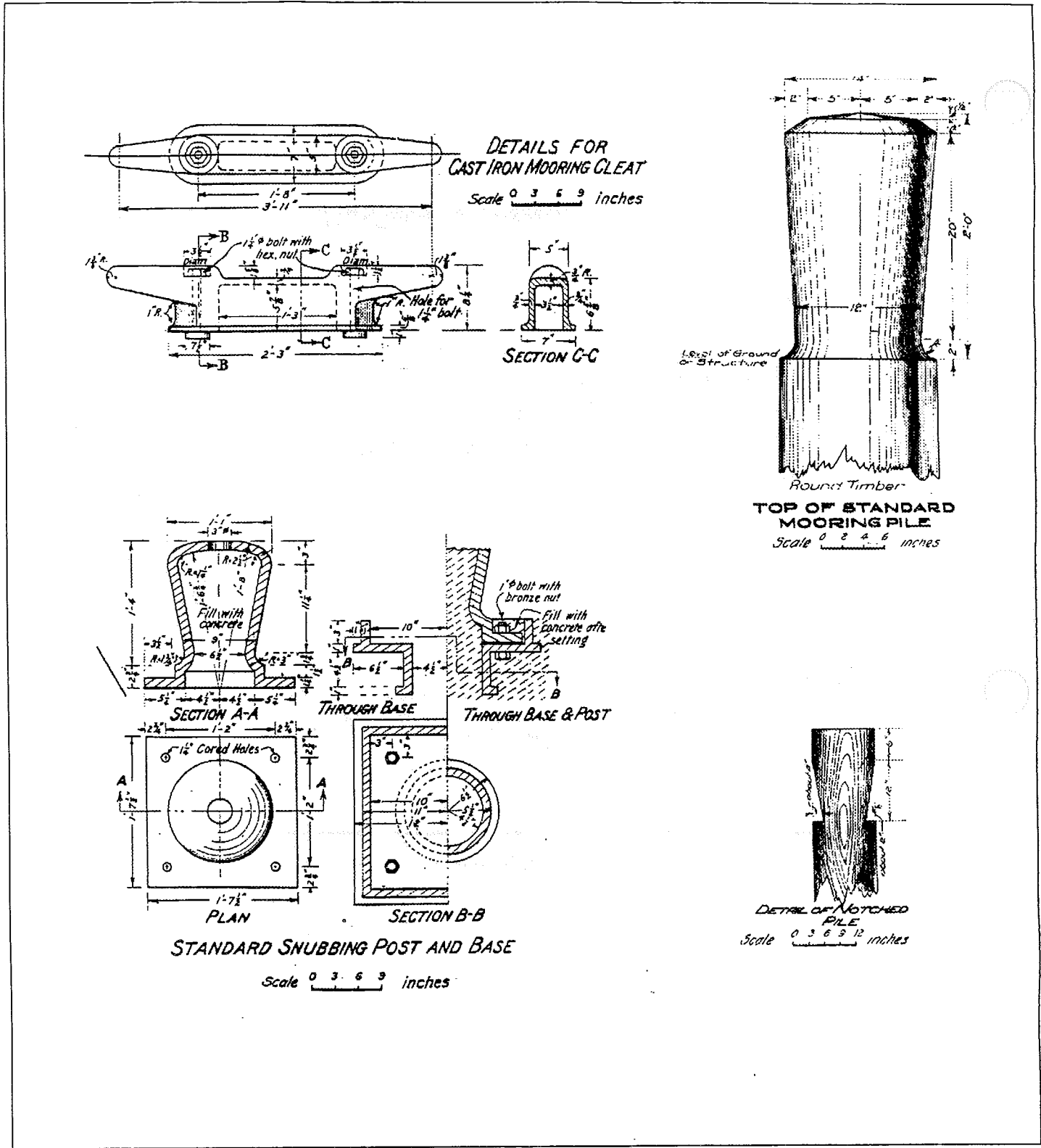
- *Society for Industrial Archeology:* This organization encourages and sponsors field investigations, research, recording, and the dissemination and exchange of information on all aspects of industrial archeology.
- *Trust for Public Land:* The Trust for Public Land works closely with urban and rural groups and government agencies to acquire and preserve open space.
- *Preservation League of New York State:* Founded in 1974, the League is dedicated to preserving the state's architectural heritage. It coordinates historic preservation activities of organizations and individuals, acts as clearinghouse for technical information and information on legislation, and provides professional legal and technical assistance.



This building design is selected from the State Engineer's 1920 Annual Report, "Book of Plans of the New York State Barge Canal." The plans illustrate the character and style most compatible with the existing Canal.

**Lock Site Elements
Canal Hydroelectric
Power Plant**

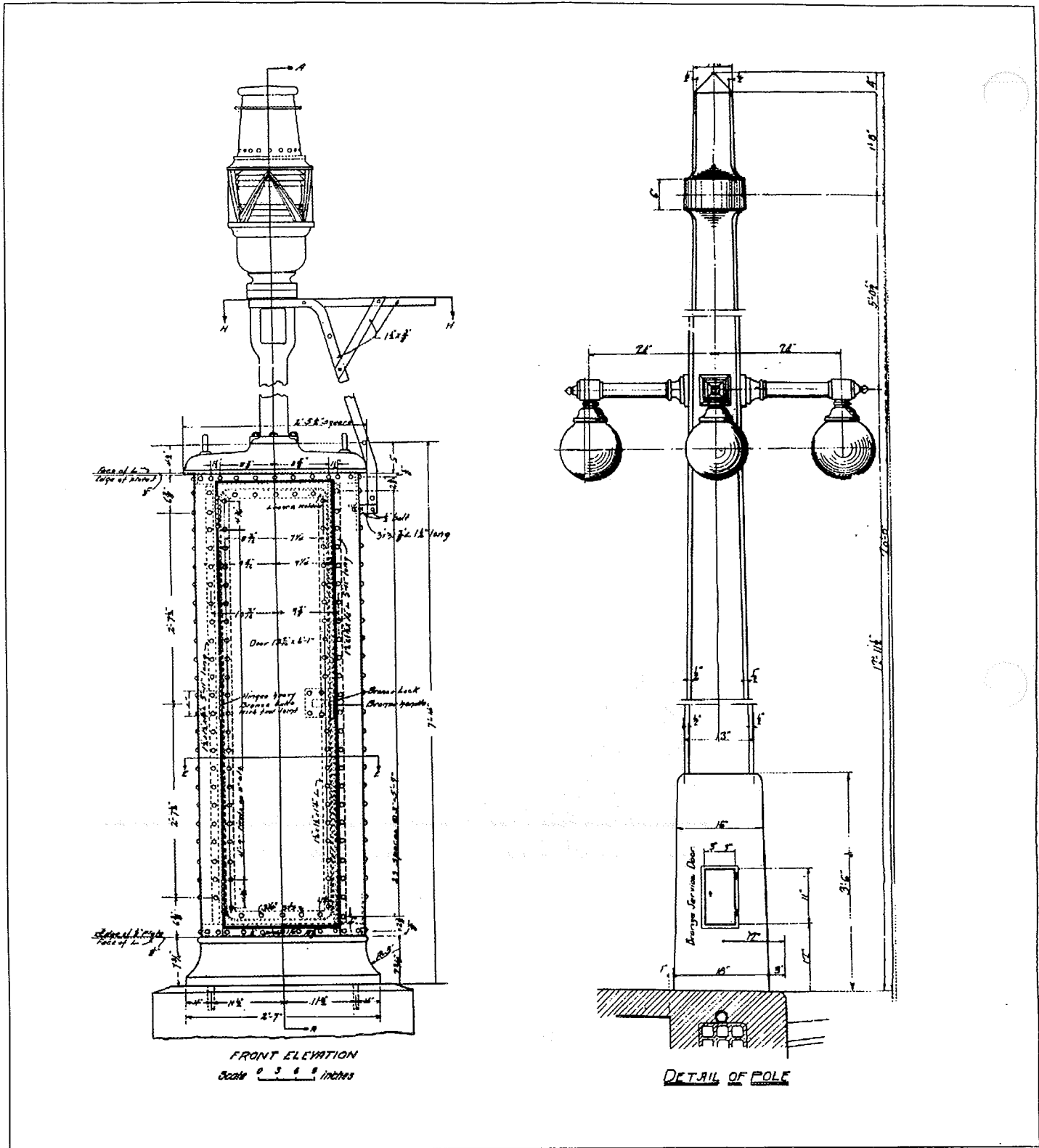
Beyer Blinder Belle Consortium



These marine fittings are selected from the State Engineer's 1920 Annual Report "Book of Plans of the New York State Barge Canal." The plans illustrate the character and style most compatible with the existing Canal. Comparable contemporary marine fittings are also appropriate.

**Lock Site Elements
 Canal Marine Fittings**

Beyer Blinder Belle Consortium



These light fixtures are selected from the State Engineer's 1920 Annual Report "Book of Plans of the New York State Barge Canal." The plans illustrate the character and style most compatible with the existing Canal.

**Lock Site Elements
Canal Lighting Fixtures**

Beyer Blinder Belle Consortium

NEW YORK STATE CANAL RECREATIONWAY PLAN

Two views of existing canal freight houses.

The top photograph shows the freight house at the Rome Terminal.

The bottom photograph shows the freight house at the Herkimer Terminal.



**Lock Site Elements
Canal Freight House**

Beyer Blinder Belle Consortium

Exhibit A6-5

Unit Paving

Major pedestrian pathways and feature areas are to be paved using either precast concrete pavers, brick or natural stone. Unit pavers are to be no larger than 12 inches x 12 inches in size on either an aggregate or concrete base, depending on the soil conditions. The use of local natural stone as either a field or banding is encouraged.

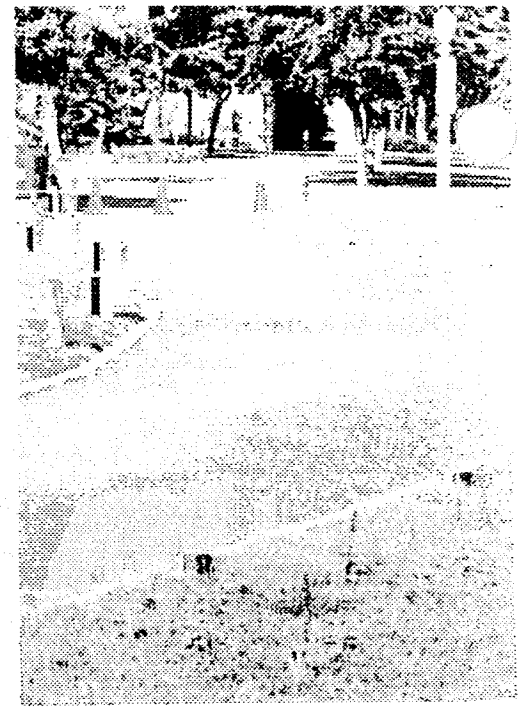
Patterning of the unit pavement by the use of color and material is encouraged; utilize local patterns where possible.



Sheet Paving

Pedestrian and feature areas may also use patterned, colored concrete provided that the pattern and color used are appropriate to the locale.

Jogging, hiking and bicycle trails in non-urban areas are to be paved with stabilized crushed stone fines. Where the above types of pathways and public areas receive heavy use, asphalt may be used. Parking lots and service areas are to be paved with sheet asphalt paving.



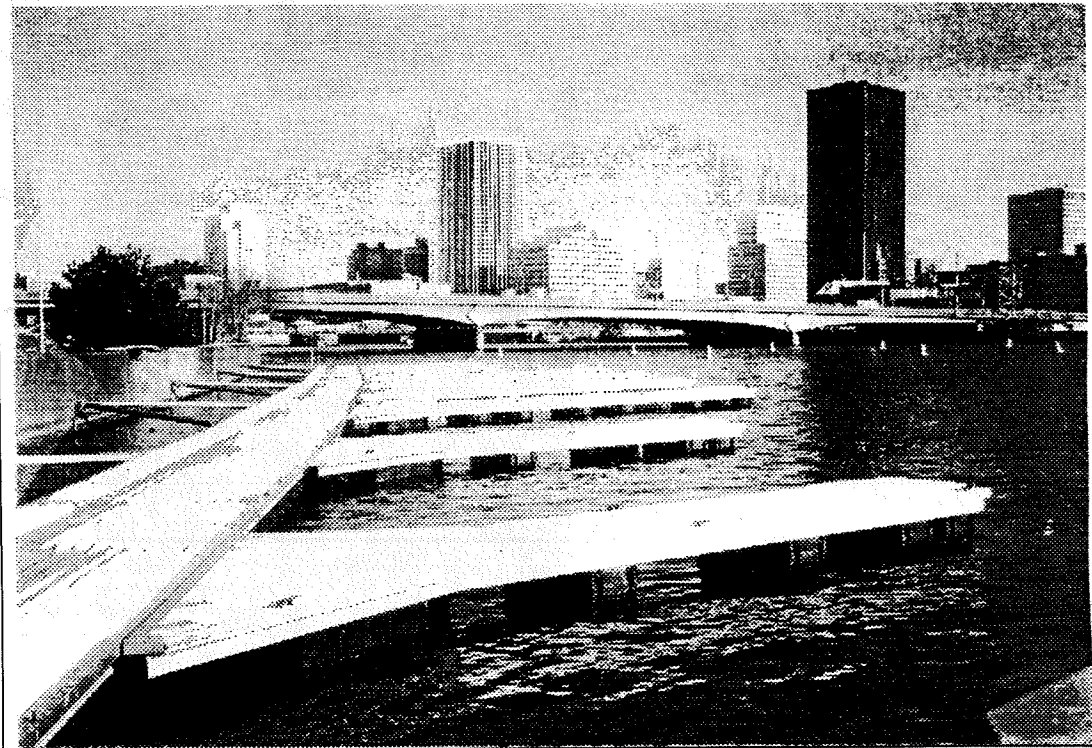
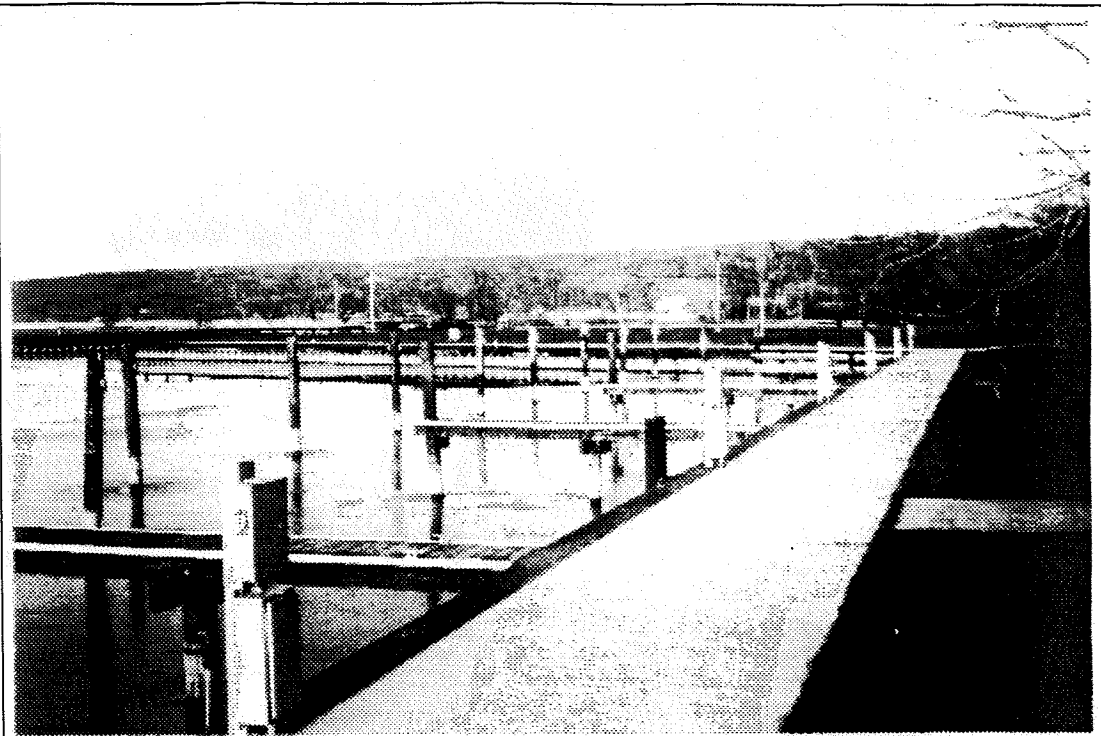
**Public Space Elements
Paving**

Beyer Blinder Belle Consortium

Floating Docks

Where needed, floating docks should be installed to provide access for small boats.

Typically the deck material should be wood. For commercial docks, platforms and walking surfaces can be precast concrete.



**Public Space Elements
Floating Docks**

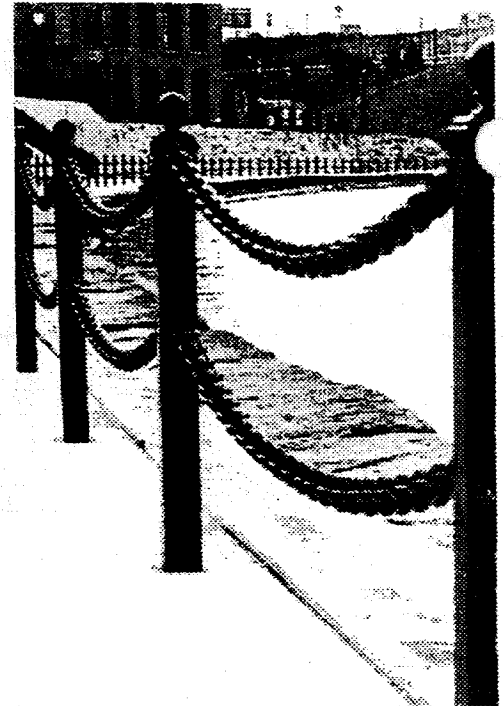
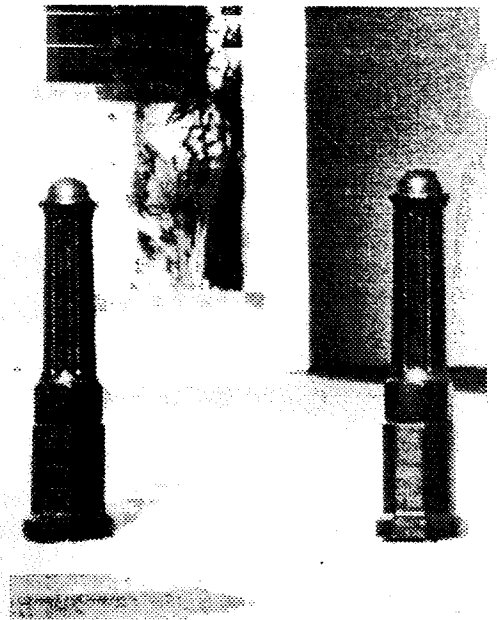
Beyer Blinder Belle Consortium

Bollards

Bollards are to be made of cast iron, aluminum, treated wood or natural stone, preferably local in origin. Cast metals to have a painted finish and may be either black, match the present canal color scheme or complement the predominant site colors.

Fencing

Fencing for pedestrian-accessible areas may be fabricated of wood, cast iron, aluminum or wrought iron. Security or other fencing for vehicular or service areas can be either vinyl-coated chain-link fencing or iron picket fencing. Maximum height of all fencing is to be 8 feet. All metals to have a painted finish and may be either black, match the present canal color scheme or complement the predominant site colors. Razor wire or highway "W" section guard rails are not permitted.



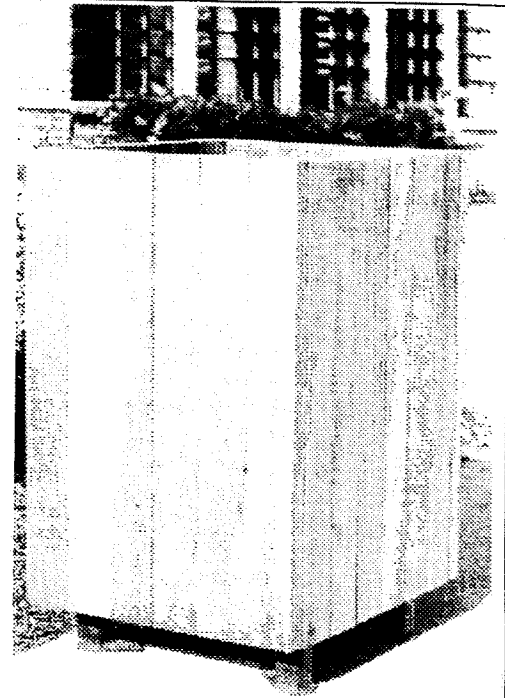
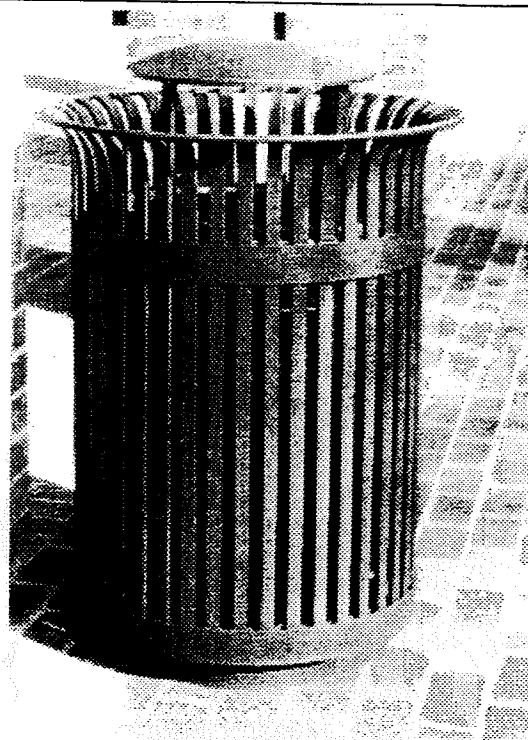
**Public Space Elements
Bollards and Fencing**

Beyer Blinder Belle Consortium

Trash Receptacles

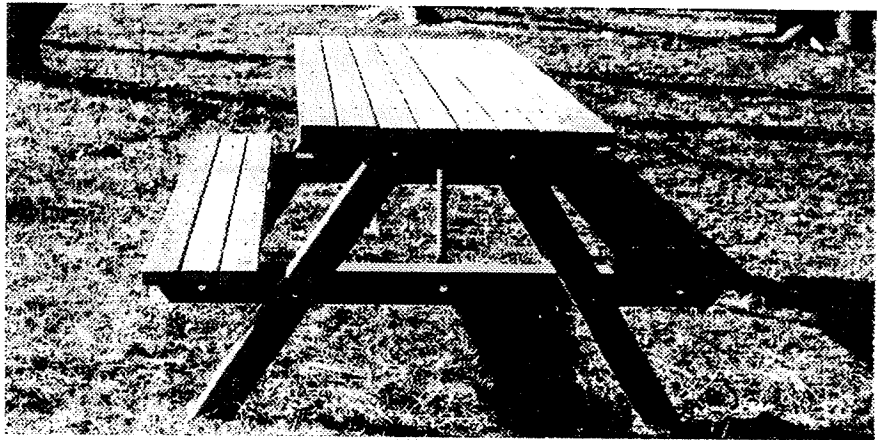
Trash receptacles should be provided at major pedestrian areas and where they will be maintained. They may be made of wood or metal similar to those shown.

The wood receptacle is fabricated of wood slat wood slat exterior on a metal frame with an internal plastic or metal liner. The metal receptacle is to be fabricated of painted steel with a removeable plastic liner. All metals to have a painted finish and may be either black, match the present canal color scheme or complement the predominant site color. All wood finishes are to match adjacent finishes or wood types. Where appropriate, receptacles are to be grouped to facilitate recycling.



Picnic Tables

Predominant materials are to be cedar, redwood, cypress or treated wood. Metal frames (where used) are to be cast iron or galvanized steel. All metal work to have a painted finish, either black or a color to complement predominant site colors. Aluminum or other metal tables and benches are not to be used.



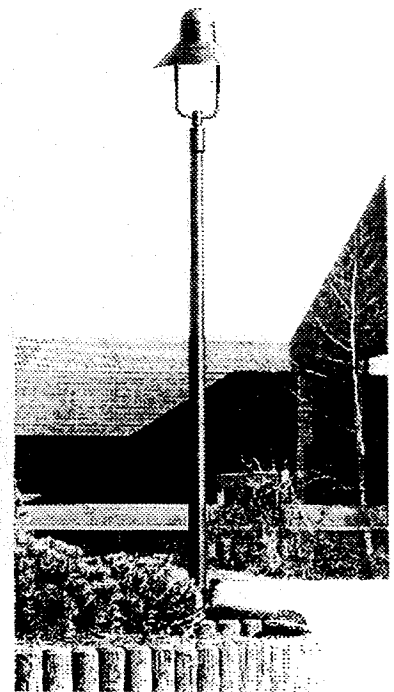
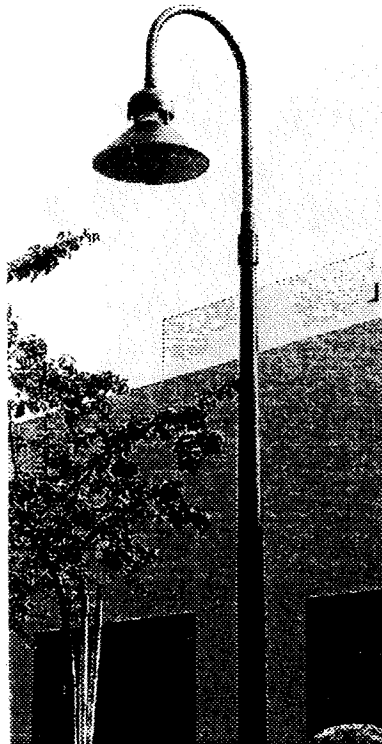
**Public Space Elements
Trash Receptacles
& Picnic Tables**

Beyer Blinder Belle Consortium

Lighting Fixtures

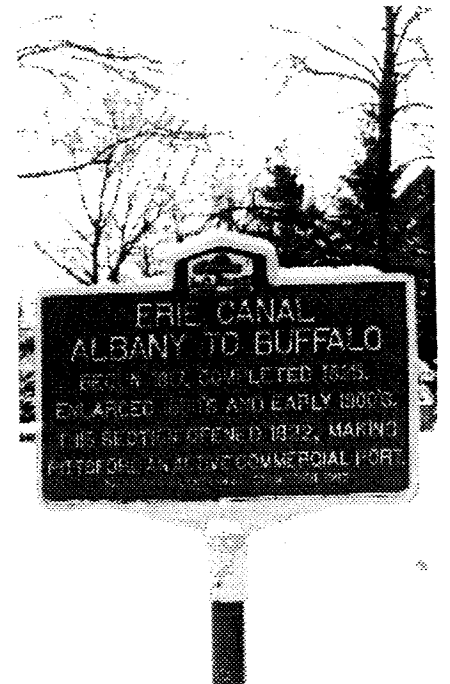
Where adjacent areas are not presently lit with historic fixtures, new fixtures are to relate to the existing character of the Canal.

These fixtures are to be wall- or pole-mounted similarly to any of the fixtures shown here. Poles are to be cast iron, extruded or cast aluminum, or steel. Luminaire housing is to be of cast metal or sheet metal and similar to the examples shown. Fixtures with a painted finish may be either black or match the canal color scheme or complement the predominant site colors.



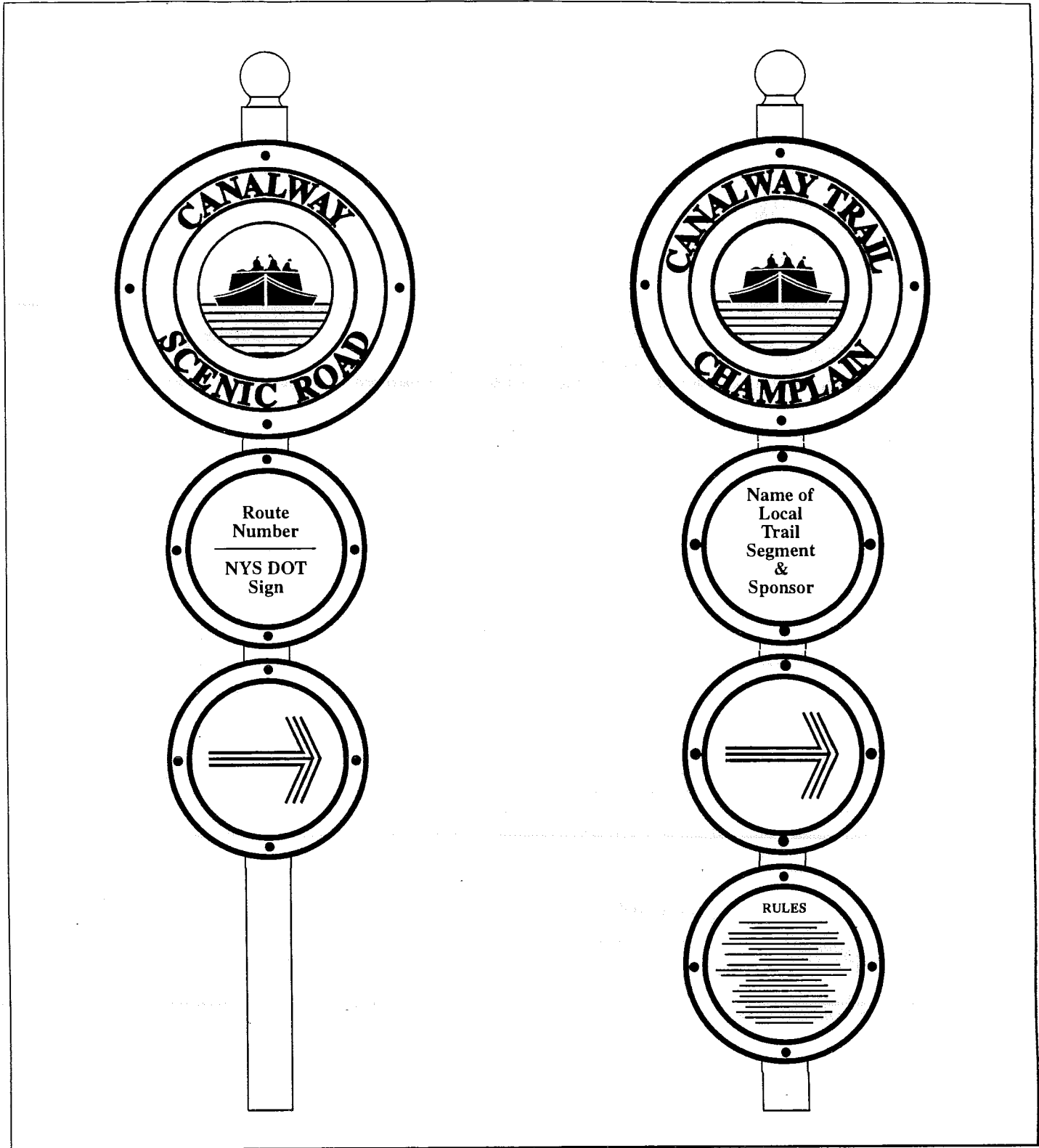
Signage

Signage materials can be either wood or metal depending on the type of signage. Specific locations and designs must be approved by the Canal Recreationway Commission.



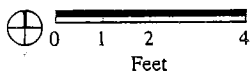
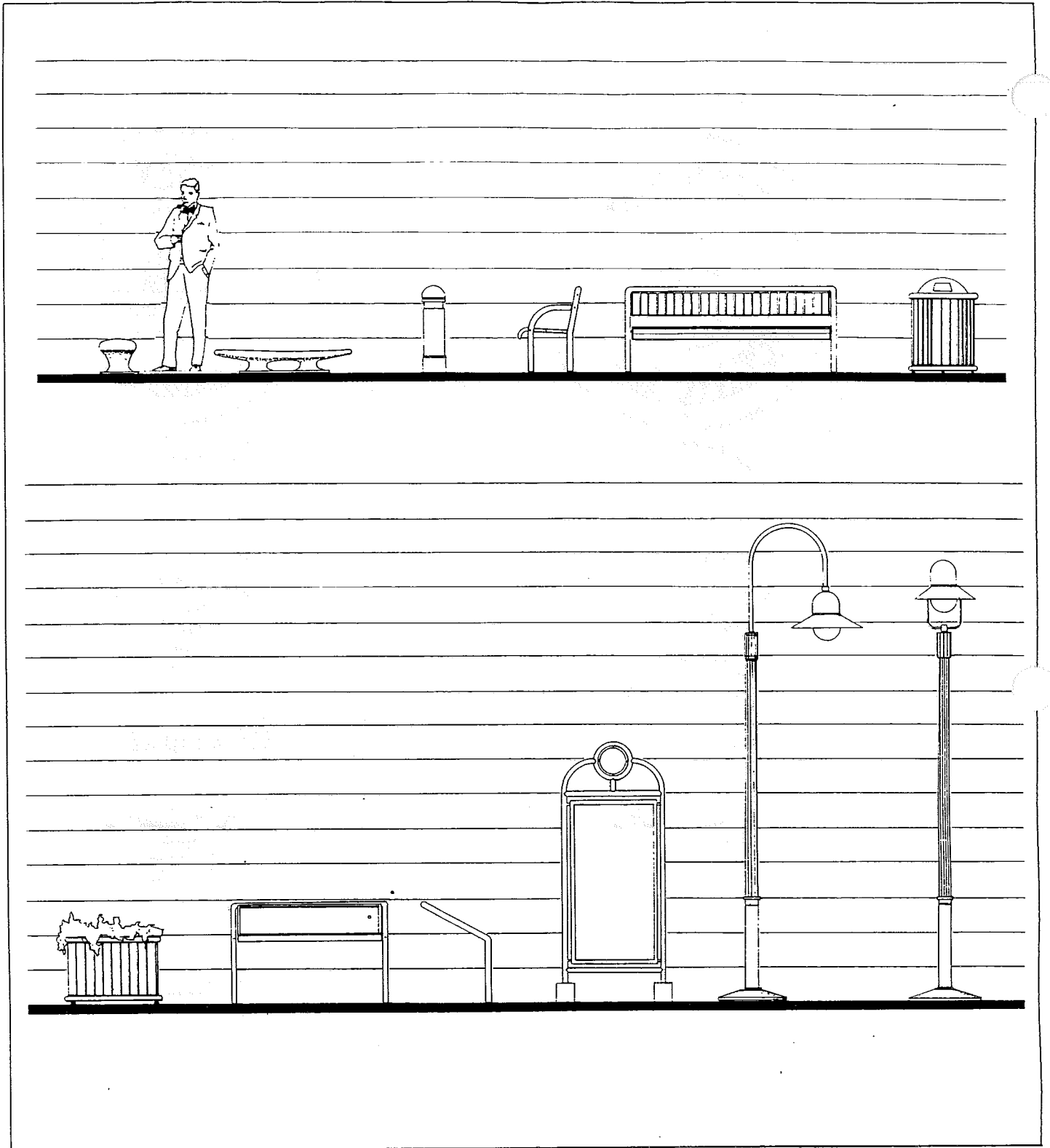
**Public Space Elements
Lighting Fixtures and Signage**

Beyer Blinder Belle Consortium



**Public Space Elements
Trail and Scenic Road Signage**

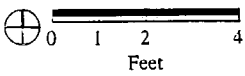
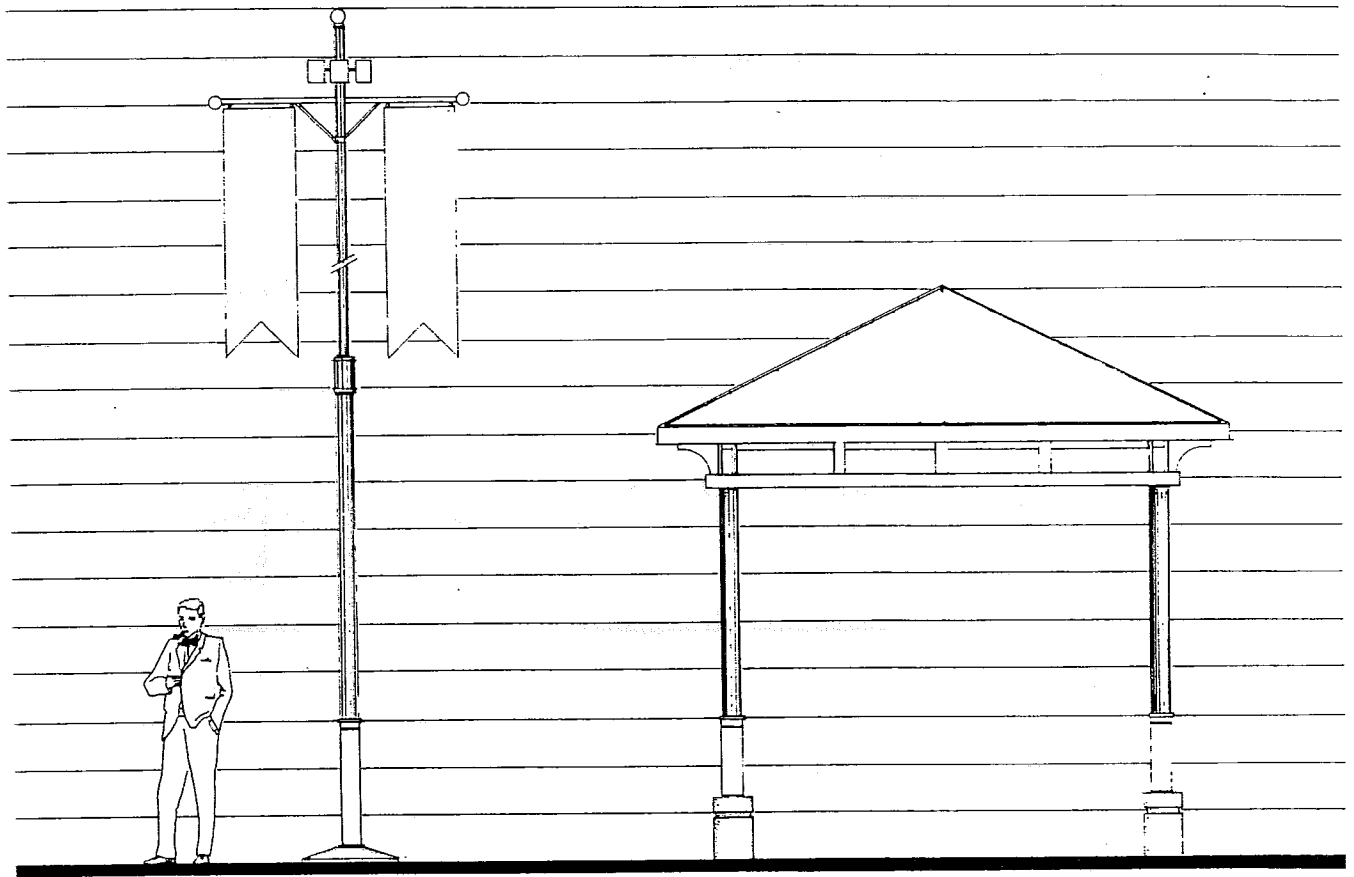
Beyer Blinder Belle Consortium



**Public Space Elements
Site Furnishings A**

Beyer Blinder Belle Consortium

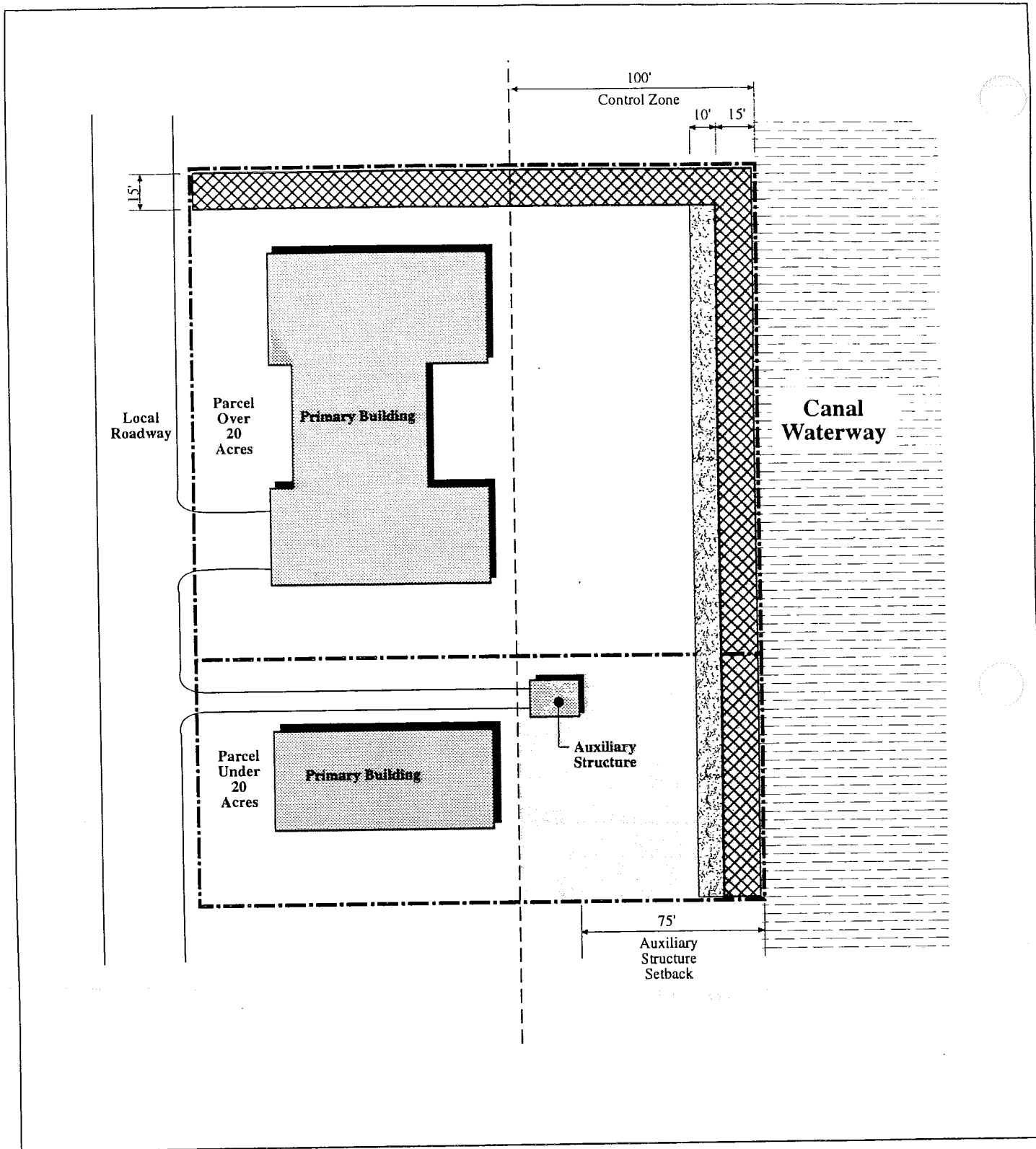
Exhibit A6-12




**Public Space Elements
Site Furnishings B**


Beyer Blinder Belle Consortium


Exhibit A6-13





**Generic Design
Development Guidelines**

 NYS Canal waterway

 Lot line

 15' - wide pedestrian walkway and emergency vehicle access

 100' - wide control zone

 10' - minimum width required-landscape buffer

Beyer Blinder Belle Consortium

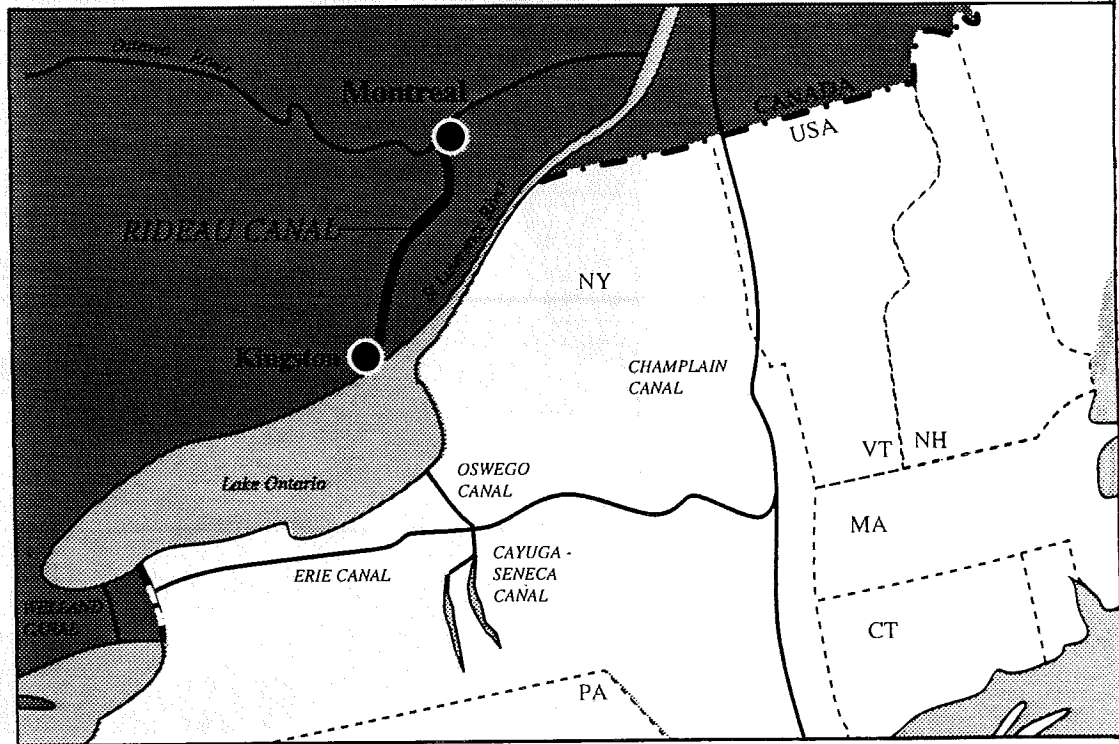
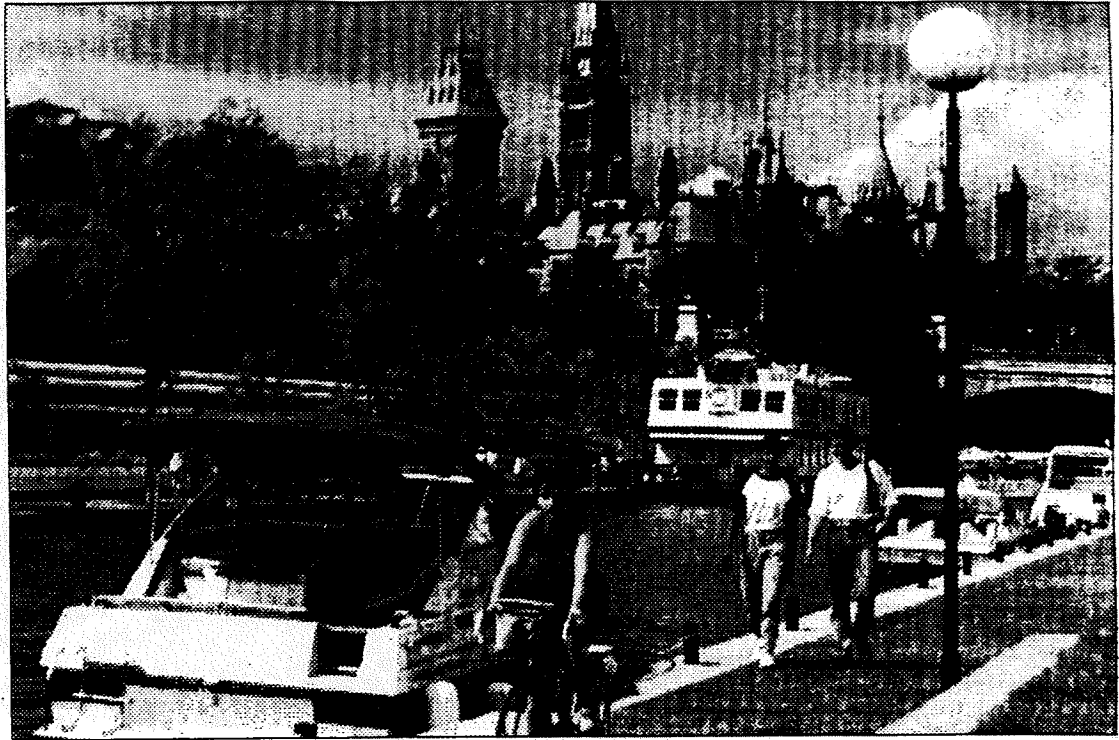
Exhibit A6-14

NEW YORK STATE CANAL RECREATIONWAY PLAN

Rideau Canal, Canada

Constructed: 1826-1832
Built By: British
Now Administered By:
Parks Canada
Length: About 200 km
Locks: 47
Navigation Season:
May-October

The Rideau Canal is operated as an historic waterway. It is actually not a continuous canal, but rather a system of lakes and rivers with canals cut to permit navigation. Most of the 47 locks along the Rideau continue to operate by hand. Boater services are provided at most lock stations. Canal use is primarily recreational. There were an estimated 91,000 boats using the Rideau Waterway in 1992.



Canadian Canal System

Beyer Blinder Belle Consortium

Exhibit A7-1

British Canal System

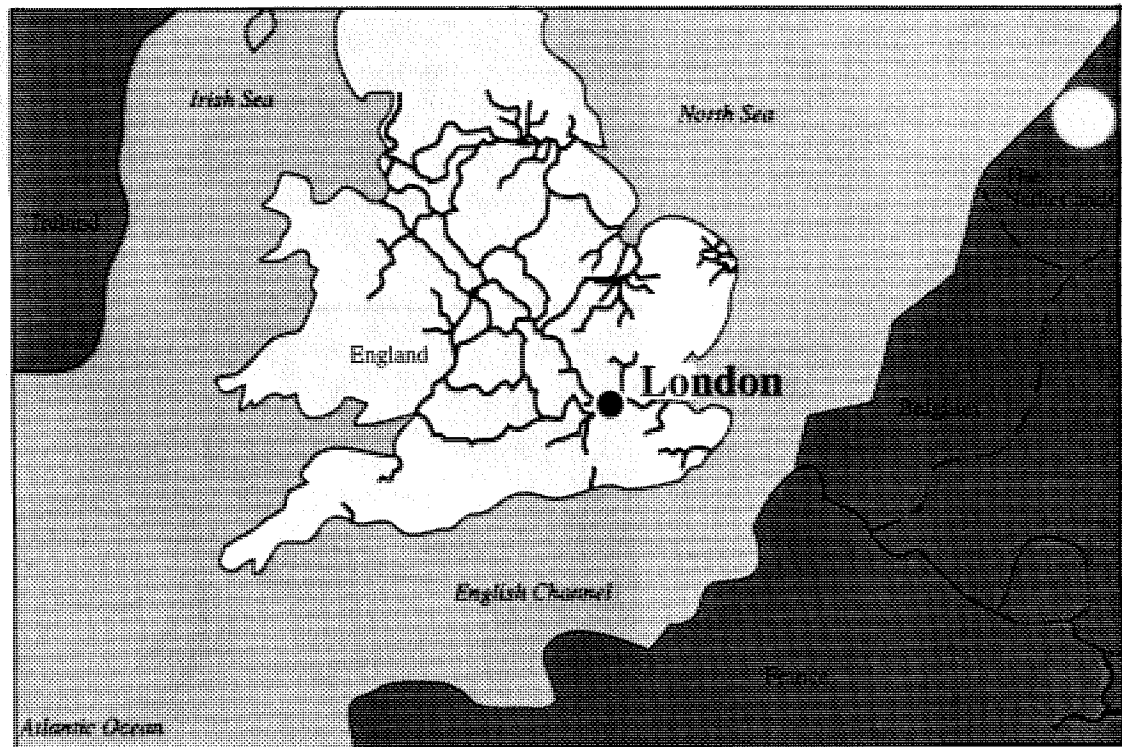
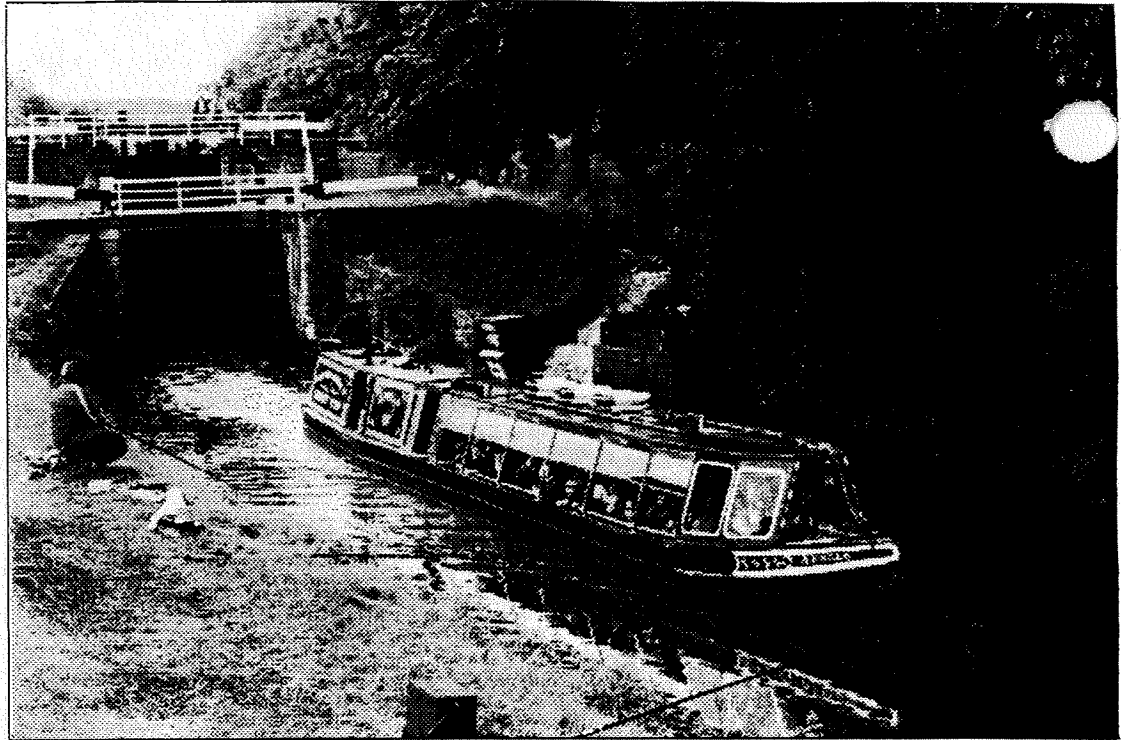
Constructed: From mid-1700 s

Now Administered By: British Waterways Board

Length: Over 3,200 km

Locks: Over 1,500

The British Canal System now consists of over 2,000 navigable miles, less than half of its size in the system's hey-day Canal Age. Uses are mainly recreational with a complex user fee structure.



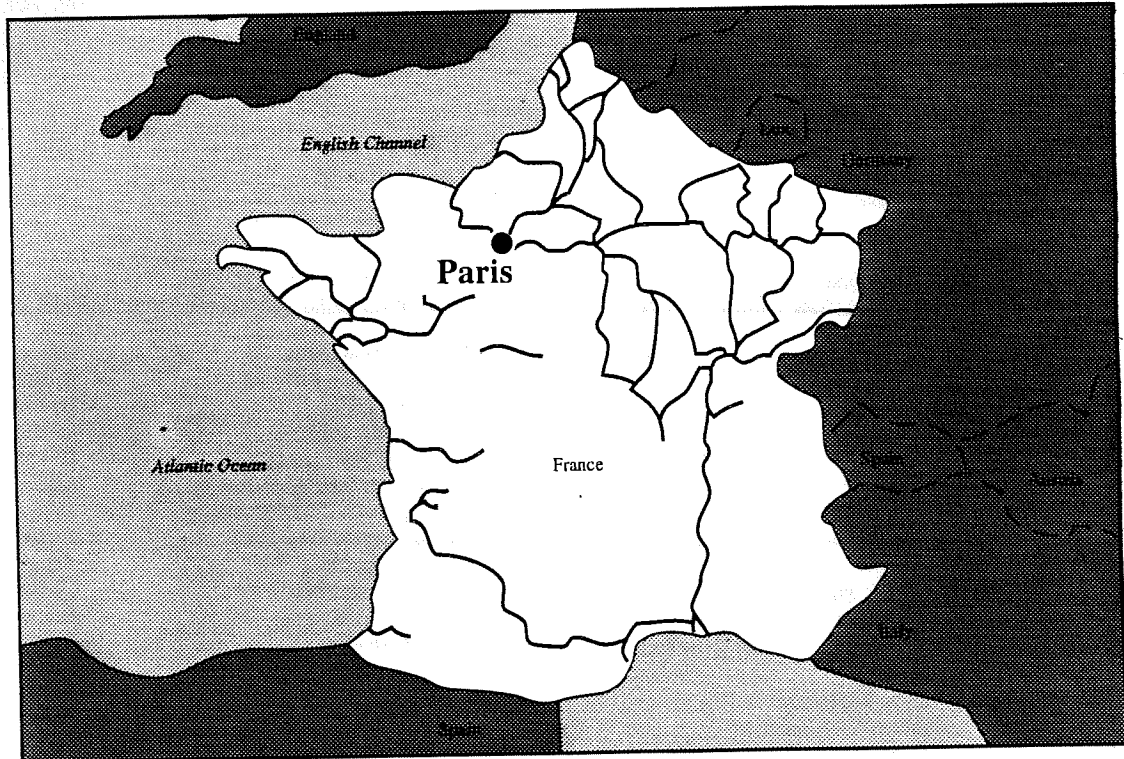
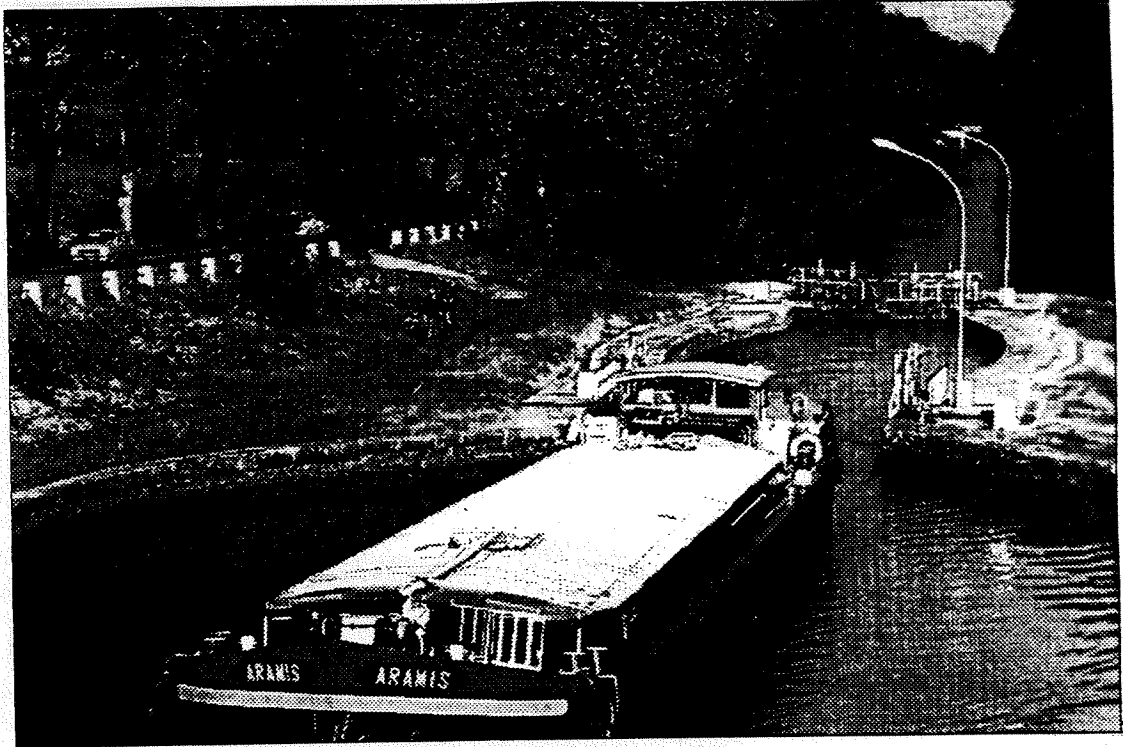
British Canal System

Beyer Blinder Belle Consortium

French Canal System

Constructed:
From mid-1600 s
Length: 8,500 km
Navigation Season:
Year-round

The French Canal System is a vast network of canals and waterways connecting the Atlantic Ocean and the Mediterranean , as well as inland locations. The system actually comprises almost ten different waterway systems or regions. In recent years there has been a revival of the French Canal System for recreational boating.



French Canal System

Beyer Blinder Belle Consortium