Appendix B

TDEC Final Water Quality Permit

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TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION
DIVISION OF WATER POLLUTION CONTROL
401 CHURCH STREET
7th FLOOR, L & C ANNEX
NASHVILLE, TENNESSEE 37243-1534

April 29, 2009

Ms. Susanna Bass
Project Manager, South Waterfront Development
City of Knoxville, South Waterfront Department
400 Main Street, Suite 503
Knoxville, Tennessee 37902

Subject: §401 Water Quality Certification/ARAP
Application NRS09.028
City of Knoxville, South Waterfront Development-Middle Section
Knoxville, Knox County

Dear Ms. Bass:

We have reviewed the application for the proposed alterations to the Tennessee River associated with the middle section of the City of Knoxville's South Waterfront Development project. Pursuant to §401 of the Federal Clean Water Act (33 U.S.C. 1341), the State of Tennessee is required to certify whether the activity described below will violate applicable water quality standards.

Subject to conformance with accepted plans, specifications and other information submitted in support of the referenced application, the State of Tennessee hereby issues certification for the proposed activity (enclosed). Failure to comply with the terms of this permit or other violations of the *Tennessee Water Control Act of 1977* is subject to penalty in accordance with T.C.A. §69-3-115.

It is the responsibility of the permittee to ensure that all contractors involved with this project have read and understood the permit conditions before the project begins. If you need any additional information or clarification, please contact Chip Hannah at 615-532-0713, or by e-mail at hugh.hannah@tn.gov.

Sincerely,

Chip Hannah
Natural Resources Section

Cc: WPC-EFOK-JEB
U.S. Army Corps of Engineers-Ruben Hernandez-Lenoir City Office
Tom Welborn-U.S. Environmental Protection Agency, Atlanta, GA
Lee Barclay-U.S. Fish and Wildlife Service, Cookeville, TN
Rob Todd-Tenn. Wildlife Resources Agency, Nashville, TN
TVA-Little Tennessee Watershed Team
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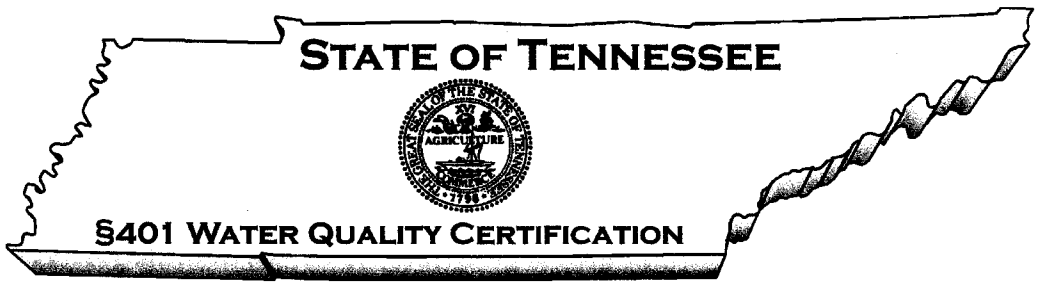


NRS09.028

Pursuant to §401 of the Federal Clean Water Act (33 U.S.C. 1341), the State of Tennessee is required to certify whether the activity described below will violate applicable water quality standards. Accordingly, the Division of Water Pollution Control requires reasonable assurance that the activity will not violate provisions of The Tennessee Water Quality Control Act of 1977 (T.C.A. §69-3-101 et seq.) or provisions of §§301, 302, 303, 306 or 307 of The Clean Water Act.

Subject to conformance with accepted plans, specifications and other information submitted in support of application NRS09.028, the division hereby certifies the activity described under authorized work below. This shall serve as authorization pursuant to T.C.A. §69-3-101 et seq.

PERMITTEE: City of Knoxville

AUTHORIZED WORK: The authorized work is associated with the Middle Section of the Knoxville South Waterfront Development and includes the following impacts:

- Construction of approximately 1,920 linear feet of at-grade riverfront walkway, extending from Tennessee River Mile 648.02 to River Mile 648.44.
- The fill of approximately 0.14 acres of wetland and the creation of 0.48 acres of wetland.
- Approximately 2,235 linear feet of riverbank to be regarded, stabilized and planted with native woody vegetation.
- Construction of a 115 ft. X 25 ft. pile-supported timber pier and an 80 ft. X 30 ft. concrete kayak ramp. Approximately 106 cubic yards of material to be placed riverward of normal pool elevation behind sheet pile wall.
- Construction of a 30 ft. X 120 ft. pile-supported dock.

LOCATION: The proposed project is located in the Fort Loudon Reservoir of the Tennessee River from Tennessee River Mile 648.02 to 648.44 in Knoxville, Knox County (Lat: 35.959721°, Long: -83.907621°), USGS Quadrangle-Knoxville, TN (147-NW).

EFFECTIVE DATE: May 1, 2009

EXPIRATION DATE: April 30, 2014

SPECIAL CONDITIONS:

1. A Total Maximum Daily Load (TMDL) for Siltation and Habitat Alterations exists for the Upper Tennessee River/Ft. Loudon Lake watershed (HUC 06010201). These TMDLs can be viewed in pdf format at http://www.tennessee.gov/environment/wpc/tmdl.

2. Erosion Prevention and Sediment Control (EPSC) measures must be stringently implemented and adhered to throughout the construction period to prevent sediments, oils, or other project-related pollutants from entering waters of the state. EPSC measures must be implemented and in place prior to any earthwork and must be maintained in good condition throughout the project construction. All EPSC measures must be maintained and should be cleaned on a regular basis. No grading, excavation, cutting, filling, or other earthwork shall be started before EPSC measures are in place, in accordance with an accepted EPSC plan.

3. The permittee shall contain suspended solids to the greatest extent feasible through the incorporation and utilization of a silt curtain for all in-river project activities. Turbidity curtains, conforming to USACOE specifications shall be used for each phase of the project involving dredging or installation of pilings. Turbidity curtains should be installed as directed by the engineer and according to manufacturer's guidelines.

4. Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed (i.e. clearing and grubbing initiated) more than 10 calendar days prior to grading or earth moving activities unless adequate temporary cover is established.

5. All areas of temporary impact shall be stabilized once activities have been completed, or activities have ceased for 15 days or more.

6. Wetlands outside of the proposed area of impact shall not be used as storage or staging areas for equipment.

7. Borrow and waste disposal areas shall be located in non-wetland areas and above the 100-year, FEMA floodplain. Borrow and waste disposal areas shall not affect any waters of the state, unless these areas are specifically covered by a §401/ARAP, §404, or NPDES permit, obtained solely by the contractor.

8. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the state. All spills must be reported to the appropriate emergency management agency, and measures shall be taken immediately to prevent the pollution of waters of the state, including groundwater, should a spill occur.

GENERAL CONDITIONS:

1. It is the responsibility of the applicant to convey all terms and conditions of this permit to all contractors. A copy of this permit, approved plans and any other documentation pertinent to the activities authorized by this permit shall be maintained on site at all times during periods of construction activity.

2. Work shall not commence until the applicant has received the federal §404 permit from the U. S. Army Corps of Engineers, a §26a permit from the Tennessee Valley Authority or authorization under a Tennessee NPDES Storm Water Construction Permit where necessary. The applicant is responsible for obtaining these permits.

3. The work shall be accomplished in conformance with the accepted plans, specifications, data and other information submitted in support of application NRS09.028 and the limitations, requirements and conditions set forth herein.

4. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in Rule 1200-4-3-.03 of the *Rules of the Tennessee Department of Environment and Conservation.* This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of waters of the state for any of the uses designated by Rule 1200-4-4. These uses include fish and aquatic life (including trout streams and naturally reproducing trout streams), livestock watering and wildlife, recreation, irrigation, industrial water supply, domestic water supply, and navigation.

5. Impacts to waters of the state other than those specifically addressed in the plans and this permit are prohibited. All streams, springs and wetlands shall be fully protected prior, during and after construction until the area is stabilized. Any questions, problems or concerns that arise regarding any stream, spring or wetland either before or during construction, shall be addressed to the Division of Water Pollution Control's Knoxville Environmental Field Office (865-594-6035), or the permit coordinator in the division's Natural Resources Section (615-532-0645).

6. If any environmental note on the plans conflicts with any other environmental note, or with conditions of a permit, the more stringent shall apply.

7. Adverse impact to formally listed state or federal threatened or endangered species or their critical habitat is prohibited.

8. This permit does not authorize adverse impacts to cultural, historical or archeological features or sites.

MITIGATION, MONITORING REQUIRMENTS AND PERFORMANCE STANDARDS:

1. According to state rule 1200-4-7-.04(7)(b)(1), any mitigation involving restoration or creation of a wetland, to the extent practicable, shall occur either before or simultaneously with impacts to the existing state waters. Mitigation activities for this project shall be completed no later than April 30, 2010.

2. The permittee shall monitor mitigation areas on an annual basis for a period of FIVE (5) YEARS, beginning with completion of mitigation activities, or no later than May 1, 2010.

3. The following monitoring information shall be submitted on an annual basis, for a term of five years (5 years):
    - Narrative descriptions, photo-documentation, vegetation surveys including survival rates, and hydrology surveys/documentation.
    - The permittee shall ensure a 75% survival rate for all planted vegetation.
    - A habitat assessment using EPA Rapid Bioassessment Protocol conducted and submitted in Year 5.

4. In the event any portion or aspect of the mitigation project does not meet the specified success criteria based on reporting and/or additional visual observations in a monitoring year, the nature and cause(s) of the resulting condition shall be investigated and documented. If it is determined that corrective actions are not warranted at the time, the rationale for the decision shall be stated. Continued monitoring of the condition or area using more detailed methodology may be appropriate and must be documented. In instances where corrective actions are necessary, a plan shall be prepared that includes proposed actions, a schedule, and revised monitoring plan.

5. Monitoring reports shall be due by October 31st of each monitoring year, and the first report submitted no later than October 31, 2010.

6. All monitoring reports and information shall be submitted in report-form to the division's Natural Resources Section, located in the L&C Annex, 7th Floor, 401 Church Street, Nashville, Tennessee 37243.

7. The permittee shall notify the permit coordinator and the division's Knoxville Environmental Field Office upon completion of all mitigation activities, and prior to the submission of the first monitoring report.

8. The applicant shall provide a mechanism to establish long-term protection of the mitigation area. This can be accomplished through conservation easement, deed of land-use restriction (attached), or any other mechanism which will ensure protection in-perpetuity.

9. The applicant shall provide documentation of all conservation easements, land-use restrictions, and/or any other binding negotiated documentation regarding all mitigation sites in association with this project. This includes, but is not limited to, any contracts entered into with the City of Knoxville, Hargreaves Associates, the VOAP, etc...for mitigation area stewardship and long-term management. This documentation should be sent to the division's Natural Resources Section located at the address referenced in Item 6 above.

Be advised that the applicant will be ultimately responsible for the completion, success, and monitoring of any and all compensatory mitigation associated with NRS09.028.

This permit does not preclude requirements of other federal, state or local laws. This permit also serves as a State of Tennessee Aquatic Resource Alteration Permit (ARAP) pursuant to the Tennessee Water Quality Control Act of 1977 (T.C.A. §69-3-101 et seq.).

The State of Tennessee may modify, suspend or revoke this permit or seek modification or revocation should the department determine that the activity results in a violation of applicable water quality standards or violation of the act. Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.

An appeal of this action may be made to the Water Quality Control Board. In order to appeal, a petition requesting a hearing before the Board must be filed within THIRTY (30) DAYS after receipt of the permit. In such petition, each contention should be stated in numbered paragraphs that describe how the proposed activity would be lawful and the action of the state is inappropriate. The petition must be prepared on 8½" x 11" paper, addressed to the Water Quality Control Board and filed in duplicate at the following address: Paul E. Davis, Director, Division of Water Pollution Control, 6th Floor L & C Annex, 401 Church Street, Nashville, Tennessee 37243-1534. Any hearing would be in accordance with T.C.A. §§69-3-110 and 4-5-301 et seq.

Paul E. Davis, P.E.
Director, Division of Water Pollution Control

8.2 - Topographic map indicating the exact location of the project:

Please note: in addition to Figure 2, detailed close-up topography for each project area is included in Section 12 : (Schematic Designs for each section of the project) of this application

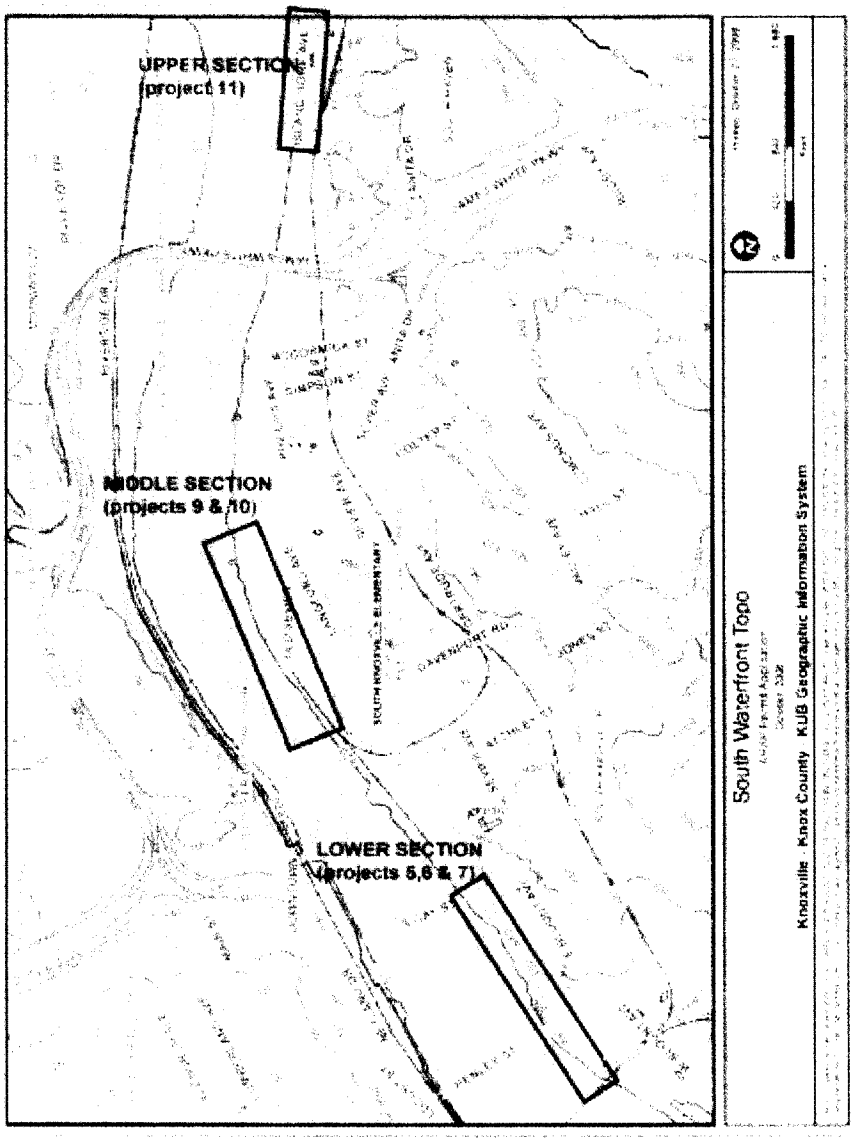


Figure 2. Topographic Map of the South Knoxville Public Improvement Project Areas, 2008

KNOXVILLE SOUTH WATERFRONT PUBLIC IMPROVEMENTS

PROJECT ILLUSTRATIVE PLAN

LOWER SECTION

PROJECT 5-HENLEY RIVERWALK
PROJECT 6-SHOALS RIVERWALK
PROJECT 7-GAY STREET STAIR

MIDDLE SECTION

PROJECT 9-RIVER PLAIN PARK
PROJECT 10-LINCOLN STREET LANDING

LOWER SECTION

PROJECT 11-BAKER CREEK LANDING

MIDDLE SECTION: Projects 9 and 10 – River Plain Park and Lincoln Street Landing

- Construction of approximately 1920 LF of at grade riverfront walkway at 822.00 elevation, extending from the eastern boundary of the marathon asphalt plant (mile 648.02) to the proposed kayak landing north of Lincoln Street, mile 648.44.

- Creation of 0.48 AC of new wetland to mitigate for the loss of 0.14AC of existing wetland. Delineation of the existing wetland was performed by MACTEC and verified by TDEC and the COE in November 2008. The design team has created two additional wetland areas within the proposed park to mitigate for the loss of existing wetland and in an attempt to meet the 4:1 ratio requested by TDEC and the COE. The wetlands will serve as a storm water retention facility capturing runoff funneled from adjacent future streets and development as well as an ecological resource.

- Regrading of existing river floodplain to create a series of landforms and recreational lawn areas. There will be no net fill below the 1 in 100 yr flood elevation in this area. The area will be planted with native and ornamental tree species, grasses and lawn. 2235 LF of riverbank will be regraded, stabilized and planted with native woody species.

- Construction of a 115' x 25' pile supported timber pier and an 80' x 30' concrete kayak ramp. 106 CY of material will be placed riverward of the normal pool elevation behind a sheet pile wall to create the kayak ramp. The ramp will provide row boat, kayak and scull lay down facilities. Kayak storage will be created under the proposed pier.

- Construction of a 30' x 120' pile supported dock, connected to the proposed kayak ramp by an ADA gangway. The dock will allow for transient row boat, scull and kayak docking. A boat house structure on the dock will provide storage for single sculls.

- Construction of 1600 LF of road and sidewalk running parallel to Langford Avenue and connecting to the northern end of Lincoln Street. Lincoln Street will be upgraded from Sevier Avenue north to the river and a surface parking area for 20 cars will be constructed adjacent to the kayak landing.

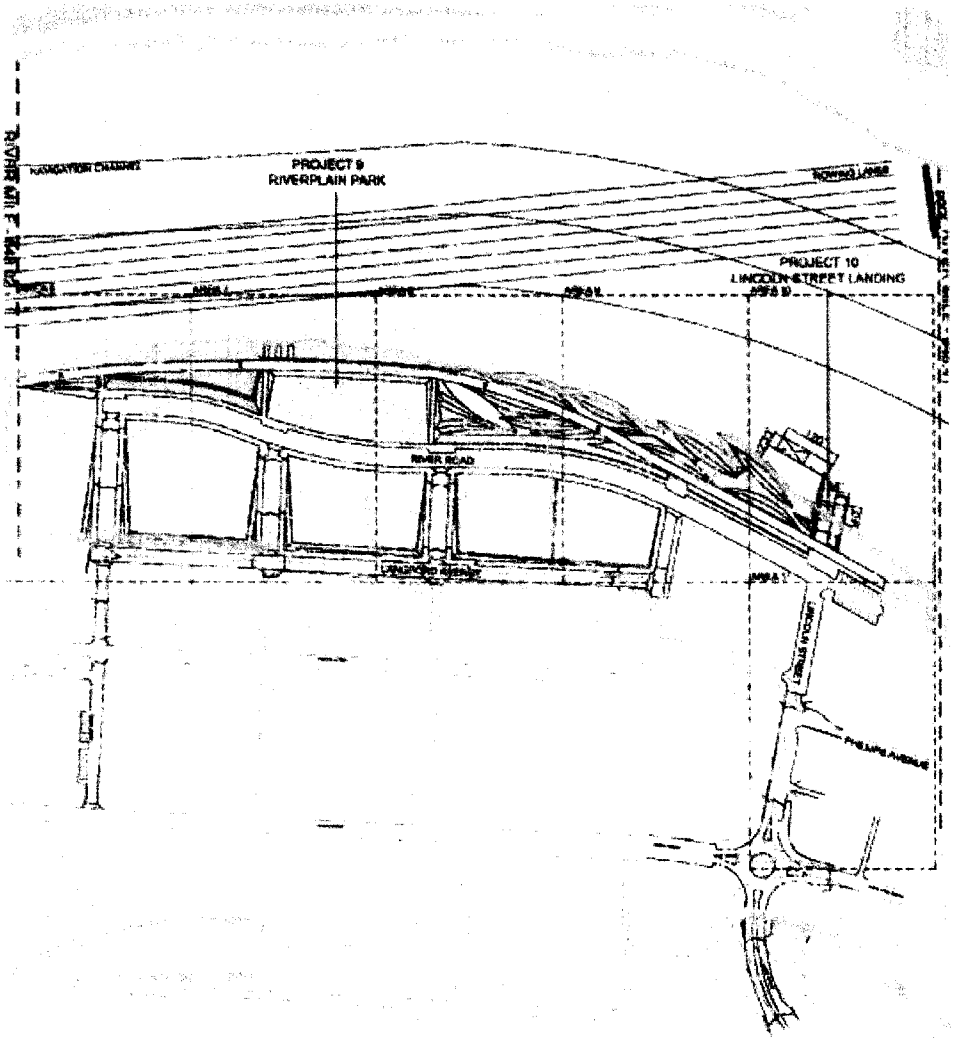


Figure 19. Schematic Design, Middle Section Area 6-11, Scale 1"=250' (Hargreaves Associates, 2008).

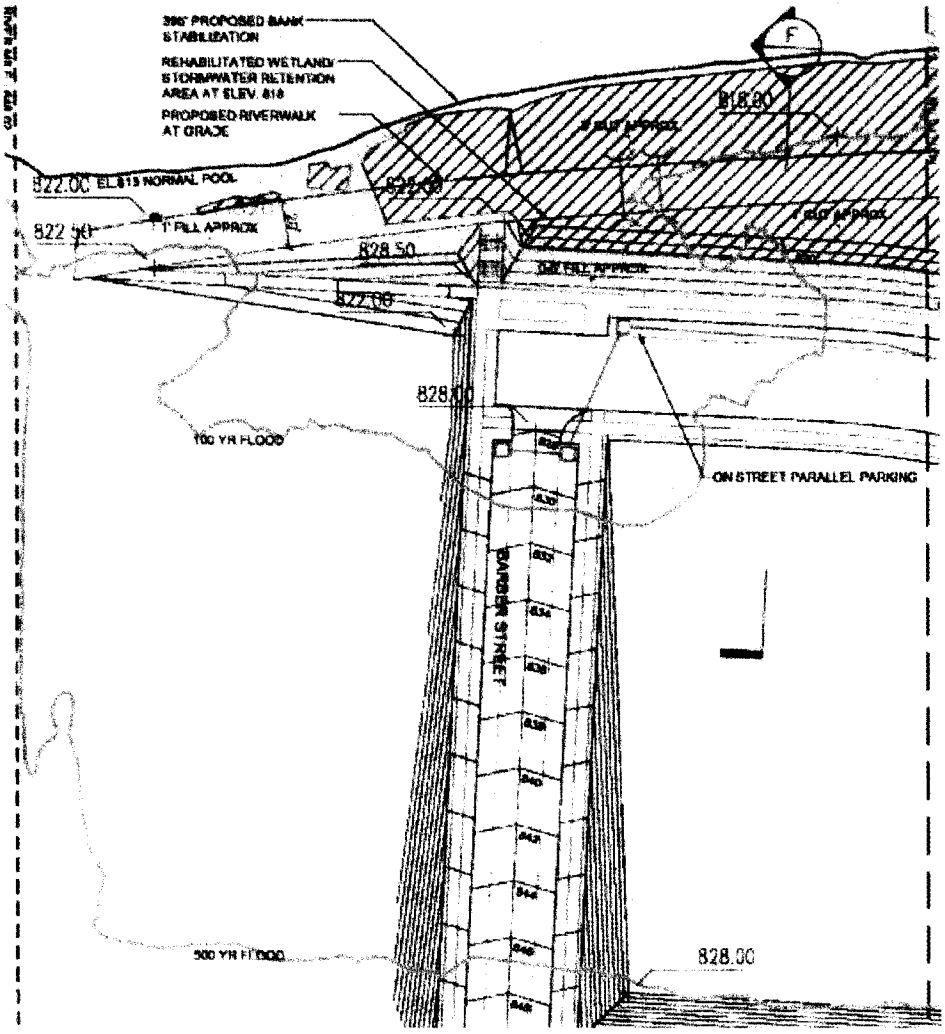


Figure 20. Schematic Design, Middle Section Area 6, Scale 1"= 50' (Hargreaves Associates, 2008).

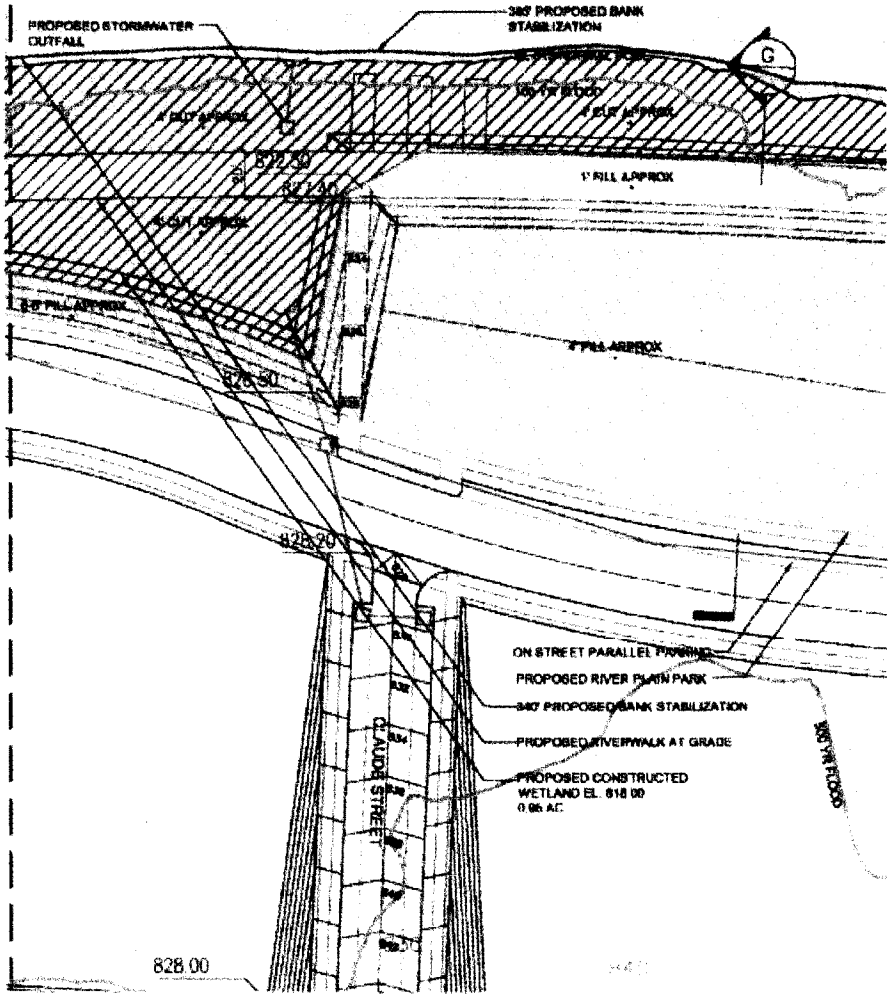


Figure 21. Schematic Design, Middle Section Area 7, Scale 1"= 50' (Hargreaves Associates, 2008).

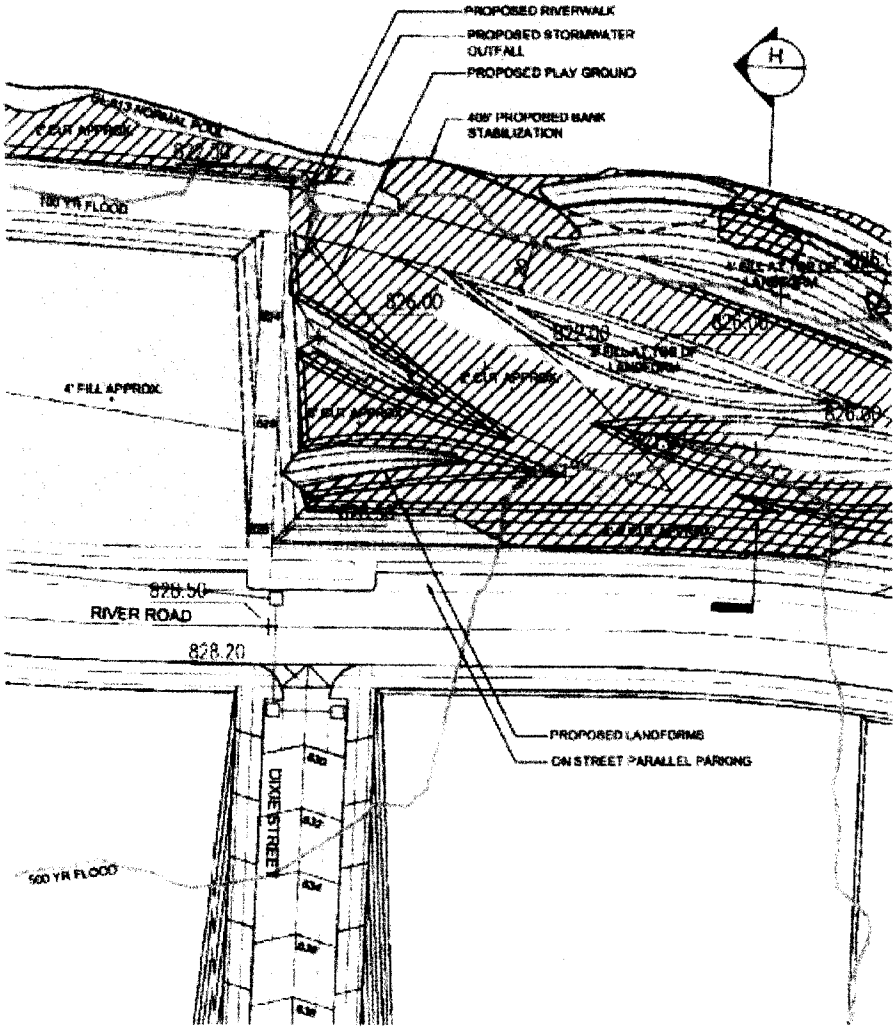


Figure 22. Schematic Design, Middle Section Area 8, Scale 1"= 50' (Hargreaves Associates, 2008).

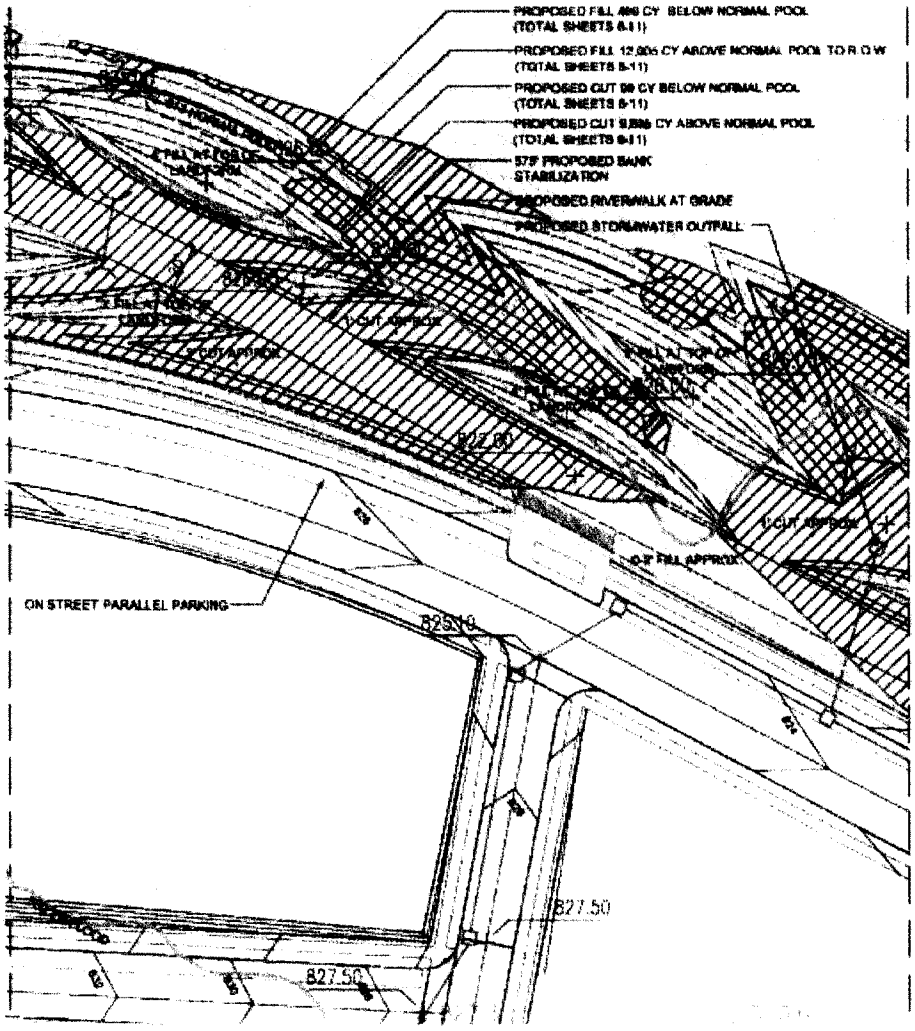


Figure 23. Schematic Design, Middle Section Area 9. Scale 1"= 50' (Hargreaves Associates, 2008).

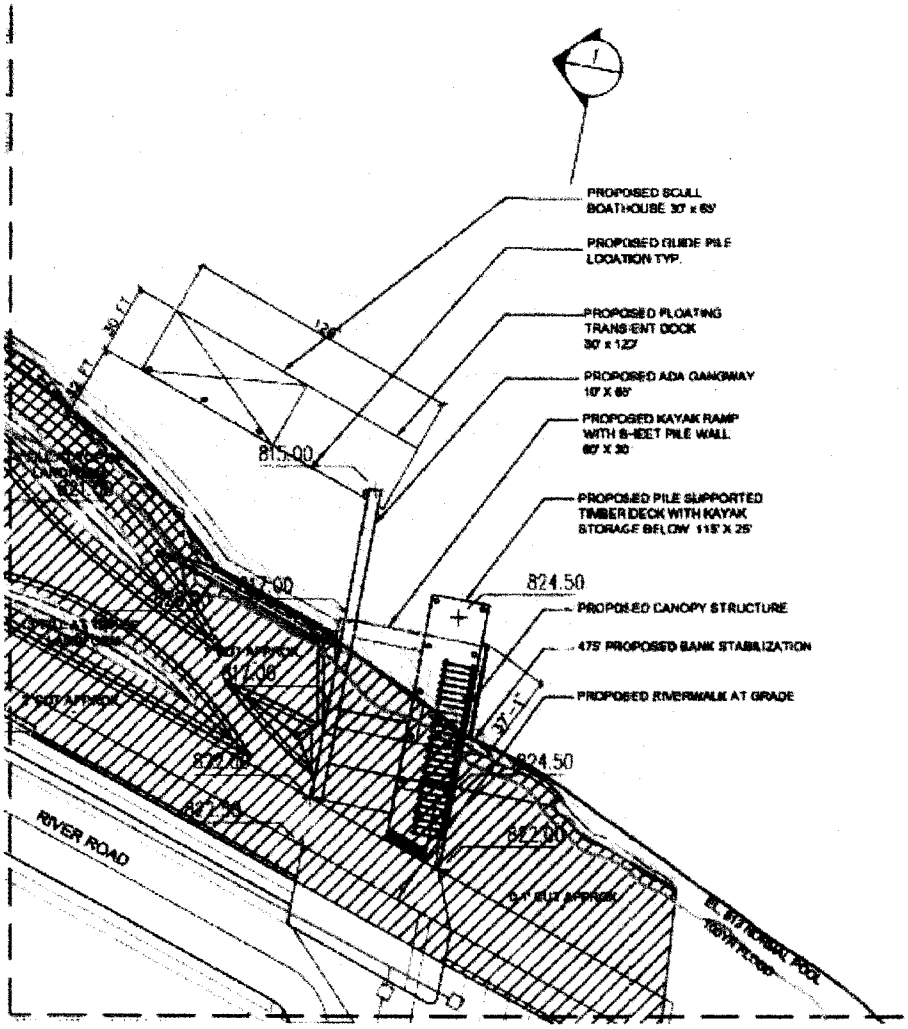


Figure 24. Schematic Design, Middle Section Area 10, Scale 1"= 50' (Hargreaves Associates, 2008).

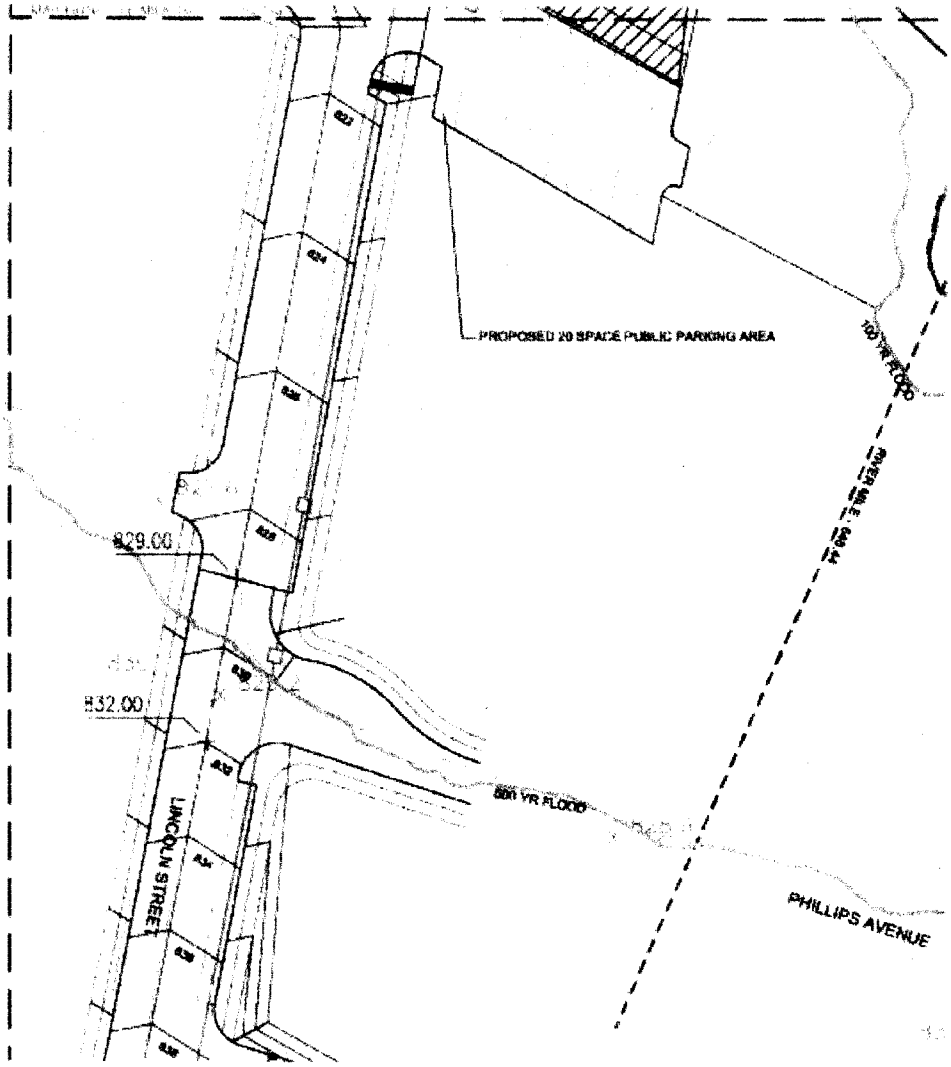


Figure 25. Schematic Design, Middle Section Area 11, Scale 1" = 50' (Hargreaves Associates, 2008).

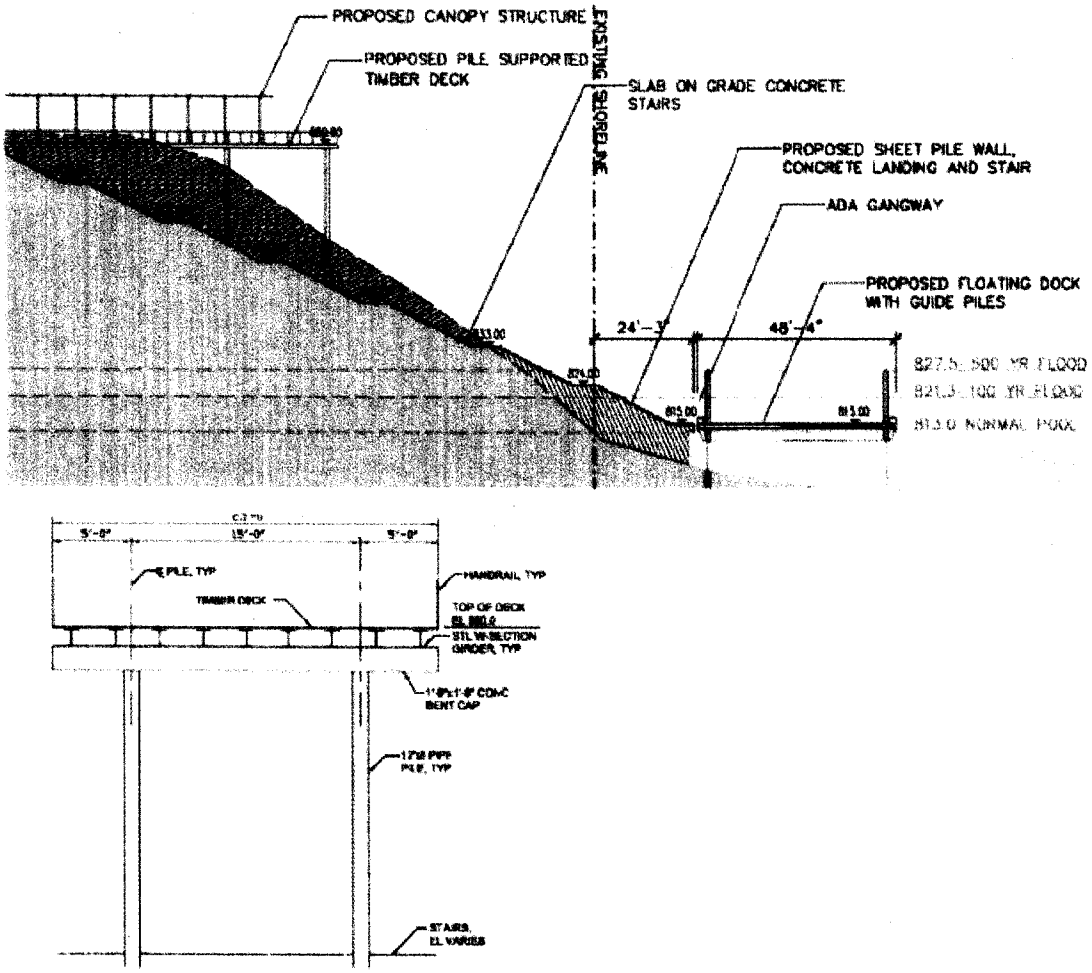


Figure 30. Schematic Design, Section A, Scale 1"= 30' (Hargreaves Associates, 2008).

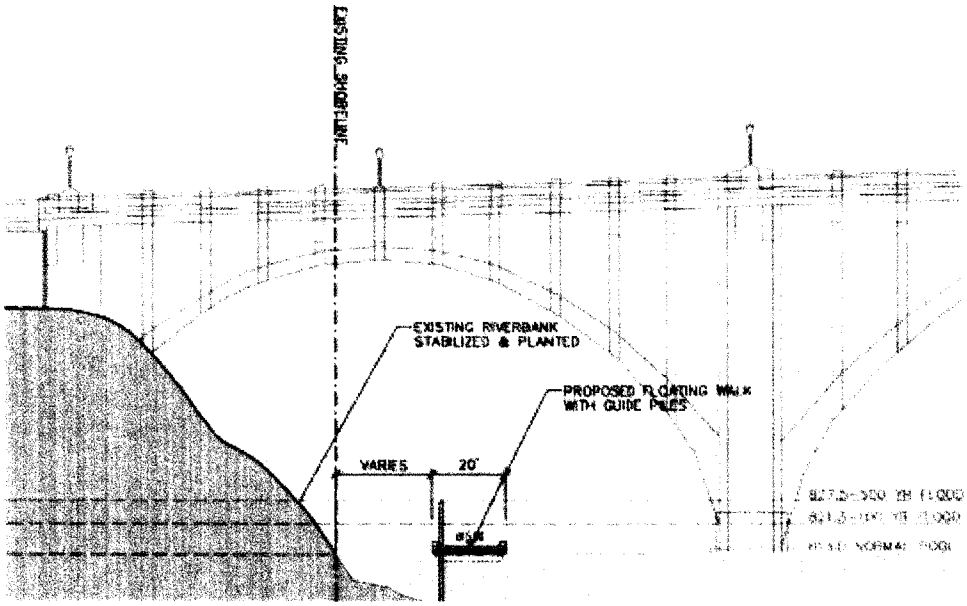


Figure 31. Schematic Design, Section B, Scale 1"= 30' (Hargreaves Associates, 2008)

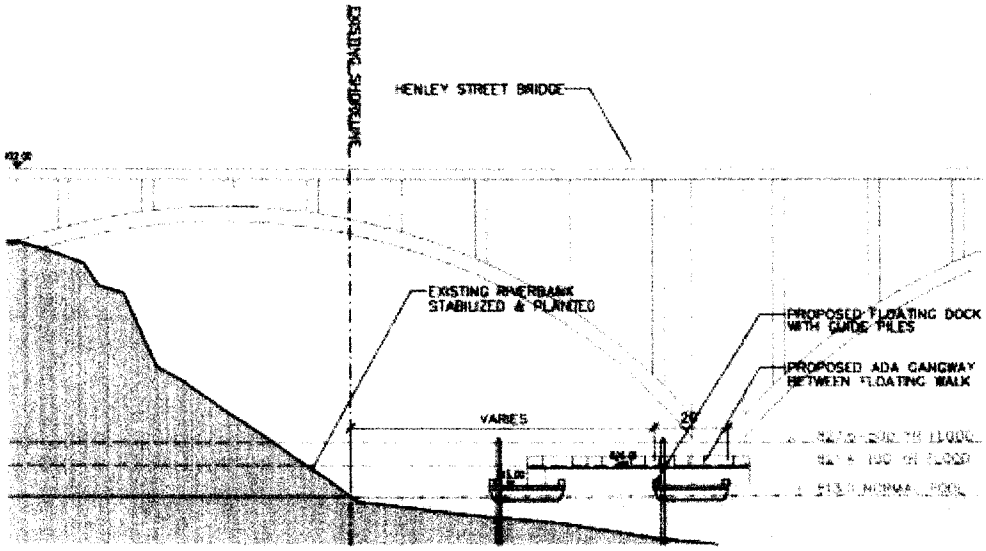


Figure 32. Schematic Design, Section C, Scale 1"= 30' (Hargreaves Associates, 2008)

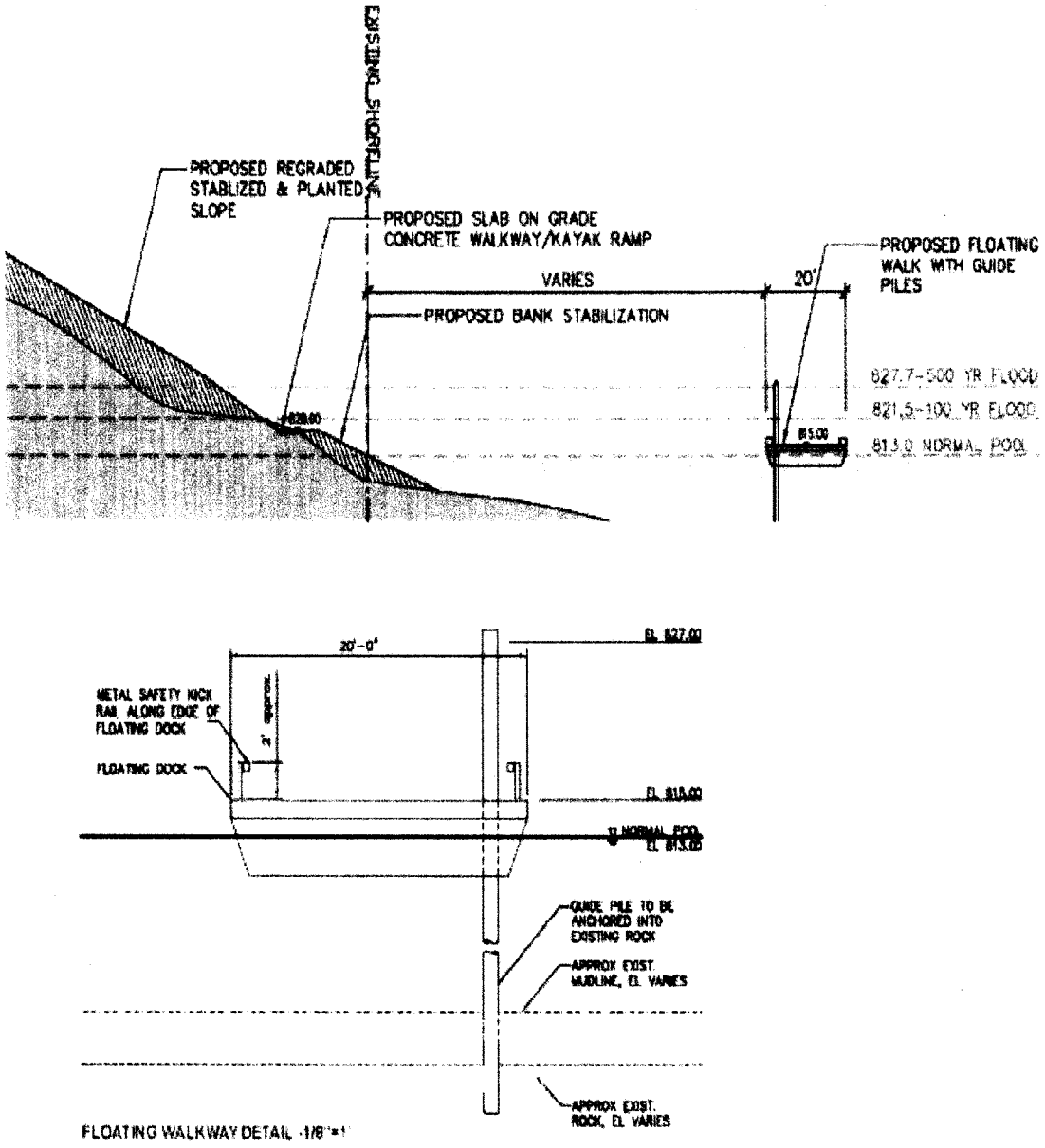


Figure 33. Schematic Design, Section D, Scale 1"= 30' (Hargreaves Associates, 2008).

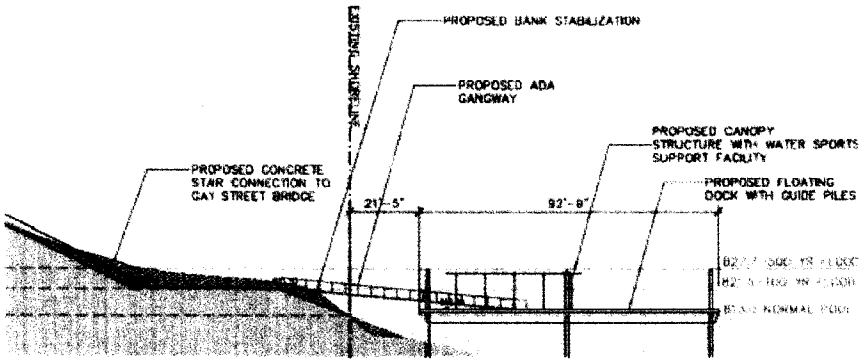


Figure 34. Schematic Design, Section E, Scale 1"= 30' (Hargreaves Associates, 2008).

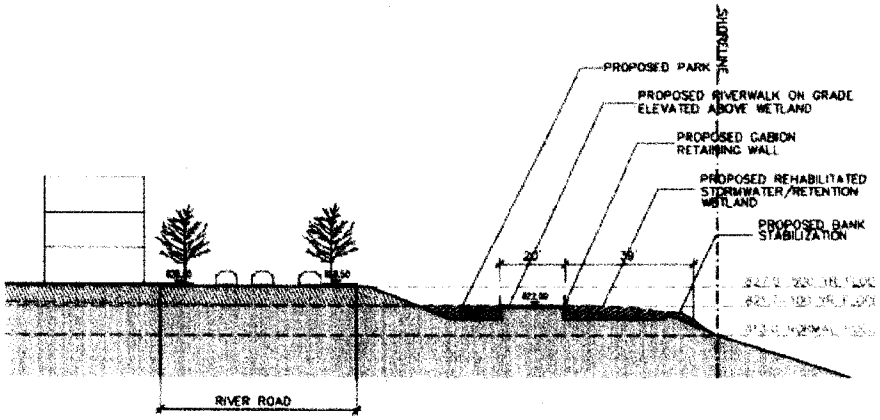


Figure 35. Schematic Design, Section F, Scale 1"= 30' (Hargreaves Associates, 2008).

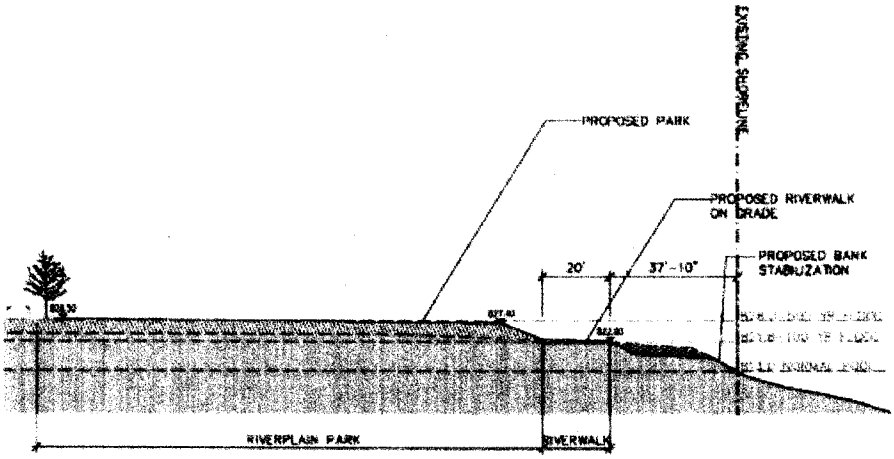


Figure 36. Schematic Design, Section G, Scale 1"= 30' (Hargreaves Associates, 2008).

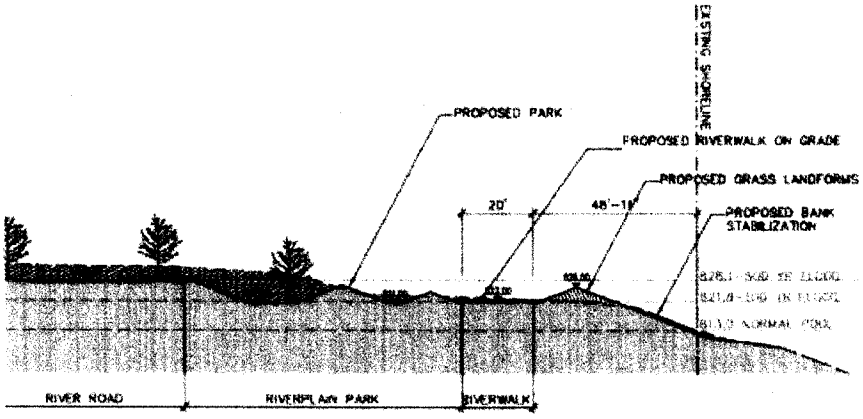


Figure 37. Schematic Design, Section H, Scale 1"= 30' (Hargreaves Associates, 2008).

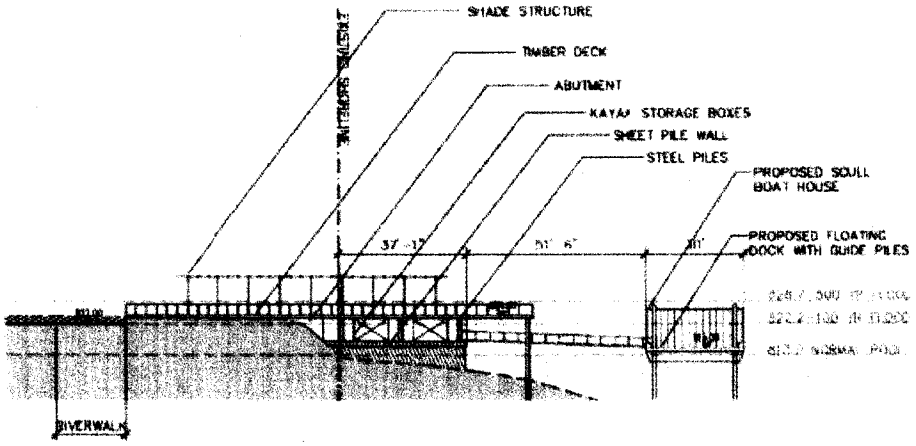


Figure 38. Schematic Design, Section I, Scale 1"= 30' (Hargreaves Associates, 2008).

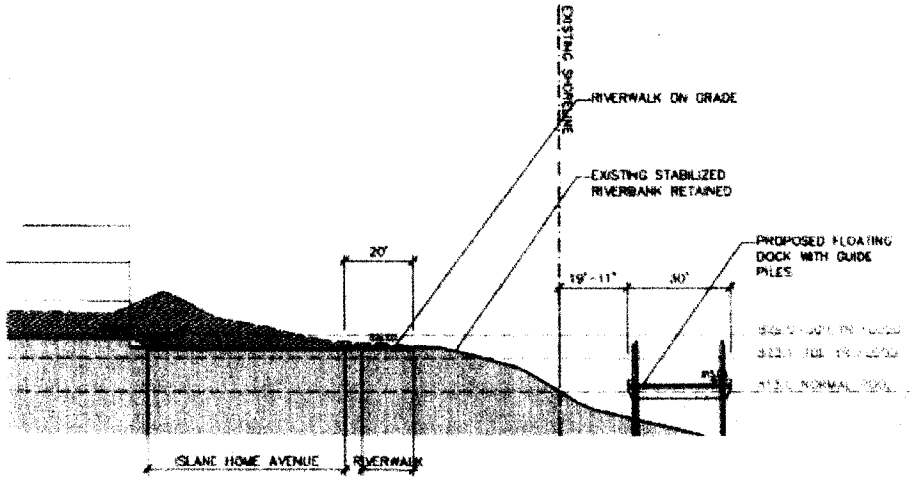


Figure 39. Schematic Design, Section J, Scale 1"= 30' (Hargreaves Associates, 2008).

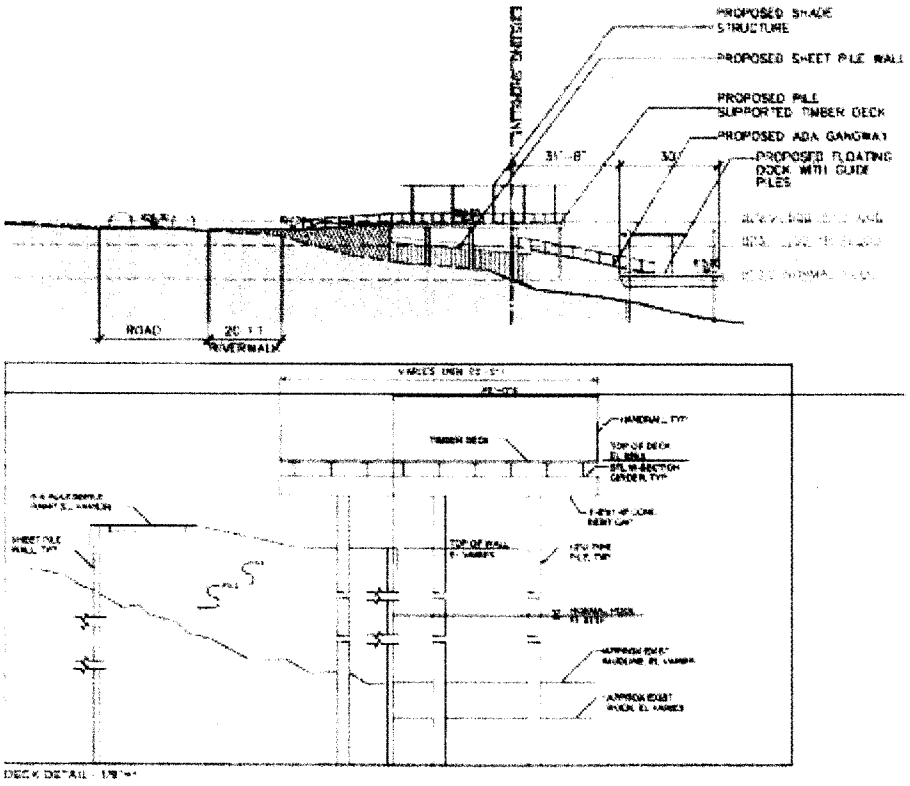


Figure 40. Schematic Design, Section K, Scale 1"= 30 (Hargreaves Associates, 2008).

12.3 – Discussion regarding sequencing of events:

Lower Section: Pending permit approval, the sequencing of events for the Lower Section will be determined based on funding from Capital and grant sources (TDOT Enhancement funds have been requested for FY09). No schedule has been established to date.

Middle Section: Pending permit approval, the sequencing of events for the Middle Section will be as follows:

- Wrap up Road final design (Vaughn & Melton, est. May 2009);
- Wrap up Park Property and Road right of way purchases (City of Knoxville, est. May 2009);
- Execute development agreement between the City and Southshore Properties (est. February 2009);
- Wrap up Park final design (Hargreaves Associates, est. May 2009);
- Establish mitigation / remediation action plans in conjunction with TDEC (MACTEC, est. March 2009).

12.4 – Location and type of erosion prevention and sediment control measures for the proposed alterations:

The following Figure 41 shows how the erosion controls at each of the sites will be engineered. Further details of erosion prevention and sediment control measures will be developed as the design stages for the project move forward:

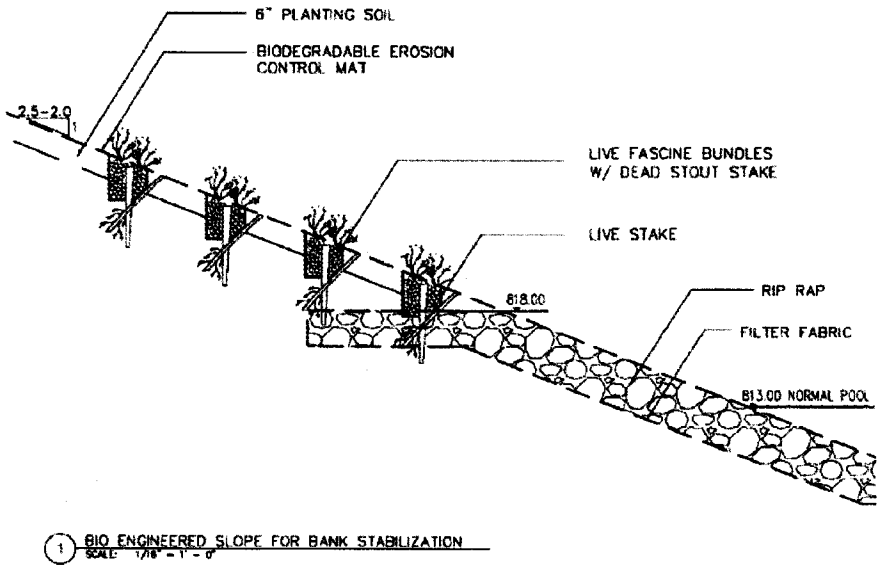


Figure 41. Propose shoreline stabilization plan (Hargreaves Associates, 2008).

ure 9. Park Boundary and Wetland (Hargreaves Associates, 2009).

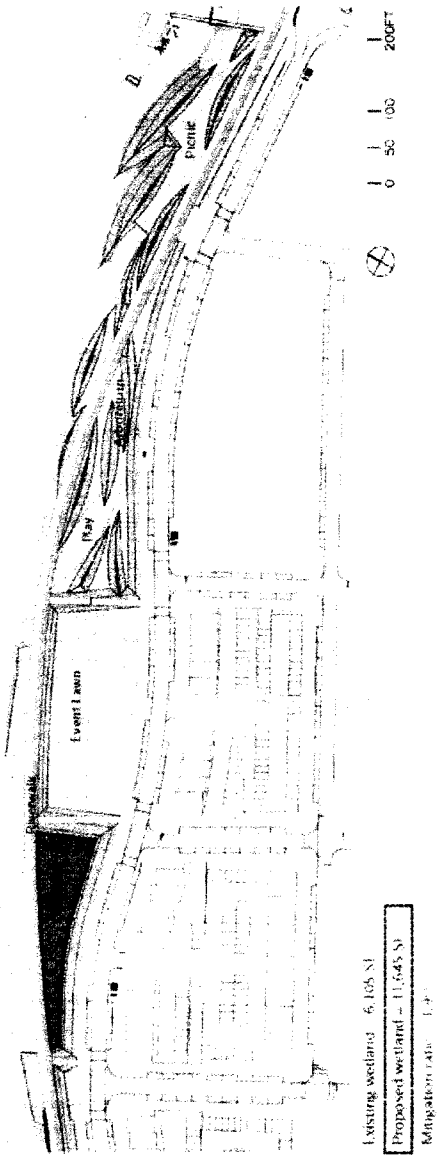
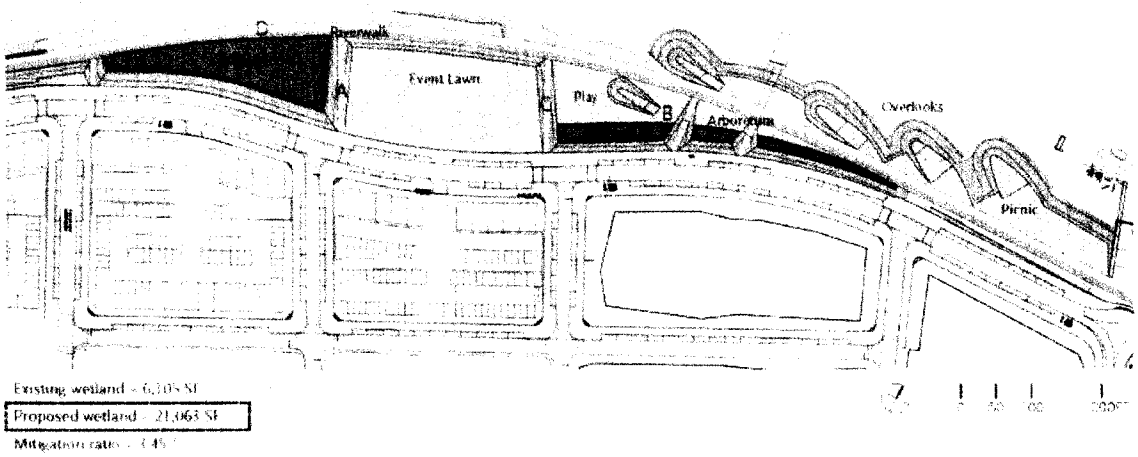


Figure 10. Proposed Park Wetland Mitigation (Hargreaves Associates, 2009).



A - Relocated path
B - New linear wetland
C - Relocated path
D - Relocated Riverwalk

Figure 11. Proposed Park Wetland Mitigation (Hargreaves Associates, 2009).