



US Army Corps
of Engineers
Rock Island District

PUBLIC NOTICE

Applicant: U. S. Army Corps of Engineers

CEMVR-OD-P-2020-0691

Date: June 04, 2020

Expires: June 24, 2020

Section 10/404

**Joint Public Notice
U.S. Army Corps of Engineers
Illinois Environmental Protection Agency**

**Re-Issuance of Regional Permit 16
Bank Stabilization Activities
In the State of Illinois**

1. **Proponent.** The U.S. Army Corps of Engineers (USACE), Districts listed below with regulatory jurisdiction in Illinois are pursuing this regional permit. If the regional permit is adopted, each Corps of Engineers district may add more restrictive conditions as needed for their district.

- USACE, Rock Island District, Clock Tower Building, Post Office Box 2004, Rock Island, Illinois 61204-2004. Rock Island District is coordinating this Regional Permit.
- USACE, St. Louis District, 1222 Spruce Street, St. Louis, Missouri 63103-2833.
- USACE, Memphis District, 167 North Main, B-202, Memphis Tennessee 38103-1894.

2. **Project Location.** This regional permit will authorize work associated with fill and/or structural materials placed for bank stabilization in waters of the United States within the State of Illinois, **except** in Cook, DuPage, Kane, Lake, McHenry and Will Counties, (areas under the USACE, Chicago District regulatory jurisdiction), and counties within the USACE, Louisville District regulatory jurisdiction. Please contact Chicago and Louisville Districts for additional information concerning the separate permit procedures in effect in these Districts.

3. **Project Description.** This regional permit, initially issued by Rock Island District on May 17, 1983, re-issued about each 5 years since then, will expire on **May 26, 2021**. There were 70 individual projects authorized under this blanket regional permit between the periods May 26, 2016, to May 28, 2020, in Illinois. Rock Island District proposes to re-issue this regional permit for a period of 5 years to begin around July 1, 2020. The time limit for completing the work authorized ends 5 years from the date the permit is re-issued. If you commence or are under contract to commence this activity before the date the regional permit expires, you will have twelve months from that date to complete your activity under the present terms and conditions of this regional permit. The purpose of the regional permit is to authorize work associated with fill material placed for bank stabilization in waters of the United States within the State of Illinois. Initially, this regional permit generally paralleled Statewide Permit 9 issued by the Illinois Department of Natural Resources, Office of Water Resources.

- The following bank stabilization techniques will be authorized under this regional permit: blanket riprap, seawalls, gabions, minor bank shaping with appropriate biotechnical bank protection techniques, bendway weirs, longitudinal peaked stone riprap, stone hardpoints, stream barbs, and rock riffles. For design projects not specifically listed, the plans must be approved by the Corps of Engineers, Illinois Environmental Protection Agency, and the Illinois Department of Natural Resources, Office of Water Resources.

A. **General restrictions.** These general restrictions must be met for all bank stabilization projects to be authorized under this regional permit.

- (1) The total affected length of shoreline, bank, or channel to be protected shall not exceed 2000 feet.
- (2) Generally, only those reaches of shoreline, bank, and channel which are experiencing erosion are covered by this regional permit. No material shall be placed in excess of the minimum needed for erosion protection.
- (3) This regional permit does not authorize any of the following activities: stream channelization; channel modifications such as excavating pilot channels; the placement of materials other than on an area of eroded bank; and projects which conflict with a Federal, state, or local project or improvement.
- (4) The following materials may not be used for projects to be authorized under this regional permit: auto bodies, tires, garbage or debris, scrap lumber, metal refuse, roofing materials, broken concrete containing asphalt, asphalt or other bituminous materials, or any material which would cause water pollution as defined by the Illinois Environmental Protection Agency. If approval is not specifically granted for a specific material, it is deemed to not be allowable under this regional permit authorization.
- (5) The following materials may be used: suitable clean materials, free from debris, trash, and other deleterious materials; rock, broken concrete, steel sheet piling, cellular blocks, fabric-formed concrete, concrete filled fabric mats, gabion baskets, rock and wire mattresses, sand/cement filled bags, geotechnical fabric materials, natural vegetation (with proper grading), and treated timber. If broken concrete is used, all protruding material such as reinforcing rods shall be cut flush with the surface of the concrete and removed from the construction area. If approval is not specifically granted for a specific material, it is deemed to not be allowable under this regional permit authorization.
- (6) All material utilized shall be properly sized or anchored to resist anticipated forces of current and wave action.
- (7) Materials shall be placed in such a way which will not cause erosion, or the accumulation of debris on properties adjacent to or opposite the project.
- (8) Materials shall be placed so that the modified bank full width and cross sectional area of the channel will conform to, or be no more restrictive than, that of the natural channel upstream and downstream of the site.
- (9) Disturbance of vegetation shall be kept to a minimum during construction to prevent erosion and sedimentation. All disturbed areas shall be seeded or otherwise stabilized upon completion of construction. Seeded Vegetation must not be on the IL exotic plant list: <https://www.invasive.org/species/list.cfm?id=151> .
- (10) Excess material excavated during the construction of bank or shoreline protection shall be placed in accordance with local, state, and Federal laws and shall not be placed in a floodway or in any water of the U.S., including wetlands.
- (11) The use of natural materials may be considered for bank protection where feasible and appropriate. When not feasible and/or appropriate and after riprap is placed, the proponent should promote revegetation of the area protected, (see condition 9 above).
- (12) Projects in environmentally sensitive areas (wetlands, endangered species, etc.) shall be excluded from processing under this regional permit. Also, if in the opinion of the Corps of Engineers, the project may not be in the public interest due to any unique circumstances, the Corps may require an individual permit on a case-by-case basis.
- (13) This regional permit does not authorize the discharge of fill into wetland areas or tree clearing in wetland areas.

(14) If, at any future date, the Illinois Department of Natural Resources, Office of Water Resources, (IDNR/OWR) or the Corps of Engineers determines that the bank stabilization obstructs or impairs navigation, or in any way infringes on the rights or interests of the public or any individual party, the permittee agrees to make necessary modifications as determined by the IDNR/OWR or the Corps of Engineers, or the Corps of Engineers may require an individual permit on a case-by-case basis.

(15) If, in the opinion of the Corps of Engineers, the bank stabilization may constitute an undue hazard, obstruction to navigation, or if it is deemed that the project may not be in the general public interest, the Corps of Engineers may require an individual permit on a case-by-case basis.

(16) The project proponent must notify the appropriate public or private utility in advance of any work within 250 feet of an underground utility so that the utility is not damaged during construction activities.

(17) Individual projects to be authorized under the regional permit must not be located within sites included in the National Register of National Landmarks or any other areas named in Acts of Congress or Presidential proclamations as National Rivers, National Wilderness Areas, National Recreational Areas, National Lakeshores, National Parks, National Monuments, National Wild and Scenic River Systems, National Wild Life Refuge System, and such areas as may be established under Federal Law for similar and related purposes unless the activity is specifically authorized by the appropriate Federal agency.

(18) Parties proposing to undertake work under the provisions of this regional permit must provide prior notification to the appropriate Corps of Engineers District. Information submitted by the proponent must clearly determine whether or not the proposed work complies with the conditions and limitations of the regional permit. The proponent will be notified within 15 workdays if the project is in compliance with the conditions of the regional permit and whether project construction may proceed. However, this will not alleviate the need of the proponent to obtain other applicable state or local authorization.

(19) The Corps of Engineers will determine on a case by case basis if a particular project proposal will fall under the auspices of this regional permit.

(20) Applicable general and special conditions from the standard individual Department of the Army permit will also be included as conditions of this regional permit.

(21) Any conditions imposed by water quality certification issued by the Illinois Environmental Protection Agency are considered to be part of this permit.

(22) This RP does not authorize any activity that would conflict with a Corps civil works project's congressionally authorized purposes, established limitations or restrictions, or limit an agency's ability to conduct necessary operation and maintenance functions. Per Section 14 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. 408), no project that has the potential to take possession of or make use of for any purpose, or build upon, alter, deface, destroy, move, injure, or obstruct a Corps civil works constructed work or project, including, but not limited to, levees, dams, jetties, navigation channels, borrow areas, dredged material disposal sites, flood control projects, etc., shall be permitted unless the project has been reviewed and approved by the appropriate Corps approval authority. If the proposed activity has the potential to modify or conflict with a Corps civil works authorized project, the permittee must submit the information described in the "Notification Procedures". Permittees shall not begin the activity until notified by the Corps that the activity may proceed under the general permit.

B. Design Considerations. The Corps of Engineers may add additional special conditions as deemed appropriate to protect the aquatic environment on a case-by-case basis for any activity authorized under this regional permit.

(1) Blanket riprap.

(a) Bank shoreline protection must be less than 2,000 feet in length and must contain less than two cubic yards of fill material per running foot below the ordinary high water mark.

(b) For projects involving continuous placement of riprap along the bank, toe of the bank, or other similar applications, the cross sectional area of the natural channel shall not be reduced by more than 10 percent nor the volume of material exceed 2 cubic yards per lineal foot of stream bank or shoreline. The bank may be graded to obtain a flatter slope and to lessen the quantity of material required.

(c) A well distributed mix of stones weighing from 20 to 200 pounds should be used.

(d) The riprap should be from 12 inches to 18 inches thick. Portions of the riprap layer under water should be increased to 18 inches to 30 inches thick.

(e) Riprap materials shall not be placed at a steeper slope than 2:1 (2 horizontal to 1 vertical) for dumped riprap and 1.5:1 for hand-placed riprap. A bedding layer of either six inches of gravel or filter material must be used if required to prevent loss of fines through the riprap material. The riprap must be sized to withstand the anticipated forces from flood flows or wave action.

(f) A riprap trench or apron should be provided at the base of the protected bank for stability.

(g) Both ends of the project should be tied into the bank, with the most common method being to excavate a trench in the bank and fill it with riprap. Additionally the project should be tied into the bank at regular intervals of between 100 feet and 200 feet.

(2) Seawalls and Gabions. Seawalls and gabions shall be constructed at or landward of the water line as determined by the normal pool elevation unless:

(a) It is constructed in alignment with any existing seawall(s) or gabion structure(s).

(b) The volume of material placed, including the structure, will not exceed 2 cubic yards per lineal foot.

(c) The cross sectional area of the natural channel shall not be reduced by more than 10 percent nor the volume of material exceed 2 cubic yards per lineal foot of stream bank or shoreline. The bank may be graded to obtain a flatter slope and to lessen the quantity of material required.

(3) Bank shaping with appropriate biotechnical bank protection techniques. Minimal grading and bank shaping activities for state-of-the-art natural vegetative stabilization methods, such as the willow post method, will be authorized under this regional permit. No material produced as a result of grading and bank shaping shall be deposited into any water of the US, including wetland areas. Material produced by grading and bank shaping shall be pulled back from the water's edge.

(4) Hard points. Hard points are short rock intrusions extending only a short distance from the bank. Jetties, which extend from the bank further than hard points, are specifically excluded from this regional permit. Hard points may be used if they are keyed into the bank and if they do not extend from the bank more than the minimum necessary to achieve adequate erosion protection. The Corps of Engineers will determine on a case by case basis whether the proposed hard point is acceptable for the stream.

(5) Longitudinal peaked stone riprap. Longitudinal peaked stone riprap is a continuous stone dike placed along the toe of the bank. Riprap with a gradation from maximum stone size of 400 pounds to 50 to 70 percent smaller than a 90 pound stone size is placed in a pyramid or triangular shaped cross section at the toe of an eroding bank without shaping the banks. The riprap should be tied into the bank at both the upstream and downstream ends. Additionally, short riprap dikes should be tied into the bank at regular intervals of between 100 feet and 200 feet. The construction of longitudinal peaked stone riprap is not authorized under this regional permit on the Mississippi River or on the Illinois River.

(6) Bendway weirs. A bendway weir is a low-level rock sill located in the channel of a bend angled 0 degrees to 25 degrees upstream into the stream flow. The structures are spaced approximately 50 feet to 150 feet apart. The weirs should be attached (keyed into) the outer bank of the stream bend. The weirs should be built of well-graded stone with an upper weight limit of 650 pounds to 1000 pounds. Typically, the weirs are 2 feet high at the stream end and rise to 4 feet high at the bank end. Bendway weirs act to redirect the flow away from the eroding bank as flow over the weir is redirected at right angles to the downstream face of the weir. Bendway weirs may extend into the channel a maximum of 50 percent of stream width. Bendway weirs should be constructed based on engineering/design principles developed by the U. S. Army Corps of Engineers. The construction of bendway weirs are not be authorized under this regional permit on the Mississippi River or on the Illinois River.

(7) Stream barbs. A stream barb is a rock structure which projects out from the bank on a sharp upstream angle of 20 degrees to 30 degrees, measured from bank tangent line. Stream barbs are designed to direct the stream current away from the eroding bank to the center of the channel. The barbs will be built of well-graded stone with an upper weight limit of 650 pounds to 1000 pounds. At the bank, the top of the barbs will be constructed to the design height, typically 4 feet to 8 feet above the streambed. The top of the barbs will incline from the bank end to streambed level at the streamward end. The incline will be according to design, typically 10 percent (10 horizontal to 1 vertical). On silt-bottom streams, the barbs will be keyed into the streambed by excavating a core trench for the full length of the barb and backfilling with riprap rock. The barbs will be keyed into the outer bank. The bank key trench will be excavated perpendicular to the bank from streambed to top-of-bank, and backfilled with riprap rock. Stream barbs are designed to extend into the channel a maximum of 35 percent of stream width. Stream barbs should be constructed on engineering/design principles developed by the USACE and the U.S. Department of Agriculture, Natural Resources Conservation Service. The construction of stream barbs is not to be authorized under this regional permit on the Mississippi River or on the Illinois River.

(8) Rock Riffles. Rock riffle structures are low-head weir structures constructed over the streambed from bank-to-bank. Constructed rock riffles are used to stabilize the streambed where down cutting erosion is occurring. Rock riffles will be built of well-graded riprap rock with an upper weight limit of 650 pounds to 1000 pounds. The largest individual stones will be sorted from the stockpiled rock to be placed as emergent boulders and crest stone. The crest of the riffle will be “V” shaped on the centerline of the structure. From the crest, the downstream slope will be no steeper than 20H:1V, and the upstream slope will be no steeper than 4H:1V. Riffle structures will be keyed into the streambed and bank using riprap rock. Bed keys will be constructed from bank-to-bank with a minimum depth of 2 feet and minimum width of 4 feet. Bank keys will be constructed, into both banks, with a minimum depth of 5 feet and a minimum width of 4 feet, extending upward on a 1.5h to 1v slope toward the top-of-bank. Rock riffles shall be constructed to design standards of the U.S. Department of Agriculture, Natural Resources Conservation Service. The construction of rock riffles is not to be authorized under this regional permit on the Mississippi River or on the Illinois River.

4. Agency Review and Where to Reply.

A. Department of the Army, Corps of Engineers. The regional permit is being processed under the provisions of Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

B. State of Illinois.

(1) The applicant has applied to the Illinois Environmental Protection Agency (IEPA) for water quality certification, or waiver thereof, for the proposed activity in accordance with Section 401 of the Clean Water Act. Certification or waiver indicates that IEPA believes the activity will not violate applicable water quality standards. The review by the IEPA is conducted in accordance with the Illinois water quality standards under 35 Illinois Administrative Code Subtitle C. The water quality standards provide for the IEPA to review individual projects by providing an antidegradation assessment, which includes an evaluation of alternatives to any proposed increase in pollutant loading that may result from this activity. The “Fact Sheet” containing the antidegradation assessment for this proposed project may be found on the IEPA’s web site, at

www.epa.state.il.us/public-notice/. In the event that the IEPA is unable to publish the “Fact Sheet” corresponding to the timeframe of this Joint Public Notice, a separate public notice and “Fact Sheet” will be published by the IEPA at the web site identified above. You may also obtain a copy of the “Fact Sheet” by contacting the IEPA at the address or telephone number shown below. Written comments specifically concerning possible impacts to water quality should be addressed to: Illinois Environmental Protection Agency, Bureau of Water, Watershed Management Section, 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276. A copy of the written comments should be provided to the Corps of Engineers. If you have any questions, please contact IEPA at (217) 782-3362.

(2) The Illinois Department of Natural Resources, Office of Water Resources (IDNR/OWR) is a participant in the joint application process and requires that IDNR/OWR permits be obtained for construction within floodways; construction and other activities within public bodies of water; and construction, operation and maintenance of dams pursuant to the State of Illinois Rivers, Lakes, and Streams Act (615 ILCS 5). Inquiries concerning IDNR/OWR jurisdiction and/or review of the activity should be directed to the Office of Water Resources at dnr.dworm@illinois.gov or 217/782-3863. Information on the IDNR/OWR regulatory and other programs can be found at <http://dnr.state.il.us/owr>.

5. Historical/Archaeological.

A. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). In cases where the District Engineer (DE) determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places (National Register), the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) are met.

B. Federal permittee's should follow their own procedures for complying with the requirements of Section 106 of NHPA, permittee's must provide the DE with the appropriate documentation to demonstrate compliance with those requirements.

C. Non-federal permittee's must submit information to the DE if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register, including previously unidentified properties. For such activities, the information must state which historic properties may be affected by the proposed work and include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), as appropriate, and the National Register (see 33 CFR 330.4(g)). The DE shall make a reasonable and good faith effort to ensure that appropriate identification efforts are carried out, which may include background research, consultation, history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the DE shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects, and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the DE either that the activity has no potential to cause effects, or that consultation under Section 106 of the NHPA has been completed.

D. The DE will notify the prospective permittee within 45 days of receipt of a complete application whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA Section 106 consultation is required the non-Federal applicant cannot begin work until Section 106 consultation is completed.

E. Permittee's should be aware that section 110k of the NHPA (16 U.S.C. 16 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances

justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

F. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the DE of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The DE will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

6. Endangered Species.

A. No activity is authorized under this regional permit which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under Section 7 of the Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under this regional permit which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed to address the effects of the proposed activity on a listed species or critical habitat.

B. Federal permittees and their designated state agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the Corps with the appropriate documentation to demonstrate compliance with those requirements. The Corps will review the documentation and determine whether it is sufficient to address ESA compliance for the activity, or whether additional ESA consultation is necessary.

C. Non-federal permittees must provide the Corps with the appropriate documentation to demonstrate compliance with the ESA. If the authorized activity may have the potential to effect any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in designated critical habitat, permittee shall not begin work on the activity until notified by the DE that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The DE will determine whether the proposed activity “may affect” or will have “no effect” on listed species and designated critical habitat.

D. Authorization of an activity by this regional general permit does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. Fish and Wildlife Service (USFWS), both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the USFWS webpage.

7. **Dredge/Fill Material Guidelines.** The evaluation of the impact of the proposed activity on the public interest will also include application of the guidelines promulgated by the Administrator of the United States Environmental Protection Agency under authority of Section 404(b) of the Clean Water Act (40 CFR Part 230).

8. **Public Interest Review.** The decision whether to issue the Corps permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which

reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

9. Who Should Reply. The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. These statements should be submitted on or before the expiration date specified at the top of page 1. These statements should bear upon the adequacy of plans and suitability of locations and should, if appropriate, suggest any changes considered desirable.

10. Public Hearing Requests. Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided.

11. Reply to the Corps of Engineers. Comments concerning the Corps permit should be addressed to the District Engineer, U. S. Army Corps of Engineers, Rock Island District, ATTN: OD-P (James Kelley), Clock Tower Building – Post Office Box 2004, Rock Island, Illinois 61204-2004. **Mr. James Kelley (309/794-5373)** may be contacted for additional information by phone or by e-mail: james.c.kelley@usace.army.mil.

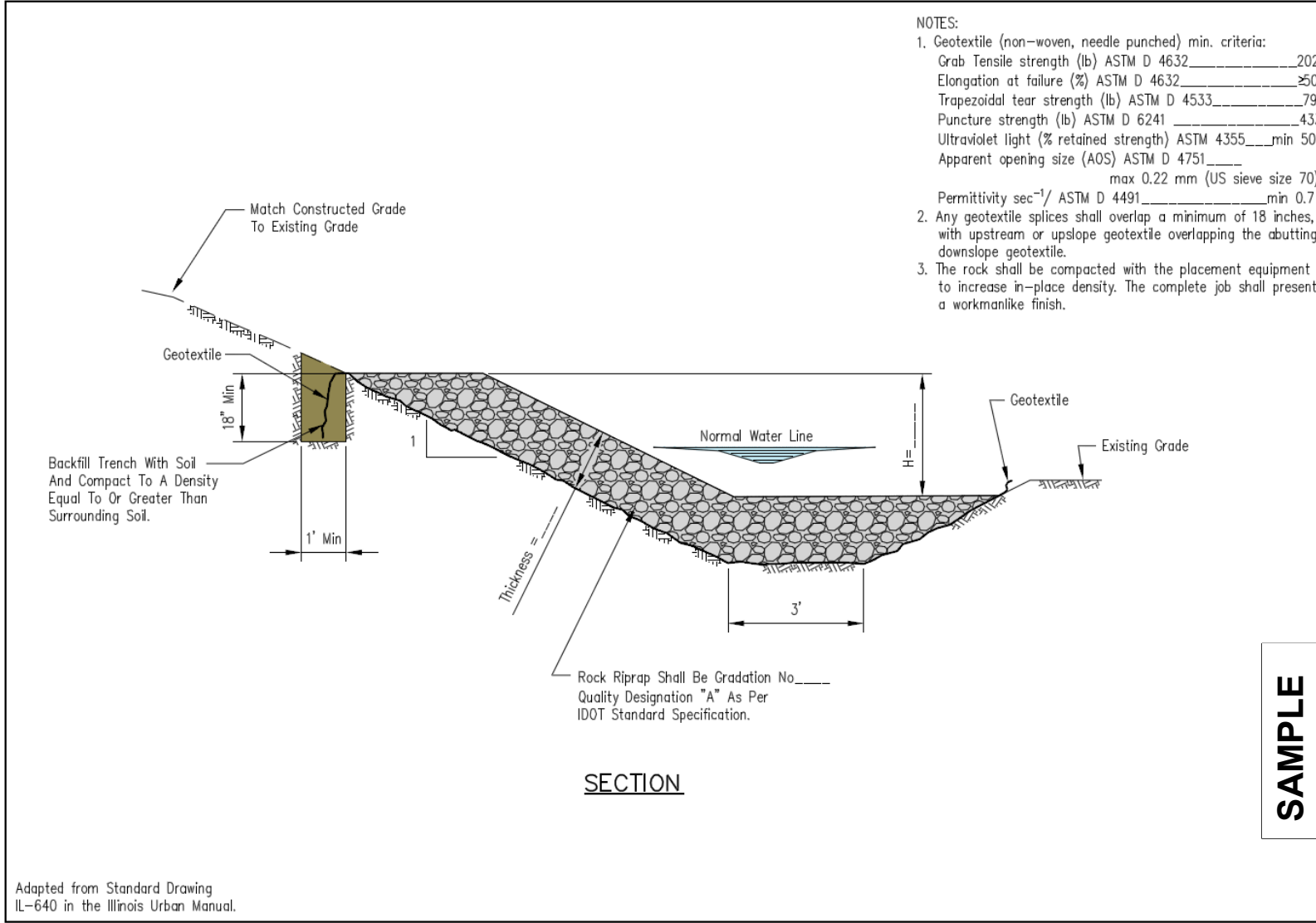
Attach
Plan

Mr. James C. Kelley
Project Manager, Illinois/Missouri Section
Regulatory Branch

NOTE: The drawings accompanying this public notice are examples of the projects to be covered under the regional permit. Additional drawings depicting other typical projects to be authorized under this regional permit and the full text of the regional permit are available for viewing on our website: <http://www.mvr.usace.army.mil/Missions/Regulatory/PublicNotices.aspx> (under CEMVR-OD-P-2020-0691.)

REQUEST TO POSTMASTERS: Please post this notice conspicuously and continuously until the expiration date specified at the top of page 1.

NOTICE TO EDITORS: This notice is provided as background information for your use in formatting news stories. This notice is not a contract for classified display advertising.



- NOTES:
- Geotextile (non-woven, needle punched) min. criteria:
 - Grab Tensile strength (lb) ASTM D 4632 _____ 202
 - Elongation at failure (%) ASTM D 4632 _____ ≥50
 - Trapezoidal tear strength (lb) ASTM D 4533 _____ 79
 - Puncture strength (lb) ASTM D 6241 _____ 433
 - Ultraviolet light (% retained strength) ASTM 4355 _____ min 50
 - Apparent opening size (AOS) ASTM D 4751 _____ max 0.22 mm (US sieve size 70)
 - Permittivity sec^{-1} / ASTM D 4491 _____ min 0.7
 - Any geotextile splices shall overlap a minimum of 18 inches, with upslope or upslope geotextile overlapping the abutting downslope geotextile.
 - The rock shall be compacted with the placement equipment to increase in-place density. The complete job shall present a workmanlike finish.

Date	
Designed	10/7/13
Drawn	
Checked	
Approved	

ROCK RIPRAP STREAMBANK PROTECTION DETAIL

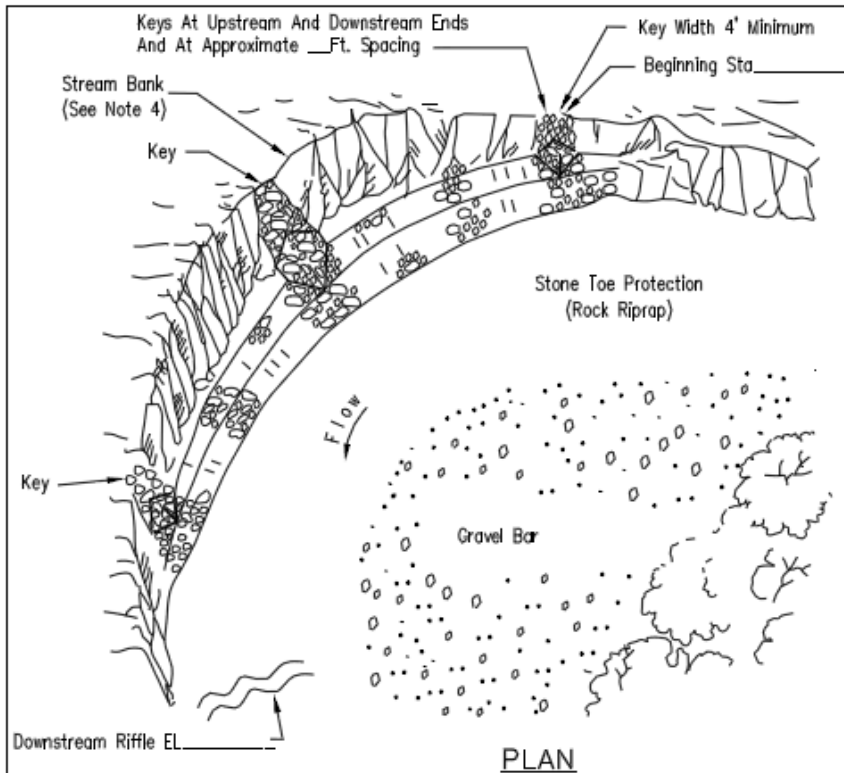
SAMPLE

File No.	IL-ENG-162
Drawing No.	
Page	1 of 1
Sheet	of

Adapted from Standard Drawing IL-640 in the Illinois Urban Manual.

Current NRCS design materials are available online through links on the Illinois NRCS webpage: www.il.nrcs.usda.gov.

CEMVR-OD-P-2020-0691
Rock Riprap – Section
Sheet 1 of 9



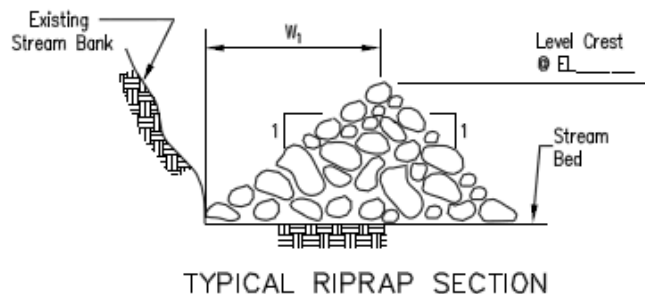
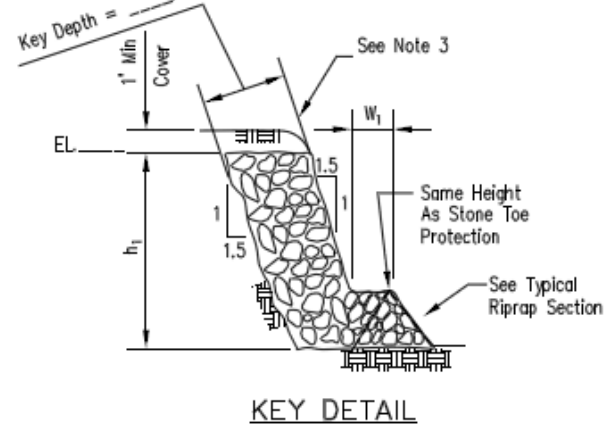
Key	Sta.	h_1	W_1	Level Crest EL.

Benchmark EL. _____
 Description _____

 Beginning Sta. Description _____

Landowner _____ Stream _____ Location _____

- Notes:
1. Rock gradation shall meet IDOT requirements for GRAD. NO. _____ riprap, quality designation "A", or as designated by engineer.
 2. Stone Toe _____ ft @ _____ Tons/Ft. average
 Keys _____ @ _____ Tons Each
 Total Rock Amount (Estimate) _____ Tons
 3. Key shall be constructed so that the vertical section remains embedded in the existing stream bank.
 4. Location _____ side of streambank looking downstream.



TYPICAL RIPRAP SECTION

NOT TO SCALE

Checked _____
 Drawn _____
 Date _____

STREAM BANK STABILIZATION
 STONE TOE PROTECTION

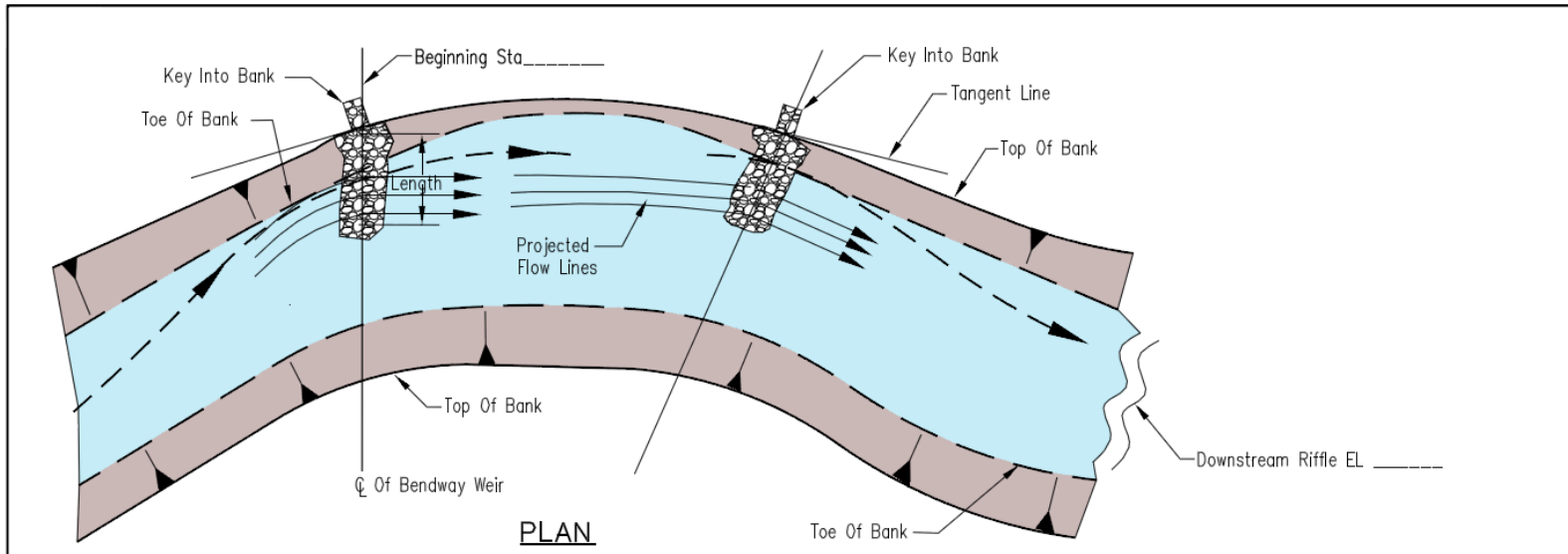
SAMPLE



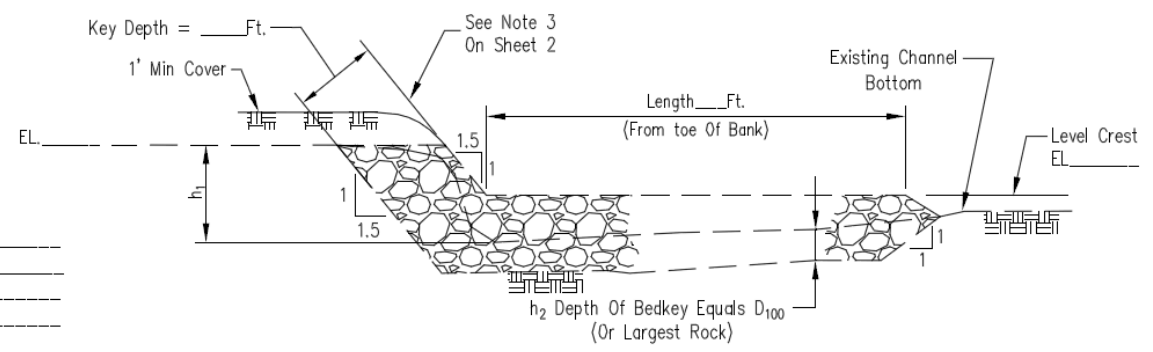
File No. IL-ENG-152
 Date of _____
 Page 1 of 1
 Sheet _____ of _____

Current NRCS design materials are available online through links on the Illinois NRCS webpage: www.il.nrcs.usda.gov.

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 Stone Toe Protection – Plan & Section
 Sheet 2 of 9



PLAN



TYPICAL PROFILE, CENTERLINE OF BENDWAY WEIR

Benchmark EL. _____
 Description _____

 Beginning Sta. Description _____

Date: 9/7/13
 Designed by: M. QUINONES
 Drawn by: _____
 Checked by: _____
 Approved by: _____

**STREAM BANK STABILIZATION
 BENDWAY WEIR**

SAMPLE

Natural Resources Conservation Service
 United States Department of Agriculture

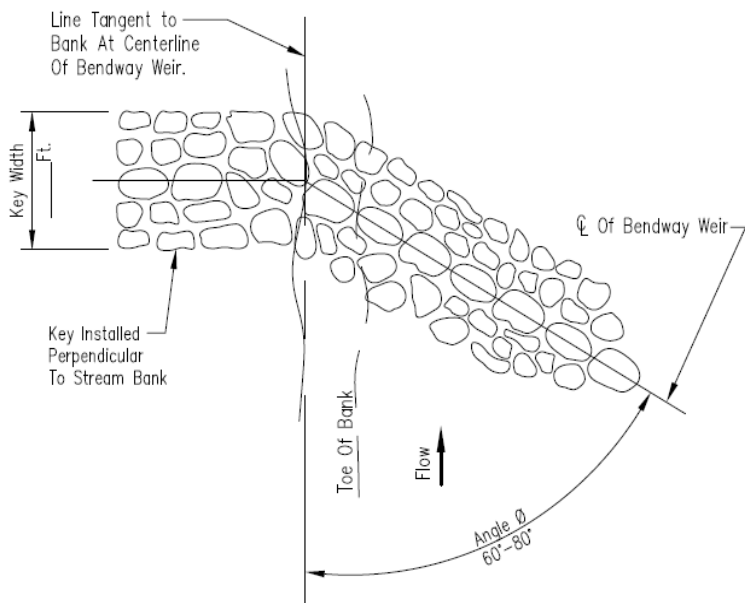
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Landowner	Stream	Location
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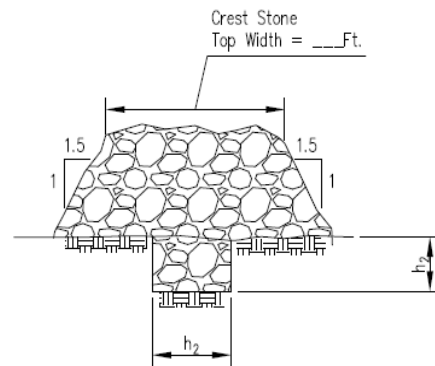
NOT TO SCALE

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**CEMVR-OD-P-2020-0691
 Bendway Weirs – Plan & Profile
 Sheet 3 of 9**



PLAN VIEW OF BENDWAY WEIR



TYPICAL BENDWAY WEIR SECTION

SAMPLE

REFERENCE TABLE		
GRAD. NO.	h_2 (D100)	D50
4	1.3 ft	7.4 in
5	1.7 ft	9.8 in
6	2.0 ft	12.1 in
7	2.5 ft	14.6 in

Notes:

- **Azimuth is the compass reading from magnetic north along the centerline of weir.
- *Bank—left side or right side looking downstream.
- Key shall be constructed so that the vertical section remains embedded in the existing stream bank.
- Rock gradation shall meet IDOT requirements for GRAD. NO. ____ riprap, quality designation "A", or as designated by engineer.

Weir	*Bank	Station	Length	Crest Elev.	h_1	h_2	Angle	** Azimuth	Tons
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
Total Stone									

Date: 9/7/13
 Designed: M. DUNNONS
 Drawn: _____
 Checked: _____
 Approved: _____

STREAM BANK STABILIZATION
 BENDWAY WEIR



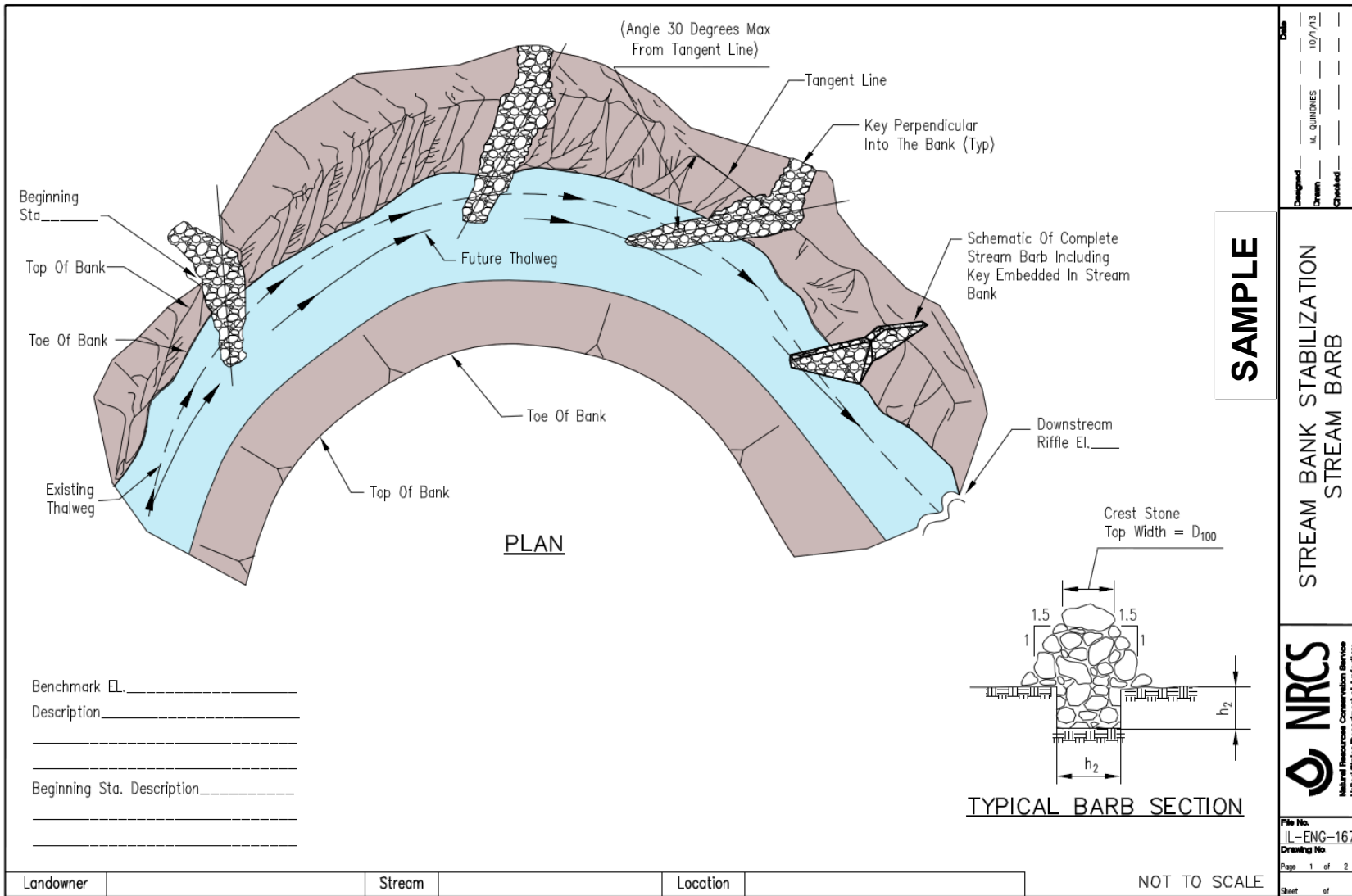
File No. IL-ENG-151
 Drawing Set
 Page 2 of 2
 Sheet of

Landowner: _____ Stream: _____ Location: _____

NOT TO SCALE

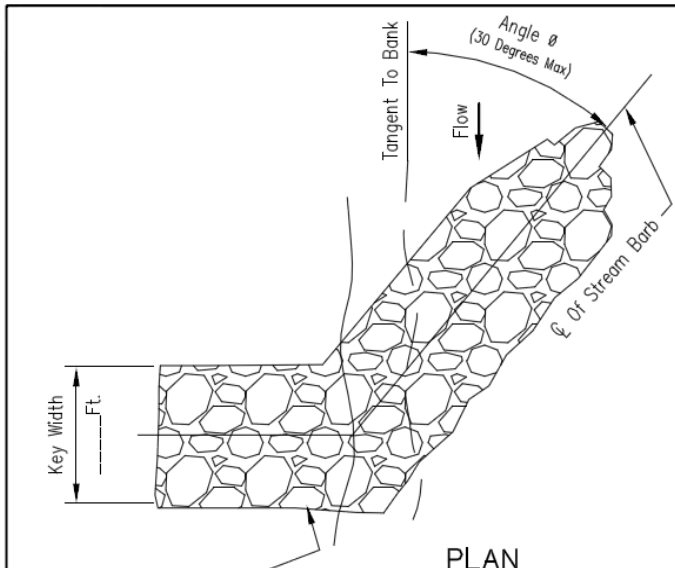
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CEMVR-OD-P-2020-0691
Bendway Weirs – Plan & Profile
Sheet 4 of 9



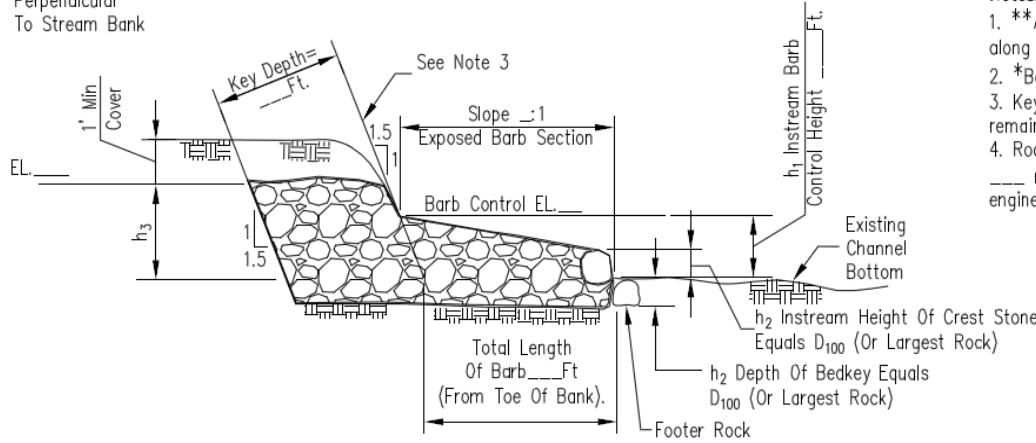
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CEMVR-OD-P-2020-0691
Stream Barb – Plan & Section
Sheet 5 of 9



PLAN

Key Installed Perpendicular To Stream Bank



TYPICAL PROFILE, CENTERLINE OF STREAM BARB

Notes:

1. **Azimuth is the compass reading from magnetic north along the centerline of weir.
2. *Bank—left side or right side looking downstream.
3. Key shall be constructed so that the vertical section remains embedded in the existing stream bank.
4. Rock gradation shall meet IDOT requirements for GRAD. NO. ___ riprap, quality designation "A", or as designated by engineer.

Barb	*Bank	Station	Total Length Of Barb	Barb Control Elevation	h ₁	h ₂	h ₃	Slope	Angle ϕ	** Azimuth	Tons
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
Total Stone											

Designed	M. QUINONES	Date	10/7/13
Drawn		Checked	
		Approved	

STREAM BANK STABILIZATION
STREAM BARB



SAMPLE

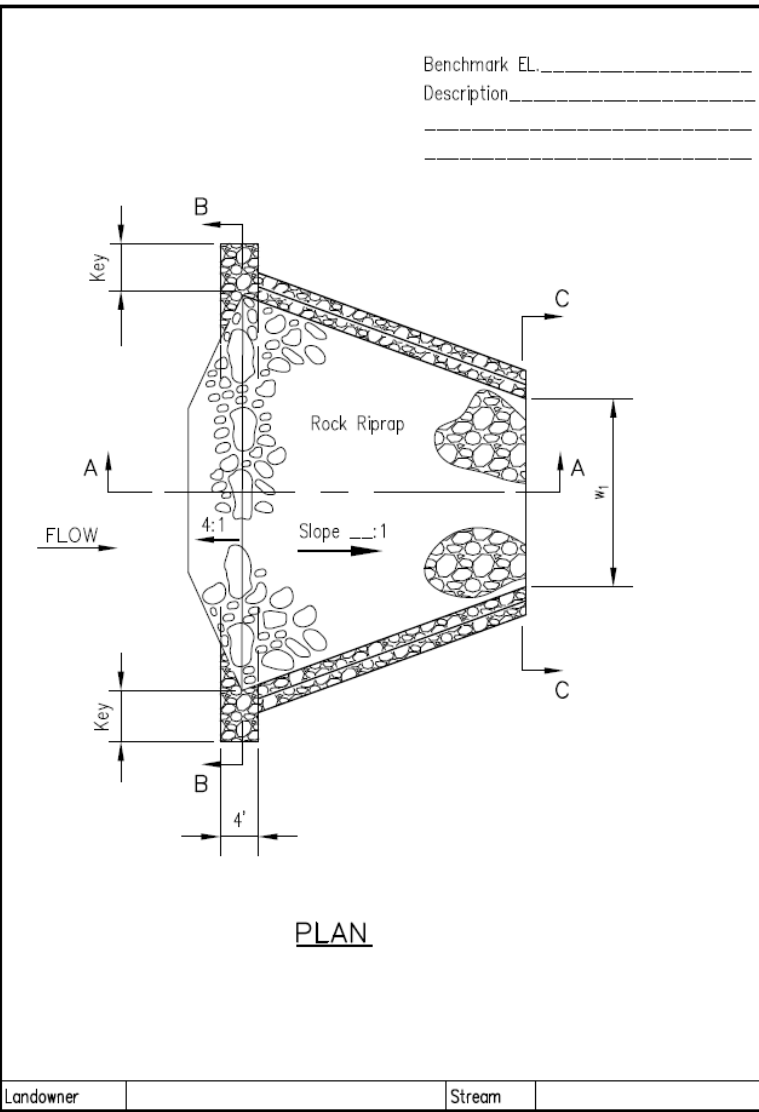
REFERENCE TABLE		
GRAD. NO.	h ₂ (D ₁₀₀)	D ₅₀
4	1.3 ft	7.4 in
5	1.7 ft	9.8 in
6	2.0 ft	12.1 in
7	2.5 ft	14.6 in

File No. IL-ENG-167
Drawing No. _____
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Landowner	Stream	Location
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CEMVR-OD-P-2020-0691
Stream Barb – Plan & Profile
Sheet 6 of 9



$(h_2 = h_1 + 0.5')$

Riffle No.	Sta.	Control Elev.	h_1	h_2	h_3	h_4	W_1	Estimated Rock (Tons)
Total Stone								##

REFERENCE TABLE

GRAD. NO.	h_4 D ₁₀₀	D ₅₀
4	1.3 ft	7.4 In.
5	1.7 ft	9.8 In.
6	2.0 ft	12.1 In.
7	2.5 ft	14.6 In.

SAMPLE

- NOTES:
1. Rock gradation shall meet IDOT requirement for GRAD. NO. ____ riprap, quality designation "A", or as designated by engineer.
 2. Use largest individual stones from available material as shown for the emergent boulders and crest stone.
 3. Riffle slope shall be 20:1 or flatter where fish passage is required.

**STREAM BANK STABILIZATION
ROCK RIFFLE DETAILS**

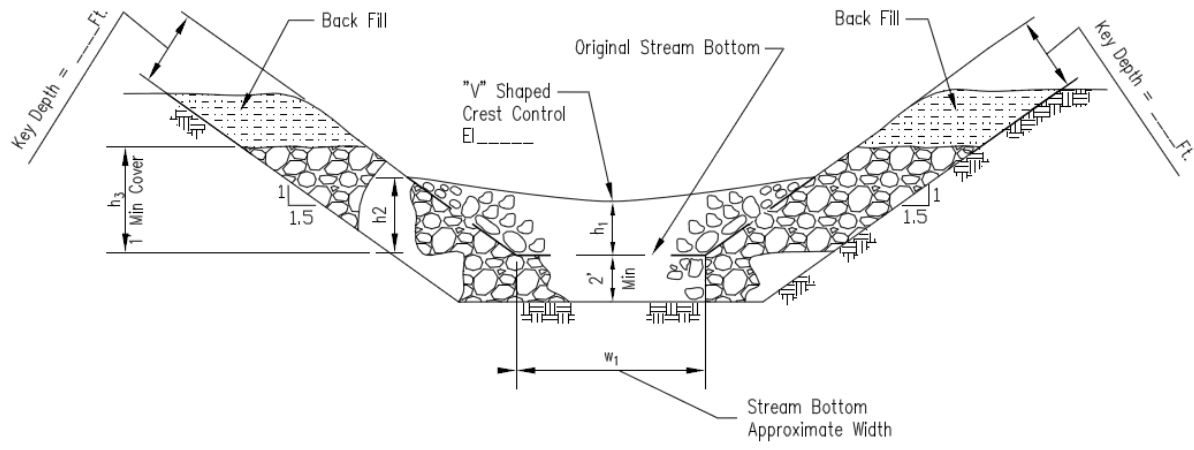
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Natural Resources Conservation Service
United States Department of Agriculture

File No. _____
Drawing No. **IL-ENG-165**
Page 1 of 2
Sheet _____ of _____

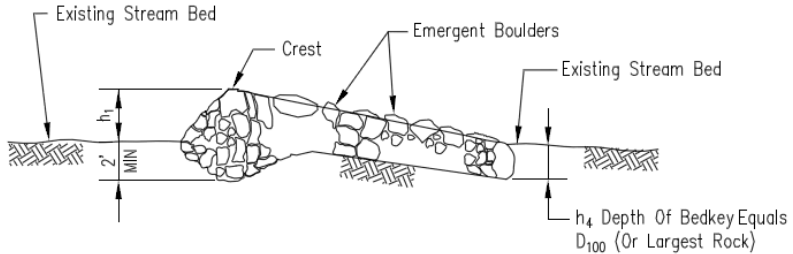
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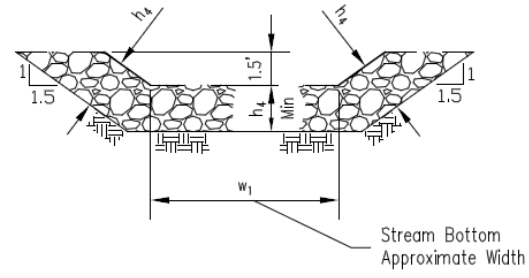
CEMVR-OD-P-2020-0691
Rock Riffle – Plan
Sheet 7 of 9



SECTION B-B



SECTION A-A



SECTION C-C

Designed	IL-ENG-165
Drawn	M. QUINONES
Checked	10/7/13
Approved	

**STREAM BANK STABILIZATION
ROCK RIFFLE DETAILS**

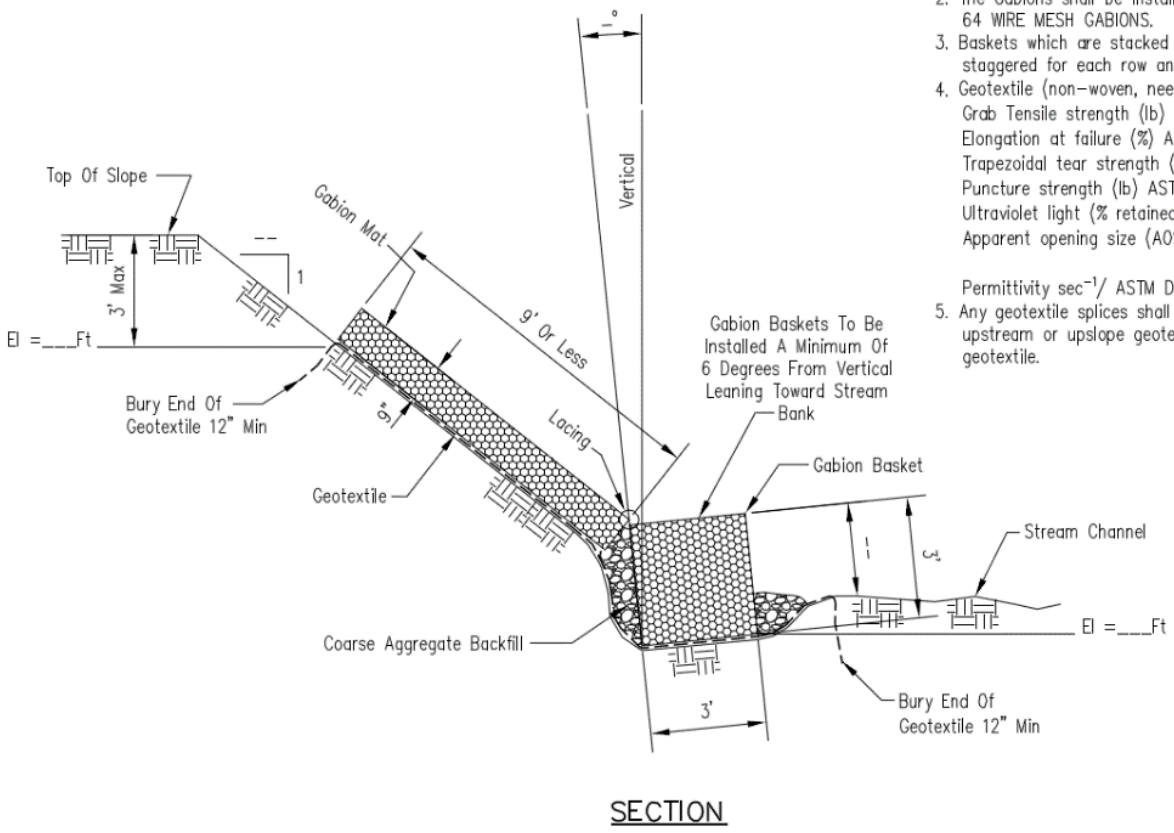
SAMPLE

National Resource Conservation Service
United States Department of Agriculture

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Rock Riffle – Sections
Sheet 8 of 9**



- NOTES:
1. The coarse aggregate backfill shall meet the IDOT requirement for Gradation CA-1, CA-3 or RR-1.
 2. The Gabions shall be installed according to construction specification 64 WIRE MESH GABIONS.
 3. Baskets which are stacked in tiers shall have vertical seams staggered for each row and tier.
 4. Geotextile (non-woven, needle punched) min. criteria:
 Grab Tensile strength (lb) ASTM D 4632 _____ 202
 Elongation at failure (%) ASTM D 4632 _____ ≥50
 Trapezoidal tear strength (lb) ASTM D 4533 _____ 79
 Puncture strength (lb) ASTM D 6241 _____ 433
 Ultraviolet light (% retained strength) ASTM 4355 _____ min 50
 Apparent opening size (AOS) ASTM D 4751 _____
 max 0.22 mm (US sieve size 70)
 Permittivity sec⁻¹/ ASTM D 4491 _____ min 0.70
 5. Any geotextile splices shall overlap a minimum of 18 inches, with upstream or upslope geotextile overlapping the abutting downslope geotextile.

SAMPLE

Designed _____ Drawn M. QUINONES Checked _____ Approved _____	Date 10/2/13
STRUCTURAL STREAMBANK STABILIZATION GABIONS 1 BASKET HIGH WITH SLOPE MAT	
United States Department of Agriculture Natural Resources Conservation Service	
File No: ILL-ENG-56 Drawing No: Page 1 of 1 Sheet of	

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CEMVR-OD-P-2020-0691
Gabions - Section
Sheet 9 of 9