Information for a Complete Mitigation Bank Prospectus per CFR 332.8(d)(2)

The prospectus initiates the planning and review process by the Interagency Review Team (IRT) and must be sufficiently detailed to support informed comment from the public and IRT regarding the bank's potential to provide successful and sustainable compensatory mitigation projects. This information list is intended to provide bank sponsors, their agents, and other interested parties with a better understanding of the level of detail that is needed for each of the components for a complete prospectus, pursuant to the mitigation rule (332.8(d)(2)(i)-(vii)). Information provided in the prospectus and this initial evaluation process will serve as the basis for establishing the mitigation banking instrument.

While optional, submittal of a draft prospectus (33 CFR 332.8(d)(3)) is strongly recommended for IRT comment and consultation to identify potential issues needing to be addressed prior to the start of the formal prospectus review process.

BA	BASIC INFORMATION			
1.	Proposed Mitigation Bank or Umbrella Bank Site Name:			
	Beaver Dam Creek Stream and Wetland Mitigation Bank			
2.	Name of Sponsor: KCI Technologies, Inc.			
	Mailing Address: 936 Ridgebrook Road, Sparks, MD 21152			
	Phone Number: (443) 890-6227			
	Email Address: sean.punte@kci.com			
3.	Name of Consultant (if different from sponsor):			
	Mailing Address:			
	Phone Number:			
	Email Address:			
	Project Location (Lat/Long in decimal degrees): 39.527351°/-77.211209 °			
5.	Type of Mitigation Bank:			
	Private Commercial			
	Combination Private/Public			
	□ Single-Client			
	Private Non-Profit			
	List of figures, maps, other attachments:			
OF	BJECTIVES OF THE PROPOSED BANK			
7.	Describe the overall goals and objectives of the proposed mitigation bank:			
	Restore the streams and wetlands to re-establish a stable ecosystem with a			
	functioning riparian buffer, floodplain bench, and riparian wetlands. Sediment			
	supply and nutrients entering the project streams and conveyed downstream to			
	the Monocacy River will be significantly reduced.			
8.	Aquatic Functions: Identify the aquatic functions to be restored/enhanced/established:			
	• Restore channelized and livestock-impacted streams to stable C channels.			
	• Restore and create riparian wetlands to provide groundwater			
	recharge/discharge, sediment/toxicant retention, nutrient removal, and wildlife			
	habitat.			

			uffer to provide bank stabil emoval, shading, and habit:	
9. Describe how functions list		oposed above will resul	t in an improvement in the ad	quatic
migi • Incr • Rest	ration/lateral ease ground core bed mate	l stability. water saturation/surfa	reduce nutrients, bacteria,	
10. Total acreage	e of the prope	osed mitigation bank:		
10.13 acres		-		
	· ·	d aquatic resource func atershed and/or ecoregio	tions of the bank will address	the
12. In the table b rivers (linear enhanced, an waterbody ty intermittent s	ecreational t pelow, indicat feet/acres), a id/or preserve pre (emergent stream, ephen	rout waters. e the approximate quant and streams (linear feet/ ed for purposes of provi t wetland, scrub/shrub v meral stream, open wate	ng habitat for imperiled spectrum tity of wetlands (acres), open acres) proposed to be created ding compensatory mitigation vetland, forested wetland, per r, other) or upland resources.	water (acres), , restored, n. Indicate the rennial stream,
indicate if de		n upland buffer. Pronosed Mitigation h	y Aquatic Resource Type	
Proposed Aquatic Resource Type/Upland Resources	Created	Restored	Enhanced	Protected
Perennial		10,624 LF		130 LF
Intermittent		83 LF		
Ephemeral		100 LF		200 LF
Scrub/Shrub		(1.75+0.08+0.56) 2.39 AC	0.39 AC	
		(0.07+1.52) 1.59		
Forested		AC		
		· /	(0.43+0.34+0.53+0.17) 1.47 AC	

	• feet) located in the project area kisting Wetlands by Aquatic Resource	ce Tvne
Existing Aquatic Resource	Linear Feet in Project Area	Acres in Project Area
Emergent wetland	NA	1.40
Scrub/Shrub wetland	0	0
Forested wetland	0	0
Perennial stream	10,754	NA
Intermittent stream	83	NA
Ephemeral stream	300	NA
Other:		
ESTABLISHMENT AND OPE	RATION OF THE BANK	
 A map showing proposed 15. Proposed Conditions: Proposed Conditions: Proposed mitigat boundaries, bank boundaries, easements and rights-of-way, acreage/linear footage of all p features. 16. If applicable, describe the fur assess wetland and/or other a preservation activities: KCI used The Highway Me to assess wetland functions 	a contributing to the bank, including th bank location in relationship to USGS vide a conceptual mitigation developm ion type locations, existing wetlands as boundaries of conservation easement, etc.), buffer widths, hydrological mod proposed wetlands and waterways. Lab netional/conditional assessment method quatic resource restoration, creation, e thodology Workbook Supplement (I and values.	8-digit HUC watershed nent plan in pdf format nd waterways, property , excluded areas (e.g., difications, and bel all resources and dology proposed to nhancement, and/or New England Method)
restoration, acquisition, enhand bank property from federal or	d or expected to be received for natura neement, or other purposes on all or a p r state agencies, grants, or nonprofits (umber of acres affected by each purpos ected.	portion of the proposed e.g., funding source,
PROPOSED SERVICE AREA	(S)	
18. Describe the proposed prima	ry and secondary service areas:	
	ice area is the Monocacy Watershed vice area is the Piedmont portion of Vatershed.	

19. Provide the basis of the service area(s) and rationale supporting its location and extent:

This secondary service area was chosen because the proposed mitigation site's location is directly adjacent to this watershed, and it is located within the same HUC 6 (Potomac River) watershed and physiographic region. Sales outside of the Primary and Secondary Service Area will be subject to IRT approval on a case-by-case basis.

20. \boxtimes Provide a map (8.5" by 11") in pdf format with the bank location and its position within the limits of the proposed geographic service area(s).

GENERAL NEED AND TECHNICAL FEASIBILITY

21. Describe how the bank project aligns with existing watershed, estuary, or conservation plans and goals (e.g., <u>http://watershedresourcesregistry.org</u>). Include mapping in pdf format to support the basis for this alignment (e.g., green infrastructure, forest interior dwelling species habitat, priority watersheds or habitat for species of concern, etc.):

Coordination with MDNR did not identify FIDS habitat in this location; however, FIDS species are noted nearby on the MD Watershed Resources Registry and creating additional forested buffers along stream corridors will create wildlife corridors and additional habitat for avian species.

22. General need for the type(s) and anticipated number of compensatory mitigation credits that are proposed to be generated by the proposed bank. Discuss past, current, or anticipated demand for proposed compensation:

The Bank will provide ecologically sustainable and economically efficient off-site compensatory stream and wetland mitigation opportunities for commercial use by public and private permittees in the Monocacy River basin. The Bank will provide ±5,404 feet of stream mitigation credit and 7.64+ acres of wetland mitigation credit to compensate for authorized unavoidable impacts to regulated streams and/or wetlands.

23. Summarize the proposed work intended to accomplish site activities and address site impairments and its feasibility, including any alterations to hydrology, anticipated grading needs and proposed structures, soil amendments, plantings, proposed phasing of bank implementation, etc.:

In-stream woody habitat structures are proposed for short lengths of the least entrenched, mostly headwater reaches to diversify pool habitat and increase groundwater levels. Moderately entrenched reaches are proposed to be raised to provide more frequent access to the historic floodplain and re-establish wetlands where hydric soils have been identified. The most severely degraded and vertically constrained channels will be realigned at a higher invert to achieve floodplain reconnection with the abandoned channels utilized to create wetland benches and vernal pools.

PROPOSED OWNERSHIP ARRANGEMENTS & LONG-TERM MANAGEMENT STRATEGY

24. Describe whether the sponsor owns the land or is acquiring an interest in the proposed bank site (e.g., fee simple acquisition, mitigation easement, etc.):

KCI has obtained a signed *Offer to Purchase Easement Agreement* from each property owner whose land is included in the proposed Beaver Dam Creek Stream and Wetland Mitigation Bank.

25. Is the bank located on public lands? \Box Yes \boxtimes No

- 26. ☐ Preliminary Title Report: Attach a current (dated within six months of submittal) preliminary title report identifying any easements, mortgages, liens, right of ways, or other encumbrances.
- 27. 🖂 Attach a map in pdf format depicting the location of all easements and encumbrances in relation to the proposed bank boundary and all relevant property lines.
- 28. Provide a property assessment that summarizes and explains each recorded or unrecorded lien or encumbrance on, or interest in, the proposed bank property, including, without limitation, each exception listed in the preliminary title report:
- 29. ⊠ Provide a written statement from the property owner that there are no easements, encumbrances, or other interests in the property, not previously disclosed to the Corps (e.g., leases, mechanic's liens that might not show up in the title report):
- 30. Describe the manner in which each encumbrance may affect the operation or ecological value and services and long-term sustainability of the mitigation bank and how the conflict(s) are intended to be resolved:

Table 6 below provides a summary of encumbrances identified in each Commitment. An Encumbrance Map depicting all relevant property lines, easements, right-of-ways, etc. on the bank property has been attached in Appendix D.

- 31. Describe any prior permitting history for the bank site:
- 32. Identify the proposed form of site protection instrument (e.g., conservation easement, declaration of restrictive covenants, etc.) that would be utilized for the bank site and the likely responsible parties:

KCI intends to use the existing USACE Baltimore District Conservation Easement template dated August 5, 2019 for this project to ensure only IRT-allowable activities take place.

33. Identify the proposed long-term ownership and long-term management strategy, including long term financial mechanism(s):

The site will be put into a conservation easement that will be held by an approved third-party land steward. The site will continue to be owned by the individual parcel landowners. The conservation easement will be transferred with the parcels should they be sold in the future. Following completion of all phases of mitigation construction, the Bank's long-term management and maintenance will be the responsibility of a third party approved by the IRT (e.g., nonprofit entity, state conservation agency or a land trust), who would be responsible for the long-term conservation goals and managing the lands in perpetuity. KCI anticipates typical longterm management to include invasive species control, upkeep of physical barriers such as fences and gates, collection/removal of excessive trash, repair of vandalized structures, and rectification of trespass impacts.

Endowment funds required to implement long-term management will be transferred from KCI to the selected third party, to ensure the long-term success of the project.

34. Identify the likely party that would be responsible for long-term management:

The proposed conservation easement will be held by an approved third-party land steward (to be determined) and will continue to be owned by the individual parcel landowners.

SPONSOR QUALIFICATIONS

35. Describe the qualifications of the Sponsor to successfully complete the type(s) of mitigation project proposed:

KCI's staff of more than 1,100 professional engineers, planners, architects, scientists, and construction support personnel are considered to have one of largest teams trained in wetland and stream restoration design and construction, watershed management, geomorphology, and hydrologic/hydraulic engineering on the East Coast. KCI has made a concerted effort to foster the best technical expertise available in the design, implementation and construction of stream and wetland restoration projects.

ETC is a licensed general contracting firm that specializes in environmental restoration and related services. Our clients rely on our specialized environmental construction services and appreciate the knowledge, innovation, and creativity that define the foundation of our company. Headquartered out of our Raleigh, North Carolina office, ETC is a wholly owned subsidiary of KCI Technologies and seamlessly shares resources, allowing ETC access to corporate offices and human resources throughout the eastern United States including Florida, Georgia, South Carolina, North Carolina, Tennessee, Virginia, Maryland, Pennsylvania, Delaware, West Virginia, Indiana, and Ohio. KCI and ETC have provided successful implementation of wetland and steam mitigation projects through a turnkey approach, including site identification, land acquisition, planning and assessment, design, permitting, construction, construction management, performance monitoring, remedial action, and financial planning in one entity.

36. Provide list of prior mitigation or restoration experience (including design, implementation, and monitoring):

Recent relevant experience for KCI, including projects completed by ETC, are included in Appendix D.

ECOLOGICAL SUITABILITY OF THE SITE

37. Describe the ecological suitability of the bank site, including the chemical, physical, and biological characteristics, to support the proposed types of mitigation to be implemented and the associated aquatic functions:

Existing and proposed wetlands are located adjacent to the stream channels, and are proposed to be expanded toward the valley toe of slope utilizing natural topography such as depressional areas and hydrology sources such as groundwater seeps and overland flows from steep slopes. Existing wetlands in the agricultural fields are in poor condition. They have minimal vegetation and the vegetation and soils are impacted by cattle grazing. Current functions include groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, and nutrient removal for most wetlands. Sediment retention and nutrient removal are likely minimal; however, due to sparse vegetation coverage.

Under the proposed condition, wetlands will be enhanced with native hydrophytic vegetation, hydraulically connected to the streams and expanded. Wetlands will range from PEM to PFO, to diversify available habitats for birds, amphibians, and macroinvertebrates. Existing functions, particularly sediment retention and nutrient removal, will be significantly enhanced in a watershed that is predominantly agricultural in nature.

38. Summarize current conditions of the bank site and surroundings, including land use, vegetation, hydrology, and soils (e.g., forested, row crops, pasture, ditched and drained wetlands, previously channelized stream, etc.). Photos should be provided:

Baseline site conditions of the project area consist of entrenched stream channels situated within active farm fields and pasture for dairy cattle. Fences delineate farm fields but generally do not exclude cattle from the stream channels, which are highly impacted. Stream channel impacts from cattle consist of flattened undefined channel banks, mucky channel beds, and nutrient loading.

Headwater tributaries range from flattened and undefined to entrenched gullies that have 2 to 6-foot-wide channel bottoms with 1 to 4-foot-tall banks. The tributaries are steep (ranging from 2.5% to 8% slope) and fed by groundwater seeps and overland flows. The mainstem reaches are significantly less steep (0.5% - 1%), primarily fed by groundwater, and become more entrenched as they continue downstream. The downstream most reach is the most over-wide and entrenched with a channel bottom and top width of approximately 15 feet. Channel substrate is not well-sorted and silt/sand are prevalent in each reach. (See Appendix A, Figure 4 – Field Assessment Map)

Vegetation at the project site is dominated by herbaceous ground cover due to active farming and fields maintained for pasture. Isolated areas of poorly functioning forest are present but are not contiguous with larger forested areas within the riparian corridor. Invasive species were observed throughout the project area but are most notable along Tributary 1 where a large area of poison hemlock surrounds the downstream portion of this reach. Agriculture impacts have minimized the riparian forest onsite, which is now limited to three small areas, only one of which is currently protected under an existing MALPF easement. Due to restrictive zoning, properties may be subdivided to introduce low density residential development, though watershed hydrology is not expected to significantly change in the future. Soils are highly impacted due to farming activities but generally exhibit hydric characteristics starting at depths of approximately 12-inches.

Site photographs of the entire project area can be found in Appendix C.

39. Summarize past and recent land uses of the bank site and adjacent properties:

As documented in historic aerial photographs dating back to 1988 and historic maps dating back to 1873, the land use of the project site and adjacent lands has consistently been agriculture. The 1873 historic map shows mill dams present downstream of the project area, just upstream of the Green Valley Road crossing. Many of the local roads including Green Valley Road, Molasses Road, and Fountain School Road appear to have been in existence since 1873.

40. Identify any proposed development adjacent to the bank site:

Adjacent land uses have been active farmland for decades and are expected to remain largely agricultural based on zoning and development regulations.

41. Describe the Bank site's location relative to other protected lands and connection to existing aquatic and terrestrial resources:

The bank includes one parcel with a MALPF easement. Beaver Dam Run flows east through the site.

42. Describe any potential sources of soil and water chemical contamination of the proposed wetlands and/or other aquatic resources within the bank site from adjacent or upstream sources (<u>https://www.epa.gov/enviroatlas/enviroatlas-interactive-map</u> and <u>https://mywaterway.epa.gov/</u> for 303d list, brownfields, point source discharges, etc.):

Based on review of the EnviroAtlas, the site is not located near brownfield or superfund sites. Typical sources of contamination are agricultural in nature, such as manure or herbicides/pesticides/fertilizer.

43. Describe any and all existing and known proposed private or commercial airports located or proposed to be located within 5 miles of the proposed bank site. This information is required in order to comply with the FAA Advisory Circular (AC) 150/5200-33C, Hazardous Wildlife Attractants on or Near Airports, which can be found on the FAA's website at: https://www.faa.gov/documentLibrary/media/Advisory_Circular(AC)

The mitigation site is not within five miles of an airport that receives federal grants for airport improvements and does not fall under consideration for the FAA Wildlife Advisory Circular (See Appendix C).

44.	STREAM MITIGATION PROJECTS: For stream compensatory mitigation projects, the	
	following relevant information should also be included.	

44a) Identify the percentage of impervious cover in the HUC12 watershed:

The contributing drainage area to the downstream most reach of the project site is 3.25 square miles (2,080 acres) and is approximately 3% impervious (See Appendix A, Figure 3 – Watershed Map). Drainage areas for upstream mainstem reaches and contributing tributaries range from 0.05 square miles (32 acres) to 1.76 square miles (1,126 acres). Impervious surfaces within the smaller contributing drainage areas are also low, ranging from <1% to approximately 4 percent.

44b) Identify any stream barriers to aquatic movement between the mitigation site and large downstream waters (i.e., having at least 20 square miles in drainage area or tidal waters):

There are no significant barriers based on the Watershed Resources Registry and our knowledge at this time.

44c) Describe any noticeable sheens, odors, unusual color, or excessive algal blooms observed in the streams at the proposed bank site. If applicable, provide a map in pdf format showing those reach locations and extent of the observed impairment:

No unusual odors, colors, or algal blooms were observed.

44d) Describe any topographic or infrastructure constraints limiting stream design options or increasing failure risk (consider both stream and stream valley):

Although the stream design is not limited by infrastructure, several road crossings and active agricultural land immediately adjacent to the Bank are minor design constraints. None of these design constraints increase the risk of failure.

44e) Describe any stream mitigation prioritization model that was used and relevant score and include relevant mapping:

KCI identified priority watersheds and potential sites based on water quality drivers, ecological drivers, and biological stressors, and then performed property owner outreach and site visits to verify need for restoration and willingness of landowners. We selected this site in part due to its agricultural setting with limited tree and infrastructure constraints that will greatly reduce the chance of adverse impacts on the restoration design.

45. **FISH PASSAGE MITIGATION PROJECTS:** For fish passage mitigation projects, the following relevant information should also be included.

45a) Identify the individual barrier prioritization tier scores for anadromous fish and resident fish in the Chesapeake Bay watershed (<u>https://freshwaternetwork.org/chesapeake/</u>):

Not applicable

45b) Sediment management: Describe proposed sediment management plans, anticipated particle sizes, potential accumulated pollutants based on past upstream land uses and discharges, and estimated volumes of sediment removal and sediment release:

Not applicable

ASSURANCE OF SUFFICIENT WATER RIGHTS

46. Describe how the existing water rights and/or hydrologic influences on the bank site are sufficient to support the long-term sustainability of the proposed mitigation bank site:

Existing surface flows and groundwater will continue to be the primary hydrology source for stream reaches within the project area. Groundwater seeps and overland flows feed side channels and will provide hydrology for re-established floodplain wetlands. Since no permanent detention areas are proposed, the existing hydrology downstream of the project area is not expected to be adversely impacted, nor is any upstream flooding likely.

47. Describe the hydrologic source(s) and losses (precipitation, surface runoff, groundwater, stream, tidal, etc.) for the proposed bank:

Water sources that will support the project area consist of groundwater, surface water, and overland flows. Several existing spring/seeps will be secondary sources. Water losses will be in the form of flows offsite, infiltration into wetland and floodplain areas, and evapotranspiration.

48. Describe the hydroperiod (seasonal/continuous depth, duration, and timing of inundation and/or saturation) for the bank site:

Several wetland habitats are proposed that are intended to have various depths and durations of inundation and/or saturation. Re-established floodplain wetlands will have micro-topography, formed by creating depressions and incorporating woody debris. The design will aim to allow frequent (2YR rain events or smaller) overbank flows that will be capable of saturating a wide floodplain area at peak flows, but will retain small, inundated pockets as water levels recede. The depth of water in the pockets is envisioned to range from just enough standing water to maintain saturation throughout the growing season and be no more than 18 inches inundated during the wet season. During drier periods, when overbank flows infiltrate at a higher rate, groundwater levels are expected to maintain saturated conditions long enough to support hydrophytic soils and vegetation.

49. Describe any existing hydrologic disturbances or alterations on and adjacent to the bank site, including those the Sponsor may not be able to manage or control:

There are no existing or known future hydrological disturbances over which the Sponsor has no control on the Bank site. Adjacent land uses have been active farmland for decades and are expected to remain largely agricultural based on zoning and development regulations. 50. Identify any temporary or long-term structural management requirements (e.g., levees, weirs, culverts, etc.) needed to assure hydrologic/vegetative restoration:

Currently, there are several private stream crossings within the project area installed for farming purposes. Each crossing is simply constructed and consists of corrugated metal pipe placed in the stream channel covered with available soils and/or building materials. Six of the total 9 crossings will be replaced with resized culverts suitable for the maximum weight of farming equipment. Corrugated metal pipes placed in headwater seeps are not considered stream crossings and will be removed.

Two additional culverts under Molasses Road that convey overland flows from across the road directly to the start of Tributary 1 are adjacent to the project area. These culverts both appear to be elliptical reinforced concrete pipes with concrete endwalls. Immediately downstream of each of the outfalls, rip-rap and additional CMP pipes have been placed to convey flows more directly to Tributary 1 and allow access along the field adjacent to Molasses Road. Although no modifications are proposed to the Molasses Road culverts, modifications to improve the downstream channels, rip-rap, and CMP pipes are proposed to provide farm equipment access and to best manage overland flows and significant runoff from Molasses Road. Plunge pools are proposed at each culvert to capture and utilize flows as a hydrology source to expand the existing headwater wetland.

There are no additional existing temporary or proposed long-term structural management requirements within the project area.

ADDITIONAL INFORMATION (Provide as separate attachments)			
51. \boxtimes Provide a letter from the property owner indicating their interest in developing a			
mitigation bank and allowing access to the bank site for the sponsor and IRT agencies.			
52. 🖂 List of adjacent property owners, local post office, local newspaper, and appropriate local			
officials (name and mailing address) for public notice mailing.			
53. Agency Coordination: If available, attach any reports and/or correspondence regarding			
historic properties, threatened or endangered species, essential fish habitat, and state			
environmental resources.			
54. 🖾 Provide contact information for property owner (name, address, phone, email).			
MARYLAND-SPECIFIC COMPENSATORY MITIGATION BANKS			
55. 🛛 Attach a Maryland Department of the Environment mitigation bank application. This			
application can be found on MDE Wetlands and Waterways Program website:			
https://mde.maryland.gov/programs/water/WetlandsandWaterways/AboutWetlands/Docume			

nts/MDE-mitigationbank-application-with-instructions-form.pdf