



City Hall, 215 Sycamore St.
Muscatine, IA 52761-3840
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COMMUNITY DEVELOPMENT

**Planning,
Zoning,
Building Safety,
Construction Inspection Services,
Public Health,
Housing Inspections,
Code Enforcement**

Date: August 29, 2016
To: Mayor and City Council
From: Dave Gobin, Community Development Director
Cc: Gregg Mandsager, City Administrator
Re: Request to Approve LIFTS Agreement

INTRODUCTION: Earlier this year, the City Council accepted IDOT's Linking Iowa's Freight Transportation System (LIFTS) Grant for studying the feasibility of an Intermodal Container Port in Muscatine. The Grant was for up to \$80,000 with a maximum \$20,000 match from Kent Corporation, for a total of \$100,000. This is a no-cost Grant to the City other than staff time.

BACKGROUND: Over the summer, Staff conducted a RFQ process to narrow down the list of possible firms to conduct a Study per the IDOT approved specifications.

Our specifications for the Study will answer these basic questions:

- 1. What is the potential market demand for intermodal container freight to move via a Mississippi River port at Muscatine?**
- 2. What are the primary characteristics required for a successful and sustainable port facility?**
- 3. Is the identified site on the Mississippi River a viable location for a multimodal container terminal port facility?**
- 4. What is the potential cost of the development and on-going operational cost of a multimodal container terminal port facility?**

Staff invited two world-class firms to interview. Staff has received approval from IDOT for use of either of these firms. After interviews, schedules and consideration of their value propositions, Staff requests the Council's approval to contract HDR, Inc.

Attached is a copy of the proposal and draft Agreement with HDR, Inc.

RECOMMENDATION: Staff is requesting Council approve that the City enter into an agreement with HDR, Inc., for \$99,941 (which is under the \$100,000 granted) to conduct a LIFTS study for the State of Iowa and the City of Muscatine.

**SHORT FORM AGREEMENT BETWEEN OWNER AND HDR ENGINEERING,
INC. FOR PROFESSIONAL SERVICES**

THIS AGREEMENT is made as of this _____ day of _____,
20____, between City of Muscatine, Iowa (“OWNER”) a _____

corporation, with principal offices at City Hall _____, and HDR
ENGINEERING, INC., (“ENGINEER”) a Nebraska corporation, with principal offices at
8404 Indian Hills Drive, Omaha, Nebraska, 68114 for services in connection with the
project known as Port of Muscatine Planning and Feasibility Study (“Project”);

WHEREAS, OWNER desires to engage ENGINEER to provide professional
engineering, consulting and related services (“Services”) in connection with the Project;
and

WHEREAS, ENGINEER desires to render these Services as described in
SECTION I, Scope of Services.

NOW, THEREFORE, OWNER and ENGINEER in consideration of the mutual
covenants contained herein, agree as follows:

SECTION I. SCOPE OF SERVICES

ENGINEER will provide Services for the Project, which consist of the Scope of Services
as outlined on the attached Exhibit A.

SECTION II. TERMS AND CONDITIONS OF ENGINEERING SERVICES

The “HDR Engineering, Inc. Terms and Conditions for Professional Services,” which are
attached hereto in Exhibit B, are incorporated into this Agreement by this reference as if
fully set forth herein.

SECTION III. RESPONSIBILITIES OF OWNER

The OWNER shall provide the information set forth in paragraph 6 of the attached “HDR
Engineering, Inc. Terms and Conditions for Professional Services.”

SECTION IV. COMPENSATION

Compensation for ENGINEER’S services under this Agreement shall be on the basis of
- per diem.

The amount of any sales tax, excise tax, value added tax (VAT), or gross receipts tax that
may be imposed on this Agreement shall be added to the ENGINEER’S compensation as
Reimbursable Expenses.

Compensation terms are defined as follows:

Per Diem shall mean an hourly rate equal to Payroll Cost/Direct Labor Cost times a multiplier of three point zero (3.0) to be paid as total compensation for each hour an employee works on the project, plus Reimbursable Expense.

SECTION V. PERIOD OF SERVICE

Upon receipt of written authorization to proceed, ENGINEER shall perform the services within the time period(s) described in Exhibit A.

Unless otherwise stated in this Agreement, the rates of compensation for ENGINEER'S services have been agreed to in anticipation of the orderly and continuous progress of the project through completion. If any specified dates for the completion of ENGINEER'S services are exceeded through no fault of the ENGINEER, the time for performance of those services shall be automatically extended for a period which may be reasonably required for their completion and all rates, measures and amounts of ENGINEER'S compensation shall be equitably adjusted.

SECTION VI. SPECIAL PROVISIONS

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first written above.

"OWNER"

BY: _____

NAME: _____

TITLE: _____

ADDRESS: _____

HDR ENGINEERING, INC.
"ENGINEER"

BY: Matthew B. Tondl

NAME: Matthew B. Tondl

TITLE: Senior Vice President

ADDRESS: 8404 Indian Hills Drive
Omaha, NE 68114-4098

EXHIBIT A

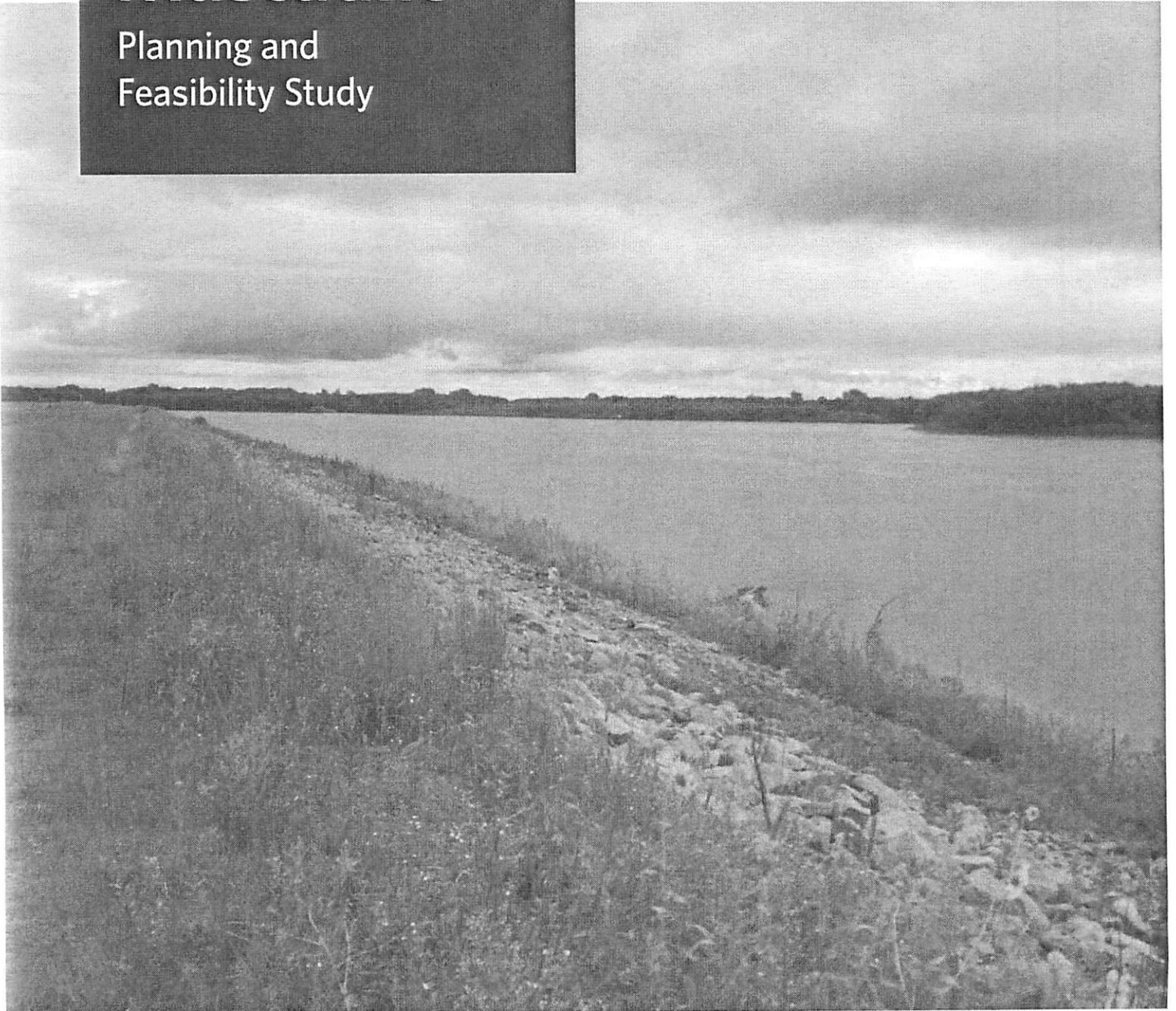
SCOPE OF SERVICES



Proposal to Provide

Port of Muscatine

Planning and
Feasibility Study



City of Muscatine, IA
August 2016



August 16, 2016

Mr. Dave Gobin
Community Development Director
City of Muscatine, Iowa
215 Sycamore Street
Muscatine, IA 52761

RE: RFP for Multimodal Container Port Feasibility Study

Dear Mr. Gobin:

We are pleased to submit this refined proposal for conducting a planning and feasibility study for the establishment of a multimodal container terminal port facility on the Mississippi River in Muscatine. This refined proposal is a supplement to our previously submitted proposal. We are excited for the opportunity to share with you our team of experienced professionals and our approach to identifying the feasibility and concept of a container terminal port.

We have prepared this refined proposal based on our recent site visit and discussion with you and your team. Our integrated project approach of port, highway and rail planning, economic analyses and facility design will deliver the best result for the City. Our recent work with the Iowa Department of Transportation's Office of Rail Transportation on the Iowa State Rail and Freight Plans also provides us with the latest commodity flow information and data for the region. We have completed a multitude of market demand and conceptual design studies for small and mid-size ports, including Eastport, Searsport and Portland, ME; Gloucester and New Bedford, MA; Davisville and Providence, RI; New London, CT; the Ports of Tacoma and Olympia, WA; and the Port of Lewiston, WA. We've also completed rail/port intermodal connecting analyses for the States of Maine and Massachusetts, and we have extensive experience with operations on the Mississippi River from Baton Rouge to Head of Passes, LA.

We are also a leading provider of economic and financial services for these types of projects and have assisted our clients in obtaining federal and state grants and loans to enable their projects to move forward. As an example, we have assisted more than 40 TIGER grant awardees who together have received \$821 million in federal funds to build key transportation projects. We have assisted clients in competing successfully for 18 percent of the total construction funds awarded from this funding program, including nearly every port project receiving an award. Our experts can help complete the application in its entirety, or if you desire, provide guidance on the application or prepare the required benefit-cost analysis.

You can be confident that you will have a financially sound, implementable and sustainable plan moving forward based on HDR's deep qualifications and experienced multidisciplinary team. Our refined proposal includes both the Technical Response and Cost Proposal as noted in the RFP. The authorized HDR individual for this project is Matt Tondl, and can be contacted at 402.399.1070 (matt.tondl@hdrinc.com).

Thank you again for this opportunity and we look forward to working with you on this exciting project. If you have any questions, please contact Kevin Keller, Project Manager, at 913.553.6874 (kevin.keller@hdrinc.com).

Sincerely,
HDR Engineering, Inc.

Kevin Keller, PE
Project Manager

Matt Tondl, PE
Senior Vice President



8404 Indian Hills Drive
Omaha, Nebraska 68114-4098
402.399.1000

hdrinc.com

We practice increased use of sustainable materials and reduction of material use.

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Technical Response

Executive Summary

On April 24, 2015, Secretary of Transportation Anthony Foxx approved the M-55/M-35 Container-on-Barge Project to be designated as a Marine Highway Project. According to the United States Maritime Administration (MARAD), these projects are planned services or expansions of existing services on existing Marine Highway Routes that can provide modal choices to cargo shippers. They benefit the public by reducing transportation costs, air emissions and road maintenance costs and improving safety.

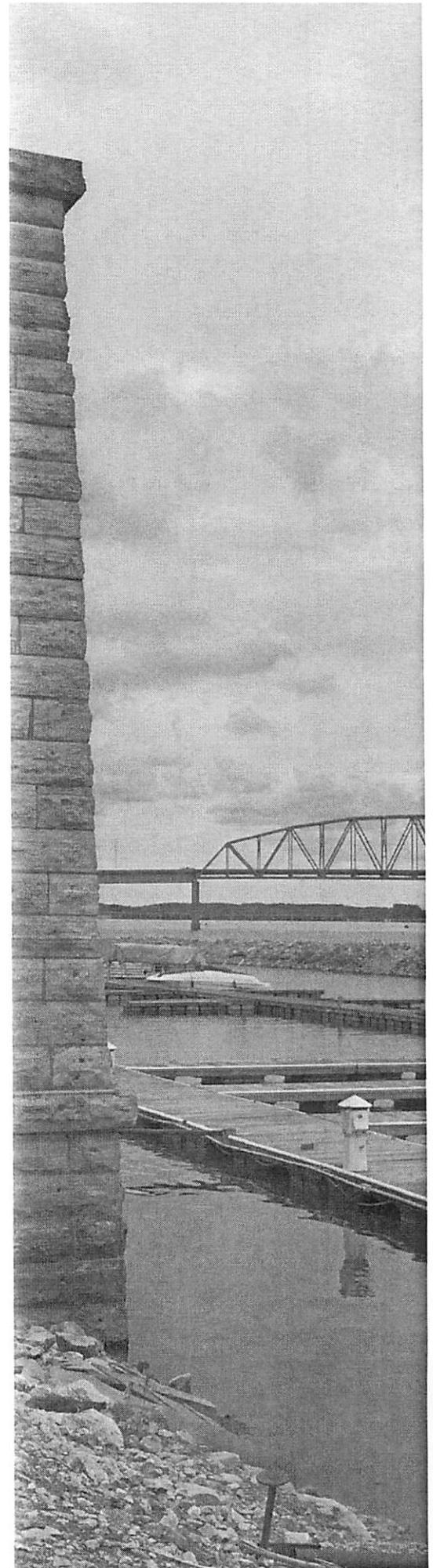
M-55 and M-35 are the Transportation Department's designations for the Mississippi and Illinois Rivers, respectively. These rivers reach 10 states, and the newly approved Marine Highway Project is projected to affect cities along not just these two rivers, but also on the Ohio, Missouri, Arkansas and Red Rivers. It is meant to connect Chicago, Minneapolis, Memphis, St. Louis and New Orleans, as well as many smaller communities and ports. It is believed that this project will increase shipment by barge. With over 12,000 miles of barge-navigable rivers in the U.S., increasing shipping capacity along inland rivers is a good choice for both companies looking to save money on shipping costs and the environment. Movement of goods along the Mississippi and other waterways costs a fraction of the price of other forms of transportation, and the pollution is minuscule when compared with rail and road transportation methods.

The City of Muscatine's proposed multimodal container terminal port facility will take advantage of the under-utilized capacity of the Mississippi River (or M-55) in removing freight from the region's increasingly congested highway system and shifting that freight onto a less labor-intensive and often more cost-effective mode of transportation.

HDR has significant experience with similar studies of this type, as well as being actively engaged in supporting the Iowa Department of Transportation with the development of the new State Rail and State Freight Plans. We are also a leader in assisting our clients with the development of project funding strategies to bring concepts such as the multimodal container terminal port facility in Muscatine to reality. We have assembled an experienced project team that has recently worked on several of these types of projects, led by our proposed Project Manager, Kevin Keller. Kevin was most recently the Project Manager for the Iowa State Rail and Freight Plans and is currently assisting the Iowa Department of Transportation Office of Rail with its Strategic Plan. Kevin will be supported by a group of Task Managers that are experts in the areas of port planning, freight planning, multimodal container terminal design and grants management.

We have completed a multitude of market demand and conceptual design studies for small and mid-size ports, including Eastport, Searsport and Portland, ME; Gloucester and New Bedford, MA; Davisville and Providence, RI; New London, CT; the Ports of Tacoma and Olympia, WA; and the Port of Lewiston, WA. We've also completed rail/port intermodal connecting analyses for the States of Maine and Massachusetts, and we have extensive experience with operations on the Mississippi River from Baton Rouge to Head of Passes, LA.

We are also a leading provider of economics and finance services for these types of projects and have assisted our clients in obtaining federal and state grants and loans. As an example, we have assisted more than 40 TIGER grant awardees who together have received \$821 million in federal funds to build transportation projects. We have assisted clients in competing successfully for 18 percent of the total construction funds awarded from this funding program, including nearly every port project receiving an award.



Detailed Work Plan

PROJECT INITIATION	MARKET ANALYSIS	TERMINAL CHARACTERISTICS, SITE DEVELOPMENT	PREPARE CONCEPTUAL COST ESTIMATE	FUNDING ALTERNATIVES	REPORTING
<ul style="list-style-type: none"> Re-confirm the study purpose and our approach Review all of the research and data currently available Identify contacts for interviews Develop the structure of the final report 	<ul style="list-style-type: none"> Prepare a forecast of containerized cargo flows Examine containerized transload opportunities Identify cargo flows and potential shippers Identify the most eligible shippers 	<ul style="list-style-type: none"> Provide an informed opinion of the activities that are required to proceed to construction List characteristics related to successful inland waterway intermodal terminals 	<ul style="list-style-type: none"> Provide conceptual capital and operating cost estimates associated with the potential conceptual facility layout developed in Task 3 	<ul style="list-style-type: none"> Provide an assessment of viable potential funding alternatives 	<ul style="list-style-type: none"> Provide the City with a full documentation of Tasks 1-5

Task 1: Project Initiation

Objective	<ul style="list-style-type: none"> Re-confirm the study purpose and our proposed approach and schedule Review all of the relevant research and data currently available to the City, its project sponsors and that we already have available from other projects Identify contacts for interviews to collect additional data/research and explore business development opportunities Develop the structure of the final report and all related deliverables
Activities	<ul style="list-style-type: none"> Conduct a formal kick-off meeting with City of Muscatine (City) representatives to re-confirm the study objectives, review the project work plan/methodology and the final reporting framework and discuss anything else that might be useful for the project team To facilitate discussion at the meeting, we will develop a presentation to guide the discussion on approach, schedule, etc. Obtain and review any relevant background literature from the City and the project funders Develop a draft annotated table of contents for the final report (the reporting framework) that provides an indication of the final deliverable Create an inventory of economic development associations, industry associations, shippers and companies to be interviewed Establish project management protocols, including scheduling status update meetings between our Project Manager and the City's project representative (bi-weekly conference calls recommended). During these status update discussions, our PM will provide reports highlighting work completed, work plan for the next period and any key findings, issues or concerns. We do not anticipate any issues with the project schedule or deliverables. Clear communication of issues throughout the project is integral to our project management process. Establish the timing for future project meetings
Outcomes/Deliverables	<ul style="list-style-type: none"> Clear understanding of the City's project objectives List of contacts for interviews Schedule for future meetings Draft and Final Report deliverable structure Project Management Protocols Meeting No. 1: Project Initiation

Detailed Work Plan

PROJECT INITIATION	MARKET ANALYSIS	TERMINAL CHARACTERISTICS, SITE DEVELOPMENT	PREPARE CONCEPTUAL COST ESTIMATE	FUNDING ALTERNATIVES	REPORTING
<ul style="list-style-type: none"> Re-confirm the study purpose and our approach Review all of the research and data currently available Identify contacts for interviews Develop the structure of the final report 	<ul style="list-style-type: none"> Prepare a forecast of containerized cargo flows Examine containerized transload opportunities Identify cargo flows and potential shippers Identify the most eligible shippers 	<ul style="list-style-type: none"> Provide an informed opinion of the activities that are required to proceed to construction List characteristics related to successful inland waterway intermodal terminals 	<ul style="list-style-type: none"> Provide conceptual capital and operating cost estimates associated with the potential conceptual facility layout developed in Task 3 	<ul style="list-style-type: none"> Provide an assessment of viable potential funding alternatives 	<ul style="list-style-type: none"> Provide the City with a full documentation of Tasks 1-5

Task 2: Market Analysis

Objective	<ul style="list-style-type: none"> Prepare a forecast of containerized cargo flows that can reasonably be expected to utilize the facility should it be constructed Examine realistic containerized transload opportunities for the facility through a detailed cargo analysis Identify cargo flows and potential shippers Identify the most eligible shippers that may utilize the facility and outline a strategy for capturing this freight
Activities	<ul style="list-style-type: none"> Utilizing publicly available data sources, examine historical and future cargo flows in and out of the region to get a broad sense of the trends in these movements over time and by commodity, as well as to ascertain the potential of these commodities being moved via intermodal containers. Data sources may potentially include the following, pending availability: <ul style="list-style-type: none"> Freight Analysis Framework (FAF) STB Public Waybill Sample Bi-State Freight Optimization Study Iowa DOT Freight Optimization Study Iowa State Rail Plan Iowa State Freight Plan Upper Mississippi River Inland Waterway System Feasibility Study Review of the regional (multi-state) industries using inland river intermodal container terminals and their prospects for growth. The emphasis will be on facilities that provide diverse services to multiple freight customers for liquid and dry commodities moving in carload quantities or intermodal containers. These commodities could include animal feed, lumber, steel, chemicals, fertilizer and specialty grains. Examine downriver seaport facilities, both existing and planned, to determine what gateway capabilities Muscatine may develop Review of major announced project development in the region and an assessment of their potential requirement for shipping cargo Develop interview guide — interview questions may vary depending upon the nature and function of the proposed multimodal container terminal port facility Design the appropriate method of engagement. We suggest, to the extent possible, these interviews be conducted in person by HDR staff with participation from the City and funding partner (as appropriate). Work with the City of Muscatine to develop communication materials to introduce the study and request participation Conduct interviews and organize responses. Seek input from the rail carrier, as well as drayage companies, transload operators, barge operators and potential shippers to develop and characterize the economic opportunities and challenges. Populate a database of potential shippers and likely potential freight volumes Generally assess the potential business impact of the recently announced multimodal facility development at Cedar Rapids, IA
Outcomes/Deliverables	<ul style="list-style-type: none"> A detailed inventory of selected applicable operating industrial activities within a 300-mile radius of the selected site Synopsis of local/regional stakeholder input Market Analysis, which will be included in the Draft and Final Report developed during Task 6

Detailed Work Plan

PROJECT INITIATION	MARKET ANALYSIS	TERMINAL CHARACTERISTICS, SITE DEVELOPMENT	PREPARE CONCEPTUAL COST ESTIMATE	FUNDING ALTERNATIVES	REPORTING
<ul style="list-style-type: none"> • Re-confirm the study purpose and our approach • Review all of the research and data currently available • Identify contacts for interviews • Develop the structure of the final report 	<ul style="list-style-type: none"> • Prepare a forecast of containerized cargo flows • Examine containerized transload opportunities • Identify cargo flows and potential shippers • Identify the most eligible shippers 	<ul style="list-style-type: none"> • Provide an informed opinion of the activities that are required to proceed to construction • List characteristics related to successful inland waterway intermodal terminals 	<ul style="list-style-type: none"> • Provide conceptual capital and operating cost estimates associated with the potential conceptual facility layout developed in Task 3 	<ul style="list-style-type: none"> • Provide an assessment of viable potential funding alternatives 	<ul style="list-style-type: none"> • Provide the City with a full documentation of Tasks 1-5

Task 3: Primary Terminal Characteristics and Site Development

Objective	<ul style="list-style-type: none"> • Provide the City and its funding partners with an informed opinion of the activities that are required to proceed to construction, focusing on specific site constraints • Provide an inventory of characteristics related to successful inland waterway intermodal terminals
Activities	<ul style="list-style-type: none"> • Provide an overview of representative existing inland river intermodal container terminals, their characteristics and operations. Describe and seek best practices from other facilities that are applicable. • Generally characterize, describe and address general security, public safety, customs and tariff and other issues created by an inland river multimodal container terminal port facility • Provide an informed opinion of the site development activities that are typically required prior to and during construction • Provide an informed opinion as to the general operational requirements of the facility for both landside and waterside activities • Determine potential solutions to site-specific utility relocation • Determine likely modifications to road and railway configuration adjacent to the proposed port site • Prepare a potential conceptual facility layout focusing on the infrastructure needs to provide service in a phased approach
Outcomes/Deliverables	<ul style="list-style-type: none"> • Primary Terminal Characteristics, Site Development and Potential Conceptual Facility Layout, which will be included in the Draft and Final Report developed during Task 6

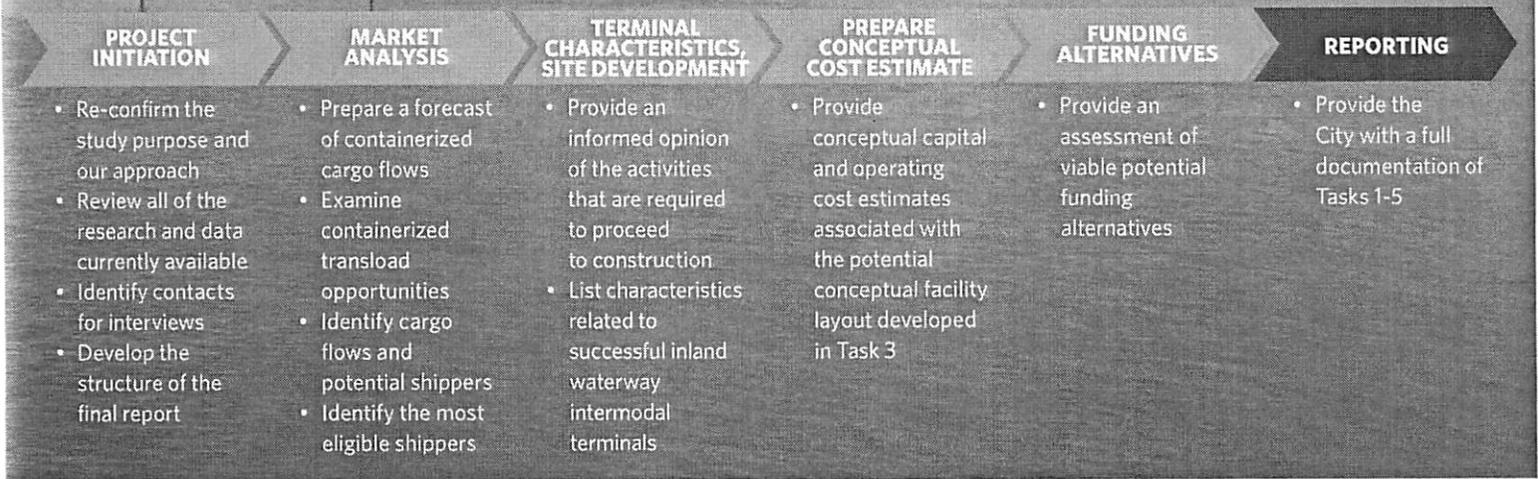
Task 4: Prepare Conceptual Cost Estimate

Objective	<ul style="list-style-type: none"> • Provide conceptual capital and operating cost estimates associated with the potential conceptual facility layout developed in Task 3
Activities	<ul style="list-style-type: none"> • Based on the infrastructure needs identified, prepare a cost estimate for development and construction of the terminal. Include costs for any associated real estate acquisition, permitting, utilities and other needs. • Prepare an estimate of ongoing operations and maintenance based on operations at similar facilities
Outcomes/Deliverables	<ul style="list-style-type: none"> • Conceptual Cost Estimate, which will be included in the Draft and Final Report developed during Task 6

Task 5: Funding Alternatives

Objective	<ul style="list-style-type: none"> • Provide the City and its funding partners with an assessment of viable potential funding alternatives
Activities	<ul style="list-style-type: none"> • Identify possible funding mechanisms for the terminal build-out. These possible funding sources could include federal grant and loan programs such as TIGER, FASTLANE, TIFIA, USEDA and CMAQ, or Private Activity Bonds (PABs), as well as other commercial loan programs. • Provide an informed opinion as to the appropriate funding mechanism
Outcomes/Deliverables	<ul style="list-style-type: none"> • Funding Alternatives, which will be included in the Draft and Final Report developed during Task 6

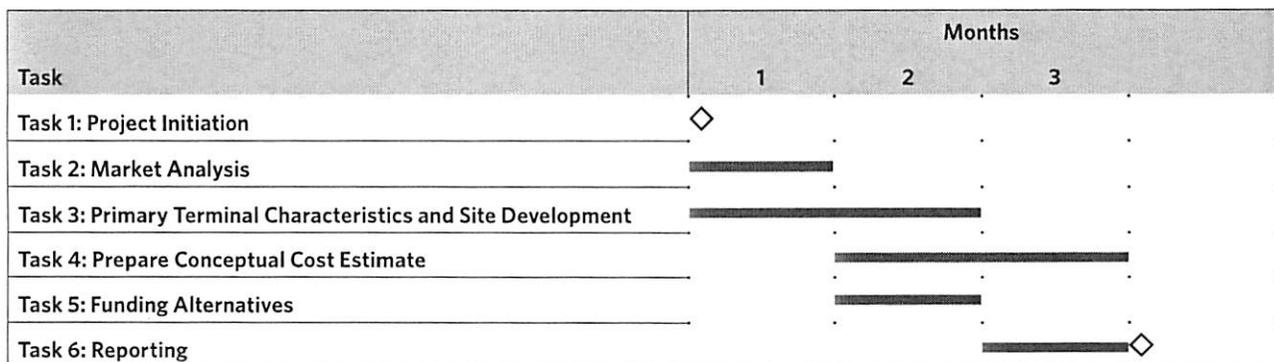
Detailed Work Plan



Task 6: Reporting

OBJECTIVE	<ul style="list-style-type: none"> ▪ Provide the City with a full documentation of Tasks 1-5
ACTIVITIES	<ul style="list-style-type: none"> ▪ Provide the City with draft and final reports that will include the following: <ul style="list-style-type: none"> ◦ General overview of global and regional trade patterns and how the Port of Muscatine fits currently and potentially into the worldwide and national transportation system ◦ Site and infrastructure analysis related to the cargo potential, including site modifications, equipment requirements and approximate costs. This would include a specific analysis related to the development of a multimodal marine facility capable of flexible and adaptable operations to address the handling of containerized cargo and other types of appropriate commodities. ◦ Categorized opportunities for types of commodities identified that are suitable for shipment through the Port, and their modes of shipment (i.e., barge, rail and truck) ◦ Potential partners related to downstream port development, ocean carrier opportunities and international and domestic markets ◦ A potential conceptual site layout for the terminal facility ◦ The report will include a series of recommended strategic steps for the Port to undertake in cooperation with stakeholders and shippers ◦ An assessment of potential funding sources/alternatives
OUTCOMES/ DELIVERABLES	<ul style="list-style-type: none"> ▪ Draft and Final Report

TIMELINE



Experience of Firm

HDR is among the global leaders in providing Port business development planning, including marine and port facilities planning and design services and multi-modal operational analysis. HDR has more than 75 full-time port management and marine engineering professionals nationally, who specialize solely in delivering public and private port infrastructure projects for all vessel types, related facilities and the origin and destination flows and costing for a full range of cargo and commodity movements. We specialize in the development of facilities, including feasibility studies, commodity flows, vessel operations, facility equipment and operational management. What sets HDR apart from other port consulting firms is that our team includes port professionals who have managed ports and facilities, as well as operated vessels. We bring to each project many decades of experience in delivering complex waterfront terminal planning, construction and reconstruction, cargo flow analysis and management objectives. We specialize in working with small and mid-size ports, in addition to large seaports. Our unique approach centers around developing a custom and specialized look at each port and their facilities. We avoid using a “big port” or “blue water” port template, focusing instead on a systematic approach that follows a precise methodology that provides our clients with usable information they can build upon.

Performing port-related work requires a highly specialized understanding of vessel, cargo loading and discharge, yard operations and management to provide the desired end product, taking into account existing operations and future opportunities. We define the need, potential opportunities, needed investment and improvements and define how the port fits into the worldwide transportation system, addressing both domestic and international cargo movement. Cargo moving from the Midwest connects to transload ports and finds destinations throughout the world. Our port experts track industry changes and are often called upon to present updates to the port and maritime industry. In addition, **we have one of the industry’s best track records regarding wins through the development of grant funding applications.**

Port and facility design often requires highly sophisticated analysis of dynamic conditions and vessel management, berthing and mooring infrastructure, impacts of dynamic heavy equipment, crane and vessel loads, advanced modeling of soil structure interaction, specification of specialized construction materials and understanding of how to design for corrosive conditions and of specialized port construction practice. River Ports offer further challenges, such as river staging, highly variable water surface elevations, scour, bank erosion and shifting flow patterns, exposure to debris and high velocity currents, as well as hardening infrastructure against unique flood conditions during extreme weather cycles.



USDOT
TIGER
DOT-ROW

TIGER Grants

HDR is also a leader in the evaluation of possible funding strategies for our clients’ projects. For example, we have assisted more than 40 TIGER grant awardees who together have received \$821 million in federal funds to build key transportation projects. We have assisted clients in competing successfully for 18 percent of the total construction funds awarded from this funding program. Our experts can help complete the application in its entirety, provide guidance on the application or prepare the required benefit-cost analysis. In particular, we have been successful in working with our port clients with successful TIGER Grant applications, including the following:

- Port of San Diego Tenth Avenue Marine Terminal Modernization Project, San Diego, CA — \$10.3 million
- Port of Oakland Intermodal Rail Improvements (pictured above), Oakland, CA — \$15 million
- Port of Brownsville Gulf Marine Highway Intermodal Project, Brownsville, TX — \$12 million
- Port of Corpus Christi Nueces River Rail Yard Expansion, Corpus Christi, TX — \$10 million
- Port of New Orleans Rail Yard Improvements, New Orleans, LA — \$16.74 million
- Port of Jacksonville Dames Point Intermodal Container Facility, Jacksonville, FL — \$10 million



Project Experience

As examples of HDR's recent experience with similar types of projects, we have provided brief summaries of four projects that illustrate our experience in port planning and feasibility studies.

Iowa State Rail and Freight Plans

- **Client Served:** Iowa DOT
- **Type of Deal:** Rail and freight plan
- **Dollar Amount of Deal:** \$800,000

Nature of Deal: HDR is developing an inventory of the state's existing freight transportation assets, including all freight carrying modes, facilities and freight gateways and corridors that pass through the state. HDR is also assisting the Iowa DOT with establishing performance measures and documenting the current performance of the state's freight network conditions, issues and performance indicators. HDR is developing recommendations for the state's freight improvement strategies and assisting the Iowa DOT with public and stakeholder outreach through the development of a Highly Leveraged Stakeholder Committee and a Freight Advisory Committee.

Upper Mississippi Inland Waterway System Feasibility Study (pictured)

- **Client Served:** Iowa DOT
- **Type of Deal:** Feasibility study
- **Dollar Amount of Deal:** \$125,000

Nature of Deal: The study evaluated options to sustainably fund maintenance and improvements to the Upper Mississippi River Lock and Dam System. Over the course of the past century, a network of federally owned locks and dams constructed and operated by the U.S. Army Corps of Engineers (USACE) has facilitated commerce along the Mississippi River inland waterway system. Many of these facilities have reached or exceeded their designed life cycle. The Iowa DOT obtained the services of HDR to examine alternatives to the USACE's traditional approach to funding and implementing projects. Study scope completed by HDR included existing conditions evaluation, existing and projected shipment tonnage by mode (trucks, rail, intermodal, water, including consideration of the Panama Canal Expansion), existing and projected funding and Alternative Delivery and Operations Structures, including public private partnerships (P3's).

Halifax Port Authority Business Development Opportunities

- **Client Served:** Halifax Port Authority
- **Type of Deal:** Commodity market assessment; competitive port and facility analysis; rail capability assessment
- **Dollar Amount of Deal:** \$55,000

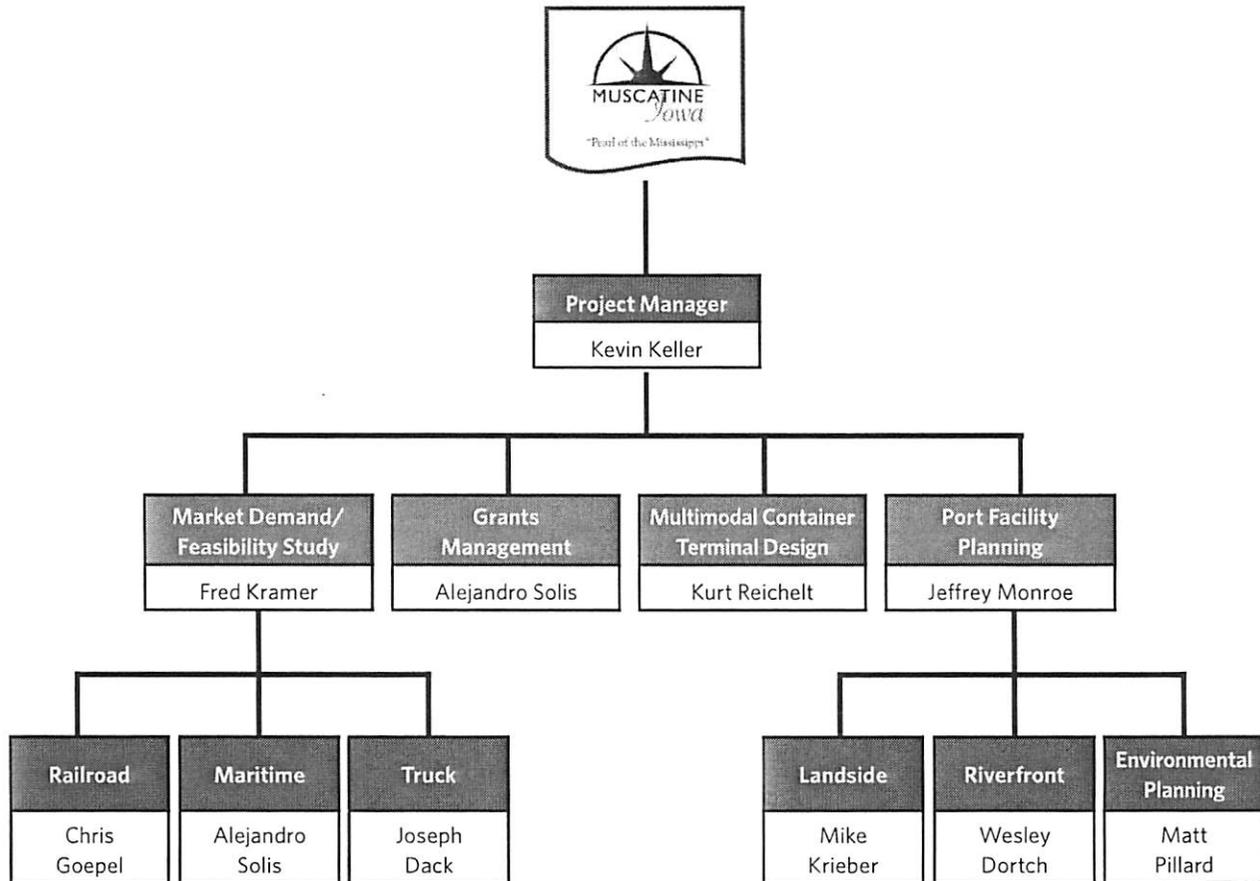
Nature of Deal: HDR was selected to conduct a multi-phase study for the Port of Halifax, which included a commodity market assessment, competitive port and facility analysis and a rail capability assessment. The study included the assessment of the transportation logistics (truck, rail and barge transport) of the products as well as an assessment of the international destinations and identification of potential markets and shippers.

TIGER and TIGER II Grant Application Support of Market Street Terminal Main Wharf Expansion

- **Client Served:** New Hampshire DOT
- **Type of Deal:** TIGER and TIGER II Grant Application Support
- **Dollar Amount of Deal:** \$18,000

Nature of Deal: HDR worked with the New Hampshire DOT in its preparation of TIGER and TIGER II grant applications for the Main Wharf expansion of the Market Street Terminal in Portsmouth, NH. For the TIGER and TIGER II applications, HDR provided the economic analysis required as part of the submittal as well as helping to write major sections of the applications. In addition to the benefit-cost work conducted by HDR, assessments of the level of economic distress in the project area were determined based on demographic and socioeconomic data for the city and region.

Experience/Qualifications of Assigned Professionals



HDR’s community of professionals specializes in the delivery of challenging projects and in assisting clients in the realization of goals. Our proposed project team includes specialized port development professionals and marine engineering staff who are recognized through the industry for delivering exceptional responsiveness and innovation specific to the challenges associated with the port environment and working in operating terminals. This specialized staff will be efficiently engaged by local, dedicated project leadership and will be fully supported by local professional staff with extensive knowledge of the local geophysical and market conditions and of working with the state and with the local regulatory agencies.

Project Manager and Organizational Chart

Our proposed Project Manager, Kevin Keller, is recognized by U.S. Department of Transportation and its modal agencies as an expert in freight transportation planning. **Kevin has most recently been the Project Manager on the Iowa State Rail Plan and State Freight Plan projects and is familiar with the Muscatine multimodal container port concept.** Kevin is also the Project Manager on a similar study for the Hancock County Economic Development Commission for an expanded multimodal container port facility in Port Bienville, MS. Kevin also was the Project Manager for the Kansas Department of Transportation (KDOT) on their recent Transload Facility Site Analysis project, where he and his team (many of whom are on our proposed team for this study) assisted KDOT with the assessment and selection of the preferred sites in the state for investing in a rail-served transload facility. **Kevin is also known as an expert in project funding strategies, having assisted his clients in 12 successful TIGER Grant applications (including the port projects listed above).**

Our proposed project team is shown above. Full resumes for the key project team members are provided on Pages 12 to 21.



Kevin Keller, PE

Project Manager

Kevin is a Vice President and Senior Professional Associate with HDR and has 33 years of management, planning, environmental and engineering experience in the freight and passenger rail sectors. He has served as program director on large, multidiscipline programs for transportation clients throughout North America, particularly the Midwest, and has proven project management and communication skills based on his experience working with public and private sector clients. Kevin has managed the planning, permitting, engineering design and evaluations of new multimodal facilities, port facilities, transload studies, rail alignments, transportation corridors, new maintenance facilities, new structures, logistics planning and fleet management. He has also managed public and stakeholder outreach, public benefits analyses, economic development studies, industrial development studies, feasibility studies and environmental assessments for numerous federal, state and private transportation clients, including development and preparation of numerous state rail and freight plans and successful federal grant applications.

Kevin is a member of the Board of Directors of the American Railway Engineering and Maintenance of Way Association (AREMA), former Vice President of the Engineering Services Functional Group of AREMA and former Chairman of AREMA Committee 13 (Environmental). Kevin is also a Past President of the American Railway Development Association (ARDA). Kevin also co-authored the Environmental Checklist and Manual on Environmental Compliance for the American Short Line and Regional Railroad Association (ASLRRA).

EDUCATION

MS, Hydrology/
Environmental Management
BS, Hydrology/
Civil Engineering

REGISTRATIONS

Professional Geologist
(IA, IN, KS, KY, TN, WY)

HDR TENURE

9 years

INDUSTRY TENURE

33 years

RELEVANT EXPERIENCE

Iowa DOT, Iowa State Rail and Freight Plans, Statewide, IA. Project Manager.

HDR is developing an inventory of the state's existing freight transportation assets, including all freight carrying modes, facilities and freight gateways and corridors that pass through the state. HDR is also assisting the Iowa DOT with establishing performance measures and documenting the current performance of the state's freight network conditions, issues and performance indicators. HDR is developing recommendations for the state's freight improvement strategies and assisting the Iowa DOT with public and stakeholder outreach through the development of a Highly Leveraged Stakeholder Committee and a Freight Advisory Committee.

Port of Jacksonville Authority and CSX Dames, Point Intermodal Container Terminal, Jacksonville, FL. Project Manager.

Project Manager for the development of a new intermodal container terminal facility at JaxPort. The project includes a feasibility study, conceptual facility design, permitting and the preparation of TIGER Grant application, resulting in an award of \$10 million. Responsibilities included developing and maintaining master schedule and plan for all project activities and monitoring USDOT TIGER Grant requirements such as monthly progress reports.

FRA and Mississippi DOT, Port Bienville Railroad Environmental Study, Hancock County, MS. Project Manager.

Project Manager for completion of a Feasibility Study for an expansion to a shallow draft port and industrial park serving cargo-oriented development. The resulting recommendations led to a FRA-led NEPA EIS to study the possible environmental impacts associated with a new 22-mile rail line in Hancock County, MS.

Various Clients, Freight Commodity Flow Studies, Project Manager.

Project Manager for several feasibility studies for assessment of intermodal/multimodal/industrial park facilities. These studies have included freight commodity assessments and forecasts, public benefit analyses and economic impact analyses.

Kansas DOT, Transload Facility Site Analysis, Project Manager.

Project Manager for the analysis and selection of preferred sites for development of new transload facilities in the state. The Kansas DOT determined that a new transload facility would be an essential ingredient for enhancing the state's economic competitiveness. HDR assisted the Kansas DOT in the development of common characteristics of these types of facilities, locations of existing facilities, development of expressions of interests for new facilities, development of site screening methodology and selection of preferred sites.



Fred Kramer

Market Demand/Feasibility Study

Fred is an experienced transportation economist with a thorough understanding of decision support specifically in the creation and interpretation of business case, multiple account, cost-benefit and risk analyses. With HDR for the past 10 years, Fred has contributed to and managed numerous transportation planning projects with specific focus on alternatives analysis generally following a triple bottom line approach. Recognizing that each community or geographic region has unique transportation issues and goals, Fred has been able to work in partnership with his clients in customizing project selection criteria to focus on specific local objectives.

EDUCATION

MA, Economics
Bachelor of Arts and Science

HDR TENURE

10 years

INDUSTRY TENURE

26 years

RELEVANT EXPERIENCE

Kansas DOT, Trans-Load Facility Site Location and Market Analysis, KS. Project Manager.

HDR was engaged to perform a locational analysis of proposed sites for the development of trans-load facilities across the state of Kansas. Recognizing the importance of cost effective transportation as a driver of economic growth, the Kansas DOT called for proposals from numerous public agencies across the state. HDR was contracted to evaluate the various proposals under a Multiple Account Evaluation (MAE) framework.

Confidential Client, Due Diligence Financial Assessment, Project Manager.

Performed a due diligence analysis in order to inform the going concern value of an intermodal facility designated as an Inland Port. The analysis consisted of an estimate of the threshold cost for a competitor to duplicate the capacity and functionality of the facility as well as an estimate of the demand and revenues for the services offered by the facility in its market basin for the next 10 years.

Utah DOT, Alternative Financing for a New Build Railroad, UT. Project Manger.

Evaluated the commercial and public benefits of a proposed \$4 billion new railroad serving oil/gas and mining interests in the Uintah Basin. Following the commercial feasibility assessment, various alternative P3 financing arrangements were assessed ranging from design build to design build finance operate and maintain.

Confidential Client Crude Oil by Rail Market Assessment, Project Manager and Principal Economist.

For a confidential client, provided a detailed market assessment of crude oil rail transportation opportunities across North America, including analysis of current and future pipeline take-away capacity, transportation cost competitiveness, market reach and regulatory risk.

Port Metro Vancouver (PMV), Coal Export Forecast, Vancouver, British Columbia.

PMV engaged HDR to develop a long-term (to 2050) coal export forecast to assess coal terminal expansion plans. A bottom-up approach was employed where a long-term demand profile was first developed that focused on the major coal demand centers (e.g., China and India). A global and Canadian supply profile over the forecast horizon was next developed, and Canada's position on the cost curve relative to competing jurisdictions (Australia, Indonesia, the U.S., Mozambique and other jurisdictions) determined Canada's exports. Additional analysis regarding the location of current and future coal mines and the rail network feeding PMV was conducted to determine coal exports through PMV.

Port of Vancouver WA, West Vancouver Freight Access (WVFA) Project, Vancouver, WA. Principal Economist.

The WVFA project constructs a new grade separated rail access route that eliminates severe rail traffic congestion on a high-speed intercity passenger rail corridor to which the U.S. Department of Transportation recently granted \$580 million. In support of the Port of Vancouver's TIGER application, HDR provided full application writing and benefit-cost analysis services utilizing a triple-bottom line approach. The Port requested and received a \$10 million grant.

Alberta Innovates, Asia-Pacific Energy Market Diversification & West Coast Access.

Developed an assessment of an energy diversification and West Coast access investment strategy designed to maximize net public benefits while minimizing the risk of over or under building in pursuit of optimal deployment of energy resource endowments. The study included an assessment of global demand for energy commodities, assessment of the supply change challenges and the window of opportunity to capture market share.



Dr. Alejandro Solis

Grants Management/Maritime

Alejandro is an applied economist with in-depth understanding of international logistics and a strong understanding of the freight dynamics in North America. He also possesses extensive transportation experience in Mexico and policy-oriented experience in Latin America. His areas of specialization include monetization of social benefits, estimation of financial feasibility, analysis and forecast of freight flows, development of market analysis and business cases and handling of risk and uncertainty in infrastructure projects. Accomplishments in transportation include Program Management for large infrastructure projects in Latin America, creation of methodologies for evaluation of project impact and development of innovative market analysis and forecasting methodologies for freight flows.

EDUCATION

Ph.D, Economics
MA, Economics
BA, Economics

HDR TENURE

6 years

INDUSTRY TENURE

18 years

RELEVANT EXPERIENCE

Port Authority of New York and New Jersey (PANYNJ), Demand, Capacity and Infrastructure Needs Study, Project Manager.

The study contributed to the goals of developing a long-term strategic port improvement plan by providing a robust analysis of the market and demand profile of the Port of New York/New Jersey, the current and future required capacity of the terminals and the rail facilities and the overall infrastructure needs to ensure the port can continue to enhance its current and future market share and secures its role as an economic engine for the region.

Port of San Diego (PoSD), Benefit-Cost Analysis in Support of the TIGER 7 Grant Application for the Tenth Avenue Marine Terminal Optimization Project, Technical Lead.

A high-level market analysis was conducted for bulk, roll-on/roll-off and project cargo as part of the benefit cost analysis to validate that future demand projections for the port were in line with global maritime trends and competition from other ports in the region.

Panama Canal Authority (ACP), Program Management Advisory and Related Services Contract, Program Manager and Principal-in-Charge. Alejandro began as the Program Manager for the Program Management Advisory and Related Services contract in which HDR helped ACP develop a series of studies to examine business opportunities through the provision of related shipping services in connection with the Panama Canal Expansion. After his Program Management assignment, Alejandro transitioned into the role of HDR's Principal-in-Charge and also led the development of some of the studies.

Panama Canal Authority (ACP), Feasibility Study for the Construction of a New Container Port, Project Manager.

Led a team of multidisciplinary experts in the development of a study to validate the financial and operational feasibility for the construction of a new container port in Panama. The study included the following components: update of existing market and demand estimations for the new container terminal, identification of additional characteristics that affect design of the new terminal, assessment of compatibility with future Canal operations, update of the costs of building the required infrastructure, estimation of value generated by the port, assessment of business models to operate the terminal, update of economic and environmental impacts generated by the new terminal and update of available financial feasibility studies.

Panama Canal Authority, Feasibility Study for Establishing a Roll On — Roll Off Facility, Quality Control Lead.

Alejandro was in charge of the quality control for a study aimed at determining the feasibility of establishing a Roll on — Roll off (Ro-Ro) facility within Panama Canal waters. The study consisted of: a market analysis based on the existing Ro-Ro services available in Panama and the region; projections of vehicle sales and industry knowledge; an analysis of the capacity required to meet the demand, including a conceptual design of a dedicated Ro-Ro facility; and a financial analysis that included potential income, construction costs, operations and maintenance expenses.



Kurt Reichelt, PE

Multimodal Container Terminal Design

Kurt is a well-respected Senior Project Manager, Professional Associate and Vice President at HDR with extensive experience managing master plan studies focused on special economic zones, intermodal facilities, port facilities, logistics parks, industrial parks, industrial developments, business parks and free trade zones. With years of experience, he understands how to provide responsive service that evolves with client programs.

RELEVANT EXPERIENCE

EDUCATION

MBA, Business Administration
BS, Civil Engineering

REGISTRATIONS

PE (OR, WA, CO)

HDR TENURE

17 years

INDUSTRY TENURE

32 years

Port of Tacoma, South Sound Logistics Center — Market Analysis, Tacoma Junction, WA.

Project Manager (with Chabin Consulting)
Identified potential target occupants for the South Sound Logistics Center using primary and secondary research focused on rail and industrial customers. Then with detailed description of targets, created relevant financial models in order for the ports of Tacoma and Olympia to make informed decisions regarding the viability and direction of the proposed SSLC development.

Joliet Arsenal, Joliet, IL. Project Manager.
Provided master planning services to assist with the systematic planning for redevelopment of the existing Joliet Arsenal. The goal of the planning and analysis study was to prepare a conceptual master plan that provides a manifest storage and switching yard, intermodal facility and light industrial park. The objectives of the master planning and design process include: 1.) Develop a master plan for the area that includes a flexible design for a manifest storage and switching yard capable of meeting Burlington Northern Santa Fe (BNSF) long-term needs; 2.) Develop an intermodal rail facility that is efficiently located, is supported by rail storage, has the required capacity and is adaptable to various types of lift devices; 3.) Maximize the use of existing assets, where practical, and allow for phased development; and 4.) Plan a facility that can be logically and economically expanded beyond the current design envelope. The project was eventually developed as the first major BNSF Intermodal Design/Build project.

Union Pacific Railroad, UPRR ICTF Feasibility Study, Los Angeles, CA. Intermodal and Rail Modeling Task Lead.
Reviewed the feasibility of two alternatives to expand operations at the Intermodal Container Transfer Facility that services the Port of Los Angeles. Tasks include set up of base mapping, construction staging and preliminary cost estimate and quantities.

Port of Charleston Rail Access, Shipyard Creek Associates, LLC, Laurel Island Intermodal Yard, SC, Intermodal Lead.

Intermodal Lead for the conceptual engineering of a new private intermodal facility to support the Port of Charleston. Kurt developed rail access options and intermodal facility layouts, and estimated the capital cost of these options.

Port of Morrow, Rail Logistics Center Design, OR.

HDR supported the Port in the design and construction of a rail logistics center. It included approximately 18,500 LF of rail spur, including two main line switches; 8,100 LF of mainline siding within UPRR right of way; 6,400 LF of container rail yard siding; and 4,000 LF of extension of rail spur. HDR provided rail-related consulting services, preliminary and final design, construction bid evaluation and construction observation of rail track off the UPRR mainline.

Morongo Band of Mission Indians, Intermodal Feasibility Study, Riverside, CA. Project Manager.

The site is located in a remote area adjacent to the UP railroad between Palm Springs and Los Angeles. HDR performed a study to determine if there was a viable market for an intermodal facility at this location and suggested an alternate use for the site. Federal funding was specially allocated for the Morongo Band of Mission Indians.

Los Angeles County Sanitation District, Workman Mill Road Intermodal Facility, Whittier, CA. Task Leader.

Task Leader for the development and evaluation of intermodal layouts and operating plans. Also, provided advice to the client during railroad negotiations. The purpose of the work is to determine the approximate cost and capacity of a potential Los Angeles County Sanitation Districts (LACSD) intermodal rail yard.



Capt. Jeff Monroe, MM, MTM, CMPE

Port Facility Planning

Jeff has over 40 years of professional experience in the maritime and transportation fields. He has been involved with a wide range of professional consulting activities related to port aviation and marine transportation systems and facility planning; marine transportation and operations; navigation safety; waterfront and airport master planning; maritime preservation and museum planning; project management; logistics planning; distribution network planning; professional training programs and development; port maritime and transportation security; and marine operations, including vessel management, safety security and cargo handling. Jeff has been involved in a number of projects related to multi-modal transportation. He has testified before the United States Congress as an expert witness four times in relation to port security and served as an advisor on two federal maritime advisory committees reporting to the U.S. Secretary of Homeland Security. He has also been involved in national and statewide planning for restoration of the national and regional transportation systems. Jeff is Chairman of the DHS National Maritime Security Advisory Council reporting to the Secretary of Homeland Security and was the former president of the North Atlantic Ports Association.

EDUCATION

MS, Transportation Management
BS, Marine Transportation

REGISTRATIONS

Master Mariner
Certified Marine Port Executive

HDR TENURE

9 years

INDUSTRY TENURE

40 years

RELEVANT EXPERIENCE

Port of Rosedale, Mississippi, Business Development Plan, Rosedale, MS. Project Manager.

Completed a new tariff and business development plan, including the analysis of terminal, property and terminal facilities, including road and rail access. Developed a new set of tariff and rules/regulations for the facility.

Inland Rivers, Ports and Terminal Association, Inland Port Executive Management Curriculum, East Alton, IL. Project Manager.

Developed the inland port executive management curriculum development for the Inland Rivers, Ports and Terminal Association.

Business Development Studies, Eastport, ME; Searsport, ME; Portland, ME; Gloucester, MA; New Bedford, MA; Davisville, RI; Providence, RI; New London, CT; and numerous Canadian ports, Project Manager.

Jeffrey was the project manager for business development studies in Eastport, ME; Searsport, ME; Portland, ME; Gloucester, MA; New Bedford, MA; Davisville, RI; Providence, RI; New London, CT; and numerous Canadian ports.

Marine Operations, Licensed Mariner.

Has Extensive experience with operations on the Mississippi River from Baton Rouge to Head of Passes, LA.

States of Maine and Massachusetts, Rail/Port Intermodal Connecting Analysis, ME and MA. Subject Matter Expert.

Port of Halifax, Nova Scotia, Analysis of Commodity Flows and Comparative Port Analysis, Halifax, Nova Scotia, Project Manager.

Jeff managed an analysis of commodity flows and comparative port analysis for the Port of Halifax. The project looked at various commodities and analyzed intermodal connection origin, destination points and potential new markets. He also completed a comparative port analysis for the Halifax Port Authority, looking at Halifax's gateway capabilities in relationship to comparable U.S. and Canadian ports.

Port of Corner Brook, Business Development Plan and Master Plan, Corner Brook, Newfoundland.

Technical Manager.

HDR was contracted by the Port of Corner Brook to complete an initial functionality assessment business development study and preliminary master plan for the port. Jeff provided the port with a comprehensive overview of its facilities, outlined infrastructure needs and developed a preliminary master plan for the port to assist them in structuring a grant application for facility improvements, infrastructure changes and port expansion.



Chris Goepel

Railroads

Chris Goepel is a Railroad Transportation Planner and Project Manager for HDR, and he assists public and private clients through the study, development and implementation of passenger and freight railroad transportation plans and services. He brings to HDR's public and private clients expertise in passenger and freight railroad operations, markets and policy, as well as railroad service design, infrastructure, safety planning and coordination. He frequently supports freight railroad coordination and railroad operations modeling employed in the service development planning on existing and proposed intercity passenger rail corridors.

EDUCATION

BA, Journalism & Public Policy

HDR TENURE

3 years

INDUSTRY TENURE

16 years

Chris's railroad industry experience includes extensive management of operating and marketing departments of Class II and Class III railroads; multifaceted coordination with Class I railroads, shippers, regulatory agencies and state and local government; participation in railroad safety initiatives and programs; and consultant to railroads, state agencies and consultancy firms. Chris has also managed multi-modal transload facilities and an international dry bulk commodities marine port. Responsibilities included oversight of safe and efficient transportation in the multi-modal environment. Chris is knowledgeable in Federal Railroad Administration (FRA) regulations concerning railroad transportation and safety.

Chris has deep experience working on passenger rail planning projects in the Midwest and the nation and has a broad understanding of the Midwest's freight and passenger railroads and multi-modal transportation network.

RELEVANT EXPERIENCE

Iowa DOT, Iowa State Rail and Freight Plans, Statewide, IA.

Chris is the Deputy Project Manager, Freight Rail Planning Lead, Passenger Rail Planning Support and Public Outreach/Railroad Coordination Support on a project that involves development of an FRA-compliant State Rail Plan that will identify the role of passenger and freight rail transportation, rail service needs and opportunities, potential for economic development and proposed rail improvements and investments in Iowa. Chris is also supporting the Iowa DOT on the development of a companion Iowa State Freight Plan. The Iowa State Rail Plan project includes development of a comprehensive inventory of the state's existing freight transportation network and assets, including all freight carrying modes, facilities and freight gateways and rail corridors. HDR is assisting the Iowa DOT with public and stakeholder outreach and railroad coordination through the facilitation of public meetings; developing recommendations and an investment plan prioritizing improvements to rail access, capacity, efficiency and safety on the state's rail network; and working with the Iowa DOT to develop a companion Strategic Plan that provides a vision for future Iowa DOT rail planning activities.

Iowa DOT, Chicago to Council Bluffs-Omaha Regional Passenger Rail System Planning Study, Chicago, IL to Council Bluffs, IA.

Rail Planning Lead.

The project involved completion of a Service Development Plan for a regional passenger rail service proposed to operate from Chicago across Iowa to Council Bluffs-Omaha, largely on an existing freight rail corridor. Role included providing support to railroad operations modelers, development of a corridor assessment, service development planning and assembly of a passenger rail operations plan and a phased service implementation for the corridor.

Iowa DOT, Quad Cities to Iowa City Passenger Rail Implementation, Quad Cities, IL/IA to Iowa City, IA.

Rail Planning Lead.

The project involved completion of a Tier II Service Development Plan for an Iowa City, IA extension of a proposed passenger rail service from Chicago to Moline, IL, which includes ongoing coordination with Amtrak, the FRA, freight railroads and state and local agencies in Iowa. Role includes freight railroad coordination, providing support to railroad operations modelers and service development planning and strategy.



Joseph Dack

Truck

Joseph has more than 20 years of industry experience and has held a variety of operational and project management roles in the transport and logistics industry across the retail, air cargo, mail and parcel, military, multimodal and public sectors.

RELEVANT EXPERIENCE

EDUCATION

BS, Transportation Planning

HDR TENURE

1 year

INDUSTRY TENURE

23 years

Port Authority of New York and New Jersey, Demand, Capacity and Infrastructure Needs Analysis, New York and New Jersey.

Joseph was part of a wider team assessing future demand, capacities and needs of the bulk, RoRo and container terminals of the Port Authority. He led an assessment of the immediate port road network and established road growth volumes for container movements.

New York City Economic Development Corporation, Economic Impact of Siltation on New York City's Freight Waterways, New York, NY.

Joseph is providing NYCEDC with a comprehensive understanding of the scale, nature and impact of under dredged smaller channels on waterborne commerce and its impacts on local industry and businesses. The ultimate goal of this project is to provide NYCEDC with a plan that enhances the value of the smaller and secondary channels in New York City for freight movement.

Wyoming DOT, State Freight Plan, Wyoming. Assisting with the development of the State Freight Plan. Joseph led tasks associated with the identification of supply chains associated with energy commodity movements utilizing Energy Information Agency (EIA) data.

Rhode Island Division of Planning, State Freight Plan, Rhode Island.

Leading logistics and trucking tasks associated with the RI State Freight Plan, including maritime and air cargo modes. Joseph has also identified and mapped the supply chains flows associated with the movement of bulk liquid fuel into and from Rhode Island, including foreign imports, U.S. domestic shipping, trucking and pipeline.

Office of Freight Mobility — New York City DOT, Truck Routing, New York, NY.

Joseph is working with the Office of Freight Mobility project and is managing amendments to the NYC Truck Route Network, including the identification of new and changes to existing routes to mitigate the impact of trucks on city communities.

Office of Freight Mobility — New York City DOT, Freight Measures of Effectiveness, New York, NY.

Joseph is working with HDR Economists to assess and quantify the impacts and benefits associated with a variety of freight interventions, such as changes to the truck network.

Office of Freight Mobility — New York City DOT, Truck Safety, New York, NY.

Joseph is working on a variety of tasks associated with improving truck safety in New York City. He is coordinating input to a New York City Local Law focused on truck reporting and is analyzing and mapping 47,000 truck crash incidents.

Office of Freight Mobility — New York City DOT, Off Hour Deliveries, New York, NY.

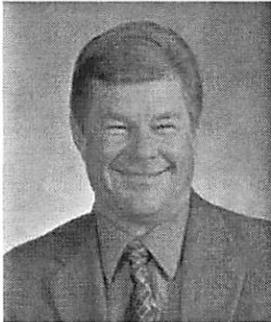
Joseph is leading efforts to develop the Off Hour Delivery Program and the development of initiatives to increase the number of deliveries undertaken at night. Joseph works with logistic and supply chain companies to identify the operational and cost benefits associated with off hour deliveries.

New York State DOT, North Country Access Improvements Canton-Potsdam Corridor Study, New York.

Joseph is the freight lead for this project and has analyzed BTS Transborder and Canada Statistics data to determine truck flows across the U.S./Canadian border. Joseph has also utilized GPS data to identify truck routing patterns within the corridor study.

Rensselaer Polytechnic Institute, NCFRP 38 Project, Troy, NY.

Development of case studies describing the experience of New York City DOT on policies and programs adopted to influence urban freight activity.



Mike Krieber, PE

Landside

Mike is experienced in project/construction management master planning environmental/utility regulation and management and legislative arenas. He has a uniquely strong background in financial aspects of public works projects including determining life cost cycles establishing revenue requirements and setting rates developing capital improvement programs and writing grants and lobbying.

EDUCATION

BS, Civil Engineering

REGISTRATIONS

PE (PA, TX, AK)

HDR TENURE

9 years

INDUSTRY TENURE

35 years

Brownsville Navigation District, TIGER Grant Application Assistance,

Brownsville, TX. Project Manager.

HDR assisted the Brownsville Navigation District in its application for a TIGER Grant to gain funding for Cargo Dock 16 at the Port of Brownsville. The District was awarded the grant and construction has now started on the dock.

Sabine Pass LNG, Terminal Ports and Marine Services,

Sabine Pass River, LA. Project Engineer.

HDR assisted with the development of an LNG terminal on the Sabine River on the Texas-Louisiana border. The terminal site is located on the Louisiana side of the border, about three miles inside the jetties. HDR's involvement began with site evaluation and selection and continued with multiple studies required to support design and licensing. These studies included assessment of vessel traffic and navigation issues, mooring analysis and optimization and development of berth layout. This project site produced interesting challenges, including the fact that the berth(s) lay immediately adjacent to a U.S. Army Corps of Engineers anchorage area. Soil conditions in this area were also down to a depth of about 80 feet and the site was generally remote. HDR prepared the Front End Engineering Documents for the marine portion of the terminal and provided information on the marine facilities to those responsible for the Federal Energy Regulatory Commission licensing process. Front End Engineering Documents included berth dredging, jetty platform, breasting and mooring structures, shoreline protection, tug dock, pipe trestles, aids to navigation and miscellaneous ancillary facilities. The poor soil conditions necessitated that all structures be supported by deep pile foundations. HDR also designed the environmental mitigation as required for impacts to wetlands and aquatic habitat. The overall terminal site is very large and the mitigation will be done onsite predominately by enhancing low-quality wetlands (primarily low marsh) through the use of circulation channels and topographic adjustments to take advantage of the tidally influenced Sabine River elevations.

Brownsville Navigation District, Cargo Dock 16 Final Design,

Brownsville, TX. Project Manager.

Cargo Dock 16 will consist of a 600-foot-long x 150-foot (nominally) -wide structure supported by a pile-supported relieving platform and anchored bulkhead wall. An additional 300-foot-wide dock connecting the existing Cargo Dock 15 with the proposed Cargo Dock 16 will consist of a pile-supported deck. Dredging and revetment are included in the project. The proposed dock expansion also includes an upgrade of an existing backlands patio area with a new patio area adjacent to it. The existing roadway adjacent to Cargo Dock 15 will be extended, separating Cargo Dock 16 and the patio areas. At the end of the roadway extension is a CMU field house with a parking area. Utilities (water wastewater lighting and electrical) will also be extended from Cargo Dock 15 east to the new Cargo Dock 16. The design will be generally based on the Conceptual Site Plan shown in Exhibit B of the 2006 Conceptual Design Report. With HDR's assistance, the Brownsville Navigation District was awarded a TIGER grant to fund the construction of Cargo Dock 16.

Wespac Port Mack LNG.

HDR conducted an LNG export operations assessment for an existing port facility. This included evaluation of loading operations for both barge (ISO container) and small (65000m³) LNG carrier vessel alternatives. HDR assessed the landside and waterside operations feasibility, including loading/unloading operations, mooring, design review and environmental (wind, wave, current and ice) operating challenges and limitations. Work included developing opinions of probable construction cost for site, civil and marine improvements.



Wesley Dortch, PE, D.PE, MBA

Riverfront

Wesley has 19 years of experience in providing structural and civil design and consulting services for a variety of clientele in the transportation, maritime, facilities, government and private sectors. Wesley began HDR's Florida maritime practice in 2007 and continues to serve as HDR's Florida and South Atlantic Port and Marine Business Class Leader. In addition to helping develop and grow this practice, Wesley remains intimately involved in managing projects and overseeing the execution of work.

EDUCATION

MBA, Business
Administration
BS, Civil Engineering

REGISTRATIONS

PE (FL)

HDR TENURE

8 years

INDUSTRY TENURE

19 years

Miami-Dade County Seaport, Wharves Strengthening Program, Miami Dade County, FL.

Project Manager/Engineer of Record.
As Prime Consultant, HDR helped the Miami Dade County Seaport prepare for the deepening of its harbor from 45 feet to 50. The future dredging to 50 feet (plus 2-ft overdrudge allowance) required that the existing container wharf structures, comprised of over 6,000 linear feet of both combi-wall bulkheaded and pile-supported marginal construction, be strengthened to accommodate the increased depth and larger future vessels. The HDR team provided detailed design, construction documents and construction support. The new \$65 million construction was designed to make maximum use of existing structural elements, including remaining bulkhead section and anchors, and supplemented these with a new combi-wall sheet pile bulkhead and new pre-tensioned soil anchors. The new structure is capable of supporting mooring and berthing loads associated with New Panamax vessels.

Jacksonville Port Authority (JAXPORT), Blount Island Marine Terminal Rehabilitation and Upgrades, Jacksonville, FL. Project Manager.

HDR provided engineering services for the design and preparation of bid documents, and provided engineering support during construction for the planned rehabilitation of approximately 4,700 linear feet of wharf at Blount Island Marine Terminal (Two phases were completed under the original contract). HDR provided several replacement and retrofit alternatives to the Port Authority. Ultimately, an innovative, interim solution was selected to allow for accelerated construction while limiting capital expenditure. This interim solution was less than 20 percent of the estimated full structure replacement alternative cost, which was not achievable within the Port's operating budget and timeframe at the time.

Jacksonville Port Authority (JAXPORT), Blount Island Marine Terminal Reconstruction, Jacksonville, FL. Quality Control.

HDR was selected by the Jacksonville Port Authority (JAXPORT) to provide planning and engineering design services for a full wharf replacement reconstruction at its Blount Island Marine Terminal (BIMT) facility. The existing facility was capable of servicing Panamax vessels, and ship-to-shore container transfer operations were conducted with a fleet of 50-foot gage rail-mounted, diesel-powered ship-to-shore (STS) gantry cranes. As part of the plan to modernize the container operations and facilities at BIMT, as well as to substantially increase the throughput capacity, the new wharf is designed to support 100-foot gage electrified STS cranes and Post Panamax vessels. The project, in excess of \$100 million in new construction by completion, will provide the Port with a new Post-Panamax capable container and mixed cargo wharf to service its needs well into the latter half of this century.

Jacksonville Port Authority (JAXPORT), Talleyrand Marine Terminal Emergency Repairs, Jacksonville, FL. Project Manager/ Engineer of Record/Construction Oversight.

This project included bulkhead and dock repairs and site stabilization following the failure of the existing 45-year-old bulkhead at JAXPORT's Talleyrand Marine Terminal Berth 6. The bulkhead, with a 36-foot retained height, is located directly beneath the shore crane rail of the terminal, for which operations could not be impacted by construction. Difficulties encountered during construction included the need for stabilizing slope failure and soil movement through the bulkhead, and the protection of a primary 78-inch RCP municipal wastewater treatment outfall that discharged through the bulkhead at elevation minus-31 feet and for which the failed bulkhead structure no longer provided support.



Matt Pillard, AICP

Environmental Permitting

Matt is experienced in multiple aspects of environmental and natural resource management activities. He has been responsible for project management and technical development of environmental assessments, environmental impact statements and environmental permitting. Matt has expertise in watershed planning and water and natural resources planning and management. He is experienced with Section 404 of the Clean Water Act requirements, including development of Section 404(b)(1) showing documents. Matt has led Section 7 of the Endangered Species Act consultation activities. He has experience with third-party contracting for NEPA compliance. Matt has developed multiple wetland mitigation banking instruments. His current responsibilities include project management, NEPA compliance, environmental permitting and compliance, watershed management planning, wetland delineations, wetland and stream mitigation, stream channel assessments and natural stream channel design concepts, wetland and stream mitigation banking and environmental resource planning and management.

EDUCATION

MS, Community and
Regional Planning
BS, Natural Resources

REGISTRATIONS

AICP

HDR TENURE

18 years

INDUSTRY TENURE

20 years

Iowa DOT, US 20 Corridor Study,

Dubuque, IA. Environmental Scientist.
HDR conducted a location and environmental study of US 20 from the Peosta, IA interchange to Devon Drive in Dubuque. Traffic forecasting and analysis were key in the concept development phase of the study.

Iowa DOT, US 20 Supplemental Environmental Assessment (EA),

Dubuque, IA. Environmental Project Manager.
HDR is providing additional concept development, an EA addendum and a National Environmental Policy Act decision document associated with capacity improvements on US 20 in Dubuque from east of the proposed SW Arterial interchange to the Middle Fork of Catfish Creek.

City of Yankton, WTP Facility Plan,

Yankton, SD. Quality Control.
HDR prepared a facilities plan and submitted it as part of the State Water Plan Drinking Water SRF application. The project resulted in a complete Facility Plan, which will be submitted to the DENR for approval of proposed improvements and to meet the requirements of the State Drinking Water Revolving Loan Fund for potential funding of the improvements. Supplementary information required for the SRF approval will also be developed and submitted.

IIW Engineers & Surveyors PC, Guttenberg Marina,

Guttenberg, IA. Project Manager.
Responsible for project management and technical preparation. This project involves the construction of a recreational marina on the Mississippi River in Guttenberg, IA. HDR provided environmental services as a subconsultant to IIW Engineers and Surveyors. A section 404 permit was required to dredge wetland and upland areas to form the marina. HDR performed wetland delineations and developed the Section 404 permit, including a wetland mitigation concept. Due to the presence of Higgins eye pearly mussel (*Lampsilis higginsii*), a biological assessment was required. HDR coordinated the mussel survey effort and developed the biological assessment for the Corps. Through the Section 7 consultation, alternative designs were developed to minimize impacts to the mussel.

Papio-Missouri River NRD, Big Papillion Creek Channel Restabilization,

NE. Environmental Permitting.
HDR evaluated the stabilization failure along the existing gabion protected left bank of the Big Papillion Creek, collected data, provided preliminary and final design and completed Section 404 permitting. HDR also provided bidding assisting, full-time on-site observation and construction documentation.



Cost Proposal

HDR has prepared a cost proposal based on the scope of work described in the Technical Response section. The table below lists the projects tasks, the hours estimate for completion of each task by HDR project team member, their hourly rate and task/project totals.

Tasks	Project Manager	Sr. Port Specialist	Principal Economist	Port Planner	Environmental Specialist	Economist / Reseach Analyst	Admin	Rail Operations	Total Fees \$
	Kevin Keller	Jeff Monroe	Fred Kramer	Michael Krieber	Matt Pillard	Olga Kosta	Renee Splers	Chris Goepel	
Hourly Rate	\$ 259	\$ 228	\$ 285	\$ 209	\$ 164	\$ 96	\$ 84	\$ 147	
0. Project Initiation	4						4		\$ 1,370
1. Market Demand Study	16	16	40			24		16	\$ 23,831
2. Primary Characteristics and Site Development	16	16		24		16		40	\$ 20,213
3. Conceptual Costs	12	8		16	16			16	\$ 13,245
4. Funding Alternatives	16	8	16	4	4	16		4	\$ 14,133
5. Conclusions and Report	16	16	16	8	4	4	4	40	\$ 21,264
Totals	80	64	72	52	24	60	8	116	\$ 94,057

Travel	\$ 5,884
	\$ 99,941

Direct Cost Details
 HDR Engineering, Inc.
 Port of Muscatine Feasibility Study

(Assume 3 trips by 3 HDR Staff - 2 days duration)					
TRAVEL COSTS	RENTAL CAR (DAYS)	LODGING (PERSON-NIGHTS)	MEALS (PERSON-DAYS)		
Container Terminal Facility	6	9	27		
TOTAL	6	9	27		
UNIT	NUMBER	UNIT COST	EXTENDED COSTS		
-RENTAL CAR DAYS	6	\$ 50.00	\$ 300.00		
-LODGING NIGHTS	9	\$ 89.00	\$ 801.00		
-LODGING TAX	9	\$ 20.00	\$ 180.00		
-MEALS DAY	27	\$ 32.00	\$ 864.00		
-FLIGHTS	4	\$ 800.00	\$ 3,200.00		
-PARKING	9	\$ 10.00	\$ 90.00		
-FUEL FOR RENTAL	125	\$ 2.50	\$ 312.50		
SUBTOTAL TRAVEL COSTS			\$ 5,747.50		
PRINTING COSTS	NUMBER COPIES	NUMBER PAGES	TOTAL PAGES	UNIT COST	EXTENDED COST
Technical Memos	25	25	625	\$ 0.16	\$ 100.00
Final Report	10	50	500	\$ 0.16	\$ 80.00
SUBTOTAL PRINTING COSTS					
MAILINGS	NUMBER	COST PER MAILING	TOTAL		
	75	0.49	\$ 36.75		
SUBCONSULTANTS COSTS	ESTIMATED SUBCONSULTANT				
					\$ -
					\$ -
					\$ -
				Total	\$ -
DIRECT COST SUMMARY					
-TRAVEL				\$	5,747.50
-PRINTING				\$	100.00
-MAILINGS				\$	36.75
DIRECT COST TOTAL				HDR \$	5,884.25

EXHIBIT B

TERMS AND CONDITIONS

HDR Engineering, Inc.

Terms and Conditions for Professional Services

1. STANDARD OF PERFORMANCE

The standard of care for all professional engineering, consulting and related services performed or furnished by ENGINEER and its employees under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under the same or similar circumstances at the same time and in the same locality. ENGINEER makes no warranties, express or implied, under this Agreement or otherwise, in connection with ENGINEER's services.

2. INSURANCE/INDEMNITY

ENGINEER agrees to procure and maintain, at its expense, Workers' Compensation insurance as required by statute; Employer's Liability of \$250,000; Automobile Liability insurance of \$1,000,000 combined single limit for bodily injury and property damage covering all vehicles, including hired vehicles, owned and non-owned vehicles; Commercial General Liability insurance of \$1,000,000 combined single limit for personal injury and property damage; and Professional Liability insurance of \$1,000,000 per claim for protection against claims arising out of the performance of services under this Agreement caused by negligent acts, errors, or omissions for which ENGINEER is legally liable. OWNER shall be made an additional insured on Commercial General and Automobile Liability insurance policies and certificates of insurance will be furnished to the OWNER. ENGINEER agrees to indemnify OWNER for claims to the extent caused by ENGINEER's negligent acts, errors or omissions. However, neither Party to this Agreement shall be liable to the other Party for any special, incidental, indirect, or consequential damages (including but not limited to loss of profits or revenue; loss of use or opportunity; loss of good will; cost of substitute facilities, goods, or services; and/or cost of capital) arising out of, resulting from, or in any way related to the Project or the Agreement from any cause or causes, including but not limited to any such damages caused by the negligence, errors or omissions, strict liability or breach of contract.

3. OPINIONS OF PROBABLE COST (COST ESTIMATES)

Any opinions of probable project cost or probable construction cost provided by ENGINEER are made on the basis of information available to ENGINEER and on the basis of ENGINEER's experience and qualifications, and represents its judgment as an experienced and qualified professional engineer. However, since ENGINEER has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s)' methods of determining prices, or over competitive bidding or market conditions, ENGINEER does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost ENGINEER prepares.

4. CONSTRUCTION PROCEDURES

ENGINEER's observation or monitoring portions of the work performed under construction contracts shall not relieve the contractor from its responsibility for performing work in accordance with applicable contract documents. ENGINEER shall not control or have charge of, and shall not be responsible for, construction means, methods, techniques, sequences, procedures of construction, health or safety programs or precautions connected with the work and shall not manage, supervise, control or have charge of construction. ENGINEER shall not be responsible for the acts or omissions of the contractor or other parties on the project. ENGINEER shall be entitled to review all construction contract documents and to require that no provisions extend the duties or liabilities of ENGINEER beyond those set forth in this Agreement. OWNER agrees to include ENGINEER as an indemnified party in OWNER's construction contracts for the work, which shall protect ENGINEER to the same degree as OWNER. Further, OWNER agrees that ENGINEER shall be listed as an additional insured under the construction contractor's liability insurance policies.

5. CONTROLLING LAW

This Agreement is to be governed by the law of the state where ENGINEER's services are performed.

6. SERVICES AND INFORMATION

OWNER will provide all criteria and information pertaining to OWNER's requirements for the project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations. OWNER will also provide copies of any

OWNER-furnished Standard Details, Standard Specifications, or Standard Bidding Documents which are to be incorporated into the project.

OWNER will furnish the services of soils/geotechnical engineers or other consultants that include reports and appropriate professional recommendations when such services are deemed necessary by ENGINEER. The OWNER agrees to bear full responsibility for the technical accuracy and content of OWNER-furnished documents and services.

In performing professional engineering and related services hereunder, it is understood by OWNER that ENGINEER is not engaged in rendering any type of legal, insurance or accounting services, opinions or advice. Further, it is the OWNER's sole responsibility to obtain the advice of an attorney, insurance counselor or accountant to protect the OWNER's legal and financial interests. To that end, the OWNER agrees that OWNER or the OWNER's representative will examine all studies, reports, sketches, drawings, specifications, proposals and other documents, opinions or advice prepared or provided by ENGINEER, and will obtain the advice of an attorney, insurance counselor or other consultant as the OWNER deems necessary to protect the OWNER's interests before OWNER takes action or forebears to take action based upon or relying upon the services provided by ENGINEER.

7. SUCCESSORS, ASSIGNS AND BENEFICIARIES

OWNER and ENGINEER, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the covenants of this Agreement. Neither OWNER nor ENGINEER will assign, sublet, or transfer any interest in this Agreement or claims arising therefrom without the written consent of the other. No third party beneficiaries are intended under this Agreement.

8. RE-USE OF DOCUMENTS

All documents, including all reports, drawings, specifications, computer software or other items prepared or furnished by ENGINEER pursuant to this Agreement, are instruments of service with respect to the project. ENGINEER retains ownership of all such documents. OWNER may retain copies of the documents for its information and reference in connection with the project; however, none of the documents are intended or represented to be suitable for reuse by OWNER or others on extensions of the project or on any other project. Any reuse without written verification or adaptation by ENGINEER for the specific purpose intended will be at OWNER's sole risk and without liability or legal exposure to ENGINEER, and OWNER will defend, indemnify and hold harmless ENGINEER from all claims, damages, losses and expenses, including attorney's fees, arising or resulting therefrom. Any such verification or adaptation will entitle ENGINEER to further compensation at rates to be agreed upon by OWNER and ENGINEER.

9. TERMINATION OF AGREEMENT

OWNER or ENGINEER may terminate the Agreement, in whole or in part, by giving seven (7) days written notice to the other party. Where the method of payment is "lump sum," or cost reimbursement, the final invoice will include all services and expenses associated with the project up to the effective date of termination. An equitable adjustment shall also be made to provide for termination settlement costs ENGINEER incurs as a result of commitments that had become firm before termination, and for a reasonable profit for services performed.

10. SEVERABILITY

If any provision of this agreement is held invalid or unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term or condition shall not be construed by the other party as a waiver of any subsequent breach of the same provision, term or condition.

11. INVOICES

ENGINEER will submit monthly invoices for services rendered and OWNER will make payments to ENGINEER within thirty (30) days of OWNER's receipt of ENGINEER's invoice.

ENGINEER will retain receipts for reimbursable expenses in general accordance with Internal Revenue Service rules pertaining to the support of expenditures for income tax purposes. Receipts will be available for inspection by OWNER's auditors upon request.

If OWNER disputes any items in ENGINEER's invoice for any reason, including the lack of supporting documentation, OWNER may temporarily delete the disputed item and pay the remaining amount of the invoice. OWNER will promptly notify ENGINEER of the dispute and request clarification and/or correction. After any dispute has been settled, ENGINEER will include the disputed item on a subsequent, regularly scheduled invoice, or on a special invoice for the disputed item only.

OWNER recognizes that late payment of invoices results in extra expenses for ENGINEER. ENGINEER retains the right to assess OWNER interest at the rate of one percent (1%) per month, but not to exceed the maximum rate allowed by law, on invoices which are not paid within thirty (30) days from the date OWNER receives ENGINEER's invoice. In the event undisputed portions of ENGINEER's invoices are not paid when due, ENGINEER also reserves the right, after seven (7) days prior written notice, to suspend the performance of its services under this Agreement until all past due amounts have been paid in full.

12. CHANGES

The parties agree that no change or modification to this Agreement, or any attachments hereto, shall have any force or effect unless the change is reduced to writing, dated, and made part of this Agreement. The execution of the change shall be authorized and signed in the same manner as this Agreement. Adjustments in the period of services and in compensation shall be in accordance with applicable paragraphs and sections of this Agreement. Any proposed fees by ENGINEER are estimates to perform the services required to complete the project as ENGINEER understands it to be defined. For those projects involving conceptual or process development services, activities often are not fully definable in the initial planning. In any event, as the project progresses, the facts developed may dictate a change in the services to be performed, which may alter the scope. ENGINEER will inform OWNER of such situations so that changes in scope and adjustments to the time of performance and compensation can be made as required. If such change, additional services, or suspension of services results in an increase or decrease in the cost or time required for performance of the services, an equitable adjustment shall be made, and the Agreement modified accordingly.

13. CONTROLLING AGREEMENT

These Terms and Conditions shall take precedence over any inconsistent or contradictory provisions contained in any proposal, contract, purchase order, requisition, notice-to-proceed, or like document.

14. EQUAL EMPLOYMENT AND NONDISCRIMINATION

In connection with the services under this Agreement, ENGINEER agrees to comply with the applicable provisions of federal and state Equal Employment Opportunity for individuals based on color, religion, sex, or national origin, or disabled veteran, recently separated veteran, other protected veteran and armed forces service medal veteran status, disabilities under provisions of executive order 11246, and other employment, statutes and regulations, as stated in Title 41 Part 60 of the Code of Federal Regulations § 60-1.4 (a-f), § 60-300.5 (a-e), § 60-741 (a-e).

15. HAZARDOUS MATERIALS

OWNER represents to ENGINEER that, to the best of its knowledge, no hazardous materials are present at the project site. However, in the event hazardous materials are known to be present, OWNER represents that to the best of its knowledge it has disclosed to ENGINEER the existence of all such hazardous materials, including but not limited to asbestos, PCB's, petroleum, hazardous waste, or radioactive material located at or near the project site, including type, quantity and location of such hazardous materials. It is acknowledged by both parties that ENGINEER's scope of services do not include services related in any way to hazardous materials. In the event ENGINEER or any other party encounters undisclosed hazardous materials, ENGINEER shall have the obligation to notify OWNER and, to the extent required by law or regulation, the appropriate governmental officials, and ENGINEER may, at its option and without liability for delay, consequential or any other damages to OWNER, suspend performance of services on that portion of the project affected by hazardous materials until OWNER: (i) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the hazardous materials; and (ii) warrants that the project site is in full compliance with all applicable laws and regulations. OWNER acknowledges that ENGINEER is performing professional services for OWNER and that ENGINEER is not and shall not be required to become an "arranger," "operator,"

"generator," or "transporter" of hazardous materials, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (CERCLA), which are or may be encountered at or near the project site in connection with ENGINEER's services under this Agreement. If ENGINEER's services hereunder cannot be performed because of the existence of hazardous materials, ENGINEER shall be entitled to terminate this Agreement for cause on 30 days written notice.

To the fullest extent permitted by law, OWNER shall indemnify and hold harmless ENGINEER, its officers, directors, partners, employees, and subconsultants from and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from hazardous materials, provided that (i) any such cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or injury to or destruction of tangible property (other than completed Work), including the loss of use resulting therefrom, and (ii) nothing in this paragraph shall obligate OWNER to indemnify any individual or entity from and against the consequences of that individual's or entity's sole negligence or willful misconduct.

16. EXECUTION

This Agreement, including the exhibits and schedules made part hereof, constitute the entire Agreement between ENGINEER and OWNER, supersedes and controls over all prior written or oral understandings. This Agreement may be amended, supplemented or modified only by a written instrument duly executed by the parties.

17. ALLOCATION OF RISK

OWNER AND ENGINEER HAVE EVALUATED THE RISKS AND REWARDS ASSOCIATED WITH THIS PROJECT, INCLUDING ENGINEER'S FEE RELATIVE TO THE RISKS ASSUMED, AND AGREE TO ALLOCATE CERTAIN OF THE RISKS, SO, TO THE FULLEST EXTENT PERMITTED BY LAW, THE TOTAL AGGREGATE LIABILITY OF ENGINEER (AND ITS RELATED CORPORATIONS, SUBCONSULTANTS AND EMPLOYEES) TO OWNER AND THIRD PARTIES GRANTED RELIANCE IS LIMITED TO THE GREATER OF \$100,000 OR ITS FEE, FOR ANY AND ALL INJURIES, DAMAGES, CLAIMS, LOSSES, OR EXPENSES (INCLUDING ATTORNEY AND EXPERT FEES) ARISING OUT OF ENGINEER'S SERVICES OR THIS AGREEMENT REGARDLESS OF CAUSE(S) OR THE THEORY OF LIABILITY, INCLUDING NEGLIGENCE, INDEMNITY, OR OTHER RECOVERY. THIS LIMITATION SHALL NOT APPLY TO THE EXTENT THE DAMAGE IS PAID UNDER ENGINEER'S COMMERCIAL GENERAL LIABILITY INSURANCE POLICY.

18. LITIGATION SUPPORT

In the event ENGINEER is required to respond to a subpoena, government inquiry or other legal process related to the services in connection with a legal or dispute resolution proceeding to which ENGINEER is not a party, OWNER shall reimburse ENGINEER for reasonable costs in responding and compensate ENGINEER at its then standard rates for reasonable time incurred in gathering information and documents and attending depositions, hearings, and trial.

19. UTILITY LOCATION

If underground sampling/testing is to be performed, a local utility locating service shall be contacted to make arrangements for all utilities to determine the location of underground utilities. In addition, OWNER shall notify ENGINEER of the presence and location of any underground utilities located on the OWNER's property which are not the responsibility of private/public utilities. ENGINEER shall take reasonable precautions to avoid damaging underground utilities that are properly marked. The OWNER agrees to waive any claim against ENGINEER and will indemnify and hold ENGINEER harmless from any claim of liability, injury or loss caused by or allegedly caused by ENGINEER's damaging of underground utilities that are not properly marked or are not called to ENGINEER's attention prior to beginning the underground sampling/testing.