

**APPENDIX E:**  
**COMPLIANCE ASSURANCE PLAN**  
**CASE 10-T-0139**

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**COMPLIANCE ASSURANCE PLAN**

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## 1.0 INTRODUCTION

As specified in Certificate Condition 160, the Certificate Holders have developed this Compliance Assurance Plan to ensure that quality standards are followed, and environmental compliance is maintained. The Certificate Holders will implement this Compliance Assurance Plan to confirm that the Project components and tasks conform to the Certificate issued by the Public Service Commission on April 18, 2013 (as amended), and the technical specifications of the Plan & Profile Drawings as well as the procedures outlined in the sections of the EM&CP.

## 2.0 INSPECTORS CONTACT INFORMATION

Appendix A of this Compliance Assurance Plan includes the resumes for the Inspectors and contact leads are summarized in Table 1 below. For those positions not yet filled, names, contact information, and qualifications will be provided to DPS Staff for review two (2) weeks prior to the start of construction.

Table 1 - Contact Information

Inspector Type	Contact Name(s)	Contact Information
Safety Inspector	Bear Kirk	bear.kirk@wsp.com 302-579-9390
Quality Assurance Inspector	Fernando Gonzales	fernando.gonzales@wsp.com 201-951-3649
Construction Inspector	Joe Fonzi	<a href="mailto:J.fonzi@wsp.com">J.fonzi@wsp.com</a> 716-207-3291
Environmental Inspector	Willie Keeney Neil Brown	wkeeney@diehluxllc.com 507-637-7499 <a href="mailto:neil.brown@wsp.com">neil.brown@wsp.com</a> 219-384-3975
Agricultural Inspector	Not Applicable – No Agricultural Lands associated with ARC Project Segment 23.	

In the event that two or more major construction operations are undertaken simultaneously in areas separated by ordinary highway driving of more than three (3) hours, the Certificate Holders will ensure that at least one inspector of each type shall be assigned to each construction area as needed. The Certificate Holders have a broad bench of inspectors, however, if needed, they will hire additional qualified inspectors to fulfil duties in different areas.

### **3.0 QUALITY CONTROL INSPECTIONS**

The Quality Assurance Inspector will perform the Quality Control Audits on behalf of the Certificate Holders. The Quality Assurance Inspector will have the qualifications and responsibilities specified in Section 3.1 of the EM&CP and Certificate Condition 53.

The Quality Control Inspections will include the following components:

1. Purchasing Quality Control Inspections, which will ensure the Project materials, structures, equipment, and components purchased conform to the technical specifications identified in the Plan & Profile Drawings as well as the procedures and specifications described in the EM&CP.
2. Construction Quality Inspections, which will ensure that the Project is being constructed in accordance with the design and technical specifications for the Project. The Certificate Holders will notify the DPS Staff representative of when the field reviews will occur.
3. Compliance Inspections, which will ensure that the Certificate Holders are in compliance with the Article VII Certificate and all requirements of the Certificate Conditions.

#### **3.1 Quality Control Inspection Schedule**

Quality Control Inspections will be completed at least monthly during the pre-construction, and construction phases. The Inspections will be performed annually during the first two years of the post construction phase.

#### **3.2 Reporting & Documentation**

After each Quality Control Inspection, the Quality Assurance Inspector will alert the Certificate Holders of areas of non-conformance with the construction plans or non-compliance associated with the Certificate Conditions that were observed during the Inspection. If any areas of non-conformance require immediate attention such as those that impact the safety of Project personnel, work will be halted immediately and the Quality Assurance Inspector will alert the person supervising the construction and the Certificate Holders immediately and the Certificate Holders will collaborate with their team to determine the most appropriate course of action within the requirements of Certificate Conditions and the standard of care for the of the industry and then perform the actions necessary to resolve the issue as quickly as possible.

If immediate actions are not required, the Certificate Holders will prepare a report that documents the corrective and preventative actions to address the issues observed by the Quality Assurance Inspector. This report will be completed in a prompt manner consistent with the issues it is addressing and filed with the Certificate Holders and DPS Staff if applicable.

For any issues brought to the attention of the Quality Assurance Inspector or the Certificate Holders by any utility owners or operators whose property has been damaged in any material way as a result of the construction, the Certificate Holders will prepare a similar report with the guidance of the Quality Assurance Inspector, applicable utility owners, and agencies as needed. This report will document the corrective and preventative actions to address all damages that have occurred or have the potential to occur. This report will be completed in a prompt manner consistent with the issues it is addressing and filed with the Certificate Holders and DPS Staff if applicable.

### **3.2.1 Purchasing Quality Control Audits**

Within five (5) business days following completion of each Purchasing Quality Control Audit, the Certificate Holders will provide to the DPS Staff Representative a report of such audit that includes: (i) a description of the results of the audit, particularly with respect to results that identify that one or more structures or components the Certificate Holders purchased for installation in the Project did not conform to the specification for structures or components described in the approved EM&CP; and, (ii) any notes pertinent to the subject matter of such audit which were made at audit meetings by the Certificate Holders' personnel and contractors who performed the audit.

If any Purchasing Quality Control Audit conducted by the Certificate Holders confirms that one or more structures or components the Certificate Holders purchased for installation in the Project did not conform to the specification for structures and components described in the approved EM&CP, the Certificate Holders will: (i) provide written notification to the Secretary within 24 hours of the Certificate Holder's confirmation of such non-conformity; and (ii) describe the steps the Certificate Holders will take to correct the non-conformity, including whether any components must be dismantled and sent back to the manufacturer, as well as a detailed estimate of all costs and expected delays in construction resulting from such non-conformity.

### **3.2.2 Construction Quality Control Audits**

After reviewing the active construction work areas, purchased construction equipment and materials, and design plans the Construction Inspector, with the help of other inspectors where applicable, will prepare a written report of the findings on whether the Project is being constructed in accordance with the design for the Project. This construction quality control audit may also involve discussions and meeting with the design engineer, construction contractor, and construction personnel as needed. This written report will be generated every month during construction of the Project and submitted to the Certificate Holder. The Certificate Holders will provide a copy of each such report to the DPS Staff Representative three (3) business days after the report is generated.

If materials, structures, or components are installed that do not conform to those specified in the EM&CP, the Certificate Holder, within one (1) month after becoming aware of such incident, shall prepare and deliver to the DPS Staff Representative a summary report detailing the incident, the steps to be taken to rectify the non-conformance, the material and labor costs associated with addressing the issue, and the manner in which such costs will be accounted for separately from the Certificate Holder's other Project costs.

### **3.2.3 Compliance Inspections**

Compliance inspections and oversight shall be conducted daily by the designated compliance inspector(s) for all construction activities. The duration of inspections and oversight of the compliance inspectors will be dependent on activity type, location, or otherwise required by Certificate Condition(s). Designated compliance inspector(s) will provide constant oversight for HDD and dredging operations, and conduct inspections as required. The Certificate Holders will provide to DPS Staff a weekly schedule of the Environmental Inspector and the Construction Inspector and their cell phone numbers. The Environmental Inspectors and Construction Inspectors will be properly equipped to effectively monitor each Contractors' compliance with the provisions of the Certificate and applicable sections of the PSL, New York State Environmental Conservation Law ("ECL"), the Water Quality Certification ("WQC") issued in connection with the Facility pursuant to Section 401 of the Federal Clean Water Act and the approved EM&CP for each segment of the Project. The Agricultural Inspector will be available to provide site-specific agricultural information and have direct contact with affected farm operators, County Soil and Water Conservation Districts, and the New York State Department of Agriculture and Markets. The Agricultural Inspector will maintain regular contact with the Environmental Inspectors and the Construction Inspectors throughout the construction phase. The Agricultural Inspector will also maintain and document regular contact with the affected farmers and County Soil and Water Conservation Districts concerning farm resources and management matters

pertinent to the agricultural operations and the site-specific implementation of the approved EM&CP.

These Compliance inspections will be recorded daily using standardized forms (Daily Reports) for each type of compliance inspection. These forms will include components of the work matters to inspect for compliance, specific items and locations inspected will be recorded along with the inspection method employed and acceptability criteria. During the work, if an inspector identifies an item of noncompliance with construction plans or with the Certificate Conditions, the Inspector will alert the person supervising the construction where the noncompliance was observed immediately so that they can take appropriate corrective action. The Inspector will document noncompliance matters and their corrective action in the Daily Report which will be provided to Certificate Holders within a centralized data sharing platform.

The Certificate Holders will promptly notify DPS Staff and NYSDEC if a New York State listed species of special concern is observed to be present in the Facility area (Certificate Condition 51).

The Certificate Holders will promptly notify DPS Staff, NYSDEC and the United States Fish and Wildlife Service (“USFWS”) or National Marine Fisheries Service (“NMFS”) (if applicable) if any threatened or endangered wildlife species under 6 N.Y.C.R.R. Part 182 (“TE species”) or any rare, threatened or endangered plant species under 6 N.Y.C.R.R. Part 193 (“RTE plants”) are observed to be present in the Facility area so as to determine the appropriate measures to be taken to avoid or minimize impacts to such species. If necessary to avoid or minimize impacts to such species or as directed by DPS Staff, the Certificate Holders will stabilize the Project area and cease construction or ground disturbing activities in the immediate area of the threatened or endangered species until DPS Staff have determined that appropriate protective measures have been implemented (Certificate Condition 52).

#### **4.0 ENVIRONMENTAL AUDITS**

Environmental audits will be conducted during the construction phase of the Project. These environmental audits will be performed by the Environmental Inspector with the help of the Quality Assurance Inspector and Agricultural Inspector (and Aquatic Inspector for Marine portions of the Project) as needed.

#### **4.1 Environmental Audit Schedule**

Monthly environmental audits will be conducted during the construction phase of the Project. Additionally, annual environmental audits will be conducted during the first two (2) years of the operation of the Project. The Certificate Holders will inform DPS Staff, NYSDEC, and affected state and municipal agencies of the schedule for these audits and the submission of their findings at least 30 days prior to the audit. Upon completion of the audits, DPS and DEC will be provided with a written explanation of the problem(s) signed by the independent inspectors and an authorized representative of the Certificate Holders, together with the audit checklists. Further details on the specific checklists to be used for these annual audits will be developed in consultation with the independent inspectors.

#### **4.2 Reporting And Documentation**

The environmental audits will address all environmental concerns identified by the Environmental Inspector after consulting with the other inspectors, Project personnel, and others observing construction of the Project. The Environmental Inspector will prepare a report that documents the concerns or areas on non-compliance identified during the inspection. This report will be signed by the Environmental Inspector and submitted to the Certificate Holders or their authorized representative, DPS Staff and NYSDEC. The Certificate Holders will consult with their team, DPS and NYSDEC to determine the corrective and preventative actions to address the identified non-compliance and then implement such actions.

### **5.0 POST INSTALLATION INSPECTION PLAN**

An immediate post-installation inspection will be performed by the Certificate Holders after the Segment 1 & 2 is completed with the help of their Inspectors as needed.

#### **5.1 Cable Location**

Installation of the cable facility will be overseen by Certificate Holders' Owner Engineer to verify cable location, burial depth, Good Utility Practices, Collocated Infrastructure owner requirements are met, and that damage to any pre-existing facility and/or infrastructure during installation is promptly repaired. If any locations are identified where the cable burial depth is less than the design depth, additional burial and/or protection efforts will be performed as determined by the Certificate Holders Engineer and any relevant agencies that may be consulted. The installed cable



facility locations and elevations will be and recorded as part of the Facility operational plans and records.

## **5.2 Damage To Infrastructure**

Working daily during construction with the Quality Assurance Inspector and any applicable utility owners, the Certificate Holders will determine if any damage has occurred to pre-existing facilities and infrastructure as a result of the construction of the Project. If damage is found the Certificate Holders will immediately notify the CI owners and operators of the nature of such damage and other known facts relating to the cause the damage. Repairs will be made in accordance with the Certificate and with CI owner requirements and with their direct consultation.

In any situation involving imminent risk to health, safety, property, or the environment requiring the Certificate Holders to cross CI to address the emergency, the Certificate Holders will notify the CI owners and operators as soon as possible. Such notice will include instances when transport or travel over or under CI would be subject to special approval by state and/or local authorities due to the size or weight of load(s) transported.

## **5.3 Schedule**

Periodic verifications of any areas of concern identified during the Post-Installation Inspection shall be performed by the Certificate Holders for a maximum of three (3) years for the overland locations of the Project. Post-Installation Inspection methods and schedules will be included in a Post-Installation Inspection Plan and/or Maintenance & Emergency Action Plan that will be provided to DPS Staff in accordance with Certificate Condition 161(a & b).

## **5.4 Maintenance And Emergency Action Plan**

The HVDC and HVAC transmission cables are designed to be relatively maintenance-free and operate within the specified working conditions. In addition, while not anticipated, it is possible that over the lifespan of the transmission cables could be damaged, either by human activity or natural processes.

The transmission cables performance will be continuously monitored by a DxS Fiber Monitoring system and communication fiber optic cable system. This system will be installed with the cables over the entire length that will monitor power cable temperature (DTS) and nearby acoustic noise sources (DAS) and to ensure optimal performance and maintenance of the system. This system will alert the facility operator to any physical incursions to the cable. The facility operator will

dispatch inspectors to the location provided by the monitoring system to investigate and develop an appropriate response.

A maintenance and emergency action plan will be included in the overall Facility Operation and Maintenance Plan (Plan) to be compiled during construction and prior to operations. This Plan will include processes and actions that meet the requirements of Certificate Condition 162 (b). The following provides an overview of key activities that will be included in the Plan. In general, the plan will integrate and coordinate maintenance of the Facility with that of adjacent facilities, structures, and property to the extent practicable, in accordance with Certificate Condition 14.

#### 5.4.1 Maintenance

When planning and performing maintenance on the Facility in the vicinity of CI, the Certificate Holders will conduct such repairs in accordance with CI protocols agreed to for initial construction.

##### 5.4.1.1 *Overland Transmission Cable*

During construction, vegetation will be managed in accordance with Erosion and Sediment Control Plan and the Invasive Species Control Plan. During the operational phase of the transmission facility, vegetation management will be conducted within the transmission line ROW to prevent the growth of large woody vegetation to avoid potential damage to the transmission cables and preserve access to the ROW, in accordance with this plan. These activities would include cutting woody vegetation by hand or mechanical means. These activities will be coordinated with DOTs and railroads where the transmission cable is located within their ROWs.

During these cutting activities, the Certificate Holders' contractor will inspect the ground cover to determine if there has been any significant disturbance to the overlying soils. If it appears that the disturbance is of a nature that could reduce the burial depth of the cables or which is resulting in erosion, the contractor will alert the Certificate Holders. The Certificate Holders will arrange for a contractor to access the site in order to assess the burial depth of the cables to determine whether, and if so what, relocation, reburial and/or added protection measures for the cable or pre-existing facilities or infrastructure is required, and further to determine if there are drainage issues. Those periodic verifications will be used to make recommendations, as necessary and appropriate, for mitigation including reburial, added protection, drainage measures and/or erosion treatment measures.

It is anticipated that cutting activities will occur every three years. If this schedule is altered, the Certificate Holders will ensure that inspections occur no less than once every three years. An inspection report summarizing the results of the periodic verifications will be provided to DPS Staff in accordance with Certificate Condition 161(b).

#### 5.4.1.2 *Access Control and Facility Security*

Access to overland portions of the facility will be controlled by:

- Direct burial to depths of 5 feet or more;
- Sealed manhole covers to access splice vault consistent with other standard utility installations; and
- Hardened carrier casing systems where overland facilities are above grade (i.e., attached to bridges)

#### 5.4.1.3 *Notifications*

Prior to commencing any planned repair, construction, operation, or maintenance activity relating to the Facility affecting or occurring in the vicinity of such owner's or operator's CI, the Certificate

Holder(s) will advise owner(s) and operator(s) of CI at least thirty (30) days in advance, unless such actions must be taken in less than thirty (30) days to protect the public or to ensure reliable operation of the Facility, whereupon Certificate Holder(s) will provide such notice as is reasonable under the circumstances; provided that, in any event, “vicinity” with respect to CI used to transmit or distribute natural gas shall mean all areas within two hundred (200) feet thereof and with respect to all other CI will mean all areas within one hundred (100) feet thereof.

#### 5.4.2 Emergency

The Facility will be continuously monitored by a DxS Fiber Monitoring system which is designed to detect faults and emergencies within the Facility system. This system will alert the facility operator to any physical incursions to the cable. The facility operator will dispatch inspectors to the location provided by the monitoring system to investigate and develop an appropriate response.

The typical procedure for repair of a failure within the overland and marine portions of the proposed CHPE Project route is described as follows:

##### 5.4.2.1 *Overland Transmission Cable Repair*

In the event of Overland transmission cable fault or failure the control system will shut down the HVDC transmission cable. The cable monitoring system will identify the nature and location of the failure. The repair of the overland transmission cable would entail excavating around the location of the problem and along the transmission cable for the extent of cable to be repaired or replaced. Specialized jointing personnel would remove the damaged cable and install new cable. Once complete, the transmission cable trench would be backfilled and the work area restored using the same methods as described for the original installation.

#### 5.4.2.2 *Notifications*

In the event of an equipment failure during operations, the Certificate Holders will promptly notify appropriate state regulators as follows:

- Within five (5) business days of any failure of equipment causing a reduction of more than ten (10) percent in the capability of the Facility to transmit electric power, the Certificate Holders will promptly provide to DPS Staff, NYPA, and Con Edison copies of all notices, filings, and other substantive written communications with NYISO as to such reduction, any plans for making repairs to remedy the reduction, and a proposed schedule for any such repairs. The Certificate Holders will provide monthly reports to DPS Staff, Con Edison, and NYPA on the progress of any repairs until completed. The report will contain, when available, copies of applicable drawings, descriptions of the equipment involved, a description of the incident, and a discussion of how future occurrences will be avoided. The Certificate Holders will work cooperatively with NYPA, Con Edison, and NYISO to avoid any future occurrences. If such equipment failure is not completely repaired within nine (9) months of its occurrence, the Certificate Holders will provide a detailed report to the Secretary within nine (9) months and two (2) weeks after the equipment failure, setting forth the progress on the repairs and indicating whether the repairs will be completed within three (3) months. If the repairs will not be completed within three (3) months, the Certificate Holders shall explain the circumstances contributing to the delay and demonstrate why the repairs should continue to proceed (Certificate Condition 126).
- If there is a failure of one of the Facility's cables, the Certificate Holders will report, within one (1) day of determining the location of the fault, to Bulk Electric System Section of DPS Staff, Con Edison, and NYPA as well as the likely location of and schedule for repairs. Any changes in the schedule will be reported to DPS Staff, Con Edison, and NYPA (Certificate Condition 135).
- The Certificate Holders will provide the Bulk Electric System Section of DPS with a copy of their emergency procedures and contacts, and an updated copy will be provided with documentation of any modifications (Certificate Condition 136).

- The Certificate Holders will report any theft of materials related to the Facility with a value in excess of ten thousand dollars (\$10,000) to the DPS Representative within one (1) business day of the time when the theft comes to the attention of the Certificate Holders. The Certificate Holders will provide the DPS Representative with a list of the stolen items to the extent known and a copy of any police report (Certificate Condition 137).
- Notify the owners or operators of CI or Potential CI as soon as possible in the event of any situation involving imminent risk to health, safety, property, or the environment requiring the Certificate Holders to cross such CI or Potential CI or to use any associated property to address the emergency. Such notice shall not be required for the transport or travel over or under CI or Potential CI by the Certificate Holders or their agents, employees, or contractors where such CI or Potential CI is located in, over, or under public waterways, roads, streets, highways, or railroad ROW unless such transportation would be subject to special approval by state and/or local authorities due to the size or weight of load(s) transported (Certificate Condition 28(g)). (Also covered under Section 5.2)

## **5.5 Erosion Control And Drainage**

If areas along the Project are identified during the Post Installation Inspection where erosion and sediment controls are needed, additional stabilizing efforts will be performed by the Certificate Holders. These efforts may will follow the erosion control plans described in Appendix G.

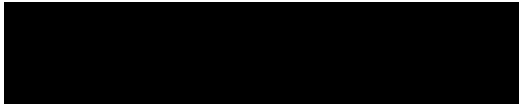
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**APPENDIX A of COMPLIANCE ASSURANCE PLAN**  
**Inspector Resumes**





FERNANDO GONZALES



**Skills & Certifications:**

- Operator Qualified
- Metro-North Railroad RWP
- MTA NYCT Track Safety
- CQCM CERTIFIED
- OSHA 10 & OSHA 30
- American Heart Association – Heart saver First Aid
- Project Management Mechanic Institute of New York
- Site Safety, QA/QC, Subcontractor & Field Supervision
- Volunteer Firefighter
- Software: Word, Excel, PowerPoint, RMS, Primavera, PlanGrid
- Language: Fluent in English & Tagalog
- Agency: Con Edison, NYCDDC, MTA/MNR, FEMA, NYCHA, NYCP&R, NYCDEP, NYU, West Point

**EXPERIENCE:**

**WSP USA INC – NEW YORK, NY**

**Sr. Lead Construction Inspector**

6/22 - PRESENT

- CHPE – Champlain Hudson Power Express Project – New York, NY
  - Oversee the Performance of the Work is executed in accordance with the EPC Agreement and approved EM&CP
  - Verify that all relevant construction permit requirements are being met by the EPC Contractor
  - Identify that the construction of all physical requirements for the project's Right of Way have been implemented according to the approved design and permit requirements
  - Review and confirm the EPC Contractor's collation and completion of all QA/QC and ITP documentation as required for construction
  - Verify that each HDD has been executed properly in accordance with an approved design
  - Oversee the EPC Contractor's site work and documentation of compliance or non-compliance with contract requirements during construction
  - Assist with coordination between EPC Contractors, CHPE LLC, NYISO, NYPA, and ConEd for all related construction and commissioning activities
  - Review the EPC Contractor's condition surveys, of cable route and equipment setup areas prior to the commencement and after completion of the work
  - Oversee construction of any temporary access ways required, including tracks, matting, temporary fences and/or gates; and that surfaces and/or services are restored to their original condition upon completion of the work
  - Provide CDR summarizing field activities and photos that took place that day, and audit reports each time an audit is performed
  - Monitor all EPC Contractors' testing and commissioning activities
  - Spot review of materials installed per the Contract requirements
  - Spot review and document the IFC Plan version and approved shop drawings
  - Review work performance in accordance with the approved CWP

**DOBCO GROUP INC. – WAYNE, NJ**

**Quality Control Manager**

12/21 – 6/22

- Cyber & Engineering Center and Parking Structure – West Point, NY, 250M
  - Oversees the collection and production samples to evaluate quality.
  - Interpret blueprints for the purpose of establishing critical needs and how they should be measured.
  - Conduct routine and non-routine analyses of in-process materials, raw materials, environmental samples, finished goods or stability samples.
  - Perform the quality inspection process of new part samples and record the data.
  - Check dimensions and surface quality of random batches of finished products to ensure they meet all company quality standards.
  - Inspect all product returns, analyze the defect, and document the findings.
  - Verify all process are conforming to established quality standards and required specifications.
  - Carries out ongoing lab and field sampling. Auditing visual, dimensional, and mechanical test of materials and processes.
  - Interpret test results, compare them to established specifications and control limits, and make recommendations on appropriateness of date for release.
  - Complete documentation needed to support testing procedures including data capture forms, equipment logbooks, or inventory forms.
  - Investigate deficiencies regarding quality issues and develop a solution.
  - Record, compile, and prepare reports for analysis and evaluation.
  - Assist in the development of needed records and standards and maintain accurate and detailed files as required.
  - Assist in designing and implementing the procedure for the use of Statistical Process Control across all departments as required.
  - Conduct 3 preparatory phases – Preparatory Meeting, Initial Inspection, and follow up Inspection.
  - Assist with auditing, writing, revising and verifying quality standards and developing forms and instructions for recording, evaluating and reporting quality data.
  - Analyze quality control test results and provide feedback and interpretation to production management or staff.
  - Document and implement inspection criteria and procedures.
  - Monitor performance of quality control systems to ensure effectiveness and efficiency.
  - Communicate quality control information to all relevant organizational departments, outside vendors, or contractors.
  - Instruct staff in quality control and analytical procedures.
  - Produce reports regarding nonconformance of products or processes, daily production quality, root cause analyses, or quality trends.
  - Participate in the development of product specifications.
  - Identify critical points in the manufacturing process and specify sampling procedures to be used at these points.
  - Implement quality control training programs.
  - Review all divisions in the specifications and Submit submittals into the RMS for Government's review and approval.
  - All other duties as assigned.

**RIGGS DISTLER & CO** – MT VERNON, NY

**Superintendent**

8/19 – 12/21

- Multiple Con Edison Main Installations Upgrades and Services (2" - 16" HDPE & Steel pipe) Westchester, NY \$40M
  - Operator Qualified Superintendent responsible for overall coordination and maintenance of a safe job site on a day-to-day basis for 19 projects and crews, up to 80 Union workers
  - Direct daily onsite supervision of labor force including superintendents, foremen, mechanics, subcontractors and other construction related personnel for construction of natural gas utility pipe work (size, pressure, service)
  - Assists the PM and project team with review project plans and specifications, develop work plans/procedures for upcoming work activities and coordinate various phases of construction to optimize safety, cost, equipment, personnel, schedule, and communication with the client.
  - Manage suppliers and subcontractors with Project Manager and maintain monthly work permits per municipality with Con Edison.
  - Manage procurement of material, tools and equipment including delivery to jobsites.
  - Ensure the highest levels of construction quality is met with full adherence to contract schedule and Con Edison specifications.
  - Resolve all issues regarding equipment services and job equipment requirements.
  - Perform daily safety audits for 2–3 crews per week and 30 vehicles in the field.
  - Maintain daily records of all work performed to ensure that all information is recorded correctly for payment.
  - Provide progress reports on work, materials, cost, and updates to the schedules accordingly.
  - Daily interaction with customers to schedule service upgrades and resolve any problems 24hr / 7days

**KS ENGINEERS, PC** – NEWARK, NJ

**Construction Manager**

5/15 – 8/19

- Harmon Shop Replacement Program Phase V - Stage I Croton-Harmon, NY \$286M
- Harmon Shop Replacement Program Phase V – Stage II Croton-Harmon, NY \$600M
  - Owners Representative for Metro North Railroad at Croton for Stage I & II Project.
  - Assisted Resident Engineer with coordinating field activities with adjacent stakeholders including facility personnel, contractors and other public agencies to ensure project implementation coincides with schedule, contractual, budgetary and safety requirements.
  - Monitored construction activities and conducted controlled inspections to ensure conformity with contract plans and specifications for all areas of construction including site, utilities, concrete, building construction and commercial HVAC.
- Responsible from visiting plant, the fabrication, QA/QC, delivery sequence of all steel members as well as erection and any field modifications of 180,000, and 300,000 square foot buildings (EMU and CSF).
- Responsible for plant visits, QA/QC, delivery and erection of all precast panels wrapping perimeters of both buildings.
- Responsible for metal wall panels and details as well as installation for both buildings.
- Responsible for overseeing all staircases, railings, grating, elevators and all steel angles, braces, supports for all and any misc. pieces including bar joists and roof openings that make up the roofs for both buildings.
- Responsible for overseeing all translucent panels, louvers and glass windows that wrap the building exterior for both buildings.
- Responsible for overseeing all fire-stopping applied and fire proofing (sprayed on) for both buildings.

- Responsible for overseeing civil work taking place from lay-out to excavation for power, communication duct-banks, conduit and pipe encasement, backfilling in lifts, compaction, any and all concrete slabs, housekeeping pads, stair and landing concrete placing, storm and sewer piping, manholes, tie-ins, snow melts, under draining, underground jumper conduits, pot heads, electrical manhole installations, gas line (all underground work).
- Responsible for overseeing all cranes onsite and being installed including jib-cranes, gantry cranes, workstation cranes and overhead cranes, as well as all roll down door systems.
- Responsible for overseeing all anchor bolts, and track pedestals being installed for the train tracks running through the building (CSF) that is 980 linear feet long and all rail components.
- Responsible for QA/QC for all my responsibilities.
- Assigned Safety Rep for AECOM, which consists of daily safety inspections and audits, weekly walkthroughs with contractor's safety rep, client's reps and comprise a report with pictures, twice weekly walk-throughs with an OCIP rep, and quarterly walk-throughs with OCIP reps and Insurance underwriters' reps for both sites EMU and CSF.
  - Reviewed RFI's, plans, submittals, payment requisitions and Non-Conformance Report (NCR) for Quality Control and completed Inspector Daily Reports
  - Ensured plans complied with codes regulations and local ordinances, approved construction submittals and maintained logs, daily reports and control of all project documents.
  - Verify that all required O&M manuals, warranties, guarantees, and close out requirements are complete and in compliance with contract documents.
  - Coordinated critical point, special, beneficial, and final inspections, utility companies for main and services to buildings including gas and electric, and contractors/trades to address punch list items, provide as built and O&M Manuals for project closeout.
  - Evaluated proposals for extra work and assisted in change order process and forecasting cost.

**JACOBS ENGINEERING – NEW YORK, NY**

**MEP Inspector**

4/13 – 4/15

- NYCCDC – Beaches, Phase 3 Beaches Restoration and Reconstruction/Queens, Brooklyn, Coney Island, NY \$100M
- National Park Services – Multiple Park Buildings and Landscapes at Statue of Liberty and Ellis Island Hudson County, NJ and New York County, NY \$80M
- New York University Project Manager Consultant
- NYCHA/FEMA – Multi- Tier/ Stacked contract for hurricane recovery management in 5 boroughs \$120M
  - Responsible for field inspections of contractor activities to ensure conformity with contract plans and specifications
  - Verified all required O&M manuals, warranties, guarantees, and close out requirements were complete and in compliance with contract documents.
  - Review, comment, and process submittals.
  - Draft RFP's that define work to be performed
  - Assist in resolution, draft response, track, and follow up on requests for information (RFIs).
  - Completed Inspector Daily Reports and coordinated critical point, special, beneficial, and final inspections.
  - Review certified payrolls of all workers for accuracy and perform labor interviews periodically.
  - Survey and review damages to mechanical systems and environmental assessments.
  - Monitored construction activities and conducted controlled inspections for contractor operations in replacing oil fuel boilers to gas boilers, demolition and reconstruction of 250 first floor apartments,

building a community center gymnasium and 65 playgrounds, environmental assessments, sinkholes, excavation, backfilling and beach restorations.

**CON EDISON** – New York, NY

**Mechanic / Construction Management Inspector**

7/03 – 3/13

- Multiple Con Edison Gas Facility, Regulator Stations throughout New York, NY \$20M
  - Supervise and monitored work activities of contractor to ensure conformity with established Con Edison standards including full adherence to contract schedule and specifications.
  - Ensure job specifications are being met and contractors' methods of work conform to local, state and federal regulations including within stipulations required by applicable NYC permits and minimize quality of life issues in community
  - Ensured timeliness and accuracy of Code 753, safe work practices are followed, and environment was full protected in accordance with company policy and governmental regulations. procedures, environmental laws and PSC guidelines
  - Part of Emergency Response Force, responsible for physical installation and repairs of gas mains and services during emergency and non-emergency in compliance with Con Edison operating and safety procedures
  - Worked with various gas pressures provided from low, intermediate, medium and high
  - Replaced existing CI pipes with HDPE and Steel pipes.
  - Used ASME and AWS for welding procedure and qualification.
  - Cathodic Protection System.
  - Ensure safe work practices were followed and timely completion of system repairs while being mindful of environmental laws and PSC guidelines.

## **ANDREW J KIRK**

### **Safety, Security, and Risk Professional**

Safety, Security and Risk professional with 18+ years with Parsons Brinckerhoff and WSP on major flagship projects in the UK, Africa, Middle East, Australasia and the USA, working for several industry sectors including Transport (Road & Rail), Global Mining, Energy & Resources, and Infrastructure.



Approaching Safety, Security and Risk through effective engagement at all levels of the organisation and coaching staff members through management tools and systems support which enables them to develop as individuals and as integral team members as well as adding value to the projects performance measures. Implementing audit regimes that pressure test on behalf of the client and formalising mitigation measures utilising ISO 9001, 14001 and 45001 as baseline standards.

Taking an integrated management and risk-based approach to how the business supports the specialist teams in identifying risk potential, analysing impact, and managing the framework and strategic plan to deliver the project as well as developing procedures for practical application at the workplace.

Specialising in the management of major adverse events and in supporting crisis management, disaster risk recovery and Business Resilience teams. Pressure testing Emergency Preparedness and Response and developing and executing crisis management scenarios in the mining and tunnelling sector (inclusive of transport – Road & Rail).

#### **EDUCATION**

Level 6 Diploma International Security Management, ASIS	2019
NEBOSH Diploma, IOSH	2000
HND Mining and Mineral Engineering, Institute of Mining and Mineral Engineers	1982
Certificate Crisis Management, IRSM	2020
Certificate Risk Management, IRSM	2020

#### **PROFESSIONAL ASSOCIATIONS**

Certified Security Management Professional - ASIS International / Full Member  
Institute of Strategic Risk Management - Member  
Panel member AIDR for Australia and UNDRR/IOR in Ukraine  
Member of INSSA (International NGO Safety & Security Association)

#### **PROFESSIONAL EXPERIENCE**

##### **Safety, Security and Risk Management**

- Health, Safety and Security Director: Champlain Hudson Power Express, New York State, USA
  - Performing the HSE role for OE (Owners Engineer) overseeing all aspects of HSS on the program.
- Technical Executive, Strategic Risk Management: IID/WSP
  - Supporting all business units with Strategic Risk Management.
- Ursa Major International – Consultant / Asset Protection and Business Resilience: Ukraine.
  - Consulted to the Institute for Strategic Risk Management and IOR (International Organization for Reconstruction) designing in safety and security in conflict zones for rebuilt infrastructure.
- Health, Safety and Security Director: Ashghal - Doha, Qatar
  - Senior representative for the PMC on the Local Roads and Drainage Programme.
  - Committee member responsible for writing the QCS 2018 (Qatar Construction Specification).

- Health, Safety and Security Regional Partner: Global Mining, Perth, WA, Australia
  - Developed employee protection programme for travel into remote areas.
  - Worked with Bronze Team for Emergency Preparedness and Response/Crisis Management.
- Health, Safety, and Security Manager: Medupi Power Station Project, Lephalale, Limpopo Province, South Africa: Eskom
  - Managed 54 direct reports in safety and 120 security personnel on the 26Bn ZAR programme.
  - Security Manager for all assets including project related new build and residential housing.
  - Introduced BIM on the project for inclusion of safety and security in design.

### **Risk Management**

- Technical Executive - Strategic Risk Management Consultant, IID/WSP, Australia.
- Lead Auditor – Anglo American global programme for Emergency Preparedness and Crisis Management.
- QRA SME for WA Roads and Transport (Major Projects).

### **Security and Safety Risk Management**

- Allenby Connaught (Aspire Defence), Salisbury Plain, Wiltshire, United Kingdom (2000 - 2006): British Army, IMS Director.

### **Emergency and Crisis Management and Disaster Risk Reduction and Resilience**

- Ministry of the Interior, Ukraine / UNDRR (Ukraine 2022).
- Institute of Strategic Risk Management / International Organisation for Reconstruction in Ukraine 2022 – 2023.
- External Auditor / Emergency Preparedness and Response Management (Anglo American ORA [Operational Risk Assurance] – Mining, 2022).
- AIDR (Australian Institute for Disaster Resilience) 2020 – 2023.

## **INDUSTRY SECTOR EXPERIENCE**

### **MINING - Roy Hill Iron Ore Mine, Australia**

Safety and Security Manager - 344km of rail, new build from Pit to Port in the Australian Pilbara Region – from the Roy Hill Iron Ore Mine to the Port and Loading facility at Karratha on the Northwest Coast of Western Australia. Including bridges, culverts, level crossings and turnouts to existing sidings in the rail sector. (Represented Global Mining at Bronze Team level for Crisis Management).

### **INFRASTRUCTURE – Local Roads and Drainage Programme, Ashghal, Doha, Qatar**

Health, Safety, and Security Manager – LRDP providing local roads and drainage to the whole of Qatar supporting the Expressways, Orbital, Qatar Rail, and FIFA Stadiums programmes. Committee member for writing QCS 2018 (Qatar Construction Specifications).

### **INFRASTRUCTURE - Swan River Crossing, Perth, Western Australia**

Safety, Risk and Security Manager – Swan River Crossing, new bridge, and dual rail track tying into the existing track north and south of the Swan River in Fremantle, Western Australia.

### **ROAD & RAIL - Transport for New South Wales, Australia**

Quality Assurance and Project Risk Manager – Security, Risk and QA compliance and assurance on the N2NS (Narrabri to North Star) 180km rail upgrade including deviations, reconstruction of redundant track, single track installation and 5 new passing loops at strategic locations. Including culverts, under-bridges, electricity crossings, level crossings, sewers, and water crossings.

### **POWER - Medupi Power Station, Limpopo Province, South Africa**

Security and Safety Manager – 4800MW Power Plant mega project, 24km of rail, reconstruction, bridges and underpass, sidings, and connection to existing track from the Grooteluk Coalmine to the Medupi Power Station.



## NEIL BROWN, PE

VICE PRESIDENT ENVIRONMENTAL/CHEMICAL ENGINEER  
SENIOR TECHNICAL PRINCIPAL

### Years with the firm

29

### Years total

37

### Professional registrations

Professional Engineer,  
NY No. 102856

### Trainings

Dale Carnegie Effective  
Speaking  
Hazardous waste/  
emergency response  
training with annual  
since 1991

### Professional associations

Licensed Wastewater  
Works Operator, State  
of Virginia  
Certified  
Electroplater/Finisher,  
American  
Electroplaters and  
Surface Finishers  
Society

### Languages

English

### Office location

Chicago, Illinois

### CAREER SUMMARY

Neil is the central region principal engineer; part of the team that led significant projects for the Environmental Protection Agency Regions 9 and 10 under E & E's Superfund Technical Assessment and Response Team in addition to other projects for Environmental Protection Agency Region 5. Neil has also used his expertise as a chemical engineer for environmental permitting and compliance projects in South America. For the Illinois Environmental Protection Agency, he managed the engineering evaluation/cost analyses and remedial design for a Superfund site where he delineated areas with pentachlorophenol-contaminated soil and groundwater, identified/evaluated remedial alternatives and managed implementation of the selected alternatives.

### EDUCATION

BS, Chemical Engineering, Rose-Hulman Institute of Technology	1985
MS, Systems Engineering, Virginia Polytechnic Institute	1991

### PROFESSIONAL EXPERIENCE

- Grand Teton, Deconstruction Waste Surveys, Wyoming: Project manager and quality assurance/quality control for the National Park Service, under subcontract with Lowham-Walsh (under Jorgensen Associates, P.C.) and under a larger project involving asbestos surveys and demolition/deconstruction planning, operated for a hazardous materials survey. Prepared the scope of work on the project, participated in client planning calls and provided technical review of deliverables.
- Alaska Airlines Terminal, Juneau, Alaska: Engineer responsible for the technical development and review of documents addressing benzene, toluene, ethylbenzene and xylene-contaminated groundwater at this active facility. Most of the groundwater plume was located beneath a concrete service area. Identified multiple in situ treatment processes, including soil vapor extraction, air sparging, bioventing, potassium permanganate and magnesium peroxide, as possible remedial methods. For the selected treatment options, oversaw the development of practical scenarios and associated construction/operation and maintenance costs.
- Amoco Oil Refinery, Whiting, Indiana: Engineer who developed project scopes of work, budgets, schedule constraints for all consulting engineering projects undertaken for this 1,700-acre facility. Responsibilities encompassed the development of business contracts and proposals and contractor coordination to ensure that contract and design specifications were met. Managed the sitewide groundwater investigation to investigate petroleum hydrocarbon contamination and was responsible for maintaining and refining health and safety policies for field activities. Provided daily project management for key engineering assignments conducted by 15 engineers and geologists at other Amoco Pipeline Company sites. Supervised the investigation of a city sewer system for petroleum hydrocarbon infiltration and led the remediation of a 12,000-gallon xylene spill. Responsible for developing and locating well-point systems to prevent the off-site subsurface migration of contaminants, engineered the installation of large-diameter recovery wells, developed an innovative technology to recover petroleum hydrocarbons from groundwater and developed stormwater runoff National Pollutant Discharge Elimination System permit applications. For Clark Oil Refinery in Blue Island, Illinois, prepared the stormwater





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*SENIOR TECHNICAL PRINCIPAL*

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pollution prevention plan. Completed comprehensive environmental regulatory compliance audits for several natural gas pipeline terminals.

- Anaconda Copper Mine, Yerington, Nevada: Senior engineer responsible for the design of an acid leach pile drainage pond at the Anaconda Copper Mine in Yerington, Nevada under the Environmental Protection Agency Region 9 Superfund Technical Assessment and Response Team program. E & E (now WSP) reconfigured an existing pond to increase its holding capacity; specified installation of a replacement high-density polyethylene liner; redesigned flow patterns to the pond; performed wind-lift, anchor trench and ballast calculations to ensure liner stability; and reviewed contractor product submissions. Provided detailed review and quality assurance/quality control associated with the slope stability calculations for the adjacent heap pile.
- Avery Landing, Site Removal, Avery, Idaho: Engineer-in-charge of the engineering team under the Superfund Technical Assessment and Response Team program for the Environmental Protection Agency Region 10. The team developed the remedial design for this former railroad roundhouse and maintenance facility where soil, groundwater, surface water and sediment contained petroleum hydrocarbons and other hazardous substances. Provided overall project coordination with the design, as well as quality assurance/quality control for the junior staff. The design evaluated cleanup alternatives including light non-aqueous phase liquid, light non-aqueous phase liquid extraction, groundwater treatment, National Pollutant Discharge Elimination System permitting and excavation requirements. Upon completion of the design effort, assisted in coordinating the construction monitoring and reporting.
- Beloit Corporation Superfund Site, Rockton, Illinois: Engineer-in-charge for the remedial design and remedial action project at this former paper manufacturing site, where a tetrachloroethene spill has contaminated the underlying aquifer. While the site Record of Decision listed in situ oxidation for remediation of the source area groundwater contamination, based on his review of site-specific data, determined that oxidation would be cost-prohibitive and recommended that the existing pump and treat system be expanded instead. The Illinois Environmental Protection Agency submitted an Explanation of Significant Deference and modified the Record of Decision based on his recommendation. As part of his design efforts, for the Beloit site, designed new groundwater extraction wells and specified that pneumatic fracturing be used as part of their installation to increase the hydraulic permeability and groundwater extraction rate, thereby reducing the overall time needed to achieve groundwater cleanup goals. Also completed detailed mass balance calculations to ensure that the existing treatment system could handle the additional volatile organic compound loading. Evaluated the existing system and designed a new piping network to enable the existing well pumps to operate more effectively while achieving an increased extraction rate.
- Bruce Products, Specialty Oil Manufacturing Facility, Howell, Michigan: Task manager in charge of the engineering evaluation/cost analyses on behalf of the Environmental Protection Agency Region 5 under the Alternative Remedial Contracting Strategy program. Developed site-specific goals for the cleanup of soil contaminated with arsenic, beryllium and dioxin; the removal of buried process piping and cisterns; and the demolition of the three-story production building and remaining site structures.
- Buckskin Mine, Yerington, Nevada: Project manager for the preparation of a reclamation design report to address consolidation of impacted tailings and alluvium at this former surface and underground mine. Mining activities included ore processing, chiefly for silver,



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gold and copper. The design addressed impacts from cyanide leach operations resulting in the approximate eight-acre tailings impoundment. The design included consolidation plans for a smaller repository, capping the impacted tailings and alluvium and covering the area with clean fill from a surrounding embankment. A final site grading plan ensured proper conveyance of runoff around the reclaimed tailings impoundment, minimized infiltration and promoted positive drainage away from the reclaimed impoundment. The design included documentation of assumptions and functional restrictions, performance of hydrologic and hydraulic analyses, presentation of proposed repository cover options including Hydrologic Evaluation of Landfill Performance Model analysis, slope stability and veneer stability calculations and presentation of design memorandums.

- Cincinnati Refinery, Hooven, Ohio: remedial engineering team leader in support of the Resource Conservation and Recovery Act facility investigation and corrective measures study. Led the preparation of remedial cost estimates for high-priority solid waste management units. Evaluated the relative costs of six remedial options, including off-site disposal, on-site ex situ solidification and on-site disposal, ex situ low-temperature thermal desorption and on-site disposal, landfarming, off-site incineration and offsite fuel blending.
- Citywide Environmental Services, Chicago, Illinois: Lead engineer for an indefinite-delivery environmental assessment and engineering services contract for the City of Chicago Department of Environment. At the former Cuneo Press site, which has polynuclear aromatic hydrocarbon and severe xylene contamination (greater than 2,000 parts per million) in the soil, coordinated the delineation of the affected area following the Illinois Environmental Protection Agency's Tier Approach to Corrective Action guidelines and entered the site into the agency's Site Remediation Program. Also coordinated the removal of a 10,000-gallon underground storage tank. Following Site Remediation Program guidelines, developed the remediation objectives report, which recommended the use of a site-wide engineered barrier and a limited removal action to address site contamination. Coordinated the remedial effort with city officials and site developers, enabling the site to be used for a Brownfield redevelopment.
- Coal Processing Plant, Gary, Indiana: Team engineer for the preparation of the annual air emission statement for this facility, which is part of the US Steel plant. Conducted site visits; interviewed knowledgeable personnel; and reviewed available file information, operational data and the facility's Clean Air Act Title V permit application. Developed of the toxic release inventory reports for the years 1998, 1999 and 2001. Drawing on knowledge of the site and his background in coal processing, led the development of the site's Spill Prevention, Control and Countermeasure Plan.
- Coal Processing Plant, Gary, Indiana: Engineering task manager for the remediation of contaminated soil beneath several hundred feet of rail spur for Constellation Power's pulverized coal injection facility. The six-week project, conducted under the Voluntary Remediation Program of the Indiana Department of Environmental Management, included a site investigation; development of a field compliance sampling plan, quality assurance project plan and bid specifications; selection of the remedial contractor; oversight of the remedial activities; and submission of the closure plan to Indiana Department of Environmental Management. Indiana Department of Environmental Management accepted the closure report without revision.
- Cogeneration Plant, Morgantown, West Virginia: Engineer who managed the field audit of the production facility, review of purchasing records and emission data and development of the toxic release inventory report, then worked with plant to develop an overall site



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material balance. Using knowledge of the power generation process, toxic release inventory reporting requirements and chemical properties and was able to reduce the list of chemicals requiring reporting.

- Cross Brothers Drum Site, Pembroke, Illinois: Manager for the remedial design under the Alternative Remedial Contracting Strategy program for Environmental Protection Agency Region 5. Also led the long-term remedial action. The work included review of design specifications for the remedial alternative selected by the potentially responsible party, development of written comments and recommendations, construction oversight for installation of the 200-gallons per minute groundwater pump-and-treat system and development of the quality assurance project plan for low-flow groundwater sampling to delineate contaminant plume migration during construction activities.
- Eastern Michaud Flats, Pocatello, Idaho: Lead consultant who conducted a Resource Conservation and Recovery Act closure review that included evaluation of groundwater control technologies, the Resource Conservation and Recovery Act closure design, cap specifications and groundwater handling and monitoring procedures.
- El Tablazo Petrochemical Complex, Maracaibo, Venezuela: Consultant for the evaluation of the environmental plan for Petroquímica de Venezuela, S.A., reviewed eight projects involving a new solid waste landfill, sludge lagoons, treatment of decoking solids, disposal of purged brine and a treatment system for oily sludge. While on site, interviewed Petroquímica de Venezuela, S.A. personnel, reviewed available site data and inspected areas of the complex addressed by the environmental plan. Conducted technical evaluations to help determine which projects could cost-effectively meet client objectives and reviewed potential alternatives.
- Yosemite Creek Sediment Site, Engineering Evaluation/Cost Analyses, California: Consultant who provided engineering oversight for this high-visibility, technically complicated site. Evaluated available dredging, sediment dewatering and contaminated sediment disposal technologies and obtained costs for the processes.
- Federal Correction Institute, El Reno, Oklahoma: Chief design engineer for the remediation of four lagoons containing industrial hazardous waste (solvents, paints, herbicides, asbestos, polychlorinated biphenyls, sludge, oil and fuel). Developed detailed bid specifications for the on-site solidification and off-site disposal of all lagoon contents and rerouted the existing drainage ditch bisecting two lagoons. For the on-site UNICOR facility, performed a waste minimization study to identify methods to reduce the volume of wastewater generated from painting operations and developed the conceptual design for wastewater evaporation ponds.
- Fort Leonard Wood, Missouri: Engineer-in-charge for feasibility study development for two former landfills. Directly responsible for identifying a detailed list of applicable or relevant and appropriate requirements for the site, as well as developing alternatives to address deficiencies associated with upgrading the existing landfill cover to comply with state requirements. Worked with base personnel to refine the cover alternatives to address potential land reuse, then directed development of the detailed construction and long-term operation and maintenance plans associated with each alternative.
- Fort Richardson, Anchorage, Alaska: Feasibility study task manager for Operable Unit A. Completed a comprehensive alternatives evaluation and developed detailed cost estimates for the remediation of former fire training area soil that was contaminated with dioxin and diesel- and gasoline-range organics. While the remedial investigation report had identified



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about 200,000 cubic yards of contaminated soil, applicable or relevant and appropriate requirements review led to a determination—approved by the Alaska Department of Environmental Conservation—that only 6,000 cubic yards of soil required consideration in the feasibility study and subsequent remedial action.

- Gardena Sumps, Gardena, California: Lead consultant who oversaw our third-party review of the remedial investigation/feasibility study for this Superfund Site under E & E's (now WSP) Superfund Technical Assessment and Response Team program for United States Environmental Protection Agency Region 9. The document review resulted in the suggested addition of an alternative that would fit within the city's proposed plan for the site while containing waste oil sludge that was creating hazardous environmental conditions including the potential for creation of hydrogen sulfide and sulfur dioxide gas. Cost estimates were refined to more accurately portray the statement of work under all alternatives. Participated in a conference call to discuss the review and cost estimate with representatives of United States Environmental Protection Agency Region 9, the city of Gardena and the California Department of Toxic Substances Control. Based on our review, the Department of Toxic Substances Control postponed its issuance of a proposed plan for the site and re-reviewed the potentially responsible party remedial investigation/feasibility study.
- Gorst Creek/Bremerton Auto Wrecking Landfill Feasibility Study, Bremerton, Washington: Lead engineer providing direction as well as quality assurance/quality control for the completion of an engineering evaluation/cost analyses for this abandoned automotive, construction debris and municipal waste landfill. Constructed within a drainage ravine, the landfill was severely eroded when the culvert that routed the creek beneath it collapsed and resulted in overtopping. As part of the engineering evaluation/cost analyses, E & E (now WSP) analyzed cleanup alternatives, including landfill capping with rerouting of Gorst Creek, installation of new conveyance piping beneath the landfill and excavation and off-site disposal followed by creek restoration. Oversaw the development of hydrologic and hydraulic calculations needed to estimate pipe sizes and stream flow. The selected alternative involved used microtunneling/pipe jacking techniques to replace the existing culvert with a new conveyance. Completed 30% and 60% plans for waste removal and stream restoration design with an overall goal to create a natural and resilient creek corridor.
- Grissom Air Reserve Base, Bunker Hill, Indiana: Engineer who provided quality assurance and overall direction for the development of detailed plans and specifications for the cleaning and transfer of ownership for a 420,000-gallon aboveground storage tank. The detailed specifications were based on applicable standards to ensure the aboveground storage tank was properly cleaned and that residual petroleum products were properly disposed. Oversaw selection of the cleaning contractor. The project was implemented immediately after the September 11, 2001, terrorist incident. Worked diligently with Air Reserve Base personnel to obtain property security clearances for the cleaning crew members and was able to complete the job on time and within budget.
- Hexagon Laboratories, Bronx, New York: Chemical engineer who provided expert technical background concerning the chemical processes used at this defunct chemical manufacturing plant. Reviewed available data concerning the facility's highly specialized chemical manufacturing processes and was able to develop a chemical reaction sequence that established a link between the manufacturing process and contaminants determined to be present in on-site soil. Efforts led to an out-of-court settlement between the State of New York and the potentially responsible parties.



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- Jennison-Wright Wood-Treating, Granite City, Illinois: Manager of the engineering evaluation/cost analyses and remedial design for this Superfund site. Delineated areas with pentachlorophenol-contaminated soil and groundwater, identified/evaluated remedial alternatives and managed implementation of the selected alternatives. The remedial design included a landfarm to treat over 60,000 cubic yards of pentachlorophenol-contaminated soil, a nonaqueous-phase liquid extraction system utilizing hot water injection, an in-situ bioremediation system to address residual groundwater contamination, asbestos abatement and building demolition. As part of the remedial design effort, implemented a pilot test to determine the effectiveness of creating anaerobic conditions in site groundwater to reduce pentachlorophenol concentrations. When a Geoprobe was used to inject a hydrogen-reducing compound into the groundwater study area to develop anaerobic conditions, the pentachlorophenol concentrations dropped from 1,100,000 parts per billion to about 1,900 parts per billion. Subsequently developed and implemented a method for site-wide application of the hydrogen-reducing compound at the Jennison-Wright site. For the hot water injection system, oversaw the development of the comprehensive, site-specific heat and mass transfer model that was used to develop the temperature and volume pumping rate. Designed a groundwater treatment system to remove nonaqueous-phase liquid and sediment from the extracted groundwater and to treat it to sufficient quality to allow for reinjection. Reinjecting the treated and heated groundwater will achieve an overall cost savings in the system's energy requirements. Worked directly with the remedial contractor to manage managed and provided construction oversight for the \$3.5-million remediation phase, which involved landfarm construction at the Jennison-Wright site. Provided operations and maintenance support through 2013.
- Kerr-McGee Vanadium Production Facility, Soda Springs, Idaho: Lead consultant who provided Environmental Protection Agency Region 10 with a technical review of the feasibility study concerning treatment of groundwater contaminated with arsenic, vanadium and petroleum hydrocarbons. In the course of his review, identified several potentially feasible alternatives that had not been evaluated by the potentially responsible party.
- Killingsworth Fast Disposal Landfill, Portland, Oregon: Engineering design task manager for the design of a gas extraction and flare system to address off-site migration of methane gas from the abandoned, 30-acre landfill into surrounding homes. Modeled methane generation rates and developed an innovative gas collection and flare design that enabled the collected condensate from the gas collection system to be burned in conjunction with the collected landfill gas.
- Klondyke Tailing Pile Removal Site, Klondyke, Arizona: Engineer in charge for the design associated with the consolidation and capping of two tailing piles, both located within the 100-year floodplain and requiring reinforcement against flood events. Neil's team evaluated each pile's slope stability, identified the extent of the pile slope requiring armoring against flooding and determined what thickness the engineered cap needed to prevent potentially impacted sediment from migrating to downgradient residential properties. Provided detailed review of the design calculations and provided support during the construction phase under the Region 9 Superfund Technical Assessment and Response Team program.
- Lake Calumet Cluster Landfill, Chicago, Illinois: Project manager for the Lake Calumet Cluster Superfund site, an 87-acre area that comprises a group of several abandoned land and waste storage/disposal facilities. Developed the focused feasibility study, proposed plan





NEIL BROWN, PE

VICE PRESIDENT ENVIRONMENTAL/CHEMICAL ENGINEER

SENIOR TECHNICAL PRINCIPAL

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and remedial design and provided environmental construction oversight. For the Lake Calumet Cluster site remedial design, developed detailed specifications for the construction of a low-permeability clay cap meeting the requirements of 35 IAC 724, a landfill gas collection and conveyance system and the surface water run-off collection system. For the landfill gas collection system, identified a nearby flare system as a means to treat the gas and subsequently negotiated a tie-in to the system, which resulted in a considerable construction cost savings. For the conveyance system, worked with the Chicago Port Authority to obtain access to their existing culvert network, to facilitate discharging the run-off to Lake Calumet. Under a cooperative agreement between the Illinois Environmental Protection Agency and the Illinois Department of Transportation, about 1 million cubic yards of soil was obtained from the spoils of the billion-dollar Dan Ryan Expressway construction project, for use in the Lake Calumet Cluster site cover system. Responsible for coordinating all soil shipments that were received around the clock, Developed and implemented a tracking and monitoring program used for inspections of over 60,000 truckloads of soil.

- LaSalle Electrical Utilities Superfund Site, LaSalle, Illinois: Engineering task manager for the development and implementation of a soil vapor extraction pilot test enhanced by pneumatic fracturing. Wrote detailed specifications for the pneumatic fracturing of low-permeability clay under the site. Since the pilot test had successfully increased soil air permeability by three orders of magnitude, allowing the soil vapor extraction system to extract volatile organic compounds from the vadose zone, expanded the technology and designed a full-scale, dual-phase extraction system enhanced by pneumatic fracture to extract both vadose zone volatile organic compounds and contaminated groundwater. Identified the potential for using the system's soil vapor extraction component to inject short-chained hydrocarbon gas into the vadose zone, in order to facilitate microbial degradation of soil contaminants. Once the dual-phase system was operational, developed a pilot study to determine the effects of using gas injection to reduce the remediation time frame. At the same site, managed a phytoremediation study for volatile organic compound-contaminated shallow groundwater. Conducted an extensive literature search and worked with representatives of the University of Florida and Iowa State University to develop/implemented an evaluation of the effectiveness of using over 30 different species of willows, cottonwoods and cypress clones for phytoremediation. As part of the study, evaluated groundwater uptake, clone survival and volatile organic compound contaminant reduction. Developed a nondestructive, field analytical method to determine volatile organic compound uptake from an individual specimen.
- MacGillis and Gibbs Wood Treating Superfund Site, New Brighton, Minnesota: Manager of the remedial design, remedial action and the long-term remedial action under the Region 5 Alternative Remedial Contracting Strategy program. Served as the lead engineer for the remedial investigation/feasibility study at a 28-acre former wood treating facility contaminated with creosote nonaqueous-phase liquid, polynuclear aromatic hydrocarbons, pentachlorophenol, chromium and dioxins in a dual aquifer system. Responsible for all cost and schedule tracking/control, procurement, communications, subcontract management, reporting and quality assurance/quality control for the remedial design/remedial action and long-term remedial action. Directed the development of work plans for studying and remedial design specifications for removing oil and sludge from abandoned process and storage tanks; decontamination, dismantling and disposal of tanks; and installation of a product extraction well system to remove floating nonaqueous-phase liquid. During pre-remedial design, managed detailed evaluation of potential innovative technologies to enhance removal of nonaqueous-phase liquid, including electrically



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induced soil warming, steam/hot water injection and hot air injection. Conducted a pre-bid meeting, evaluated contractor bids and supported the agency with contractor selection. Maintained the construction schedule and completed the project under budget by maintaining close communication with all stakeholders. Led the system optimization effort 12 years post construction, improving groundwater treatment capacity and reducing maintenance, as well as saving 15% in operational costs.

- Manufacturing Site, Groundwater Treatment System, Pine Bluff, Arkansas: Engineer-in-charge of the design of a groundwater pump-and-treat system to address deep trichloroethylene contamination. Oversaw development of the detailed design specifications and drawings, as well as the National Pollutant Discharge Elimination System permit application. The treatment system consists of an air-stripper followed by granulated activated carbon treatment. In addition, Provided the specifications for directional drilling to install a half-mile-long effluent discharge line.
- Metra Facility Spill Prevention, Control and Countermeasure Plans, Chicago, Illinois: Licensed professional engineer in charge of the development of Spill Prevention Control and Countermeasure plans for the Western Avenue facility in Chicago and Blue Island facility in Blue Island. Under this multiyear program with Northeast Illinois Regional Commuter Railroad Corporation (Metra), supervised the initial facility inspections, contributed to the development of each plan and certified the plans. In addition, developed an engineer's checklist outlining deficient areas and provided recommendations for facility upgrades.
- Middlesex, Sampling Plant Formerly Utilized Sites Remedial Action Program Site (Superfund), Middlesex, New Jersey: Engineering task manager for this former uranium, beryllium and thorium ore processing facility. Activities at the site resulted in radiological and volatile contamination of soils, sediment, surface water and groundwater within the Passaic Formation bedrock aquifer. The United States Army Corps of Engineers Kansas City originally tasked E & E (now WSP) to complete Comprehensive Environmental Response, Compensation and Liability Information System documents (feasibility study, proposed plan and Record of Decision) in 2013 for the groundwater operable unit. The project was issued mid-stream with a draft feasibility study already completed that required responses to comments provided by the United States Army Corps of Engineers Center of Expertise. Responses were developed, agreed upon, changes incorporated into the existing document and the team delivered the draft final for Environmental Protection Agency and New Jersey Department of Environmental Protection regulatory review within a month of being issued the task order.
- Minera Los Pelambres-Acid, Mine Drainage, Chile: Expert technical reviewer of the technical memoranda for the Minera Los Pelambres copper mine, which is one of the largest porphyry copper mines in the world. The memoranda contained laboratory-based treatability study results that subsequently were used to determine design parameters for application of metal oxidation-precipitation with limestone as a neutralizing agent in a passive treatment system for surface acid mine drainage.
- Modesto Groundwater, Modesto, California: Engineering manager at this National Priorities List site. Groundwater was heavily contaminated with trichloroethylene and contained levels of naturally occurring radioactive materials. As engineering manager working on behalf of Environmental Protection Agency Region 9, Developed detailed plans and specifications for a soil vapor extraction system to reduce contaminant loading on groundwater and a groundwater extraction and treatment system to address



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trichloroethylene-contaminated groundwater and vadose-zone soil. The systems were located within an active city area, where space was greatly limited. Designed for the groundwater treatment system included a precipitation and filter system to remove iron to prevent system fouling, air stripping to remove trichloroethylene from extracted groundwater, an ion exchange system to remove naturally occurring radioactive materials and granular activated carbon to collect the stripped volatile organic compounds and granular activated carbon for final effluent polishing. Developed and implemented a detailed procedure to dispose of the spent ion exchange resin, which was classified as a low-level radioactive waste.

- Monitor Devices, Inc./Intercircuits Inc., Superfund Site, Wall Township, New Jersey: Lead design engineer manager for the groundwater remedial design for this site, on behalf of the United States Army Corps of Engineers Kansas City District and Environmental Protection Agency Region 2. The selected remedy involves in situ treatment of volatile organic compounds in the groundwater through enhanced bioremediation. Helped develop and implement two pilot tests to determine whether aerobic and/or anaerobic conditions would best stimulate the natural occurring microorganisms to degrade the groundwater contaminants, then recommended the use of a reagent to facilitate aerobic degradation. Currently developing detailed specifications for full-scale implementation, which involves detailed modeling of the groundwater plume and development of a groundwater sampling and monitoring plan to confirm (1) that remedy is in fact working and (2) when the cleanup objectives have been met.
- Morrison City Dump Site, Morrison, Illinois: Manager for the investigation of this 10-acre landfill site, which had been improperly retired and where open waste burning had occurred after landfill abandonment. Prepared subcontracts for the aerial survey and digging of 10 test trenches to help delineate landfill boundaries. Subsequently developed a modified surface soil sampling and analysis plan, specifying use of an Environmental Protection Agency-approved modified dioxin analysis procedure to delineate contamination at a greatly reduced price. Managing streamlined ecological risk assessment to determine site impacts on a nearby stream. Will use the investigation data to develop a landfill cover that meets the requirements of the Illinois Administrative Code.
- Nacimiento Copper Mine, Cuba, New Mexico: Responsible-in-charge engineer and project manager for the design of a groundwater chemical precipitation unit at this abandoned copper mine. Acid had been injected into the subsurface for solution mining, contaminating approximately 20 million gallons of groundwater. The design encompassed a full treatment plant consisting of dual sodium hydroxide and polymer induced precipitation units, mixed media filtration and an Octolig® immobilized ligand unit. Octolig® was chosen due to a higher affinity for heavy metals than ion exchange resins. Additionally, Octolig® is more selective for the heavy metals and may be regenerated without losing capacity. In order to reduce treatment costs, the design utilized a regeneration unit that used sulfuric acid to create a dilute acid wash solution. The design included extraction and monitoring wells up to 450 feet in depth and automated field testing for discharge parameters. The design also included plans for the 8,000 square-foot treatment building, foundation and electrical layout. Oversaw the design for utilities such as an on-site drinking water well and layout of power company electrical feeds.
- Necedah Landfill, Necedah, Wisconsin: Project manager in charge of the development of the groundwater and surface water sampling plans for this closed landfill, on behalf of a private-sector client. Completed an extensive data review to determine the necessary analytical parameters, then met with personnel of the Wisconsin Department of Natural





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Resources to develop an overall sampling strategy that would enable the client to save cost by reducing the number of analytical parameters and frequency of sampling. As part of his project management duties, Developed the five-year groundwater monitoring review that further reduced the monitoring parameters and removed additional wells from the program. Finally, the landfill had not been constructed to the appropriate standards established by Wisconsin Department of Natural Resources. Working with Wisconsin Department of Natural Resources, was able to develop a landfill closure report demonstrating that the existing grade was sufficient so the necessary closure could be obtained.

- Northern Indiana Public Service Company, Crown Point Pipeline, Crown Point, Indiana: Engineer of record associated with the preparation of the construction stormwater pollution prevention plan and corresponding state notice of intent for a new four-mile, eight-inch pipeline project. The project traversed a legal drainage and also required preparation of a regulated drain application. Provided overall direction, quality assurance/quality control and sealed the permit application, which was require negligible revisions from the county.
- Various Facilities, Northern Indiana Public Service Company, Soil Monitoring and Removal, Indiana: Project manager associated with providing construction monitoring associated with the removal of debris and soil piles from multiple Northern Indiana Public Service Company facilities. Developed the protocols associated with soil gas monitoring, staging and documenting the removal and transportation and disposal of soil and construction debris piles. Northern Indiana Public Service Company generated the waste piles as part of its maintenance and repair activities throughout the northern part of the state.
- Various Facilities, Northern Indiana Public Service Company Spill Prevention, Control and Countermeasure Plans, Indiana: Project manager for the revision/development of 17 individual spill prevention, control and countermeasure plans. Directed a three-person team to perform site audits and update and create spill prevention, control and countermeasure plans for facilities throughout northern Indiana. The project includes investigation of each site, determining site-specific stormwater runoff paths and development of the spill prevention, control and countermeasure plans to ensure compliance with Environmental Protection Agency regulations. Thorough project cost management, develop an additional spill prevention, control and countermeasure plan (total of 18) within the exiting the budget.
- Orofino Asbestos Site, Orofino, Idaho: Engineer-in-charge under E & E's (now WSP) Region 10 Superfund Technical Assessment and Response Team program. Responsible for the design of a repository for asbestos-cement pipe and asbestos-contaminated soil that has been improperly handled during water main replacements. The design included a 20-foot-high retaining wall, asphalt cover used for parking and a dry infiltration pond for stormwater control. Coordinated the construction oversight during retaining wall construction, including compaction and testing of the foundation and the layout of the parking lot and retention pond. The engineering team worked with the Orofino City Manager to ensure that all city ordinances were met.
- Petroleum Specialties Refinery/Bulk Storage Facility, Flat Rock, Michigan: Engineering design task manager for this Superfund site. Led the sampling and characterization of a lagoon contaminated with lead, mercury and polychlorinated biphenyls; fast-track design of a system to treat two million gallons of lagoon water; design



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of a 4,000-foot discharge pipeline; bench-scale treatability testing; and acquisition of a publicly owned treatment works discharge permit for the treatment system. Utilized our nationwide technical network to assemble the team needed to meet a six-week Environmental Protection Agency deadline while completing the project under budget. Gave presentations and provided technical support to Environmental Protection Agency at public meetings concerning site activities. Oversaw construction of the effluent pipeline and wastewater treatment system and led the initial system start-up. The efficiently designed system produced discharges with concentrations that were well within the permit limits.

- Polyurethane Foam Manufacturing Facilities, Indiana and Missouri: Manager for the development of designs for the extraction of solvent contamination in near surface groundwater at a site in Indiana and for the removal of 5,000 cubic yards of petroleum-contaminated soil at a facility in Missouri on behalf of a manufacturer of polyurethane foam and rubber. Provided close coordination with Indiana Department of Environmental Management and the Missouri Department of Natural Resources, respectively, for the determination of cleanup objectives. For both projects, developed design specifications and bid packages, assisted in negotiations with cleanup contractors and provided construction management. For the Missouri site, designed an innovative spill containment area for railcar unloading operations and conducted an interior subsurface investigation beneath the production floor to determine the extent of petroleum hydrocarbon contamination. By using a portable concrete coring machine and hand augers for subsurface sampling, was able to gather data near heavy production equipment that normally would pose access restrictions. Developed a cost-effective method to collect free-phase petroleum hydrocarbon and worked with plant personnel to modify the production process to alleviate further subsurface releases. Finally, developed the closure report that outlined the soil remediation project and the installation/implementation of numerous spill prevention and collection systems. Upon review of the report, Missouri Department of Natural Resources granted closure of the site.
- Quivira Mine, Gallup, New Mexico: Engineer supporting the Environmental Protection Agency Region 9 Superfund Technical Assessment and Response Team. In charge of the development of an engineering/cost analyses for this closed uranium mine. Provided overall project direction, performance review and quality assurance/quality control on all tasks and deliverables. The engineering evaluation/cost analyses addressed threats to Navajo Nation residents and the environment posed by eroding waste rock pile covers and contaminated material in roadways, arroyos and vent shafts. Engineering analysis included cover evaluations, waste calculations and cost estimating. Team used Nuclear Regulatory Commission guidance in estimating a design cover thickness to ensure limited radon release and calculated an excavation volume based on sampling data from previous investigations. Under his direction, they explored regional disposal options for low-level radioactive waste, which identified acceptance at municipal solid waste facilities, low-level radioactive waste facilities and uranium mill sites.
- Radiation Technology Site, Rockaway Township, New Jersey: Engineer supporting the preparation of a remedial investigation/feasibility study for Environmental Protection Agency Region 2 and for the United States Army Corps of Engineers Kansas City District. Oversaw the development and provided quality assurance/quality control review for the development of a feasibility study at this site. Team identified options for the removal of site structures related to historic rocket propellant production and testing. The facility, comprised of 34 buildings and structures, manufactured both liquid and solid grain rocket fuels. The primary contaminants of concern were perchlorate, polychlorinated biphenyls,



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metals, asbestos and lead paint. The \$934,000 project included preparation of a technical memorandum summarizing existing analytical data, preparation of a quality assurance project plan and field sampling plan, remedial investigation report, human health risk assessment and focused feasibility study. Oversaw the development of the focused feasibility study that assessed disposal options for polychlorinated biphenyl-contaminated concrete and other building materials.

- Red Devil Mine Feasibility Study, Red Devil, Alaska: Responsible engineer for the development the focused feasibility study, engineering evaluation/cost analyses and development and implementation of a pilot study at this technically complex and high-profile abandoned mercury mine, located about 250 miles west of Anchorage in a remote part of the Kuskokwim Mountains. Forty years of mining and ore processing had left large volumes of processed ore, flotation mill tailings and waste rock containing mercury, arsenic, antimony and other metals and organic contaminants across the site and in the adjacent Kuskokwim River. Contamination of the river—used for to local subsistence harvesting—was of particular concern to local Native organizations. Key objectives of the feasibility study and engineering evaluation/cost analyses were to develop approaches to reduce contaminated sediment migration into the Kuskokwim River. The tasks were complicated by the mixing of waste during mining, alluvial and other waste transport and the chemical and physical similarities between the waste and native soil and sediment. Additional design considerations were further complicated due to the site location and the overall lack of infrastructure For example, all construction equipment and supplies must be either flown in or shipped by barge. In order to address metals leaching off the tailings, developed a pilot test to solidify/chemically fixate them. His research led to a process that chemically fixated the tailings so that the leachate passed toxicity characteristic leaching procedure analysis and prevented the tailings from being classified as a hazardous waste.
- Riverdale Chemical Company, Chicago Heights, Illinois: Engineer-in-charge of the engineering evaluation/cost analyses for this active herbicide/pesticide manufacturing plant under the Superfund Technical Assessment and Response Team program for Environmental Protection Agency Region 5. As part of applicable or relevant and appropriate requirements development, reviewed Environmental Protection Agency policy to determine the Resource Conservation and Recovery Act status of pesticide- and dioxin-contaminated subsurface soil. In developing the removal alternatives, identified an asphalt system that met the performance requirements for a Resource Conservation and Recovery Act cap, resulted in a considerable cost savings and allowed the facility to maintain production.
- Schilling Farm Remedail Desing and Construction Oversight, Michigan: Program manager for the remediation of two distinct trichloroethylene-contaminated groundwater plumes. Managed operations associated with the use of bioattenuation (a constructed treatment wetland) for low-cost trichloroethylene treatment. Engineered a means to collect the other plume and utilize the additional capacity of the existing treatment wetland to treat it. To address the client's desire for a low-maintenance collection and remediation system, evaluated the use of solar and wind generators to power the second plume collection system. In addition to performing his engineering duties, responsible for all negotiations associated with state permitting, provided the client with a single point of contact by dealing directly with all subcontractors and tracked all project costs.
- Sheldon Mine, Prescott, Arizona: Engineer-in-charge of the preparation of the engineering evaluation/cost analyses for selected remedial options at this mine site, which consisted of a failing tailing pile, a waste rock pile and contaminated sediment observed



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along an adjacent tributary bank that had migrated from the site. Under the Superfund Technical Assessment and Response Team program for Environmental Protection Agency Region 9, soil and sediment samples were collected to determine the extent of contamination downgradient from the tailing pile that would require remediation. Oversaw the design associated with the tailing pile and waste rock pile consolidation strategy, as well as the restoration design for site drainage paths used to divert runoff around the tailing/waste rock piles in order to mitigate infiltration and water recontamination through them.

- Skyline Mine, Removal Project, Utah: Project and design engineer who provided engineering oversight for the time-critical removal action at a legacy uranium mine on Navajo tribal land. Responsible for directing construction of a repository and consolidation of radioactive mine tailings, as well as coordination with the client, construction contractors, tribal agency representatives, local residents and survey crews.
- Spickler Landfill, Marshfield, Wisconsin, Cost, Dates: Engineer who provided engineering field oversight for the implementation of a collection system for mercury-contaminated leachate. Ensured that design specifications were met, that the project schedule was maintained and that health and safety protocol were followed.
- Statewide Assessment, Remediation Program, South Carolina: Chemical engineer who provided technical reviews associated with the feasibility studies and designed remedial systems for dry-cleaning sites including One Hour Martinizing in Darlington. The innovative design involved the use of potassium permanganate to provide in situ oxidization of volatile organic compound contamination in the aquifer. The design involved multiple injection depths within the aquifer as well as in situ batch treating of contaminated sediment within manholes and sewer piping. Work was done under a multisite program for the South Carolina Department of Health and Environmental Control.
- Statewide Hazardous Substance/Petroleum Response Program, Indiana: Manager of the technical review/remediation oversight under a multisite contract with Indiana Department of Environmental Management. For the Cummings, Frankfort Manufactured Gas Plant, Morris Petroleum, Ewing Tire and Norfolk and Western Railroad sites led the review of the waste inventory, remediation work plan, risk assessment and remediation completion report.
- Statewide Hazardous Waste Site/Dry-Cleaning Solvent Cleanup Program, Florida: Chemical engineer who provided engineering support and technical reviews for the remediation of denser-than-water nonaqueous phase liquid contamination at sites statewide. Worked closely with our technical teams to schedule all contract engineering tasks using a steady, progressive approach designed to achieve State goals of expedited site cleanup and eventual closure. Provided key insight and reviews associated with the design, construction and operation and maintenance of groundwater remediation systems at the Dryclean USA #11401 site in Boca Raton and One Hour Cleaners in Coral Springs.
- Statewide Transportation Facilities, Illinois: Consultant responsible for the Illinois Department of Transportation program quality assurance/quality control to assist the program manager in the review of all preliminary site investigation work plans and reports. Verified that preliminary site investigation MicroStation files delineated all existing topographic features and proposed construction details; reviewed draft work plans and preliminary site investigation report drawings to ensure that the computer-aided design standards were maintained; reviewed construction feature, depth and volume tables for completeness and accuracy; and ensured that Illinois Clean Construction and Demolition



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Debris regulations were followed and were appropriately documented. Specifically for Illinois Department of Transportation, managed the evaluation of contamination caused by leaking petroleum underground storage tanks at Illinois Department of Transportation's McCook facility. Prepared the work plan in accordance with new state regulations, addressing requirements for additional soil investigation and completion of pre-remedial reports for submission to the Illinois Environmental Protection Agency. Also prepared the remediation work plan for the Stevenson site in McCook, which contains two 10,000-gallon underground storage tanks. The work plan was designed to enable the site work to qualify for reimbursement by the State of Illinois. Responsible for the site classification, groundwater monitoring, removal of leaking underground storage tanks and design/installation of the new underground storage tank fueling system. For Illinois Department of Transportation's Flora Maintenance Yard, designed and implemented a passive venting system to remediate gasoline-contaminated soil. Since the contaminated area was immediately next to the maintenance building, the soil could not be excavated without jeopardizing the structure's foundation. By implementing a passive vent design, able to obtain site closure authorization from the Illinois Environmental Protection Agency. For Illinois Department of Transportation's Mississippi River Bridge expansion at a former smelter site in East St. Louis, developed multiple treatment options for lead contamination, including both in situ and ex situ solidification treatment scenarios to render the soil nonhazardous. As part of his design work, prepared detailed cost estimates for each scenario and worked with Illinois Department of Transportation project engineers to identify construction areas where the volume of soil requiring treatment could be reduced, thereby reducing the overall project costs.

- Stationary low-temperature thermal desorption Facility, Bridgeport, Connecticut: engineer who evaluated water quality as part of our multimedia engineering evaluation and compliance strategy development for Geoclean Environmental, Inc. Formulated measures to control stormwater runoff and incineration facility drainage and helped develop the stormwater permit application.
- Swift Creek (Sumas Mountain) Asbestos Site, Everson, Washington: Lead consultant who supported the Region 10 Superfund Technical Assessment and Response Team during preparation of an engineering evaluation/cost analyses to identify site management and control options. A massive landslide near the headwaters of Swift Creek is releasing up to 120,000 cubic yards of excess sediment per year into the creek. The slide material contained deposits of naturally occurring asbestos and the creek is being dredged yearly to prevent flooding.
- Tex-Tin Smelter/Metal Reclamation Facility, Texas City, Texas: Task leader responsible for the engineering evaluation/cost analyses for this 170-acre Superfund site. The engineering evaluation/cost analyses encompassed the removal of over 100,000 cubic yards of heavy metal-contaminated lagoon sludge and soil; removal of 10,000 cubic yards of slag contaminated with naturally occurring radioactive materials; and installation of a 300-gallons per minute groundwater pump-and-treat system.
- United States Army Combined Arms Center, Fort Leavenworth, Kansas: Project manager for a design-build project to address polynuclear aromatic hydrocarbon-contaminated soil. Developed detailed specifications associated with soil excavation and off-site disposal. By reviewing investigative data, determined a soil excavation method that will avoid the need for subsequent mobilization to the site to address any residual soil that may contain polynuclear aromatic hydrocarbons above the cleanup objectives. Developed a confirmation sampling plan to ensure closure after excavation.



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- Wheeling Steel, Mingo Junction City, Ohio: Engineer who conducted a technology review and prepared the preliminary design for an in-situ oil-water separator to treat a spill at an 18,500-gallons per minute outfall to the Ohio River. Also provided fast-track coordination to acquire the necessary construction permits.
- White River Fishkill, Anderson, Indiana Expert technical reviewer to support Environmental Protection Agency Region 5 litigation of the potentially responsible party for a large-scale fishkill. Developed several different discharge scenarios and used plating shop balance calculations to develop mass balance calculations to determine thiram and carbon disulfide levels in the effluent discharge. Since the chemicals passed through the local publicly owned treatment works without significant removal, also determined the publicly owned treatment works' effluent discharge concentrations.
- Wildwood Air Force Station, Kenai, Alaska: Engineer who designed and developed bid specifications for the remediation of five areas. Designed the soil vapor extraction and air sparging systems to remediate benzene-contaminated soil and groundwater in an area containing abandoned aboveground storage tanks. Developed comprehensive site models to determine the optimal subsurface air flow through soil and groundwater, optimize system process piping, predict water accumulation and the sizing of the air/water separator and determine the downwind concentration of benzene from the effluent air discharge. Used soil vapor extraction/air sparging system operation and maintenance plan addressed system start-up, routine maintenance and monitoring and troubleshooting. In addition, Developed and implemented a solidification treatability study for the air force station rifle ranges that successfully demonstrated that lead-contaminated soil could be solidified to meet toxicity characteristic leaching procedure requirements for on-site disposal. For two former landfill areas, designed caps to prevent human exposure and reduce subsurface contaminant migration. Developed a site-specific model to design the best cap slope, thereby reducing the amount of labor and materials needed.

### *PREVIOUS EXPERIENCE*

Before joining WSP, Neil's experience included:

- Burns and McDonnell Waste Consultants, Inc., Chicago, Illinois, Resident Engineering Manager, 1991-1993
- Federal-Mogul Corporation, Blacksburg, Virginia, Electrochemist/Environmental Engineer, 1987-1991
- Jade Technologies, Elk Grove Village, Illinois, Process Engineer, 1986-1987
- Dietrich Industries, Hammond, Indiana, Metallurgy Intern, summers 1984 and 1985
- Northern Industries, Crestwood, Illinois, Shipping/Receiving Department Intern, summers 1982 and 1983
- Inland Steel Company, East Chicago, Indiana, Construction Intern, summer 1981





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*PUBLICATIONS & PRESENTATIONS*

*Publications*

- "Multiattribute Evaluation Model for Environmental Compliance of Existing Metal Hydroxide Precipitation Systems in the Electroplating Industry," *City, State*, 1991.

*Presentations*

- "Poplar, Eucalypt, and Willow Genotypes for PCE, TCE, Toluene, and Arsenic Dendroremediation Systems," 1st World Congress of Agroforestry, *City, State*, 2004.
- "Phytoremediation of a Perchloroethylene Contaminated Site in LaSalle, Illinois with Populus Clones—A Field Evaluation," AEEES Conference, Fayetteville, Arkansas, 2004.
- "Accelerating Pentachlorophenol Biodegradation using HRC," Seventh International In Situ and On-Site Bioremediation Symposium, Orlando, Florida, 2003.
- "Fast-Growing Trees for Heavy Metal and Chlorinated Solvent Phytoremediation," Seventh International In Situ and On-Site Bioremediation Symposium, Orlando, Florida, 2003.
- "Risk-Based Prioritization of a Former Refinery," Society of Environmental Toxicology and Chemistry 18th Annual Meeting, San Francisco, California, 1997.



## JOSEPH FONZI, PE

### Structure Design and Welded Fabrications



#### CAREER SUMMARY

Joseph is a Supervising Structural Engineer with both design and project management experience in several engineering disciplines at WSP. He has pronounced experience in marine, civil, structural, building mechanical, custom steel fabrication, telecommunications, and material handling projects. His varied design background, shop hobbies, and special interests in metals all feed his talent for understanding constructability, from a global perspective down to the fine details of assembly. In addition to his keen technical design and design team leadership, Joe has supervised the construction for many of his projects. His diverse experience gives him a broad understanding of multi-discipline design and construction issues, making him a valuable design manager of one-off projects and leader in the coordination between engineering disciplines. These unique projects require the application of practical experience, knowledge and unconventional engineering application outside of the confines of typical guidelines and standards. He was trained in the use of many shop tools, processes and fabrication methods along with the traditional art of drafting. Joe is familiar with welding, forging, and casting of various metals. During his years in the industrial sector, he not only designed and engineered unique projects but also saw them through fabrication and construction.

#### Years with the firm

19

#### Years total

34

#### Professional registrations

Professional Engineer:  
NY (083459-1)

BS, State University of New York- Buffalo

2004

AAS Mechanical Design and Drafting, Niagara County Community College

1992

#### Professional affiliations

American Institute of  
Steel Construction  
(AISC)

American Welding  
Society (AWS) D1.1  
Comm.

#### Other languages

Italian

#### EDUCATION

#### PROFESSIONAL EXPERIENCE

- **Pattullo Bridge Replacement, New Westminster, British Columbia, Canada:** review of contractors welding and fabrication proposal. WSP, as a subcontractor, is providing owner's engineering services to the British Columbia Ministry of Transportation through the design and construction of the Pattullo Bridge Replacement Project. WSP is furnishing engineering services, technical expertise, and specialist reviews on behalf of the owner on an as-requested basis. WSP's engineering disciplines include long-span bridges, moveable bridges, structures and directional drilling, storm water and drainage, urban integration, construction monitoring, and computer-aided design resources.
- **Wind Retrofits and Miscellaneous Structural Repairs at the Robert F. Kennedy Bridge, New York:** review of contractors welding and fabrication proposal. WSP was responsible for design tasks for these two distinct, multi-phased, multi-tasked projects, including HS25 load rating and strengthening for all super-structures, seismic evaluation, stringer repairs for suspended span, steel barriers design and crash testing, wind tunnel testing, among others. Weigh-in-motion data collection was performed before and after repairs to gauge efficacy of design and structural health monitoring systems.
- **Purina Cat Treat Phase 2 - Construction & Engineering Support (PCR-0003), New York, New York:** lead structural engineer for new product line.
- **Bridge Fender Replacement, New Jersey:** review of aluminum PQR and WPS from fabricator. WSP developed the modified preliminary engineering and final design, and prepared the construction contract documents for three separate construction contracts on an accelerated delivery schedule for the fender system replacements at 13 sites throughout





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seven New Jersey counties. This project provided a new economical fender system constructed of environmentally friendly grade fiber components.

- **LaSalle Park Feasibility Study, Buffalo, New York:** lead structural engineer for Quay wall inspection and assessment. WSP, as a subconsultant, assisted in a project for the Buffalo Niagara Waterkeeper to provide professional services to analyze the feasibility of installing a breakwater, paddle-sport launch, and shoreline habitat features. WSP reviewed previous studies of the area, determined data gaps, collected relevant data, and recommended the feasibility of the project's implementation. WSP assisted in each of these feasibility reviews, but was substantially involved in reviewing the hydrologic and hydraulic conditions, and how they pertain to ice evaluation and reference. WSP performed an underwater investigation and structural analysis of the seawall.
- **BUFFALO YACHT CLUB SEAWALL ELECTRICAL UPGRADE, Buffalo, New York:** PM and Lead engineer for pier assessment and rehab and designing of new dock guide piles.
- **Krull Park Shoreline Design, Newfane, New York:** structural and marine engineering lead. WSP performed wall and bank reconstruction design services for the Krull Park Shoreline project for the Niagara County Department of Public Works.
- **US Coast Guard Architectural and Engineering IDIQ Services, Hatteras, North Carolina:** PM for Fort Niagara structural assessment and QAQC on Chincoteague inspection and assessment. WSP is providing architectural and engineering design services for the U.S. Coast Guard at various facilities. The projects include architectural and engineering design services, structural inspection, and evaluation of the station building at Station Niagara, New York. The project required labor, materials, transportation, equipment, and supervision to investigate, coordinate and complete the structural inspection and evaluation of the station building at Sector Field Office Eastern Shore at Chincoteague, Virginia. WSP designed to repair and replace damaged building systems in the multi-purpose building and boat maintenance facility at Station Hatteras Inlet in Hatteras, North Carolina. WSP assisted with developing a design-build request for a proposal for constructing new facilities and waterfront at Sector Key West Station, Florida, for three distinct development projects, including station key boat rebuild, sector key west resiliency, and sector key best electrical distribution. The design services for Hurricane Florence required repairing station buildings at Oregon Inlet, Nags Head, North Carolina. WSP provided designs for waterfront repairs at Station Emerald Isle, North Carolina, as well as building and site repairs at Station Wrightsville Beach, North Carolina, and a structural assessment report for the Wilson Building.
- **Niagara Falls Bridge Commission Rainbow Bridge Deck Repair, Niagara Falls, New York:** lead structural engineer for a production line expansion. WSP is the prime engineering consultant for five rehabilitation projects including work at three International long span bridges including the Rainbow Bridge, Whirlpool Rapids Bridge, and Lewiston Queenston Bridge. Two larger projects include assessment and extensive concrete testing of the Rainbow Bridge barrel arched approach spans 150 feet over the Niagara Gorge on the Canadian and USA sides to determine required work and develop construction documents; development of master schedules, Site-Specific Safety Plan, and cost estimates; and updates, administration, and inspection during construction. Other projects include pavement and drainage improvements in the USA plazas at all three bridges, replacement of a water main, and variable message signage upgrades.



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- **On-Call Airfield Design Services, Dallas Fort Worth Airport, Dallas, Texas:** analyzing and reinforcing of concrete storm drain structure to accommodate large aircraft surcharges. WSP provided on-call airfield design tasks for the Dallas-Fort Worth International Airport. The tasks included various services and projects for the airport when needed. The firm has provided civil, geotechnical, structural, and navigational aids; electrical, lighting, and drainage design; and construction phase services for various airfield improvement tasks.
- **La Chalupa Wind Farm, Acciona Energy USA Global, LLC, Palmas Altas, Texas:** design of foundations for power transmission line structures for new wind farm to substation. WSP is providing prime detailed design services for La Chalupa Wind Farm on behalf of Acciona Energy USA Global, LLC. La Chalupa is Acciona's 10th wind farm in the United States and third in Cameron County, Texas.
- **Frye Sand and Gravel, 3830 Dry Bridge Road, Buffalo, New York:** structural engineer on measuring and analyzing the capacity of existing equipment structure. WSP provided assistance with engineering consulting services for this material handling project.
- **Olcott Harbor Breakwater Feasibility Study, Newfane, New York:** lead structural engineer for breakwater structure. WSP is completing a study to identify, evaluate, and compare options to control wave magnitude and frequency within Olcott Harbor. Options identified for further advancement include two offshore breakwater options, one rubble mound stone and the other a cellular steel sheet pile structure, stone lining of the existing piers, and an option to extend a rubble mound breakwater off of the existing east pier. These options are presently undergoing coastal and hydraulic modeling to further assess their performance. Following selection of a single alternative, construction documents will be progressed.
- **City of Detroit 2017 On-Call Traffic Engineering Services, Detroit, Michigan:** structural engineer for DMS and ITS structures. WSP is providing on-call engineering services to improve Detroit's roadway and traffic infrastructure. WSP is responsible for the design of traffic signals and/or roadway geometry at various locations, and coordination with other stakeholders. The project includes conversion from diagonal span configuration to box span configuration, modernization of signal equipment, and implementation of location appropriate signal actuation measures.
- **Voss Manufacturing, New Equipment Loading, Buffalo, New York:** lead engineer in field measuring and analyzing a concrete barrel vault roof to support a new machine line. WSP reviewed new loadings on the existing floor slab and supporting arches to determine their capacity to support new equipment. Voss Manufacturing installed a new Mazak Laser Tube cutting line on an existing shop floor and required confirmation that the arches would support the floor slab.
- **Term Contract for Professional Design Services for New York City State Park Region, New York City, New York:** lead structural engineer for buildings and marine structures. WSP is managing a term contract for professional design services for the New York State Office of Parks, Recreation and Historic Preservation's New York City State Parks Region. The contract includes design engineering services for Penn and Fountain State Park in Brooklyn. Disciplines required to accomplish this scope included environmental, structural, civil and site, electrical, plumbing, architecture, landscape architecture, cost estimating, and construction management. The existing Pier 76 structure was stripped of the outside



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cladding and the site was redefined and regraded into a new outdoor gathering space that included the framework of the old building. The newly designed park will consist of more than 5 acres of paved and landscaped areas with seating and informational signage along the Hudson River. Pier 76 Park will be used as an open space for the millions of people living and visiting New York City as well as a place to host public events.

- **George C. King Bridge Inspection, Calgary, Alberta, Canada:** lead design engineer for the temporary restraining system. WSP provided design and engineering services for the George C. King bridge inspection. The scope of work included assessing the stability of the pedestrian bridge and causes for some of its issues. The scope of work included recommendations for fixing and stabilizing the complex bridge.
- **First Buffalo River Marina Capital Improvements, Buffalo, New York:** lead structural engineer. WSP is contributing design engineering, master planning, and community engagement expertise to a team tasked with developing concepts for public access and redevelopment opportunities at First Buffalo River Marina.
- **Cleveland Metroparks Wendy Park Pedestrian Bridge Design, Cleveland, Ohio:** design of connections and anchorage for signature pedestrian bridge. WSP is providing design services to develop construction documents for a pedestrian bridge/trail connecting Wendy Park and the Northern Terminus of the Willow Street Lift Bridge.
- **Utah Valley University Pedestrian Bridge Over Interstate 15 Design Services, Orem, Utah:** structural engineer who designed specialty connections for the proposed bridge, reviewed and guided the design team for constructability and fabrication on the signature design. WSP provided the Utah Department of Transportation with preconstruction engineering services for the design of a 965-foot pedestrian bridge over Interstate 15 near the Utah Valley University Campus in Orem. This structure will provide a direct connection between the Utah Transit Authority and Utah Valley University. The WSP project team was responsible for developing the project schedule and maintaining regular updates, structural and geotechnical design, landscape, erosion control, stormwater pollution prevention plan, right-of-way design, utility and railroad coordination, subsurface utility engineering investigations, wetland delineation, and coordination with the Utah Department of Transportation environmental team.
- **Cataract Commons Design Services, Buffalo, New York:** lead structural engineer for the design of custom shade structures and foundations. WSP performed design services for an urban pocket park in Niagara Falls, New York. A marquee sign and a custom shade structure were designed and detailed, as well as foundations for the shade structure, sign, and wooded deck.
- **Tri-State Tollway Expansion Consulting, Chicago, Illinois:** structural engineer reviewing and updating aluminum luminaire structures. WSP is providing design services to the Illinois State Toll Highway Authority for several current and future tollway projects, including the Tri-State Tollway Expansion, the ongoing design and construction of the Elgin O'Hare Western Access Project, and additional projects included in the "Move Illinois" Capital Program. The scope of work includes environmental and plan reviews, project management, drainage, structural engineering, and project control support.
- **Henry Hudson Bridge Reconstruction, New York, New York:** structural engineer. WSP, in joint venture, was responsible for the reconstruction of the upper and lower toll plazas



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and the southbound approach at the Henry Hudson Bridge. The reconstruction prolonged the life of this critical structure and continued the Triborough Bridge and Tunnel Authority's mission to provide the public with a safe and reliable transportation network.

- **Dallas Southern Gateway Design-Build Project, Dallas, Texas:** structural engineer for miscellaneous structures WSP is providing design and construction services for the Dallas Southern Gateway design-build project. The 11-mile project will widen and reconstruct 11 miles of Interstate 35 south of downtown Dallas. The project involves adding two reversible non-toll express lanes and reconstructing the Interstate Highway 35 and U.S. Route 67 interchange. The project scope includes designing and constructing 41 bridges, continuous frontage roads, a deck park, retaining walls, drainage, and ramp and safety improvements. The firm is also working on maintaining traffic schemes, drainage, traffic, and utilities.
- **LaGuardia Central Terminal Replacement, Queens, New York:** structural engineer for central heating and cooling equipment building. WSP is part of LaGuardia Gateway Partners, the largest public and private partnership in the U.S., selected to design, build, finance, operate, and maintain a new central terminal at LaGuardia Airport that replaces the existing Terminal B. The new terminal will utilize an island-gate system in which passengers access their gates via raised pedestrian bridges that are high enough for aircraft to taxi underneath, creating 2 miles of new taxiway space that reduces taxi-in and taxi-out times and provides for shorter and fewer gate delays. The project also includes a new 3,000-space garage, central heating and refrigeration plant, and airport road system improvements.
- **AVANGRID Station 255 Rochester Area Reliability Study, Rochester, New York:** structural engineer for new substation power structures and foundations WSP provided detailed engineering services for AVANGRID's Station 255 - Rochester Area Reliability Project.
- **Allegany, Niagara, Genesee Region Engineering Term 2016, Buffalo, New York:** lead structural engineer. WSP was the prime engineer for this term contract for the performance of individual design assignments on an as-needed basis. Design assignments include project design, phase studies, investigations, assessments, reports, construction support, and related services in support of the capital program for Parks facilities. Disciplines required include civil engineering, structural engineering, geotechnical engineering, mechanical, electrical and plumbing engineering (MEP), architecture, landscape architecture, environmental engineering and surveying. Projects included Cave of the Winds Pavilion Building Rehabilitation, Letchworth State Park Humphrey Nature Center, Niagara Falls State Park Police Station Design, and others.
- **Tecumseh Michigan Plant Expansion, Michigan:** design engineer for modifications of an existing press pit that used to support 5 smaller stamping presses to now support one 1600 ton stamping press. Joe was also the design engineer for creation of a new press pit in another existing facility to support 3 new stamping presses. The pit installation had to be designed such that existing plant operations were not impeded. WSP is leading a multi-million-dollar expansion of an automotive stamping facility. This project includes a steel-framed building expansion of approximately 52,000 square feet, roadway construction, and new parking additions. The project also includes work inside the existing factory, including the modification of the existing press pit for a new 500T press. The modifications include alterations of the existing pit walls and surrounding floor slab area to accommodate the new press and associated material handling apparatus.



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- **Spring Creek Plaza:** structural engineer. WSP provided professional engineering design services for the development phase and bid assistance during the bid and construction award phase of the project to provide a separate grid supply to Spring Creek Plaza Towers Apartments.
- **Rainbow Bridge Toll Sign, Lewiston, New York:** PM and lead engineer for the replacement of old lane signs with new DMS. WSP designed the new framing to replace the existing mechanical toll lane signs and new dynamic messaging sign on the Rainbow Bridge.
- **Buffalo Outer Harbor Improvements, Buffalo, New York:** structural engineer that designed and engineered a historic Whipple Truss bridge using modern materials and construction details to create an interpretation of the Whipple truss bridge that originally crossed the canal slip. Joe also designed a 100ft by seven (7) foot deep plate girder at the head of the slip that supports a pedestrian plaza and a suspended waterfall structure to circulate fresh water through the slip and created shop level detail drawings for the custom historic interpretive bridge. WSP was hired by Erie Canal Harbor Development Corp. to provide upgrades on Buffalo's Outer Harbor waterfront area which includes rail improvement, signage improvement, and a redevelopment of the central finger of the Seaway Piers. This project is an award-winning steel pier structure in Lake Erie, a fishing dock at the Tiff Nature Preserve, and a trail with historical interpretations of Buffalo's industrial history.
- **Exit Sign Survey, Buffalo, New York:** project manager for exist sign and emergency lighting mapping of the one million square foot production facility. WSP completed a Emergency Exit Sign Survey and Compliance Report for General Motors Component Holdings in January 2017. WSP conducted site visits to General Motors Component Holdings' Buildings 7 and 10 to provide a survey of existing conditions of all emergency exits in the buildings and corresponding conduits. The report summarizes the findings and recommends modifications that are required to be egress code compliant. WSP provided construction drawings to show recommended improvements including a new exit and replacement exit signs and conduits back to emergency and non-emergency panels.
- **Veola-Antero Pipe Rack, Tonawanda, New York:** lead engineer for the design and engineering of pipe racks and supports. WSP engineered Veola-Antero pipe racks for an oil refinery.
- **Interstate 90 Floating Track Bridge System Prototype and Testing, Seattle, Washington:** designer for articulated emergency catwalk at hinge point on the floating bridge. WSP led and managed a multidisciplinary team that conceived, designed, and tested the curved element supported rail system to transport vehicles from the fixed to floating sections of the Homer M. Hadley Memorial Bridge for the world's first light rail line over a floating bridge. The curved and rotating track system enables the bridge deck and expansion joints to adjust for a variety of factors.
- **Ashford Avenue Bridge Rehabilitation, Westchester County, New York:** supervising structural engineer for the monopole design made to support multiple antennas and associated hardware in addition to traffic cameras. WSP provided rehabilitation services for the northbound Saw Mill River Parkway access ramp that includes a study on the addition of a new entrance ramp on Ashford Avenue, while converting the existing entrance and exit ramp to an exit-only ramp. Services also included a study on the installation of an



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access ramp from Ashford Avenue to the South County Trailway multiuse recreational path. Studies involved collecting existing and current founding data for current conditions, proposed conditions, and future impact conditions.

- **Michigan Department of Transportation Metro Region Freeway Lighting Design Services, Southeast, Michigan:** structural engineer for communication and DMS structures. WSP is providing design services for the delivery of freeway lighting for the reconstruction of a single-point urban intersection at U.S. Route 131 and Stadium Drive. WSP was responsible for overseeing and conducting technical reviews on all work prior to Michigan Department of Transportation staff reviewing it. The project investigates and selects new LED equipment, and will replace existing high-intensity discharge lamps, replace missing and damaged poles, restore damaged median pole foundations, and upgrade damaged circuiting within a two-year construction window.
- **New York Power Authority Emergency Energy Control Center, Rome, NY, Rome, New York:** lead structural engineer for new EECC building. WSP provided full service architecture, MEP, IT and security design for a 15,000 sf Emergency Energy Control Center (EECC). The EECC is planned as a backup emergency control center should the existing center become disabled for any reason.
- **Triborough Bridge and Tunnel Authority As-Needed Design, Engineering and Inspections, New York:** structural engineer that performed the initial design for renovations to the plaza, including toll canopy renovations, new digital message sign support framing, and structural improvements to the canopy. WSP provided multidiscipline engineering and architectural services including structural, civil, traffic/transportation, mechanical, electrical, and construction engineering services. Projects included bridge repairs and rehabilitation, suspension bridge deck replacement, scoping, building work, facilities work, and utility investigation and rehabilitation. Assignments included additional construction support, aerial mapping and surveying, and pier cap strengthening for the Verrazano-Narrows Bridge; Throgs Neck Bridge catwalks, tower platforms/rails, and miscellaneous repairs; Henry Hudson Bridge Parkway lighting, guiderail, and electrical feed; Robert F. Kennedy Bridge stringer moveable scaffolding system monitoring and analysis; Queens-Midtown Tunnel and Hugh L. Carey Tunnel open road tolling implementation; and Queens-Midtown Tunnel construction support for adjacent construction.
- **Maid of the Mist Mooring and Winter Storage Facility, Niagara Falls, New York:** project manager and lead engineer for general marine yard and facilities maintenance and minor capital improvements. WSP evaluated the U.S. shoreline between Niagara Falls and the Whirlpool Rapids, and concluded the former Schoellkopf Power Plant site was the only location with sufficient property to operate a new winter storage facility. As the lead designer on the project, WSP prepared a feasibility study that identified a potential storage location at the base of the collapsed Schoellkopf Power Plant along the American Shoreline. WSP was then tasked with the monumental responsibility of developing a concept, design, and permitting to allow operations prior to the next winter season.
- **New York State Office of Parks, Recreation and Historic Preservation 2015-2020 On-Call for Design Services, New York City, New York:** structural engineer for DMS and Comm structures. WSP was the prime engineer for this term contract for the performance of individual design assignments on an as-needed basis. Design assignments included project design, phase studies, investigations, assessments, reports, and related services in





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support of the capital program for Parks facilities. Disciplines required include civil engineering, structural engineering, geotechnical engineering, mechanical, electrical and plumbing engineering, architecture, landscape architecture, environmental engineering, and surveying.

- **Niagara Frontier Transportation Authority Term Agreement for Civil and Structural Services, Buffalo, New York:** project manager for the investigation of pipe support movement and mitigation. Joe lead the team to investigate the soils, analysis the pipe stresses and design new supports. WSP provided services on a task-order basis to the Niagara Frontier Transportation Authority. The task orders focused on the Niagara Frontier Transportation Authority's 6-mile at-grade and underground light rail rapid transit system's trackwork, stations, yards, and shops; the Buffalo-Niagara International Airport; and the Metropolitan Transportation Center, the current hub of the bus system. Some of the tasks assigned to WSP included: Americans with Disabilities Act signage upgrades at rail stations, light rail rapid transit elevator cathodic protection tests, Buffalo-Niagara International Airport average daily flow effluent metering upgrades, and Buffalo-Niagara International Airport fuel farm tank storage piping.
- **Mobile Vise Anchorage, Lackawanna, New York:** structural engineer for foundation design and modification of steel coil handing machine in the pipe fabrication line. WSP provided engineering services associated with moving equipment and failure of the associated concrete anchorage system.
- **Wall Foundation Stabilization, Buffalo, New York:** lead engineer for the stabilization of an historic stone foundation wall that was also the water's edge bulkhead. WSP investigated an old stone foundation wall, and designed a stabilization that would stabilize the wall allowing it to be viewed in it's historic context.
- **Marion Jones Sports Lighting:** design of foundations for and anchorage for soccer field stadium lights in the Caribbean.
- **Sound Transit East Link Extension Light Rail Final Design, Seattle, Washington:** structural engineer for new train stations. WSP is providing final design of a 6.9-mile light-rail extension of the East Link from Seattle to the eastern suburbs of Mercer Island and Bellevue across Lake Washington on an alignment that runs primarily on Interstate 90. The design scope includes two new stations, retrofitting of two roadway tunnels to accommodate light rail, and identifying potential sustainability measures and evaluating their cost and construction implications. Design services include civil, structural, geotechnical, mechanical and electrical engineering, as well as environmental permitting.
- **1,4-Dioxane Groundwater Pump and Treat Remedial Design, Hanover, Maryland:** structural engineer for new pump and treatment building. WSP performed a pilot study and full-scale design of a vapor mitigation system on a former manufacturing facility site that has a capacity to treat 80 gallons of water per minute. The firm was responsible for operation and maintenance of the system, and monitoring of the system remotely via the installed telemetry system.
- **New Haven Rail Yard Maintenance Facility, New Haven, Connecticut:** design of picking and rigging frames for train components in the new rail shop. WSP is providing engineering services to reconfigure and improve the existing Metro-North Rail Yard and was retained by the Connecticut Department of Transportation to lead the design team for a 700,000-



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square-foot maintenance facility serving the Connecticut Department of Transportation and Metro-North Rail cars. The largest building is a 300,000-square-foot component change-out shop capable of accommodating 13 two-car sets at one time for repairs and maintenance. Other facilities include an administration building with training space, offices, and storage; a police station, a wheel-truing facility, a central distribution warehouse, a rail car washing facility, and an expanded diesel shop. Professional services completion year: 2017 | Construction services completion year: 2017

- **Unilever Dewatering, Buffalo, New York:** lead structural engineer for design of pump and treatment building for contaminated ground water. WSP provided design services on building modifications, a building addition, and foundations for new dewatering and associated equipment for an existing facility. The work included piping layout drawings, new foundation plans for equipment and a building addition, and design of structural modifications to an existing opening to allow installation of the new roller press.
- **Buffalo River and Central Wharf Mooring Analysis, Buffalo, New York:** project manager and lead to assess the mooring capacity of existing bollard for a naval vessel commissioning. WSP provided engineering services associated with a mooring capacity analysis at Canalside.
- **LaGuardia Airport Terminal B Redevelopment Program, Queens, New York:** structural engineer for central heating and cooling equipment building. WSP is part of LaGuardia Gateway Partners, the largest public and private partnership in the United States, and was selected to design, build, finance, operate, and maintain a new central terminal at LaGuardia Airport that replaces the existing Terminal B. The new terminal utilizes an island-gate system in which passengers access their gates via raised pedestrian bridges that are high enough for aircraft to taxi underneath, creating 2 miles of new taxiway space that reduces taxi-in and taxi-out times and shorter and fewer gate delays. The project also includes a new 3,000-space garage that consists of grade level plus six supported levels, entry and exit plazas, various Port Authority support facilities, a staff suite, four glass elevators in glazed elevator shafts, as well as a power substation and emergency generator, central heating and refrigeration plant, and airport road system improvements. In addition to the building and airside portion of the project, the transportation-related work includes new arrival and departure ramps, new bridges connecting the airport to the adjacent roadways, a new aeronautical ramp, and other structural-related connections to the new terminal building. The facility design includes implementing resiliency strategies due to its location in LaGuardia Airport on the East River and in the Flushing Bay area.
- **New York City Health and Hospitals Corporation Architectural Engineering Services, New York, New York:** structural engineer for electrical and mechanical system upgrades. WSP developed innovative and effective hazard mitigation strategies, high-quality plans, contract documents, and provided efficient and responsive contract administration and construction management services. In the wake of Superstorm Sandy, New York City Health and Hospitals committed to restore existing hospital facilities and mitigate the effects of future storms, to avoid future evacuations and remain fully operational during natural disasters and other emergencies.
- **Route 8 Design-Build: Rehabilitation of Bridge Nos. 03761, 03762, 03764 and 03765, Bridgeport, Connecticut:** structural engineer the design of precast concrete panel retaining wall that replaced a failing steel bin wall along route 8 in Connecticut. WSP





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provided design-build services to the Connecticut Department of Transportation, including the replacement of superstructures (beams and concrete decks) of four bridges on Route 8/25 approximately 2 miles north of Interstate 95. Also included in the project was the replacement of 10 bridge spans with retaining walls and fill, the rehabilitation of a large retaining wall supporting Route 8, significant MP&T, and capacity improvements to two intersections on Lindley Street adjacent to Route 8 northbound. ABC techniques (prefabricated bridge units and precast substructure elements) were utilized to reduce the time of construction and thus the impact of the project on the traveling public, as well as local businesses and abutters. WSP was the recipient of numerous awards for this project: 2017 DBIA National Merit Award in Rehabilitation/Renovation/Restoration; 2017 CMAA National Transportation Award; ASCE CT Construction Award; ASCE CT Structural Award; 2016 DBIA New England Gold Award for Highway/Infrastructure; 2017 ACEC Engineering Excellence Award for the Route 8 Design-Build Project in Bridgeport, CT; Arthur Gruhn Innovative Construction Methods Project Award; 2016 CMAA CT Project Achievement Award for Infrastructure Project over \$25 million.

- **New York City Emergency Communications Transformation Program, Phase II, New York City, New York:** project manager and design engineer for the turnkey design of wireless rooftop communication sites in New York City. Joe evaluated existing building structures, designed rooftop structural support systems, coordinated design of equipment shelters, electrical systems, and grounding systems, and evaluated and coordinated zoning, permitting and New York City Building Code issues. WSP upgraded 10 sites throughout New York City's five boroughs to allow installation of new radio equipment and antennas in support of the City's effort to construct a redundant Public Safety Answering Center. The work involved pre-design site visits and detailed survey of existing conditions, room layout design, electrical design, grounding, antenna mounting, cable routing and support, structural evaluation of existing to support added equipment, and structural evaluation of an existing self-supporting tower mounted on top of an existing four-story New York Police Department building.
- **Atlantic City Electric:** structural engineering of transmission structures and foundations. WSP provided owner's engineer services for Atlantic City Electric system upgrades.
- **Buffalo River Landing, Buffalo, New York:** lead engineer. WSP prepared a schematic plan and documentation to obtain permitting from the U.S Army Corps of Engineers to place floating docks along the Buffalo River that would provide adequate access from the top of the existing bulkhead.
- **New York State Office of Parks, Recreation and Historic Preservation Engineering Term to Hamilton Houston Lownie Architects, Grand Island, New York:** lead structural engineer for various park buildings. WSP was a subconsultant to Hamilton Houston Lownie on a New York State Office of Parks, Recreation and Historic Preservation term contract for engineering and construction services. Some of the complete projects under the term included Fort Niagara Bathhouse and Beaver Island Pro Shop.
- **National Grid On Call Services, Various Locations, New York:** project manager and lead structural engineer. WSP was selected by National Grid to provide structural, civil, and geotechnical services for a number of competitive-bid task-order projects, issued through the term agreement, across New York and New England. The projects included stream bank stabilization near National Grid assets, transmission tower foundation reinforcement, access road design, and geotechnical investigation. WSP executed its role as project



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engineer in developing alternatives analysis reports, site investigation, conceptual engineering, detailed design, preparation of design plans, specifications, schedules and estimates, construction support, and project closeout.

- **Architectural and Engineering Services for Allegheny, Niagara and Genesee Regions, Various Locations, New York:** structural engineer. WSP provided the New York State Office of Parks, Recreation and Historic Preservation with architectural and engineering services under this term agreement for the Allegheny, Niagara and Genesee regions of New York. Upgrades, improvements or rehabilitation were provided at Buffalo Harbor, Whirlpool, and Niagara Falls State Parks, Fort Niagara, and Letchworth Nature Center.
- **Whirlpool Lower Gorge Retaining Wall, Niagara Falls, New York:** structural engineer designing the stabilization for a circa 20 foot high 1900 stone retaining wall supporting a pedestrian trail in the lower Niagara gorge below the United States side of the Whirlpool Bridge. Joe designed soil nails through the face of an existing stone retaining wall along with a partial reconstruction and repointing of the wall. WSP was responsible for all facets of design, construction support, and construction inspection for this project. This included pinning of stone retaining wall, repair of the stone wall, and the installation of the pedestrian safety rail at the top of the wall. In addition, the project also called for the repair of the eroded side slope above the trail caused by rockslides and soil erosion.
- **Term Agreement - Western District, Various Locations, New York:** structural engineer. WSP was the prime engineer for this term contract for the performance of individual design assignments on an as-needed basis. Design assignments include project design, phase studies, investigations, assessments, reports, construction support, and related services in support of the capital program for Parks facilities. Disciplines required include civil engineering, structural engineering, geotechnical engineering, mechanical, electrical and plumbing engineering (MEP), architecture, landscape architecture, environmental engineering and surveying. Projects included Cave of the Winds Pavilion Building Rehabilitation, Letchworth State Park Humphrey Nature Center, Niagara Falls State Park Police Station Design, and others.
- **Fare Collection System Upgrade, Buffalo, New York:** project manager. WSP completed this study, which assessed existing fare collection operations and systems and made fare collection media, policy, and staff communications recommendations based on department interviews, field visits, technology trends, and peer city operations. WSP led the composition of a detailed three phase final report which assessed existing conditions, acknowledging client concerns; confirmed new system recommendations and preferred system options; and presented a cost estimate and project schedule for the recommended fare collection updates and modifications. The final report was used by the NFTA to apply for project funding for Fare Collection and complete Metro Bus and Rail upgrades as recommended.
- **Welded Tube Factory Foundation Design, Lackawanna, New York:** structural engineer for foundation designs for pipe fabrication equipment. WSP designed all foundations for the new pipe fabrication, testing, and material handling facility. This 1,300 foot long factory was constructed on the former Bethlehem Steel Plant site in Lackawanna, NY.
- **Dallas Horseshoe Link Design, Dallas, Texas:** structure engineer for designing decorative custom steel fabrications to compliment the Calatrava arch bridge. WSP was the lead engineer and was responsible for the design of roadways, bridges, retaining walls, and



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drainage; geotechnical engineering; and maintenance of traffic planning for the interchange along Interstate 30 and Interstate 35 to downtown Dallas. The firm was responsible for the construction of 6 miles of new roadway. The project, in entirety, included the construction of more than 73 lane miles of new roadway, 37 conventional bridges, more than 60 retaining walls, and two signature steel suspended arch bridges.

- **Bellevue Hospital Switchgear Relocation Structural Support:** structural engineer for the installation of new electrical switchgear on the Ground Floor of the Administration Building, C&D Building and F-Link (NYPA) Service. He provided the structural calculations required to determine viability of locating electrical equipment on the ground floor that was originally designed for “office space” and designed the additional structural steel framing and supports to withstand the weight of the new equipment. WSP was hired to provide engineering services and site assessments on the electrical switchgears to ensure that Bellevue Hospital would be back in service as quickly as possible.
- **New York Police Department World Trade Center Memorial Project, New York City, New York:** supervising engineer for a project with Motorola to install radio systems in World Trade Center Memorial Space, World Trade Center Tower Four and World Trade Center Tower One. His duties included design of penetrations and fire stopping for antenna cable routing as well as antenna mounting. He was also responsible for periodic site visits to monitor the contractor’s progress and ensure that all work is being done per the construction documents. WSP installed radio systems in the World Trade Center, including the memorial space; towers 1, 3, and 4; the Vehicular Security Center; and Transit Hub areas.
- **Maid of the Mist Feasibility Study, Niagara Falls, New York:** deputy project manager and design manager for the feasibility study, environmental assessment, permitting, and final design for the construction of the Maid of the Mist Corporation’s new winter storage facility for boat/dock storage, maintenance operations and nighttime docking. Protecting the boats from periodic rises in water level of up to 30 feet and associated ice forces required the design of a concrete retaining/flood wall. Joe’s primary structural duties focused on the crane, pedestal and building foundation. As design production manager, he worked with the client to determine their needs programmatically and coordinate their requirements with the other discipline engineers. Due to the fast track nature of the project Joe also worked with the construction manager to steer all the engineering to the means and methods of construction that accommodated the unique site conditions. Construction began before the entire design was completed due to schedule constraints. While the project was in design, Joe made routine field visits to make field engineering changes and assist the contractors with constructability issues and field changes on the spot. WSP provided all planning, engineering, and construction support services to establish an on-shore winter storage location for four boats allowing continued operation in the United States. The project included a fixed crane, retaining walls, concrete paving, a maintenance building, re-use of an existing elevator shaft, rock scaling, rock fencing, utility and fuel services, grading and drainage, construction staging, and finish treatments.
- **Lewiston-Queenston Land Port of Entry Expansion, Lewiston, New York:** lead structural engineer for the feasibility and schematic level design for the toll plaza, which included canopies, building structures, foundations and utility tunnels. Joe worked closely with the architects for constructability and the look of exposed structural elements. WSP provided planning and engineering services for the reconstruction and expansion of U.S. Customs inspection and maintenance facilities, including an environmental assessment, development of a new primary building and inspection lanes, booths, canopy and access



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tunnel, secondary and outbound inspection facility and canopy, secondary commercial inspection area, duty-free and maintenance buildings, circulation roadways, parking areas, utilities, and stormwater retention and treatment, and lighting considerations.

- **Outer Harbor Architectural and Engineering Services, Buffalo, New York:** lead structural engineer. WSP acted as the engineer responsible for the structural stability of all shore line revetments and stabilization measures as well as the structural engineer for the piles to support the floating dock. The project included rehabilitation of 2,100 linear feet of Lake Erie shoreline for safe public access to the water. WSP visited the site multiple times to assess current conditions of the existing shoreline. WSP also analyzed each type of shoreline considering a wave analysis, existing conditions, and prevailing wind direction to design a revetment/stabilization for each area as required.
- **Taylor Devices Building Renovations, North Tonawanda, New York:** project manager and lead structural engineer. WSP led the structural, architectural, and mechanical renovations, transforming a concrete masonry unit, brick and metal frame industrial buildings to a paint house, machining assembly building and storage house respectfully. Also, in an effort to increase energy efficiency, all buildings received new facades to increase wall section R-values.
- **Buffalo Central Wharf Extension, Buffalo, New York:** project manager for two phases of waterfront improvements along the Central Wharf at Buffalo's Inner Harbor. Joe completed and coordinated all project permitting efforts and assisted in the design and letting of a 520 foot floating dock extension along the Central Wharf along with significant landside improvements. Joe led client meetings, assisted in bid support, completed project progress reports, and led the submittal review process. WSP led the conceptual design, schematic design, final design, bidding assistance, and construction support services for various improvements along Buffalo's popular Central Wharf. The main project components included, but are not limited to, extension of floating docks and additional gangways; extension of the wood portion of the existing Central Wharf to match historic conditions; creation of a large sand play area and screen fences; addition of boater bath facilities; improvements to restaurant and storage facilities and signage.
- **Portland Slip, Toronto, Ontario, Canada:** review design of new sheet pile quay wall for quality and constructability. WSP reviewed engineering drawings for the dock wall rehabilitation and provided input on engineering considerations for settlement mitigation of new fill at Portland Slip in Toronto.
- **United States Coast Guard Bulkhead Rehabilitation:** project manager in a Design-Build project with a hub zone contractor and the USCG responsible for the design of over 570 feet of rehabilitation to an existing timber pile supported concrete bulkhead at the Buffalo Sector USCG mooring basin. WSP provided design services for the rehabilitation of a timber pile-supported concrete bulkhead at the Buffalo Sector U.S. Coast Guard mooring basin. To mitigate significant sink hole progression caused by the washout of fines from behind the aging timber sheets, rehabilitation design utilized cold-formed steel sheet piling with flowable fill and rock anchors. The design was conducted in accordance with U.S. Army Corps of Engineers engineering manuals and considered a variety of load cases, ease of construction, and cost.
- **APPLEYARD TERRACE APTS:** design of sheet pile wall as contractor's engineer. SHEET PILE RETAINING WALL DESIGN



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- **Monroe and Genesee Rail Track and Rochester Station Improvements, Rochester, New York:** structural engineer for DB letting/indicative drawings for station rehab. WSP was responsible for design engineering services to construct a third track and upgrade an existing track in Monroe and Genesee Counties, which involves preliminary track design and signal design work. The project also included design services for the Niagara Falls Maintenance Facility, and improvements for both passenger and freight operations at the New York State Department of Transportation's Rochester Station.
- **Geneva Waterfront Infrastructure Feasibility Study, Geneva, New York:** project manager and lead marine engineer for this feasibility study. He was responsible for preparing a schematic design for the marina breakwater that included a wave analysis and recommended structural design. Joe also created a preliminary plan and costing for the rehabilitation and maintenance of a beach area that is underutilized. WSP prepared a schematic design for the Long Pier breakwater extension, Castle Street pedestrian pier and promenade, Castle Creek shoreline restoration, and shoreline revitalization along the project extents. Schematic design included a wave analysis and recommended structural design options that incorporated feasibility, constructability, maintenance, permitting and costs. WSP also created a preliminary plan and costing for the rehabilitation and maintenance of an underutilized beach area along the lake's historic sea wall. At the completion of the job, WSP presented the City of Geneva with a comprehensive design narrative as a tool to implement and receive funding for the concepts and designs devised by this feasibility study.
- **Michigan Department of Transportation 2010-2016 On-call for Engineering Services, Michigan:** structural engineer for communication and DMS structures. WSP provided design services for a variety of tasks under this indefinite delivery of services contract with the Michigan Department of Transportation. Tasks involved workzone inspections, construction assistance, design for intelligent transportation system, signal design, and design of environmental sensor stations.
- **Buffalo Harbor Bridge, Buffalo, New York:** structural engineer. WSP provided location studies, preliminary design, and an environmental impact statement for a new movable bridge across the Buffalo River and Buffalo Harbor in downtown Buffalo, New York. The project will improve multimodal connectivity between the downtown area of Buffalo and the outer harbor on the northeastern shore of Lake Erie. The firm also provided the Empire State Urban Development Corporations with Transportation Investment Generating Economic Recovery Grant application assistance for project funding.
- **Carnegie Mellon University Building Renovations, Tonawanda, New York:** project manager and lead engineer for the rehab of two old industrial buildings into a paint shop and machining shop. WSP was the prime consultant for the site/utility, structural, architectural and mechanical renovations to transform Carnegie Mellon University (CMU) brick and metal frame industrial buildings into a paint house, machining assembly building and storage house. The renovations included two new 5-ton cranes in the CMU and brick buildings. To increase energy efficiency, all buildings received new facades to increase wall section R-values. WSP prepared permitting and bid documents and coordinated permitting for the project.
- **Irvine Damper Inspections, North Tonawanda, New York:** inspected viscous damper performance testing. IRVINE DAMPER INSPECTIONS



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- **Node 9, Hub 10, and Node 11 Structural Design, Detroit, Michigan:** lead engineer involved in the analysis of 11 self-supporting towers to assess capacity for additional installations as part of an upgrade to the MSDOT Intelligent Transportation system. Joe was further involved with the creation of specifications for an emergency procurement of replacement towers and associated ground structures. His duties also included site layout for replacement equipment shelters, emergency generators, and security fencing at the replacement sites. WSP provided the Michigan Department of Transportation with structural design services and a system manager for Hub 10, Node 9, and Node 11 Michigan Intelligent Transportation Systems. The project involved the replacement of towers and shelters, and conducting a wireless path analysis to ensure the relocated equipment would operate with 99.999 percent reliability. The firm previously performed structural analysis for the three towers noting structural deficiencies and a need to construct new towers. The project included creating plans, specifications, and estimates for three 350-foot replacement towers, as well as providing utility coordination with power service providers to ensure identification of service requirements for each location.
- **West Ferry Street Bridge Rehabilitation, New York:** project manager and lead structural engineer. WSP was responsible for the City of Buffalo Department of Public Works' rehabilitation of this historic lift bridge, originally built in 1913. Work on the 225-foot-long Strauss heel trunnion bascule bridge included replacement of structural steel and sidewalks, and painting. The bridge now features pedestrian and bike paths leading to Broderick Park.
- **USACE 2009-2014 Norfolk Indefinite Delivery/Indefinite Quantity Contract, Norfolk, Virginia:** lead structural engineer for TEMF building. WSP provided indefinite delivery indefinite quantity (IDIQ) engineering services for U.S. Army Corps of Engineers construction projects. Several tasks included site design, civil design and management services for construction. Other aspects of the project included site layouts, grading and pavement design, site utility design, and storm drainage design.
- **Delphi Harrison Thermal Systems On-Call:** lead engineer in assessing the feasibility splitting the multi building factory complex utility loops into separate services so the property could be split up into separate companies. He was also the project manager and piping designer to resize and debug water flow issues that the client was having in a cooling water delivery system for a new machining line. Joe was also the project manager and designer for a single arm hydraulic robot. Under a continuing agreement, WSP has provided various engineering services to Delphi's Lockport, NY, plant on an as-needed basis. WSP provided: recommendations for infrastructure and operations modifications, a re-routing plan for developed for existing vacuum lines, an evaluation of parking modifications, a plant downsizing plan for the potential removal of existing buildings, a traffic study to evaluate the necessity of entrance traffic signals, and design of an enclosure of an existing utility trestle.
- **Ferry Street Lift Bridge Rehabilitation, Buffalo, New York:** project manager for the Strauss Bascule Bridge originally built in 1920. Joe's tasks included the design and detail of replacement stringers, stringer support bolsters, and the development of grouting details to correct abutment issues. Additionally, Joe managed all aspects of preliminary and final design of rehabilitation of all structural, mechanical and electrical components including: rehabilitation alternatives analysis, design report development, permits & approvals, detail design, contract documents, cost estimating, inventory & load ratings, assisting the city with bid advertisement, opening and analysis, and construction support services. WSP led





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the design effort for all structural work including design calculations and production of all contract drawings for the \$8M LAFAP to rehabilitate the 100-year-old Strauss heal trunnion bascule bridge. Additionally, WSP produced permit documents, analyzed bids, and provided construction support services to project completion.

- **Prodeco Colombia, Colombia:** structural engineering for a mine expansion in south south america feasibility study. WSP provided conceptual engineering and layout of mine infrastructure including heavy equipment repair workshops, parts warehousing, administration buildings, etc. at two coal mines in Colombia. Project includes site development design and construction management of the two sites which include fuel farms, warehouse and administration buildings, maintenance facility and truck wash stations. (Prodeco is a company in Colombia, controlled/owned by Xstrata plc).
- **Power Authority of the State of New York Statewide Energy Services Program:** structural engineer for 80 kW solar power generation array at Williamsville Central School District, and lead structural engineer for a 50 kW solar roof top array for Fonda-Fultonville Central School District. He was also lead structural engineer for the roof top 6 kW solar array for Greater Amsterdam School District. WSP was responsible for program management and implementation services for state-wide energy-related projects. Tasks included water filtration plant upgrades, feasibility studies, energy audit, design, hydro-electric upgrade, cogeneration plant development, roof replacement, and other renovations.
- **Maryland Transportation Authority Comprehensive Project Planning:** structural engineer for communication and DMS structures. WSP provided comprehensive project planning and traffic engineering services for the Maryland Transportation Authority. Work included management and development of standards, specifications, plan development and technical approach to maintenance of traffic for the system preservation program.
- **Traffic Signal Optimization Construction Management Services, Michigan Department of Transportation, Various, Michigan:** structural engineer for DMS and Comm structures. WSP is providing the Michigan Department of Transportation with construction management services for the quality assurance and quality control analysis of their Metro Region Traffic Signal Optimization task order project. The firm is responsible for overseeing and conducting technical reviews on all work prior to the department's staff reviewing it.
- **Niagara Falls Transportation Authority 2009-2012 Term Agreement for Design and Engineering Services, Buffalo:** project manager for this study that assessed existing fare collection operations and systems and made fare collection media and policy recommendations based on department interviews, field visits, technology trends, and peer city operations. Joe led numerous NFTA department interviews with internal fare collection specialists, NFTA senior staff, and bus and rail operators to assess the conditions of NFTA's Metro Rail and Bus fare collection systems, policy, equipment, and operations. Joe led the composition of a detailed three phase final report which assessed existing conditions, acknowledging client concerns; confirmed new system recommendations and preferred system options; and presented a cost estimate and project schedule for the recommended fare collection updates and modifications. Joe coordinated department requests with available and emerging technology and managed the client's report expectations. WSP led a variety of projects under an engineering term agreement with Niagara Falls Transportation Authority, including the Metro Fare Collection System Upgrade. This design



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projected upgraded the fare collection equipment and systems for the Niagara Frontier Transportation Authority bus and rail operations, including upgrades to all buses, trains, paratransit vehicles, rail stations, transit centers, and bus garages to a new electronic fare collection system that is simpler and more integrated.

- **Michigan Department of Transportation Master Design Services, Detroit, Michigan:** structural engineer for communication and DMS structures. WSP is providing design and engineering services on a task order basis in support of various Michigan Department of Transportation projects.
- **Damper Testing, Buffalo, New York:** inspection of factory compliance testing of viscous dampers. WSP was responsible for the design of a damper test for the new California Inland Empire Transportation Management Center in Fontana, CA.
- **National Grid On-Call Engineering, Buffalo, New Jersey:** lead design engineer responsible for managing the design of a stream bank stabilization project to protect an existing National Grid transmission tower. Joe was also structural engineer for the project which involved design of a sheet pile cellular structure surround and existing medium voltage transmission line pole structure. He was also project manager and structural engineer for a forensic analysis and report of an access road wash out for Spiers Rotterdam Road Failure in Gansevoort. Joe was project manager and structural engineer to design a new crossing in the washed area for the Spiers Rotterdam Road new Crossing project, as well as project manager, structural engineer or QA, QC for other projects under the master service agreement. WSP was selected by National Grid to provide structural, civil, and geotechnical services for a number of competitive-bid task-order projects, issued through the term agreement, throughout New York and New England. The projects included stream bank stabilization near National Grid assets, transmission tower foundation reinforcement, access road design, and geotechnical investigation. WSP developed alternatives analysis reports, site investigation, conceptual engineering, detailed design, preparation of design plans, specifications, schedules and estimates, construction support, and project closeout.
- **Northrop Grumman Model Collaborative Simulation, Test and Training Center, Fairfax, Virginia:** lead engineer. WSP provided design development drawings, construction documents, and construction administration consulting services for the renovation of 20,000-square-feet to provide for a Simulation Training Center (STC) for Northrop Grumman Missions Systems. The STC will be enclosed in a Sensitive Compartment Information Facility (SCIF), which provides for special treatments at perimeter partitioning and exterior glazing. In addition, construction included a 4,000-square-foot Data Center with pre-action and FM-200 fire protection system. Program requirements included a conference center, open systems furniture workstations and space for training, testing, and simulating various functions and systems.
- **Miscellaneous Design and Engineering Services:** lead engineer for the development of two primary alternatives: the creation of a new basin, titled the Foul Weather Mooring Area, and maintaining the present mooring location with modifications to accommodate revised building layouts. The Foul Weather Mooring location alternative involved the creation of a new basin connected to the Buffalo River. Joe performed a wave study and factors such as debris, response time, ice, cost, schedule, permitting, marina layout as well as future growth were considered. WSP led miscellaneous projects for a variety of clients, including Delphi, Alstom Air Analysis, Niagara Bridge and Rail, United States Coast Guard Mooring Study, Seabreeze Drive, and National Grid.





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- **Michigan Department of Transportation Indefinite Delivery of Services Planning, Michigan, Michigan:** structural engineer for communication and DMS structures. WSP provided planning services for a variety of tasks under this indefinite delivery of services contract with the Michigan Department of Transportation.
- **Interstate 94 Kalamazoo On-Call Planning Services, Kalamazoo, Michigan:** structural engineer for DMS and Comm structures. WSP provided the Michigan Department of Transportation with on-call design services to develop maintenance of traffic plans for the reconstruction and widening of a segment of Interstate 94, from 12th Street to Sprinkle Road. The firm was responsible for various widening and reconstruction tasks for the roadway, interchanges, and railroad bridges found along that stretch of Interstate 94 in Kalamazoo County.
- **Long Island Rail Road Radio Communication Site Design, New York, New York:** project manager and lead structural engineer for this project that required designing and installing 5 new telecommunications sites for the Long Island Railroad (LIRR) to eliminate “dead spots” of radio reception along the LIRR’s ROW. His tasks included assessing potential locations, site layout and final design. WSP provided conceptual through final design and installation of five Long Island Rail Road telecommunications sites to eliminate poor or no radio reception along the Long Island Rail Road’s right of way. Each site included a new telecommunications tower and building shelter. The tower designs were dictated by numerous constraints including required clearances, right-of-way, and dramatic site slopes.
- **Ontario County Seawall, Canandaigua, New York:** deputy project manager and lead engineer for the design of shoreline protection for an existing pump station on Canandaigua Lake. Joe designed and provided construction support on the project, which received a letter of commendation from the NYSDEC. WSP provided engineering and design services for the replacement of a block retaining wall bulkhead with a joint planted protected shoreline. The new shoreline will be protected against wave erosion with stone fill that has been plated with a variety of native species shrub trees to promote wildlife.
- **Misc. Projects Buffalo - 2006, New York:** structural engineer for the tower and foundation evaluation and retrofit design for two (2) towers, 300 foot self-supporting towers in Catskill, NY, and 696 foot guyed tower in Troy, NY. Joe’s tasks included: coordination of investigation of some foundations due to the lack of sufficient drawing information and he developed retrofit solutions for both the tower and the foundation at the Catskill site. He was also lead engineer for the development of dock plans, a dredging plan, and site grading plan for the creation of a historic Frank Lloyd Wright boathouse for the West Side Rowing Club. Task A: Lakeland CVS Task B: Rescue 21 Program Task D: Motorola supplement Task E: Delphi projects Task F: FLW Boathouse Task G: Modern LF traffic analysis.
- **Southtowns Connector/Buffalo Outer Harbor Project, Buffalo, New York:** supervising design engineer for an ADA compliant timber fishing pier at the Tiff Nature Preserve. He provided oversight for the draft the construction drawings for the timber dock package and the estimate of quantities backup for the civil and structural portions of the job. Joe was also supervising structural engineer for the Union Ship Canal architectural nodal improvement project, and was responsible for oversight and review of the structural design and construction bid documents for approximately 36,000 square feet of timber promenade and concrete construction along the north and south sides of Union Ship Canal. For Times Beach, he was supervising structural engineer responsible for the design of a 560 foot Ipe timber boardwalk, supported by pressure treated timber joists and concrete grade beam



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and sonotube foundations. For the Gallagher Beach Pavilions, he was supervising structural engineer for the Gallagher Beach Pavilions that were designed as part of a larger architectural enhancement project along the Buffalo waterfront. Joe was responsible for the completion of two large arching canopy pavilions with complex geometry along Buffalo's waterfront, which included shop level detailing for custom shade structures. Joe was also supervising structural engineer for Tift Pier, that oversaw and provided input all aspects of the structure including lighting and electrical to maintain the aesthetic and constructability of the pier. WSP was chosen for this major investment study and design report/environmental impact statement that included review of existing and new transportation infrastructure proposals along the Buffalo waterfront from the central business district south to Route 75 in Hamburg. A Southtowns connector was designed to replace deteriorating infrastructure while serving as a catalyst for general development in the region. The firm guided the progress of the entire project and managed the efforts of subconsultants. The firm also led the transportation planning and analysis efforts and the quality assurance program.

- **Nassau County Police Department Land Mobile Radio Communications System, New York:** supervising structural engineer responsible for installing new antennas and related telecommunication equipment on new towers, existing towers, existing water tanks, and existing buildings at various sites. Work included field inspection and analysis of existing telecommunications towers, portions of existing buildings, and portions of existing water tanks. Where existing structures and/or foundations were found to be inadequate, Joe was involved in the development of retrofit designs to improve the capacity of the existing structures. WSP was responsible for preliminary design for over 35 sites and final design for 19 of the sites for a new wireless communications system for the Nassau County Police Department. The sites varied in scope from collocating onto existing towers, existing water tanks and existing buildings, to replacing existing towers found to be insufficient. For some of the existing towers, WSP was responsible for analysis and retrofit design. For the new towers, WSP was also responsible for coordination of the tower and foundation design by the tower manufacturer. WSP's work included electrical design; grounding design; structural analysis; and site design, including utilities.
- **Telecommunication Tower Site Assessments for SBA Network Services, New York:** structural engineer on analyzing and retrofitting comm structures. WSP provided engineering services for the acquisition of telecommunication towers throughout the continental U.S. The project included field investigations and evaluation of existing telecommunicating site infrastructure, including shelters, towers, and roads, to identify potential environmental hazards. Tasks included boundary surveys, legal descriptions, tower mapping, certifications, and National Environmental Policy Act and Environmentally Sensitive Area screening.
- **FY 2003 Metro District (Buffalo) Misc Projects:** inspection of factory compliance testing of viscous dampers. Task 1: Viscous Damper Inspection Task 2: Buffalo Economic Renaissance Corporation SEQRA Support Task 3: Canada Lands GO Transit
- **Niagara Frontier Transportation Authority Term Consultant Services, Buffalo, New York:** project manager for station and tunnel wide replacement of way finding and informational signs along with the addition of illuminated exterior building identification signs. WSP provided services on a task-order basis to the NFTA. The task orders focused on NFTA's 6-mile at-grade and underground light rail rapid transit (LRRT) system - trackwork, stations and yards and shops, and the Metropolitan Transportation Center (MTC), the



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current hub of the bus system. NFTA selected WSP three times for a total of nine years of service from 1996 through 2005.

- **Motorola Commercial, Government, and Industrial Solutions Sector, New York:** structural engineer for communication structures. WSP provided structural analysis, design drawings and permitting services to Motorola's Commercial, Government, and Industrial Solutions Sector.
- **Buffalo Yacht Club Marina Expansion, New York:** structural engineer for a condition assessment of existing stone retaining walls and for a dry sail expansion to the yacht club facilities. WSP provided civil and marine engineering services for the expansion of the Buffalo Yacht Club Marina. Their work included conceptual layouts and cost estimates for the expansion of the existing private yacht club marina, as well as technical support in corresponding with the U.S. Army Corps of Engineers and the U.S. Coast Guard.
- **Erie Canal Harbor Commercial Slip and Naval Museum Engineering, Buffalo, New York:** lead structural engineer responsible for designing over 700 feet of bulkhead wall using sheet piles that carry the historical stone wall to simulate the appearance of the original commercial slip. Joe also designed the floating docks and moorings for water crafts, the site storm sewer, and the sanitary sewer. He oversaw and coordinated the electrical power distribution location for the site and coordinated the design of a pump station and aeration system and provided periodic on-site construction observation, and coordination. WSP, along with a team of five subconsultant, provided the City of Buffalo with geotechnical, structural, marine design, survey, historical expertise, environmental engineering, site and utilities engineering, and cost estimating services. The project included demolition and relocation or mitigation of a combined sewer overflow outfall, historic wall reconstruction, cruise vessel mooring facilities, historic bridge reconstruction, and site design.

#### **PREVIOUS EXPERIENCE**

Before joining WSP, Joseph's experience included:

- **10-Ton Trailer, Niagara Falls, NY:** Design and detailing of a 10-ton trailer with articulated front axle that would carry carbon electrodes and be towed by a fork truck. Trailer was made from structural steel with a bronze thrust bearing for the front axle's pivot. In look and function, the trailer was reminiscent of an old radio flyer wagon, only not red.
- **End Cut Saw Rail and Power Upgrade, Niagara Falls, NY:** Project engineer for this project that required a 24-ft. hot dipped galvanized rail weldment to replace the old independent rail system, and a new motor control center out building. The old rail frame was removed and the new rail frame installed in a 24-hour period. While millwrights were installing the epoxy grout, Joe and the foreman used plumb bobs and crowbars to align the weldment to the saw blades. The MCC building was made reinforced CMU walls and a precast roof. Joe performed all the engineering, prepared the construction drawings and supervised construction.
- **Erie County Youth Detention Center, Buffalo, NY:** In 2002 a \$12 million new build project. Joe was lead mechanical design engineer, project included gas fired instantaneous hot water heaters, in-floor heating and snow melt supplemented with traditional HVAC for air quality.



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- **Finishing #2 Dust Collector, Niagara Falls, NY:** Project engineer that designed a dust collection system for a graphite electrode machining line that required custom hoods for a horizontal drilling machine, two lathes and a band saw. He designed the hoods to maintain a capture velocity to collect graphite and silicon dioxide dust and the ductwork to maintain adequate transport velocity. Joe designed both the hoods and ducts to resist abrasion from the dusts.
- **Maker #23 Expansion, Niagara Falls, NY:** Structural engineer and construction supervisor for an electrostatic ultra-fine abrasive Mylar coating machine line for Carborundum Abrasives: Joe designed and detailed the tube steel superstructure for a sandpaper coating machine line and preliminary optical alignment for all guide and drive rollers for the web path.
- **Maker #7 Expansion, Niagara Falls, NY:** Structural designer for an electrostatic abrasive coating machine line for Carborundum Abrasives. Joe designed the steel superstructure and access platform, including concrete and rebar detailing for the structure's foundation and machine pit.
- **Niagara County Jail Expansion, Lockport, NY:** A \$14 million project consisting of a new jail building and renovating the existing building. Joe engineered and designed the site / civil work as well as the mechanical HVAC and plumbing within the building. The Civil site work involved a preliminary site profile survey and creating a site preparation plan, design of the access road and sanitary sewer system. Inside the building Joe designed the plumbing system for a full commercial kitchen, a medical facility and all 256 cells and holding area. Joe also designed the HVAC ductwork for the entire facility.
- **Structural Design and Engineering of various buildings and building components:** - Willow Creek Clubhouse, a new golf clubhouse with mixed framing consisting of load bearing metal studs, structural steel and precast concrete decking -Edison Club Renovation, a structural steel and load bearing metal stud building expansion for a golf clubhouse. This addition was built adjacent to a wood framed building. A CMU fire break separated the two types of construction. Structural steel columns and beams supported open spans of roof and floor -Metal stud connection design for MADER Construction I designed metal stud curtain walls and connections as shop drawings for MADER Construction -Harbor Master Building, an architectural exposed structural steel building with precast concrete plank roof and floor -Commercial Buildings, plaza and strip mall buildings were designed with load bearing CMU on three sides and a facade of brick arches and towers -Albion Canal Hostel 121 N. Main Street Albion, a renovation of an old bank to into a museum and hostel. The existing second floor and roof of the building had to be rebuilt. The existing walls were made of stone masonry -Bethany College Dorm a two-story wood dormitory. -Little Italy Pine Ave, Niagara Falls, a decorative sign truss spanning 50 feet across a 4-lane city street

#### AWARDS

Platinum Award Special Projects, NY Association of Consulting Engineers <i>Buffalo Harbor State Park, Buffalo, NY</i>	2017
Platinum Award Special Projects, NY Association of Consulting Engineers <i>Maid of the Mist Winter Storage Facility Niagara Falls, NY</i>	2014
Project of the Year Award, Structures/Facilities Category, American Public Works Association (APWA) <i>Tift Pier Project</i>	2013



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Platinum Award Structural System, Association of Consulting Engineers  
*Recreating a Historic Harbor Buffalo, NY*

2007

#### **PUBLICATIONS & PRESENTATIONS**

##### **Publications**

- “A Case study and Lessons Learned Piling or Not Piling for Support of a Retaining Wall,” NYSSPE, 2014
- “Reinventing Squire Whipple’s Bridge,” Historic Bridges Evaluating, Preservation and Management, 2008

##### **Presentations**

- “Welding from a Blacksmith and a Fabricator,” NYSSPE 2017 E-Week Seminar Presentation, 2017
- “Engineering on the Edge Maid of the Mist Winter Storage Facility,” ACEC/NYSSPE 2014 Winter Presentation, 2014
- “The Design and Construction of the Inner Harbor Whipple Truss,” ABCD Western NY Chapter 2008 Fall Bridge Conference, 2008
- “Olcott Harbor Breakwater” APWA New York Chapter meeting, 2023

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## HIGHLIGHTS

Mr. Keeney has over 10 years of experience on the private side with large construction projects primarily focusing on environmental compliance at the Federal, State, and local levels of government. Prior to that Mr. Keeney had over 10 years of public service as an employee at Susquehanna County Conservation District where his grasp of regulations was used to educate the public on permit requirements and to work within the bounds of those regulations to assist landowners and contractors to achieve their goals in a timely and cost effective manner.

## CERTIFICATIONS/LICENSES

NYS DEC 4-hour Erosion and Sediment Control Training (July 2021)  
PA Department of Agriculture Nutrient Management Certification (2013)  
Environmental Sensitive Maintenance Practices for dirt and gravel roads (2011)  
Army Corp of Engineers 5-day wetland delineation class (2007)  
PADEP Compliance and Enforcement training (2003)  
PADEP Chapter 102 plan review training (2003)

## PROFESSIONAL EXPERIENCE

Environmental Program Compliance Manager at DIEHLUX LLC. April 2022 to present

Environmental & Agricultural Monitor on Bluestone Pipeline Towns of Windsor and Deposit, NY. (2021)

Chief Environmental Inspector on Atlantic Sunrise Pipeline a Williams Transco 168-mile pipeline in Pennsylvania. Over 200 wetland and Stream channel crossings. Horizontal Directional Drill of the Susquehanna River near Tunkhannock, PA and Bloomsburg, PA along with Interstate 80 and 81. (2017-2021)

FERC Compliance Monitor on a Trans Canada 165-mile pipeline in West Virginia, Ohio and Pennsylvania. Horizontal Direction Drill of the Ohio River and Hosking River. (2016)

Environmental Inspector and Agricultural Inspector Williams Pipeline gathering system in Susquehanna Pennsylvania. (2015-2016)

Lead Environmental Inspector on a Trans Canada 24-mile pipeline in New Jersey that crossed multiple maritime wetlands and streams. (2014)

Lead Environmental Inspector on a Columbia 24-mile pipeline project in Greene and Washington counties in Pennsylvania.

## EDUCATION

BS Dairy Science/ Ag Business Degree, Delaware Valley College of Agriculture (1994)