RESOLUTION OF THE
RESOURCES AND DEVELOPMENT COMMITTEE
23rd Navajo Nation Council --- Third Year, 2017

AN ACTION

RELATING TO THE RESOURCES AND DEVELOPMENT COMMITTEE; CONFIRMING THE APPOINTMENT OF RONSON CHEE TO THE NAVAJO ENGINEERING AND CONSTRUCTION AUTHORITY BOARD OF DIRECTORS

BE IT ENACTED:

SECTION ONE. AUTHORITY

A. The Resources and Development Committee is a standing committee of the Navajo Nation Council. 2 N.N.C. § 500(A) (2015).

B. The Navajo Engineering and Construction Authority shall operate under the legislative oversight of the Resources and Development Committee of the Navajo Nation Council. 5 N.N.C. § 1654.

C. The Resources and Development Committee of the Navajo Nation Council grants final confirmation of appointments to entities under the authority of the Committee requiring appointments. 2 N.N.C. § 501(B)(9).

SECTION TWO. FINDINGS

A. The management board for the Navajo Engineering and Construction Authority shall be appointed by the President of the Navajo Nation and confirmed by the Resources and Development Committee. *See* 5 N.N.C. § 1973(C); 2 N.N.C. § 501(B)(9).

B. Individuals with experience and/or education in the engineering, construction, architectural, legal, accounting, management, or other construction related field shall be given preference for appointment to the Board. 5 N.N.C. § 1973(D).

C. The members of the board shall serve four year terms.

D. Pursuant to 5 N.N.C. §§ 1973(C), the Navajo Nation President appointed Ronson Chee to serve as a member of the Navajo Engineering and Construction Authority Board of Directors. Appointment letter attached as **Exhibit A**; letter of interest attached as **Exhibit B**; resume attached as **Exhibit C**.

SECTION THREE. CONFIRMING APPOINTMENT

The Resources and Development Committee of the Navajo Nation Council hereby confirms the appointment of Ronson Chee to serve on the Navajo Engineering and Construction Authority Board of Directors, for a term of four (4) years beginning September 7, 2016 and ending on September 6, 2020.

CERTIFICATION

I, hereby certify that the following resolution was duly considered by the Resources and Development Committee of the 23rd Navajo Nation Council at a duly called meeting at Chichiltah Chapter, Chichiltah, Navajo Nation (New Mexico), at which a quorum was present and that same was passed by a vote of 4 in favor, 0 opposed, 1 abstained on this 6th day of September, 2017.

Benjamin Bennett, Vice-Chairperson
Resources and Development Committee
of the 23rd Navajo Nation Council

Motion: Honorable Leonard Pete
Second: Honorable Jonathan Perry

THE NAVAJO NATION

RUSSELL BEGAYE PRESIDENT
JONATHAN NEZ VICE PRESIDENT

EXHIBIT
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June 5, 2017

Ronson Chee

Re: Official Appointment to the Navajo Engineering and Construction Authority ("NECA")

Dear Mr. Chee:

It is our distinct pleasure to appoint you to the Board of Directors for NECA. You have extensive experience in project management and are a professional engineer. After review of your resume and interview, we strongly believe you have the background and experience to competently represent on this Board. **You are hereby *appointed* for a term of four (4) years 9/7/2016 to 9/6/2020**. This appointment is subject to confirmation by the Resources and Development Committee of the Navajo Nation Council.

Thank you for your desire to serve as a Board member with NECA. If you have any questions relating to your appointment, please contact Karis N. Begaye, Legal Counsel, Office of the President and Vice President at (928) 871-7812.

Respectfully,

THE NAVAJO NATION

Russell Begaye, President

Jonathan M. Nez, Vice President

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May 19, 2017

President Russell Begaye
The Office of President and Vice-President
P.O. Box 7440
Window Rock, AZ 86515

RE: Letter of Interest – NECA Board of Directors Position

Dear Mr. President,

This letter is to express my interest to be considered for a position on the Navajo Engineering and Construction Authority (NECA) Board of Directors. I am confident that I have the skills and vision needed for the position. Having been raised in Leupp, AZ, I am a proud to call the Navajo Nation (Nation) my home. Having lived on the Nation the majority of my life, I have experienced firsthand the blessings as well as the hardships. Living off the Nation has also made me realize the basic amenities that we lack. Accordingly, I have made it a lifelong career goal to help improve the living conditions on the Nation. I believe my talents lie in the field of civil engineering and my most significant contributions will be to improve our Nation's infrastructure. I believe a position on the NECA Board of Directors will allow me to do just that.

I believe I have the qualifications necessary for such a prestigious and important position. I am a licensed and practicing civil engineer in the State of Arizona with over 10 years of experience in the water resources engineering field. I have also recently earned a Doctor of Philosophy degree in Civil Engineering where I focused my dissertation study efforts specifically on the Nation to develop construction, engineering and planning tools in effort to improve the potable water infrastructure coverage. Through this experience, I have learned a great deal about the key agencies who are involved in building the water infrastructure on the Nation. I have also learned about their funding sources, processes as well as the challenges and shortcomings.

I am attaching my resume, as you will see most of my professional experience has been primarily involved with projects off the Nation. I also do not have any previous board experience. However, I see this as an opportunity to for me to bring innovative and fresh ideas into NECA. I believe my passion and drive for improving the Nation will easily outweigh any shortcomings in my professional experience. You will find that I am a very dependable, easy going and able to work in teams and groups. I am a quick learner, detail oriented and thorough. I also choose to focus on a solution rather than dwell on the problem. I am also a visionary, I see potential when others don't.

Lastly, I understand the bigger picture at hand. I recognize the importance and crucial role that NECA plays in building our Nation and I would like to be a part of that. It is my understanding that NECA has a good performance history. I would like to push that forward, but also improve upon that foundation. I see the potential in NECA and what it can ultimately become and do for our Nation.

Thank-you for your time and consideration.

Sincerely,

Ronson R. Chee, Ph.D., P.E.

Ronson R. Chee, Ph.D., P.E.

Education

The University of Arizona (Tucson, AZ)
Doctor of Philosophy in Civil Engineering (Water Resources Emphasis w/ a minor in Hydrology), May 2017

The University of Arizona (Tucson, AZ)
Master of Science in Civil Engineering (Water Resources Emphasis), Dec. 2010

The University of Arizona (Tucson, AZ)
Bachelors of Science in Civil Engineering, May 2008

Registrations/Certifications

Professional Engineer: Arizona #54056

Experience Summary

Mr. Chee has approximately ten (10) years of experience in the water resources engineering field. His experience as a designer and project engineer is expansive with experience in: surface water hydrology & hydraulic modeling and design; the design of stormwater infrastructure; site water and stormwater management, water balance modeling; site civil grading and drainage design; pipeline/pipe network & pumping design. His experience with projects involving surface water hydrology & hydraulics have been located primarily in the semiarid southern Arizona region.

Mr. Chee has experience in hydrologic/hydraulic modeling and analysis used in designing water infrastructure such as: storm drains; open channels; spillways; weirs; detention & retention basins; heap leach facility solution collection systems; pumping & piping systems; pump & pipe network optimization; and gravity drain lines. Mr. Chee is proficient in design software such as AutoCAD Civil 3D, EPANET, WaterGEMS V8, FlowMaster, HY8, HEC-HMS, HEC-DSSVue, HEC-RAS ArcGIS and Matlab.

His experience and duties have included: project management; technical/discipline lead; preparation of proposals and engineering fees; performing technical calculations; design using AutoCAD Civil 3D; preparation of design reports; preparation of technical studies/reports; preparation of design drawings and construction plans and specifications; and construction cost estimation.

Project Experience

Pumping and Piping System Design

University of Arizona, Ph.D. Dissertation – Prioritization of Potable Water Infrastructure Investments on the Navajo Nation, August 2014 to May 2017 – Dissertation part of Ph.D. requirement in the Department of Civil Engineering at the U of A. Dissertation is focused on providing unique engineering solutions to improve the potable water infrastructure coverage on the Navajo Nation. Subtopics include: development of a construction cost estimation model (WaterCOSTE) for estimating the installed cost of large scale long distance regional water transmission systems; development of a novel hydraulic model (WaterTRANS) that improves design efficiency and can locate pumps and pressure regulators for branched

water systems; development of a unique Decision Support System that allows candidate water transmission projects to be ranked on the Navajo Nation while considering economic development, health improvement and environmental protection objectives.

Silver Bell Mining, LLC, Mammoth Heap Leach Facility Pumping & Piping System Design, April 2014 to February 2015 – Design Engineer for the PLS process circuit for the three phase Mammoth Heap Leach Facility. Design required: upgrading over 3 miles of the Raffinate solution delivery system to carry a maximum flow of 10,000 gpm via two parallel 24-inch lines; designing the Raffinate Solution delivery system to the Heap leach pad irrigation system to carry a maximum flow of 5,000 gpm; and the design of a 2 mile PLS return delivery system to carry a maximum flow rate of 5,000 gpm via two parallel 18-inch lines. Each pumping configuration contained one operational pump with one spare and had the ability to convey flows through 1 of the 2 lines for increased system redundancy. The Raffinate Delivery system to the heap leach required a gravity system design for Phase 1 and transition to a pump for Phases 2 and 3. Design required retrofitting existing pump sumps and ponds, design of pipe corridor to provide drainage, air valve stations, conceptual design of heap leach pad irrigation system. Specific design tasks included: pumping and piping cost tradeoff studies, development of Process Flow Diagrams and Piping & Instrumentation Diagrams, hydraulic calculations and system modeling in EPANET, pump and pipe sizing, pump station general arrangement design, air valve sizing and placement calculations, pipe corridor earthwork grading, pipeline plan & profile drawings, piping connection details, coordination with geotechnical and structural engineers for pump station design. Preparation of construction drawings, preparation of technical design reports, cost estimation. Assisted with preparation of specifications and procurement packages.

Asarco Trust, Salero Mine ARD Gravity Pipeline Improvements, February 2012 to Oct 2015 – Task lead for assessing and increasing the reliability and performance of an existing 1.5-mile long acid rock drainage (ARD) gravity pipeline. Recommended pipeline improvements included design of intermittent flushing ports, cleanouts, siphon-dosing tanks and air/vacuum valves. Tasks included: site inspections and preparation of construction drawings to improve pipeline, preparing technical reports and drawings, and cost estimating.

Freeport McMoran Sierrita, B-Pond Upgrade Project, May 2009 to May 2011 – Performed hydraulic calculations for PLS pond upgrade project. Tasks included: design of pond underdrain system, hydrologic and hydraulic calculations for stormwater control, design of PLS pumping/piping system, preparation of pumping/piping details and specifications. Design included the use of AutoCAD Civil 3D, EPANET, and HEC-HMS. Assisted in preparation of construction drawings and bid package submittal. Prior to B-Pond project, existing underground interceptor and collection sumps/wells were upgraded. Tasks performed included: design of well casing and pumping/piping system and preparation of construction drawings.

University of Arizona, M.S. Thesis – Design of Dual Supply Water Distribution Systems, May 2008 to Dec. 2010 – Thesis completed as part of M.S. requirement from the Department of Civil Engineering and Engineering Mechanics at the U of A. Research project entailed the creation of a pipe network optimization model used to design dual supply systems (parallel potable and non-potable municipal water systems). Focus of project aimed at exploring the costs associated with dual supply systems in effort to increase non-potable water usage and reducing freshwater usage. Optimization model required integration of EPANET and Toolkit Extension, C++, and Matlab. Model used a Genetic Algorithm optimization scheme to identify the least cost design based on pipe diameter, pump size and pumping operation for pipe networks.

Freeport McMoran Morenci, FMCOP Stormwater Control, Feb. 2008 to Nov. 2008 - Designed a stormwater pumping distribution system, included pumping design with pumps in parallel and series. Design included selection of appropriate pumps and pipe sizes to accommodate different distribution

scenarios. System included design of anchoring structures such as anchoring bolts and anchor blocks. Prepared construction drawings using AutoCAD LDD.

Hydrology and Drainage

Hudbay Minerals Rosemont Project – Misc. 401 Certification/404 Permit Support – Nov 2016 to Current – Project Manager/Engineer for miscellaneous technical support efforts to the client. Tasks included: performing infiltration and runoff calculations; conducting technical reviews of EIS documentation in support of obtaining a 404 permit; and performing updates to hydrology and infiltration technical calculations based on updated site layout changes.

Hudbay Minerals Rosemont Project – Barrel Canyon and Davidson Canyon Field Investigations – August 2015 to Current – Project Manager for the yearly recurring geomorphic surveys of six (6) select stream reach locations downstream of the proposed Rosemont mine as a requirement per the 401 Certification issued by ADEQ and USFS Mitigation Measures. An initial baseline survey was conducted to document baseline geomorphic and vegetative conditions. A monitoring protocol document that describes periodic monitoring and survey procedures was also developed. Tasks included preparation of yearly technical reports and figures that document yearly recurring changes to the streams.

Rosemont Copper – 401 Certification Hydrologic Modeling – March 2015 to Current – Project Manager/ Hydrologic Modeler for the creation of a site specific hydrologic model per requirements of the 401 Certification issued by ADEQ. Hydrologic model estimates the impact that the Rosemont mine will have on average-annual stormwater runoff volumes throughout the life of the mine. Model development required the evaluation of five (5) rainfall-runoff loss methods to determine the most optimal for modeling storms in semi-arid southern Arizona. Six (6) storms occurring on two (2) similar sized watersheds at the Walnut Gulch Experimental Watershed were used to calibrate rainfall-runoff models to determine the most optimal loss method. The most optimal method is then paired with onsite rainfall and runoff gage data to develop and calibrate a site wide hydrologic model for predicting changes in average-annual runoff as a result of mine operations.

Asarco Multi-State Environmental Custodial Trust – Sacaton/Truestone Stormwater Drainage Improvements – July 2014 to Dec. 2016 – Provided engineering support for stormwater drainage improvements and erosion mitigation at the Sacaton/Truestone sites. Tasks included: performing hydrologic calculations and site grading for the sizing of stormwater retention basins, stormwater channels and berms. Assisted in preparing scopes of work and request for proposals documents for contractor selection. Assisted with construction oversight of recommended drainage improvements.

Silver Bell Mining, LLC – Non-Stormwater Pond Volume Analysis – 2013 – Project Engineer, performed hydrologic calculations to analyze the storage capacity of four stormwater ponds. Runoff volumes for the 100-year, 24-hour storm event reporting to four ponds were determined and checked against their storage capacity. Tasks included field investigation to verify watershed delineations and survey of water surface fluctuation of baseflow in ponds. Provided design recommendations for increasing storage capacity and using existing abandoned mine infrastructure for additional stormwater storage. Prepared technical reports, watershed maps, conceptual design drawings.

Freeport McMoran Sierrita – Tinaja Pond Technical Analysis and Support – March 2013 to May 2013 – Project Manager/Engineer for estimating the average-annual runoff, average-annual evaporation and average-annual infiltration for the Tinaja Pond. Analysis involved utilizing regional data to estimate annual stormwater runoff into the pond and estimating infiltration and evaporation losses using monthly water balance. Tasks included: performing technical calculations, preparation of technical report, budget tracking and project management duties.

Freeport-McMoran Sierrita – Twin Buttes Tailings Dam Stormwater Management Plan and Slope Repair – July 2012 to August 2012 – Project engineer and lead for analyzing existing storm runoff conditions for the closed No. 2 and No. 3 Tailings Dams and preparing a stormwater management plan and slope repair plan for mitigating erosion on the reclaimed tailings facilities. Critical repair areas were identified and a management plan for future stormwater management was created. Tasks included site visits, field investigation and preparation of design plans and drawings.

Rosemont Copper – Barrel Alternative Site Water Management Plan – Tucson, AZ – June 2012 to July 2012 – Project engineer for the Barrel Alternative Site Water Management Plan. Project is an updated site water management plan for the Barrel Alternative, which is the mine layout alternative chosen by the US Forest Service as part of the Rosemont Mine EIS process. Tasks included directing and managing team for preparation of design report and drawings. Responsible for executing and completing project on time and on schedule based on a short timeline as not to hinder the EIS process. Tasks included coordination between client, design team and other project design firms and consultants.

Rosemont Copper – Site Water Management Plan Update – May 2009 to April 2010 – Lead engineer in performing hydrologic and hydraulic calculations for the Rosemont Site Water Management Plan. Tasks included: interim and final site-wide hydrologic modeling using HEC-HMS; analysis/design of reservoir and channel routing; detention and retention pond design; design of large rockfill flow-through drains; pit diversion channel design; culvert design. Prepared technical reports and figures. Additional tasks included preparation of a hydrology methodology technical report that analyzed and compared the Pima County hydrology method to the NRCS hydrology method.

Phelps Dodge - No.4 Tailing Pond Upgrade, Twin Buttes, Arizona – 2008 – Conducted hydrologic calculations to size No. 4 Tailings pond for the 100-yr, 24-hr event. Hydrologic flows were determined using HEC-HMS.

Grading and Site Civil Design

Silver Bell Mining, LLC – West Oxide Pond Design – August 2012 to December 2012 – Lead civil designer for the west oxide waste rock dump collection pond. Project involved design of waste rock storage dump and a non-stormwater collection pond designed to comply with amendments made to the Aquifer Protection Permit. Tasks included performing hydrologic calculations to estimate peak storm runoff for the 100-year, 24-hour event, sizing storage pond and designing riprap collection channels and inlets. Responsible for preparation of construction level design drawings.

Rosemont Copper – EIS Support Services – Tucson, AZ – 2009 to 2012 – Provided ongoing engineering services in support of the proposed Rosemont Mine EIS process. Tasks include: engineering and task lead for conceptual level design of reclamation/landform alternatives including stormwater control; coordination with client and other project consultants for tailings and waste rock phasing and sequencing for proper stormwater control and desired landform features. Conceptual level design involved: preliminary landform grading using AutoCAD Civil 3D in accordance with dry stack tailings phasing and waste rock placement scheduling; landform grading to balance to required tailings and waste rock volumes; interim sitewater management and stormwater control. Design and task lead for preparation of dry tailings stacking plans and scheduling. Prepared technical reports and conceptual design drawings.

Rosemont Copper – Reclamation Concept Update – May 2009 to March 2010 – Lead civil engineer and designer for the Rosemont Mine Reclamation Concept Update project. Tasks included: design of reclaimed landform using AutoCAD Civil 3D; design of detention/retention pools, design of tailings bench channels and large rock drop chutes; coordination with client and other project consultants for tailings and waste

rock phasing and sequencing for proper stormwater control and desired landform features. Prepared technical reports and report figures.

Rosemont Copper – Heap Leach Facility Design – Tucson, AZ – May 2008 to August 2010 – Lead civil designer and hydrology/hydraulics task lead for construction level design of a two phased heap leach pad. Project evolved through three major design revisions including a single phase pad. Tasks included: hydrologic and hydraulic calculations for design of stormwater control structures adjacent to the heap leach facility, design of PLS and Stormwater ponds; heap leach facility water balance, design of solution collection pipe system, pad phase solution transfer channel; design of rockfill flow-through drains and pad grading. Design included use of AutoCAD Civil 3D and HEC-HMS. Assisted in preparation of construction level design drawings and prepared technical reports.

Victoria Gold – Eagle Gold Heap Leach Facility – Yukon Territory, Canada – May 2011 to May 2012 – Civil task lead and civil designer for feasibility level design of a three-phase gold heap leach pad. Tasks included: project coordination between client, project manager and other discipline leads; hydrologic calculations for sizing of an in-heap PLS pond and storm event ponds; hydraulic calculations for design of a diversion channel and overflow spillway; channel armoring and stability design; water balance for heap leach facility. Civil design included use of AutoCAD Civil 3D, HEC-HMS. Prepared feasibility level design drawings and technical reports. Additional tasks included heap leach production rate trade-off study and diversion channel cost reduction trade-off study.

Freeport McMoran Morenci – Glory Hole Drainage Project – Feb. 2008 to Nov. 2008 – Hydraulic design of storm run-off drainage system. Tasks included: design of riprap channel, design of detention pond and outlet using HEC-HMS, designed storm drain pipeline and sizing of thrust anchor blocks. Prepared construction drawings using AutoCAD LDD.

Freeport McMoran Morenci – Railroad Tunnel Drainage Project – Feb. 2008 to Nov. 2008 – Hydraulic design of storm run-off drainage system. Tasks included: stormdrain pipe sizing and thrust anchor blocks and bolt anchors to storm drain pipe. Prepared construction drawings using AutoCAD LDD.

Professional Employment History

Tetra Tech, Inc. - Water Resources Engineer - May 2007 to Present