MINUTES OF THE
INTERIM FINANCE COMMITTEE'S
SUBCOMMITTEE TO REVIEW PUBLIC WORKS BOARD MATTERS
(NRS 218E.405)
June 22, 2010

The Interim Finance Committee's Subcommittee to Review Public Works Board Matters (NRS 218E.405) held its fourth meeting of the 2009-11 Interim on June 22, 2010, in room 4412 of the Grant Sawyer State Office Building, 555 East Washington Avenue, Las Vegas, Nevada. The meeting was videoconferenced to room 2135 of the Legislative Building, 401 S. Carson Street, Carson City, Nevada.

SUBCOMMITTEE MEMBERS PRESENT IN LAS VEGAS:
Senator Bob Coffin, Chairman
Assemblyman Joseph Hogan

SUBCOMMITTEE MEMBERS PRESENT IN CARSON CITY:
Senator William J. Raggio
Senator Bernice Mathews
Assemblyman Tom Grady
Assemblywoman Debbie Smith

SUBCOMMITTEE MEMBERS ABSENT:
None

STAFF MEMBERS PRESENT IN LAS VEGAS:
Eric King, Program Analyst, Fiscal Analysis Division

STAFF MEMBERS PRESENT IN CARSON CITY:
Mark Krmpotic, Senate Fiscal Analyst, Fiscal Analysis Division
Tracy Raxter, Assembly Fiscal Analyst, Fiscal Analysis Division
Brenda Erdoes, Legislative Counsel, Legal Division
Eileen O'Grady, Chief Deputy Legislative Counsel, Legal Division
Patti Sullivan, Secretary, Fiscal Analysis Division

EXHIBITS:
Exhibit A – Agenda and Meeting Packet
Exhibit B – Attendance Record
Exhibit C – SPWB Project Budget and Schedule – Phase I and II Plans – Southern Desert Correctional Center Core Expansion
Exhibit D – University of Nevada, Las Vegas, Student Recreation and Wellness Center Update
Exhibit E – PowerPoint Presentation – SPWB – Earthquake Design Criteria
Exhibit F – Article – California Watch – *Public Universities Slow to Address Seismic Hazards*

I. ROLL CALL.

Chairman Coffin called the regularly scheduled meeting of the Subcommittee to Review Public Works Board Matters to order at 1:32 p.m. and asked for the roll call. Chairman Coffin conducted the meeting from Las Vegas. Assemblyman Hogan attended in Las Vegas and all other members were present in Carson City.

The following agenda item was taken out of order and was discussed for informational purposes only.

VII. INFORMATION REGARDING THE NEVADA SYSTEM OF HIGHER EDUCATION'S STUDENT RECREATION AND WELLNESS CENTER BUILDING LOCATED ON THE UNIVERSITY OF NEVADA, LAS VEGAS, CAMPUS.

Chairman Coffin asked Eric King, Program Analyst, Fiscal Analysis Division to introduce agenda item VII. Mr. King said the item requested an update on information regarding the University of Nevada, Las Vegas, Student Recreation and Wellness Center Building. According to media reports in March 2010, the facility had seismic construction deficiencies and the Subcommittee wanted to hear testimony about the status of the building since the last meeting on April 28, 2010.

Chairman Coffin said at the meeting in April 2010 the committee heard testimony that the university was to meet with the contractors regarding calculation mistakes made by a sub-consultant. He wanted to hear the parties had met, did not plan to sue each other, and were attempting to resolve the matter as soon as possible.

David Frommer, Executive Director of Planning and Construction, University of Nevada, Las Vegas (UNLV), gave the following background information and a brief update on the status of the building. He said general counsel from UNLV attended the April 2010 meeting and provided an update of what was happening at that particular time. Mr. Frommer explained that in 2008 a seismic code compliance issue was discovered at the Student Recreation and Wellness Center Building. He said the university tried to engage the original designer to prepare a set of documents that reflected a seismic design retrofit to correct the compliance issue. At the time of the April 2010 meeting, the university had not successfully come to an agreement with the designer. The university was forced to issue a solicitation to hire a third-party engineer, with the option for a contractor to do the design and the construction for the repair of the building. Since the April 2010 meeting, the original designer has agreed to develop the design documents for the seismic retrofit. He said the university had also engaged the SPWB to create a project file for the seismic correction and retrofit, and to be the Building Official for the project. Mr. Frommer testified the parties involved, including the SPWB, the university and the designer, had all hired third-party experts in seismic design and construction to

review the design documents and calculations. He believed there would be enough depth of experience and oversight among the entities to ensure the new set of documents would comply with the building code. Mr. Frommer said the university planned to proceed with the design documents and engage the Building Official on some of the technical issues during the design process. Once the basis for the design was established the university could hire a contractor to execute the retrofit of the building.

Chairman Coffin asked for a timeline of the process to address the safety issues surrounding the safety of the occupied building.

Mr. Frommer said the university expected the design to be submitted to the SPWB in early July 2010, which would establish all the design criteria to be met and determine how the design would move forward. It was anticipated the design would be prepared sometime in the fall of 2010. Then in early 2011, with the design documents completed, the university planned to work with contractors to get pricing, submit for plan check, get bids and have approved permit documents. In order to take advantage of the summer session when activity was low, the building construction was planned to begin in early 2011. Mr. Frommer said the actual work plan for the retrofit was contingent on the type of design improvements needed for compliance. He said the retrofit would be a complex process. When design changes were determined, the university would assess the impact of the construction to the use of the building.

Chairman Coffin asked who would pay for the retrofit. He also inquired how the original designer would avoid a conflict of interest in fixing its own design.

Mr. Frommer said design professionals occasionally made errors, and the designers should be given the opportunity to correct any errors in order to provide a quality design for a code compliant building. He thought the conflict of interest issue would be mitigated because the SPWB had hired a third-party expert with a great deal of knowledge in seismic and structural design to review the documents and approve the basis of the design. He added that the university and the designer both hired third-party experts for advice on the design. Many professionals would be checking the design documents for accuracy. Mr. Frommer thought everyone involved was committed to addressing the problem.

In response to Chairman Coffin's question regarding payment for the retrofit, Mr. Frommer said the designer agreed to provide the design at no charge as part of the commitment to deliver a code compliant building to the university. However, the matter of payment for the retrofit had not yet been settled. The university planned to discuss that matter with the designer; however, payment for the construction may result in a claims process. He also said the university reserved all rights in terms of an ultimate resolution until the design was completed. The

university did not want to prematurely enter into an agreement when the full scope of the retrofit and the construction was unknown.

Assemblywoman Smith thought it was important to continue to study the construction manager at risk (CMAR) process because it raised concerns for a number of the committee members.

Chairman Coffin said he agreed with Mrs. Smith regarding the CMAR process. He thought it was a good, but not perfect process; the UNLV Student Recreation and Wellness Center Building was a prime example of a problem that could happen with the CMAR process. However, this one issue did not mean that CMAR should be condemned. He thought there could be changes enacted next session to build safeguards into the process, since the process for the project to complete the Student Recreation and Wellness Building was not under the purview of the SPWB.

Chairman Coffin reiterated his concern about seismic activity and construction in Nevada stating he did not think all state-owned buildings were ready for earthquakes. Although he thought the discussion was important, he wanted to return to the regular order of the agenda.

II. CONSIDERATION OF RECOMMENDATION TO THE INTERIM FINANCE COMMITTEE ON JUNE 24, 2010, REGARDING THE REQUEST TO REDUCE THE SCOPE OF CIP PROJECT 07-C05, INDIAN SPRINGS CONSERVATION CAMP 384-BED EXPANSION AND 168-BED RENOVATION, TO REMOVE THE RENOVATION OF DORM G AND TO TRANSFER $1.1 MILLION FROM THAT PROJECT TO CIP PROJECT 07-C07A, CONSTRUCTION OF HOUSING UNIT AND FACILITY EXPANSION AT SOUTHERN DESERT CORRECTIONAL CENTER, TO COMPLETE A WARM LIT SHELL FOR PHASE II OF THE CENTER'S CULINARY EXPANSION.

Mr. King said this agenda item was a request from the SPWB to reduce the scope of CIP project 07-C05, Indian Springs Conservation Camp Expansion, which added 384 beds and included the renovation for 168 beds, plus other core expansions at the Conservation Camp. This item also requested that $1.1 million that would be left over from the cancellation of the renovation of Dorm G be transferred to CIP project 07-C07a, Construction of Housing Unit Facility Expansion at Southern Desert Correctional Center (SDCC). The SPWB wanted to combine $1.1 million from the Conservation Camp project with approximately $3.3 million left over in the SDCC project to complete a warm lit shell for the culinary, laundry and dining areas at the SDCC.

From Las Vegas, Gus Nunez, Manager, SPWB testified the request also included a reduction in scope of the original project to delete the renovation of Dorm G at the Conservation Camp. He said when the original CIP project was requested four

years ago the SPWB thought Dorm G could be remodeled. SPWB staff recently visited the Conservation Camp to specifically look at remodeling Dorm G and found it would not be worth spending the money for the renovation. Before the visit, Dorm G had been gutted for the potential remodel, which made it easier for staff to see the condition of the building. It was discovered that the building needed extensive work in order to be functional and the sheet rock, electrical system, roof and boiler would need to be replaced. Mr. Nunez said it was a wood frame structure built to residential standards, which was not made to withstand the use as a correctional facility. After evaluating the structure it was decided not to spend any money to remodel Dorm G, because the remodel would cost substantially more than originally envisioned. Mr. Nunez said permission was granted at a prior meeting not to demolish three buildings scheduled for demolition, because the Department of Corrections (DOC) was contemplating using the buildings for other programs and activities. The SPWB staff also looked at those buildings in detail and decided it would not be a good investment to upgrade those building either. The four buildings would remain standing until funding was available for the demolition. The demolition could be considered if there were any funds left from the $1.1 million transfer from the Indian Springs Conservation Camp to SDCC. He thought one of the buildings could be used for storage. It was a small metal building and the interior was in good shape. The building could remain standing to provide the Department of Corrections with more storage, which was always needed.

Assemblyman Grady said it bothered him that at one Subcommittee meeting the buildings were good enough to be remodeled and the next meeting the buildings should be demolished. The $1.1 million change order also concerned him. He could not understand how the DOC and the SPWB could keep switching money back and forth between projects. Mr. Grady stressed there should be a definite plan, and that the plan be adhered to, so there were not changes at every meeting.

Mr. Nunez apologized for the changes in the plan for Dorm G and the three other buildings. The DOC indicated those buildings could be used for other needs. In order for the original project to keep moving, the SPWB sent the change in scope request to the Subcommittee to be included on the November 18, 2009, agenda. He testified the change in scope to rescind the demolition of the three buildings was enacted too hastily without the SPWB actually visiting the Conservation Camp to look at the buildings. A major remodel would be needed for the buildings to be in usable condition; that was the reason for the change in the scope. Mr. Nunez understood Mr. Grady's frustration and would try not to go back and forth in the future.

Chairman Coffin asked why the building was not constructed to be strong enough to house inmates and how the building got to be run down so quickly.

Greg Cox, Deputy Director, DOC, said the department wanted to keep the three buildings to use for much needed storage space. However, after meeting with the SPWB engineers who looked at the buildings, it was determined an substantial amount of money would be required to bring the buildings, and especially Dorm G, up to a sufficient standard. He said the DOC probably could have taken some measures to better maintain Dorm G, but it was built for residential rather than correctional use. Although the inmates could stay at the Conservation Camp for up to three years, an average stay was three to four months, so there was constant turnover in that building. It would have taken more taxpayer money to bring Dorm G up to an appropriate standard. Mr. Cox said he and the DOC Director supported the decision by the SPWB not to put any more money into Dorm G or the other buildings.

Chairman Coffin asked how the Conservation Camp would operate without Dorm G. Would there be sufficient space for the inmates?

Mr. Cox said part of the process of preparing for the construction of Dorm G was to move inmates into two other buildings. The Nevada Division of Forestry inmates were housed in one building and the boot camp inmates were housed in another. For classification reasons, and by law, these two groups were housed separately. Mr. Cox said using the other two buildings had been working very well, without the need for Dorm G.

Mr. King asked Mr. Cox how this request would affect the potential expansion of SDCC and what might be expected in the 2011 CIP. Also, he thought the question of how inmates would be housed permanently without Dorm G had not been sufficiently answered and more detail was needed. He wanted to know specifically how the Conservation Camp would go forward without Dorm G.

Mr. Cox said due to A.B 510 there was sufficient minimum-custody bed space at the Conservation Camp; therefore, bed space was no longer an issue as it was prior to the original planning and construction.

Mr. King asked Mr. Nunez what project would be in the 2011 CIP for the expansion of SDCC, and what efforts would be made to adjust that facility to the maximum inmate capacity.

Mr. Nunez said the SDCC was originally designed for 750 inmates, but since then several housing units had been added for the increasing inmate population. The latest addition included two dorms built with 240 beds each for a total of 480 beds. Mr. Nunez said that facility had increased from 750 inmates to approximately 2,100 inmates. The only reason there were not 2,100 inmates housed there currently was because of the construction. As soon as that work was finished the rest of the inmates would be moved back into the facility. The support systems for the facility, infirmary, visiting area, culinary, dining, laundry and programming area were built for only 750 inmates and cannot support the increase in inmate

population. The goal was to eventually complete all the core facilities; however, only some of the core facilities (infirmary, visiting area and a portion of the dining) had been completed and upgraded to support the larger number of inmates. The rest of the core facilities (dining, culinary and laundry) needed to be finished. Mr. Nunez said with the approval of this request those core facilities could be completed. What would remain to be completed in the future would be the tenant improvements for the dining, culinary and the laundry facilities, as well as construction of a new sally port and armory recently indicated by the DOC as needed.

Chairman Coffin thought Mr. Nunez's information would be helpful for next session.

Assemblyman Hogan asked if the modifications at SDCC had anything to do with the Governor's proposed plan to close the Nevada State Prison in Carson City, and relocate those inmates to Las Vegas.

Mr. Nunez reiterated that SDCC was designed for 750 inmates, but with the growth over time and with the addition of more beds the number of inmates was now 2,100. He said the need to increase the capacity of the core facilities was established quite a while ago and no matter what happened at Nevada State Prison, the SDCC needed a higher level of support facilities for the 2,100 inmates housed there.

Mr. Cox agreed that the core facilities were in dire need of expansion due to the inmate population growth, but also because the facilities had outlived their usability, especially the culinary and laundry. The DOC had undergone multiple construction projects for expansion, but a facility designed for 750 inmates was not workable for 2,100 inmates.

Chairman Coffin said it was obvious there was no more room at SDCC, but it would be helpful to know if the DOC had taken any steps to prepare for the possible closure of the Nevada State Prison.

Mr. Cox thought the population of the Nevada State Prison was about 700. He noted that two buildings were currently empty at High Desert State Prison, which could house 336 inmates each, for a total of 672 inmates.

Chairman Coffin thought the plan to move inmates to High Desert State Prison would also involve moving staff, and Mr. Cox said that was correct. He also asked for an explanation of the term "warm lit shell."

Chris Chimits, Deputy Manager, SPWB, said a warm lit shell comprised the following:

- underground utilities for the new addition
- related site work for the new addition

- structural footings and slab
- all of the exterior concrete block walls
- exterior windows and doors
- coping systems
- structural roof system and metal decking
- roof insulation and architectural roofing system
- coping to complete and enclose the shell

He said if funds were available major HVAC components would be added to the roof that would provide the warm part of the term "warm lit shell." Mr. Chimits asked the members to look at the floor plan for the SDCC Core Expansion (Exhibit C). The portion of the building labeled Phase I on the floor plan was the portion of the building that had been constructed. He said the SPWB was just finishing the commissioning of that part of the building. The proposal was to take approximately $3.2 million of the residual money from project 07-C07a and combine it with $1.1 million from the Indian Springs Conservation Camp project 07-C05 and construct the warm lit shell as shown on the floor plan as Phase II. The effect on the 2011 CIP would be to reduce the size of the third and final phase by $4.3 million, as well as reduce the timeframe to complete the culinary area by approximately six months. The 2011 CIP would include the tenant improvements consisting of the interior finishes, fixtures, furnishing and equipment for the culinary, laundry and the dining room. The tenant improvements would cost approximately $4.5 million, and the furniture, fixtures and equipment for the culinary and laundry would be approximately $1.7 million. In addition, the 2011 CIP would also provide a loading dock, a gatehouse addition, an armory, a roof access, a guard shack at the gymnasium and a new roof for the gymnasium. Mr. Chimits said this total scope to be included in the 2011 CIP would finalize or complete the phasing of the core improvements at SDCC.

Chairman Coffin thanked Mr. Chimits for the information on the warm lit shell and the potential 2011 CIP projects for SDCC.

SENATOR RAGGIO MOTIONED TO RECOMMEND TO THE INTERIM FINANCE COMMITTEE TO REDUCE THE SCOPE OF CIP PROJECT 07-C05, INDIAN SPRINGS CONSERVATION CAMP 384-BED EXPANSION AND 168-BED RENOVATION, TO REMOVE THE RENOVATION OF DORM G AND TO TRANSFER $1.1 MILLION FROM THAT PROJECT TO CIP PROJECT 07-C07A, CONSTRUCTION OF HOUSING UNIT AND FACILITY EXPANSION AT SOUTHERN DESERT CORRECTIONAL CENTER, TO COMPLETE A WARM LIT SHELL FOR PHASE II OF THE CENTER'S CULINARY EXPANSION.

SENATOR MATHEWS SECONDED THE MOTION.

THE MOTION PASSED UNANIMOUSLY.

III. CONSIDERATION OF RECOMMENDATION TO THE INTERIM FINANCE COMMITTEE ON JUNE 24, 2010, REGARDING THE REQUEST TO MODIFY THE SCOPE OF CIP PROJECT 09-M03, WEST ENTRY TO THE RICHARD H. BRYAN BUILDING, TO REMOVE THE WIND BREAK AND ADD CONSTRUCTION OF A DOOR IN THE EXISTING WEST ENTRY VESTIBULE.

Chairman Coffin said the next agenda item was a request to modify the scope of CIP project 09-M03, West Entry to the Richard H. Bryan Building, to remove the wind break and add construction of a door in the existing west entry vestibule.

Mr. King said the project was approved for $120,054 in the 2009 CIP to remedy a situation at the Richard H. Bryan Building in Carson City. During high wind events the west facing electronic sliding doors do not slide open as designed, and when the door was opened during wind events debris blew into the entryway of the building. Instead of following the original scope of the project, the SPWB indicated a less intrusive way to correct the problem had been determined. It was recommended not to build an integrated wind break, but to build a door in the existing vestibule instead. Referring to the meeting packet (Exhibit A), Mr. King directed the members to pages 12 and 13, which showed the building as it currently existed. The first photo on page 12 was the front of the building, which showed the sliding doors, and the second photo on page 13 showed where the vestibule door would be built.

Chairman Coffin said wind events happened all the time in Carson City, and he thought that a certain standard of construction should be adopted for west facing buildings in Carson City.

Mr. Nunez countered that there were many buildings in Carson with a west exposure; however, this building entry was affected more than others. A person needed to be strong to open the door of this building on a windy day. The SPWB staff developed a good solution to the problem by building a door in the vestibule on the side of the existing main entrance, with a sidewalk leading to the door. This solution would preserve the integrity of the look of the building, yet the door would be functional during wind events that currently prevented the main entrance from being used. Mr. Nunez asked for the Subcommittee's approval.

SENATOR RAGGION MOTIONED TO APPROVE THE REQUEST TO MODIFY THE SCOPE OF CIP PROJECT 09-M03, WEST ENTRY TO THE RICHARD H. BRYAN BUILDING, TO REMOVE THE WIND BREAK AND ADD CONSTRUCTION OF A DOOR IN THE EXISTING WEST ENTRY VESTIBULE.

ASSEMBLYWOMAN SMITH SECONDED THE MOTION.

THE MOTION PASSED UNANIMOUSLY.

IV. CONSIDERATION OF RECOMMENDATION TO THE INTERIM FINANCE COMMITTEE ON JUNE 24, 2010, REGARDING THE REQUEST TO ALLOW THE STATE PUBLIC WORKS BOARD TO ACCEPT AND EXPEND FEDERAL FUNDING OF $2,184,024 FOR AGENCY PROJECT 10-A018, RENEWABLE ENERGY PROJECT, NEVADA ARMY NATIONAL GUARD – CARSON CITY, TO REPLACE HVAC SYSTEMS IN TWO BUILDINGS AT THE FAIRVIEW DRIVE FACILITY (NRS 341.121).

Mr. King said the SPWB requested the authority to receive and expend $2,184,024 to construct agency project 10-A018, Renewable Energy Project, Nevada Army National Guard – Carson City. The project would replace the HVAC systems in two buildings at the Fairview Drive facility, the Office of the Adjutant General and the United States Property and Fiscal Office. The construction would replace the existing heat pumps with ground water supplied heat pumps in the buildings, and erect solar panels that would be tied into the system to supply heat in the winter.

Chairman Coffin asked Mr. Nunez for an explanation of the time constraints to complete this project before the end of the federal fiscal year. He also asked what would be done with the HVAC systems that were replaced. He noted they were only seven and eight years old. Chairman Coffin acknowledged state money would not be used for this project, but thought the Subcommittee should be custodians of the federal money and inquire about its use.

Mr. Nunez said the money must be committed before the end of the federal fiscal year, which might prove to be a very difficult task. The Guard contacted the SPWB and an agency project was set up to utilize the federal funding; however, the Guard had to get authority from the National Guard Bureau to receive and spend the funds before anything could be started. To date, a consultant was selected and the Guard had been developing a schedule to expedite the project when the approval was received to start the construction. Because the project was federally funded, approval of the plans by the National Guard Bureau was mandatory, which could take time. The SPWB staff wanted to get some commitments from the Guard in order to determine if the National Guard Bureau would expedite the review of the plans. A quick review and approval of the plans would be the only way to get the project done on time.

Captain Brian Hunsaker, Facilities and Maintenance Office, Nevada Army National Guard, explained the funding was a congressional add and "five-year money," which was not required to be executed in the current fiscal year. He said "We do get a black eye as an agency for not executing in the fiscal year, but we can deal with that. What we can't do is send the money back." Not utilizing the money properly would put the agency in an awkward position with representatives in Congress, who had worked diligently to provide this funding. If the project was not executed by September 2010, the agency would have to go before the National Guard Bureau with an explanation. It would not be pleasant, but he thought it would be survivable.

Chairman Coffin wanted to know when the agency got approval of the federal funds. Captain Hunsaker responded the Guard got notification for the approval in February 2010. He said if the funding was not utilized the agency would be viewed poorly by the National Guard Bureau as being the only Guard Unit in danger of not executing the congressional add funding. However, he thought it was of utmost importance to get an adequate project. Captain Hunsaker thought the September 30, 2010, deadline could be met, but there was not room for error. He established that the National Guard Bureau had agreed to expedite the approval of the plans. If there were any delays, and the timeline was in jeopardy the Guard should still be able to execute no later than the end of 2010.

Chairman Coffin asked if there was any use for the HVAC system that would be removed from the building.

Mr. Chimits replied that the process used for the removal would render the equipment unusable for other facilities.

Tom McElroy, Nevada Army National Guard said the units being removed were mostly from the Office of the Adjutant General Building. The old units were a simplistic design that contained split unit rooftop HVAC units, which both heated and cooled. It did not have a four-pipe system that adapted itself as readily as the United States Property and Fiscal Office system. He said there had been problems with being able to control the economizers of the units and the Guard found the units a nightmare to maintain. Mr. McElroy did not think the units would be valuable to any other state building.

Mr. King asked if the Guard's state operating budget had been modified to allow funds to be transferred to the SPWB in order to set up the agency project. Mr. Chimits said according to the Guard's Fiscal Officer, the design funds were ready for transfer.

ASSEMBLYWOMAN SMITH MOVED TO APPROVE THE REQUEST TO ALLOW THE STATE PUBLIC WORKS BOARD TO ACCEPT AND EXPEND FEDERAL FUNDING OF $2,184,024 FOR AGENCY PROJECT 10-A018, RENEWABLE ENERGY PROJECT, NEVADA ARMY NATIONAL GUARD – CARSON CITY, TO REPLACE HVAC SYSTEMS IN TWO BUILDINGS AT THE FAIRVIEW DRIVE FACILITY (NRS 341.121).

ASSEMBLYMAN GRADY SECONDED THE MOTION.

THE MOTION WAS APPROVED UNANIMOUSLY.

V. CONSIDERATION OF RECOMMENDATION TO THE INTERIM FINANCE COMMITTEE ON JUNE 24, 2010, REGARDING THE REQUEST TO ALLOW

THE STATE PUBLIC WORKS BOARD TO ACCEPT AND EXPEND AN ADDITIONAL $60,000 OF FEDERAL FUNDS FOR CIP PROJECT 09-M22, HVAC INSTALLATION – NORTH LAS VEGAS ARMORY, DUE TO HIGHER THAN ANTICIPATED CONSTRUCTION BIDS (NRS 341.121).

Mr. King said this request was to allow the SPWB to accept and expend an additional $60,000 of federal funds. The additional funding would augment the funding of $444,381 that already existed in CIP project 09-M22 for the installation of replacement of HVAC equipment at the North Las Vegas armory, due to the receipt of a higher than anticipated construction bid.

Chairman Coffin thought this was the first time in the past year a project had come in over bid. The state usually had the benefit of a reduced cost due to inflation.

Mr. Nunez said the $60,000 was not an estimate, but was a competitive bid. While it looked like the state had been getting prices that were last seen in early 2006, the only amount that could have gone down was the margin, because the cost of labor and materials had not gone down.

Mr. McElroy said the $60,000 amount represented a higher seasonal energy efficiency ratio (SEER) rating on the HVAC equipment that was being installed on the roof of the Floyd Edsall Training Center at the Clark County Armory. He explained the building was designed as a large box like a gymnasium with large cubic footage. The core of the building was swamp cooled, but the individual spaces were air conditioned, so the HVAC systems continually fought the swamp cooler. One system tried to remove water and the other tried to add water for evaporation purposes; it never operated properly since it was installed in the building. Mr. McElroy said this request to expend an additional $60,000 in federal funding was the final step for the correction of this problem and would put real air conditioners on the roof. Because the building served about 1,100 people, the Guard felt it was necessary to spend the extra $60,000 to have the highest SEER rating and the most efficient product available for the space.

Chairman Coffin commented that a higher SEER rating usually meant a heavier unit. He recalled at the women's prison in North Las Vegas in early 2010 when a new air conditioning system fell through the roof because it was heavier than the original system, and the roof was not designed for the heavier load. Chairman Coffin asked if the roof could withstand the weight of the new unit.

Mr. McElroy said a structural engineer was consulted before purchasing the unit to make sure the roof could accommodate the new unit. He said the net weight of the replacement might actually be less than the existing system.

ASSEMBLYWOMAN SMITH MOTIONED TO ALLOW THE STATE PUBLIC WORKS BOARD TO ACCEPT AND EXPEND AN ADDITIONAL $60,000 OF FEDERAL FUNDS FOR CIP PROJECT 09-M22, HVAC

INSTALLATION – NORTH LAS VEGAS ARMORY, DUE TO HIGHER THAN ANTICIPATED CONSTRUCTION BIDS (NRS 341.121).

SENATOR MATHEWS SECONDED THE MOTION.

THE MOTION WAS UNANIMOUSLY APPROVED.

VI. CONSIDERATION OF RECOMMENDATION TO THE INTERIM FINANCE COMMITTEE ON JUNE 24, 2010, REGARDING THE CIP PROJECT EXCEPTION REPORT PURSUANT TO NRS 341.100(8)(g).

Mr. Nunez said all the following projects listed in the CIP Project Exception Report located in the meeting packet (Exhibit A) starting on page 27 had either been discussed at this meeting, or had already been resolved and would not appear on future reports:

- 09-M22, HVAC Installation – North Las Vegas Armory
- 09-M03, West Entry Wind Break for the Richard H. Bryan Building
- 09-C18, Southern Nevada Veterans' Cemetery Expansion
- 09-C15, New Elko County Readiness Center
- 07-P06, Elko Readiness Center – Planning
- 07-P05, Veterans' Cemetery Expansion – Planning
- 07-C07a, Southern Desert Correctional Center Expansion
- 07-C05, Indian Springs Correctional Center/Work Camp

ASSEMBLYMAN HOGAN MOVED TO APPROVE THE MAY 2010 CIP PROJECT EXCEPTION REPORT.

ASSEMBLYWOMAN SMITH SECONDED THE MOTION.

THE MOTION WAS UNANIMOUSLY APPROVED.

VIII. INFORMATION REGARDING THE EFFECT OF SEISMIC ACTIVITY ON BUILDING CONSTRUCTION IN NEVADA.

Chairman Coffin announced that Mr. Nunez and the SPWB would make a PowerPoint presentation (Exhibit E) regarding earthquake design criteria and the effect of seismic activity on building construction in Nevada. First, Chairman Coffin commented that Nevada was the second most seismically active state in the union. He thought the information was timely given the potential failure of the University of Nevada, Las Vegas, Student Recreation and Wellness Center Building. Chairman Coffin reminded the members that it had been three years since the Governor vetoed a bill sponsored by Assemblyman Mortenson that would have required an inventory of unreinforced masonry buildings, which were the

most likely to fail in a seismic event. The bill would have required a statewide inventory of public buildings, including public and private structures of the state and local governments. He said, for unknown reasons, the Governor vetoed the bill and the Assembly upheld the veto. He thought the state bore the responsibility to at least inform the public if a problem with a building existed and was not fixed. Chairman Coffin also thought it was important to let the public decide whether or not a building was safe

Mr. Nunez said the intent of the presentation was to discuss the earthquake design criteria including the International Building Code (IBC) provisions and determination of seismic loads on a building. Referring to page 1 of Exhibit E, he explained there were three earthquake design criteria: location of the site, soil types, and importance factor. The location of the site (page 2) referred to the geographic location. Structural engineers could consult the United States Geological Survey (USGS) website for information by providing the zip code of the potential building site. The website would have information about ground acceleration called the "short period response" and the "long period response." Mr. Nunez said typically the short period response was used for shorter buildings, and the long period response was used for taller slender buildings. Page 3 showed the six types of soil classifications ranging from Type A, hard rock, the strongest type of soil, to Type F, organic clay, the weakest type of soil. He explained the type of soil typically found in the state of Nevada was Type C, dense soil to soft rock and Type D, stiff soil. Organic clay was the worst type of soil, and the worst type of organic clay was day mud. Day mud was an extremely wet, poorly graded material that was subject to liquefaction.

Chairman Coffin said the Las Vegas valley was an alluvial plane with soil coming down from the mountains. He asked if soft soil was prevalent in Las Vegas. Mr. Nunez said Las Vegas valley, as throughout the state, was comprised of Type C or Type D soil.

Mr. Nunez said page 4 showed a process called amplification. Amplification happened to soft soil during seismic activity. He likened the soft soil to a bowl of Jello gelatin in a pan. Shaking the bottom of a pan of gelatin would cause the surface of the gelatin to move, and the more the pan was shaken the more the surface would move. While there might be small movement at the bottom of the soft soil the movement on the surface would be felt much more strongly for a longer period, and the movement would be more wavelike. With a hard rock surface a quick bang would be felt during an earthquake and the seismic event would be over fairly quickly. Two structures the same distance from the epicenter of an earthquake, one on the soft soil and another on hard rock would move completely different. The structure built on soft soil would sustain more damage.

Continuing, Mr. Nunez said the example shown on page 5 depicted ground acceleration factor, which was what happened when seismic force or pressure came through the soil. Ground acceleration factor information could be obtained

through USGS mapping of all the earthquake faults. The seismic loads and the acceleration factors were dependant upon whether the structure was built on soft soil or hard rock, and would be higher with soft soil.

Mr. Nunez said pages 6 and 7 showed how a building would deflect under wind load, another factor to be considered for construction; however, wind load had nothing to do with seismic activity. Most structural engineers would calculate the seismic load and the wind load and design the building to whichever had the highest factor. Typically, the deflection of a structure would behave about the same under both scenarios under lateral load. Mr. Nunez said a wind load was an applied load and a seismic load was an inertial type load, which was quite different. When a seismic load came through a building, the potential energy for that structure wanted to remain in the building (Force = Mass x Acceleration). Chairman Coffin rephrased that concept to a force at rest wanted to remain at rest, unless pushed. Mr. Nunez agreed that if something was at rest it would take energy to get it moving.

Moving on, Mr. Nunez next referenced page 8 which described the last factor considered in earthquake design criteria: the importance factor. Importance factors are disseminated into three categories: standard buildings, moderate use buildings and essential facilities. Standard buildings received an importance factor of 1 or 2 and included small offices and retail strip buildings. Moderate use buildings were larger office buildings, schools or any assembly areas of 300 people or greater and received an importance factor of 1.25. Essential facilities consisted of hospitals, fire stations, police stations and dispatch centers. A factor of 1.5 was used for essential facilities in order to have a much stronger structure, which meant that during an earthquake there would be less damage to the building. Mr. Nunez explained that just because a building was designed to the seismic load provided in the code did not mean that the building would not sustain damage, but that the occupants would be able to safely exit the building after an earthquake. Since the essential facilities had a higher importance factor of 1.5, those buildings would be usable after an earthquake, typically sustaining just cosmetic damage.

Chairman Coffin asked if the IBC established the importance factor and Mr. Nunez said yes. Chairman Coffin thought a damaged school was the greatest source of pain as the result of an earthquake, but that was not listed in the IBC as an essential facility. He understood that essential facilities were places first responders worked in an emergency situation, but assembly areas were where people gathered in such an event, and schools housed children, who were less likely to be aware of what was going on around them. He asked if the state should consider a higher rating since Nevada was seismically active. Chairman Coffin understood the IBC codes were the minimum standard, but that did not mean the state could not adopt different, higher standards for school design. The code would meet the minimum, but the structure would be built to a higher standard. There could even be different codes adopted for buildings constructed in the north versus the south, since the areas were seismically different.

Assemblyman Hogan asked, since schools were only in the middle category, whether increasing the importance factor would significantly impact the cost of construction.

Mr. Nunez asked Craig DeFriez, Structural Engineer, SPWB, to answer Mr. Hogan's question. Mr. DeFriez said the cost depended on whether the type of construction was a steel frame, concrete, masonry or shear wall building. He thought it would increase the overall cost of the building by approximately 5-10 percent.

Mr. Hogan was concerned with the increased cost for a higher importance level. He thought if earthquake safety were overemphasized, the state might experience routine, unnecessary overpricing for building construction. Mr. Hogan wondered if the importance factor was always considered, or only under circumstances where the state was concerned about a buildings stability in earthquakes.

Mr. Nunez said as long as the building was designed to the minimum standard for the importance factor, the occupants should be able to exit the facility safely, even though the building could sustain some damage in an earthquake.

Mr. DeFriez explained the goal of the code was to make sure that buildings did not collapse in a seismic event so the occupants could get out safely. Certain buildings, like hospitals, fire stations and police stations, were built to a higher code because in addition to the buildings not collapsing, those buildings needed to remain operational. For communication purposes, the mechanical and electrical systems must remain functional in these buildings. There was not the same level of urgency for a school or an office building to stay operational, therefore, the importance factors were different.

Mr. Nunez said pages 9 through 11 referred to different types of structural design responses. He explained the R-factor went into the denominator of the seismic formula, which reduced the amount of the applied load under a seismic load. A building utilizing shear panels designed to withstand lateral loads was the stiffest type, with an R-factor of 4.0. The next type of design was brace frames, which were stiffer, but not as stiff as the shear panels, and had an R-factor of 5.5. Lastly, were steel moment frames, which were the least stiff with an R-factor of 8.0. Mr. Nunez said the members might recall that the University of Nevada, Las Vegas, Student Recreation and Wellness Center Building had a combination of brace frames and steel moment frames. Deflection of a building under seismic or wind loading for steel moment frames would be measured in inches and shear panel or brace frames would be measured in fractions of an inch. Typically these different types of construction should not be mixed in the same structure. If the frames were mixed, then each type should have been isolated from the other, because in an event, each type behaved completely different. With mixed framing the building would have to be designed to the higher loading. One of the issues

with the Student Recreation and Wellness Center Building was the moment frames were connected to the stiffer parts of the building, which were masonry. In an earthquake, the masonry would engage much sooner than the moment frames. The masonry would start engaging in fractions of an inch, where the moment frames would have to deflect much farther before it could withstand the load. The designers of the Student Recreation and Wellness Center Building would need to reanalyze the building to determine what would happen under an earthquake load.

Mr. DeFriez said even though a shear wall built building was the stiffest, architects preferred moment frame buildings. Moment frame construction allowed the architect more flexibility in floor plan design and window placement, without walls and brace frames positioned in front of windows. He said different building systems were selected for different types of buildings depending on the architecture.

Chairman Coffin asked what kind of construction was used at the building in Dubai that was over 2,000 feet high, and how far would it move in high wind?

Mr. DeFriez said he had read about the building and it involved a complicated structural system, of tubes and other materials not talked about at the meeting. These building systems were typically used in extremely high rise buildings that might sway several feet at the top rather than inches. The design is based on the long period response so the swaying was very slow and the building moved a lot, but the movement was not usually noticed at the bottom of the building.

Chairman Coffin thought an issue in the CMAR project delivery methodology might be remedied by the SPWB providing oversight not only in the early stages of development of the project, but also at other phases. He asked for information about the SPWB oversight process.

Mr. Nunez explained that design errors were possible whether the project delivery methodology was a design bid build, a design build, or CMAR. After reading the documentation, he thought part of the problem with the Student Recreation and Wellness Center Building was that the project was fast tracked. Although the project was CMAR, the speed at which the professionals had to work due to the fast tracking probably had more to do with the design error than the CMAR process. He thought the consultants were only as good as how they were managed.

Mr. Chimits continued the presentation by explaining the SPWB oversight process shown on page 12 of Exhibit E. He said the oversight process was in place to ensure CIP projects were designed and built to properly resist wind and seismic events. The first step in the process was to select competent structural engineers. Mr. Chimits said when a design team was selected the SPWB paid particular attention to the credentials and experience of the structural engineer. Consultants were hired who had demonstrated considerable expertise with local conditions and

soil types. An engineer with design experience in the type of building under consideration was also a desirable quality in the selection process. He said once the consultants were hired, the design group was provided with all applicable codes as well as the SPWB adopted standards, which in certain areas of construction were higher than the code required. The next step was to obtain a soils investigation, which provided an analysis of the soil type at the building site. A report was also generated on the proximity of the building site to any known seismic faults. This report provided pertinent information to determine the importance factor by the building type in accordance with the code. Together these elements would allow the structural engineer to respond correctly to the anticipated forces that could occur on state buildings. Then the SPWB conducted schematic design, design development and construction document reviews. He explained the SPWB conducted extensive reviews of the engineer's work as it progressed from the schematic level all the way to the bid documents. The SPWB staff of registered engineers monitored design decisions and provided in-house structural reviews as the design moved through the various stages. Once the construction documents (also called bid documents) were completed, the SPWB building department conducted a review for final plan checking and permitting.

After the design engineers responded to the plan check comments generated by SPWB staff, staff would verify that the documents contained detailed and appropriate changes. Mr. Chimits explained once the construction process started the contractor would submit shop drawings and submittals for the SPWB staff to review. Shop drawings and submittals allowed SPWB staff to determine whether the contractor had a comprehensive understanding of the project from the designer's perspective. The contractor presented the information in his own language to reiterate what was expected for the completed project. The SPWB also provided on-site inspectors during construction as well as retained an independent third-party materials testing lab, which verified the materials and methods were appropriate for the construction. Mr. Chimits concluded the presentation and said he appreciated the opportunity to explain the SPWB oversight process in place to protect the public in state buildings.

Chairman Coffin said the oversight process was based in statute. If it were suggested to the SPWB to perform functions on a non-SPWB supervised projects, then statute would have to be changed. He suggested the SPWB present ideas to strengthen the process of non-SPWB supervised construction projects at the September 2010 Interim Finance Committee meeting. He thought in the event of a problem with a building, the public would not blame the client, but ultimately the legislators would be questioned about the approval of the project.

Chairman Coffin then directed the members to Exhibit F, an article by investigative reporter Erica Perez titled *Public Universities Slow to Address Seismic Hazards,* published on the website californiawatch.org. He thought Ms. Perez must have done a lot of digging at the University of California system in order to find out how poorly the system maintained its buildings. There were dozens of new buildings on

California college campuses that did not conform to any seismic standard to protect the students. There was a process in place for repairing or retrofitting buildings, but it was not based on the risk attached to the structure. Rather, whoever had the most clout would get their building repaired first. Chairman Coffin commented he did not know how that process worked in Nevada, but he did know that the state did not have the benefit of the study suggested three years ago, because it was vetoed by the Governor. He noted that the University of Nevada, Reno, had some pretty old buildings and questioned the safety of the older dorms on campus. In his opinion, the state bore a responsibility to the students housed there and their families. Chairman Coffin stressed the need for a statewide building inventory so a systematic process could be developed for repairs and retrofits.

Mr. Nunez asked Chairman Coffin the presentation on earthquake design criteria included the information he wanted. Chairman Coffin responded that staff would work with the SPWB to present additional and more specific information at the next meeting in September 2010.

IX. PUBLIC COMMENT.

No one came forward for public comment.

X. ADJOURNMENT.

Chairman Coffin adjourned the meeting at 3:25 p.m.

Respectfully submitted,

_____
Patti Sullivan, Committee Secretary

APPROVED:

_____
Senator Bob Coffin, Chairman

Date:_____

Copies of exhibits mentioned in these minutes are on file in the Fiscal Analysis Division at the Legislative Counsel Bureau, Carson City, Nevada. The division may be contacted at (775) 684-6821.