

EMGT 835 FIELD PROJECT:

“Traffic Signalization in a Design/Build Contract – Awarded as a Firm-Fixed Price Contract in South Korea – Challenges in Scope Determination and Users Expectations.” A Case Study

By

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Executive Summary

The importance of the United States Government on the Peninsula of South Korea and the region of the Far East/Pacific Ocean has/and continues to be important for stability of the region both for economic development (State Department) and for Defense of ROK (UN/USFK) against threats from DPRK and others outside of ROK.

In May 2003 President George Bush and President Roh Moo Hyun made the agreement to relocate US Forces from Seoul Metropolitan Area to South of the Han River and consolidation of the 2nd Infantry Division troops (on/near 38th Parallel) to bases South of the Han River. ⁶

In order to implement this agreement YRP part is relocation of the US/UN forces from Seoul Metropolitan Area and LPP for the 2nd Infantry Division from the 38th Parallel.

Costs sharing for portions of the relocations were to be 55% by the United States Government and 45% by the ROK Government with portions being value of Real Estate at the new location for forces and Real Estate that is turned over from USFK's existing bases to ROK Government. The YRP was scheduled to be complete by December 2008 and LPP by a future date. These completion dates have slipped due to technical and funding issues over the years.

Recent changes in the leadership of DPRK and threats of Conventional and Nuclear attack have continued to draw the world's attention to the region.

Rockets, long range missiles, short range missiles, torpedoes, shelling of ROK territory, canceling of agreements on economic development zones and family reunions as a result of Korean War(1950-1953) have contributed to uncertainty in the region.

The Pacific Region has also seen significant changes in bases after US Forces left the Philippines at the request of Philippines Government and eruption of volcano and the continued relocation of the Marine Bases on Okinawa and Japan at the request of the Japanese Government.

Since the "Cease Fire/Armistice" that stopped the Korean War the economy of South Korea has become the 8th largest economy in the world and gone from approximately 80% of the population being agrarian (Agriculture Based) to being approximately 80% of the population being Manufacturing and Professional/Technology Based.

The region benefits from multiple locations of US Forces after the Tsunami in Japan when aid was provided to Japan after Nuclear Plant meltdown and other humanitarian aid and technology assistance during initial recovery efforts.

Acronyms (or Abbreviations)

CENTO –South-East Asia

CIA – Central Intelligence Agency (previous was Office of Strategic Services)

DMZ – Demilitarized Zone (38th Parallel between ROK and DPRK)

DPRK – Democratic People’s Republic of Korea (North Korea)

ECA – Economic Cooperation Administration

EMGT – Engineering Management

FOTA – Future of the Alliance Policy Initiative

GPR – Global Posture Review

KMAG – 500-man Korean Military Advisory

KNP – Korean National Police

KRTSB – Korean Relocation Technical Support Branch

LDUI – Land Development, Utilities and Infrastructure

LPP – Land Partnership Program

NATO – North Atlantic Treaty Organization (Europe)

ROK – Republic of Korea (South Korea)

ROK Army – Grew out of Constabulary – referred to as National Defense Forces

SEATO- Bilateral Agreements with Japan, Taiwan, South Korea, Australia and New Zealand

SK E&C – SK Engineering and Construction Ltd.

SKLP – South Korean Labour Party

SME – Subject Matter Expert

UN – United Nations

UNTOCK – United Nations Temporary Commission on Korea

USACE – United States Army Corps of Engineers

USAG-H – United States Army Garrison – Humphries

USFK – United States Forces Korea

YRP – Yongsan Relocation Program

1. **Introduction** – On 16 January 2009 the Far East District USACE awarded the largest single contract to SK E&C in the amount of \$ 479 million dollars for LDUI at USAG-H which is to provide for movement of US and UN forces from DMZ and near Seoul South Korea in support of ROK-US alliance.⁵

Contract administration while in Seoul South Korea began in January 2009 and USACE were tasked as the Design Manager for the Korean Relocation Technical Support Branch of Engineering Division to make sure that all portions of the design were in compliance with US DOD standards and reviews were done by SME's both in South Korea and other locations in the world.

These reviews were completed and documented by use of Dr. Checks which is an interactive data base developed for the US Army Corps of Engineers and later became the property of the US Army Corps of Engineers as "PROJNET". These reviews were made by SME's for each of the area's and specialty disciplines of Engineering and Design. (Dr. Checks comment by reviewers and designers is proprietary and has PII information; any Dr. Checks information will be scrubbed to remove PII and any proprietary information prior to being included).

2. **Objective** –The objective of this “Field Project” is to identify just one of the many parts of a very large “Design Build” project that is awarded to non-United States Company to be performed in a foreign country (South Korea) that is required to meet all United States standards to including those required by the Department of Defense.

This field project will also identify how “traffic signalization” impacts many of the other utilities and infrastructure and how during design reviews and submittal reviews that reviewer that are subject matter experts provided guidance for use prior to re-submittal or submitting the next phase of design.

This field project will also attempt to identify the importance of South Korea’s past and how it is of strategic importance for the region and the world, both in the past, present and future.

3. Literature Review/References Planned

- A. Reference Shelf, National Debate Topic 2010-2011, The American Presence Overseas, Edited by Kenneth Partridge, call number 355 UNI – See Note Below
- B. This is War!, A photo-narrative of the Korean War, by, David Douglas Duncan, With a forward by Harrison E. Salisbury – See Note Below
- C. The Korean War, a History, By Bruce Cumings, DS918.C75, 2010 – See Note Below
- D. Korea the Unknown War, By Jon Halliday & Bruce Cumings, DS918.H23, 1988
- E. **East Gate Newsletter, July 2009, page #17, Article “Far East District awards largest contract in its 52-year history.”**
<http://www.pof.usace.army.mil/Portals/35/docs/Library/EGE%20Archive/2009%20EGE-July%202009.pdf>
- F. LISTSERV 16.0 - USKOREA-KR Archives, U.S. Troop Relocation Shows Strength of U.S.-Korea Alliance, U.S., and ROK representatives discuss Alliance Policy Initiative. <http://statelists.state.gov/scripts/wa.exe?A3=ind0407d&L=USKOREA-KR&E=0&P=26783...>
- G. Dr. Checks (Projnet) reviews of SK E&C Ltd. Submittals, 42 individual submittals between 20 April 2009 and 07 February 2012. Web Site for Dr. Checks/Projnet: <https://projnet.org/projnet/binKornHome/index.cfm>
- H. Miscellaneous Blogs like <http://rokdrop.com> , <http://marmotshole.com> web site(s) that is partially searchable by keyword(s), I used “Yongsan Relocation” and other similar terms for background on events that were in the press (both Korean and US newspapers) with responses and comments by Military Members, Prior Service and Civilians both in South Korea and outside of South Korea).

***Note - (Publication doesn't have page numbers – for easy reference the first letter of Chapter Name (or A, B, C if no Chapter Names) and Corresponding number of pages from the start of the Chapter was used)

4. Use of Design Reviews and Stages of Design

Design review for this \$500,000.00 Design/Build Firm-Fixed-Price Contract made us of the US Army Corps of Engineers on-line tool called Dr. Checks at the original inception prior to 2000. It was later renamed PROJNET and is also available from the original vendor. PROJNET is now a USACE asset and maintained by one of the USACE Research Laboratories.

A total of 62 review packages were submitted by SK E&C between January 2009 and December 2010, with the majority being while preparing this Case Study.

See Figures 10-1 through 10-5 for screen shots from Dr. Checks that show the specific reviews with numbers of reviewer comments for each submittal. Fifty four were received from SK E&C for SME's

Several of the submittals had over 100 comments from reviewers, most of the reviewers were in South Korea, but several were SME's (Subject Matter Experts) from Hawaii, Omaha NE, Mobile Alabama and other locations in the United States.

One of the more critical comments were directly related to the design and layout of the roadways with respect to distance from existing Buildings and other Infrastructure to meet or exceed the minimum standoff distance required by UFC (Unified Facility Criteria) 4-010-01, that deals with "Force Protection" and the distance between an Occupied Building/Critical Infrastructure and a threat from an attack. This threat would be similar to the Marine Barracks in Lebanon that was attacked by a Vehicle with Explosives that resulted in over 150 deaths.

5. Engineers Responsibility for Public Welfare.

As a Professions Engineer, all practicing the profession of Engineering dedicate professional knowledge and skill to the advancement and betterment of human welfare.

I pledge:

- To give the utmost of performance;
- To participate in none but honest enterprise;
- To live and work according to the laws of man and the highest standards of professional conduct;
- To place service before profit, the honor and standing of the profession before personal advantage, and the public welfare above all other considerations.

In humility and with need for Divine Guidance, I make this pledge.

Adopted by National Society of Professional Engineers, June 1954. Slight edit for this Case Study (RWM)

The protection of life and safety of the work performed by the Designer of Record for this project is paramount. The most important feature that is required is the conformance to UFC-4-020-01 (this UFC is 103 pages in length).

This “Unified Facility Criteria” has been revised many times prior to 11 September 2001 (World Trade Center Terrorist Attack) and the latest versions is 09 February 2012 (previous was 08 October 2003).

Table D-1 has a simplified method of analysis for minimum distance between an “asset” and the “threat”. All of UFC 4-010-01 are “APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED”, while the details of inputs, factors and analysis to provide the tables for UFC 4-010-01 are not releasable to the public.

The United Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD (AT&L) Memorandum dated 29 May 2002. UFC will be used for all DoD projects and work for other customers where appropriate. All construction outside of the United States is also governed by Status of Forces Agreement (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA) Therefore, the acquisition team must ensure compliance with the most stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable. (from the Forward of UFC 4-010-01)

Dr. Checks reviews that identified issues with SK E&C Submittals with respect to UFC-4-020-01:

The alignment of the proposed streets/roads for all of the improvements for the USAG-Humphries build-out and improvement requires all of the existing facilities have the minimum separation between the “asset” and “threat”

Dr. Checks reviews that identified issues with SK E&C Submittals with respect to UFC-4-020-01 started prior to 04 May 2009 and continued through July 2010 with the Designer of Record not able to provide submittals that meet the required UFC :

SME Comment on Submittal for May 04, 2009 stated that “With 4-lane primary roads as shown, there may be a lot of critical points in question due to ATFP required standoff distances and clearance at the southeast end of the runway with the new 4-lane road. Has this been evaluated and considered?”

Response from Design Representative (SK E&C) was “Concurred” on May 08, 2009.

SME Back-check of the response on 05 June 2009 by SME was “How will you comply with this? Please indicate how you will specifically address this issue on ATFP standoff distances and airfield clearance and the impacts to the geometric layout of the roadways.” In an attempt identify to the Designer (SK E&C) that this is a critical issues prior to moving forward with design and to have SK E&C provide a design.

Response from Design Representative (SK E&C) was “Concurred, will add it when applicable” on May 11, 2009.

SME Back-check of the response on 06 July 2009 by SME was Extend roadway for four lanes shall not be allowed to any kind of action in east end area of runway section where is defined as a Clear Zone in Master Plan. Therefore, existing road shall be used again in regard to Clear Zone, in this project it is also planned to use existing road in accordance with that regulation”. This was an effort by the SME to identify a specific location that the SK E&C designer had not correctly considered the ATFP requirements.

The SME went on to identify another specific location on 08 July 2009 of designers need to address ATFP with, “FED has previously identified ATFP clearance encroachments so I believe it is applicable now and needs to be addressed on if the reconfigure of the roadway (i.e. 2-lanes vs. 4-lanes) can alleviate some or all of these ATFP issues. Otherwise facilities will need to be hardened. You already mention keeping the existing 2-lanes at the east side of the existing runway for proper clearance. How will the transition from 4-lanes to 2-lanes occur without roadway constriction (bottle neck)?”

And in order to complete the review of this submittal it was “closed” due to the fact that “re-submittal” for that design package was required on 19 Aug 2009 after 2.5 months of the designer for SK E&C’s concurrence that ATFP was required for the USAG-H project for LDUI.

Other reviews/reviews with ATFP (Anti-Terrorism Force Protection) issues for the Designer to address were acknowledged by the designer (SK E&C) when pointed out by SME’s but little action was taken to adjust/make the design to meet ATFP requirements. Many instances of this SME attention to ATFP requirements are:

April 2009 Land Preparation Report - 2.2.5 Validate that road network, as laid out allows for minimum ATFP setback distances for existing building to remain.

May 2009 There appears to be quite a few conflicts with ATFP clearances to facilities in the MP. Additionally, the clearance on the east end of the airfield runway is also encroaching onto the proposed roadways. Your response above states that 2-lane roadway is adequate. For ATFP and airfield clearances need to reconsider the use of 2-lanes to eliminate ATFP and airfield clearance issues.

May 2009 With 4-lane primary roads as shown, there may be a lot of critical points in question due to ATFP required standoff distances and clearance at the southeast end of the runway with the new 4-laneroad. Has this been evaluated and considered?

Feb 2010 Design Analysis 5 – Think this is a pretty good summary of the ATFP standoff problems that we have identified since last year. However, need to provide more clear recommendations on how to address each on a case by case basis, since I don't believe you can explain in generalities. In most cases believe we may need to leave existing roads alone so as not to create a new condition that violates ATFP standoff distances. Existing buildings and existing roads that don't make the distances are grandfathered in. Once we touch it, we have to make sure we meet ATFP. Some of the sites may not be suitable if the planned building orientation has to be changed. Discuss how all these issues are being addressed. What types of coordination are going on, who is making the decisions, what are the milestone dates when decisions are needed by etc.

Feb 2010 CU1E3 Sheet shows top elevation for lift station #13 is 7.21. As shown on detail on sheet CU554, the top of lift station is .150 mm higher than adjacent grade. Therefore the elevation immediately adjacent to lift station #13 is no higher than 7.06. Elevations for area around lift station #13 range from 9.33 to 9.755, which means that there will be a head of water of 2.12 m, before drainage relief is found elsewhere. This is a significant concern due to the inflow potential at the lift station. Also need to consider Lift Station #13's proximity to Bldg S-1052 and maintaining ATFP requirements if you consider raising the top of the lift station to higher than the lowest adjacent grade to avoid unacceptable inflow.

Nov 2009 Both the substation and switching station will be set back from project boundary 45meters per ATFP requirement.

Dec 2009 Design Analysis - Validate that ATFP standoff distances between edge of road and existing buildings meet UFC requirements. Would like to see table listing all buildings adjacent to the work and the ATFP standoff distance required, and ATFP standoff distance provided. The building occupancy classification (e.g., occupied, primary gathering etc.) should also be identified on this table.

Dec 2009 Recommend asking KRTSB to engage US Army Corps of Engineers Protective Design Center if there are concerns regarding providing ATFP standoff distances from realigned roads within existing Humphreys. The table asked for earlier will go a long way in determining if your design violates UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings which covers requirements for new roads built adjacent to existing facilities.

March 2010 Attached sketches show new alignment encroaching into "purple" boundary lines. Is this the ATFP standoff distance? This is shown on Detail "C" and Detail "P." Please ensure that the ATFP distances are also met.

March 2010 Min. curve requirements are there for safety purposes so vehicles do not lose control and/or slip out on turns. Additionally, reverse super on right lane may potentially increase the chances of

a vehicle overturning. Finally, horizontal sight distance looks impaired with building and grading obstructions. Need to ensure these items are met. If conflict with building and ATFP constraints, need to coordinate with DPW and FED. Min. curve radius is not something that can just be ignored.

Feb 2010

1. Site Planning: The site plan does not meet AT/FP requirements identified in Section 12 of the IDG.

2. Circulation: The project plan does not meet AT/FP roadway setback requirements defined in the IDG.

3. Antiterrorism (Security): AT/FP Design compliance does not comply with the IDG.

Note: The AT issues have been discussed with DPW and the following mitigation measures were submitted along with a Risk Assessment. 2010/04/12 - Updated

"This comment is submitted on behalf of the USAG Humphreys staff responsible for reviewing Contractor submittals for compliance with Anti-terrorism/ Force Protection requirements. To amplify and clarify review comment 3051510, USAG Humphreys reviewers are unable to approve the Contractor's drawings depicting road way and utility site layout plans, because they omit depicting footprints of existing and planned facilities, storm drainage, and utility lines. The reviewer that submitted comment 3051510 is responsible to determine if the Contractor's drawings comply with the minimum standoff distances in compliance with Anti-Terrorism and Force Protection (AT/FP) requirements. These requirements are summarized in Paragraph 12.2.1 and sketch on page 12-2 of the US Army Garrison Humphreys Installation Design Guide. The source document for these requirements is UFC 4-010-01 Table B-1. Request that the Contractor when revising and resubmitting the drawings depict existing and planned facilities, storm drainage, and utility lines so that the reviewers can determine compliance with Contract requirements."

June 2010 ATFP DA: To determine if the proposed roadway locations are violating the standoff distances for existing buildings, also need to add a column to tables VI.1.6, VI.1.7, and VI.1.8 identifying the provided standoff distances from the proposed roadways to the existing buildings. Per UFC 4-010-01 para B-1.1.6, "Where parking or roadways that are within the standoff distances in Table B-1 from existing buildings are being constructed, expanded, or relocated, do not allow those parking areas and roadways to encroach on the existing standoff distances of any existing inhabited building." Depending on the existing standoff distances of existing buildings, and the provided standoff distance from the proposed roadways to the existing bldgs, some of the buildings listed may not be violations.

June 2010 On page 346 of the design analysis (Section 1.6.1 Zoeckler Station Area Study), the paragraph regarding the Dining Facility (Building No. S-1291) says that the portion of the building which is 20.4m from the Z2 road is not an inhabited space. If this portion of the building is not inhabited, it shall be structurally isolated from inhabited portion of the building to comply with UFC 4-010-01. Provide structural isolation as required to comply with UFC 4-010-01.

June 2010 On page 367 of the Design Analysis (Section 1.6.3 Downtown Area Study), the paragraph regarding the Community Fitness Center (Building No. S-1949) says at the end "However it doesn't matter, since the part of the building that violates the AT/FP standards has nothing to do with the AT/FP issues". Clarify what this means, and what issues have nothing to do with the building, and why it is okay that the portion of the facility violates the conventional construction standoff distance.

July 2011 The drawing depicts the paved street cutting across the corner of Building 1284. This building is the Aircraft Control Tower, depicted on the Master Plan as an enduring facility. The design conflicts with numerous buildings on this segment of road that violate the required 25 meter standoff required by AT/FP standards. This serves as one of many examples where the design throughout the

existing garrison conflicts with existing facilities, new construction and AT/FP requirements as noted in previous DrChecks comments 3071838, 3103032, 3103035, 3133188, 3159024, 3175211, etc. The DPW should not approve designs that encroach on existing facilities or new construction and fail to conform with contract requirements for AT/FP and. For detailed discussion, please refer to DPW memo, 15 Feb 11, Subject: LDUI ATRP Requirements and Existing Site Conditions. These design issues must be resolved before the design is approved for construction. The reference memo recommended recommend required action to assure that the Contractor provides a complete and acceptable design of roads and utilities infrastructure that meets Contract requirements. Since segments of the Contractor's submittal are acceptable, recommend that the Contractor be authorized to proceed with construction of the acceptable segments. However, recommend withholding authorization to proceed to construct those segments that remain unacceptable as noted in the memo.

6. Challenges of Traffic Signalization in South Korea – Key issues

In order for the Design and the “Designer of Record” (SK E&C) to meet the requirements of UFC 4-010-01 the designer is required to adjust the alignment of the intersections and roads/street that they are responsible for in the awarded contract and adjust as appropriate all of the corresponding utilities (including, but not limited to electric, natural gas, communication, potable water, sewer, fire protection, storm water and traffic signalization) is required.

Dr. Checks reviews that identified issues with SK E&C Submittals with respect to Traffic Signals with Respect to the “Master Plan” that was part of the awarded contract to SK E&C

SK E&C Submittals with respect to “Traffic Signals” started prior to 04 May 2009 and continued through February 2010 with the Designer of Record not able to provide submittals that meet USER requirement:

Dr. Checks Review of - Transportation Network Analysis Report on 04 May 2009 –

The SME’s comment on this report was that "31 intersections are proposed for signalization." appears much too excessive for such a low internal traffic volume. Believe this many signalized intersections will result in a worst LOS than without. Need to evaluate having only a 2-lane primary roadway system with dedicated left turning lanes and possible channelization for primary roadway intersections. Want to reduce the number of signalizations to only where absolutely necessary. Keep free flow traffic pattern on primary roadways as much as possible with non-signalized stop or yield controls at secondary and other roadway intersections.

The response from the SKE&C Designer was “Non-concurred” with explanation that “All roads within USAG-H are to be planned using design standards from the Criteria Package, according to USAG-Humphreys Facility Design Guidelines. Consequently, Primary roadway has been determined to 4 lanes. While non-signalized operation method has advantage of reducing the degree of delay, signalized operation method has advantage of minimize safety hazard factors such as collision between pedestrians and vehicles. Therefore, signalized operation method has been selected for intersections crossed with Primary roadway. Consequently, our analysis result is consistent with your opinion. According to our review, we found that 2 lane Primary system is dedicated for left turning and it is possible to channelize Primary roadway intersections.”

The SME’s Back check was to leave the original comment open and state “I do not agree with your "non-concur". Again, CP was intended only as a guide. Low pedestrian traffic (which I anticipate on this base as compared to other areas like a downtown metropolitan area) doesn't justify 31 signals. Possibly in most active areas of Pedestrian crossing only (i.e. PX, commissary). All other areas can have "stop" sign control with crosswalk” on 05 June 2009.

The response from the SKE&C Designer was “Non-concurred” with explanation that “Internal intersections operation plan was developed based on traffic signal warrants from MUTCD. Number of signalization intersection was changed to 19 intersections, with consider peak hour vehicular volume, coordinated signal system and roadway network” on 06 July 2009.

The SME’s Back check was to leave the original comment open and state “Where are the locations of the 19 signalized intersections? The Final Report of 6 Jun 09 does not show where these locations are? 19 signalized intersections are better than 31, but still appears to be much too abundant. Paragraph 4.3.3 of the Transportation Analyses Report (Final), no date states that "Traffic signals are not needed among the internal intersections because of low future traffic. However, internal intersection control is determined according to intersecting roadway classes, to account for pedestrian crossing time and safety hazards at non-signalized intersections." Based on the MUTCD, Section 4C.05, "the Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street." Additionally, both pedestrian volume of 100 or more for each of any 4 hours (avg. day) or 190 or more during any 1 hour; and there are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Please show me the locations and the calculations for meeting the above criteria to consider the use of traffic signals at specified locations.” On 08 July 2009

On 08 Sept 2009 the comment was closed by the SME after 4-month of little movement by the Designer (SK E&C) to provide a study based on population information provided and numbers of soldiers and civilians that would be projected to have automobiles or would have to use public transportation to move on USAG-H on both weekdays and weekends

Other reviews/reviews with Traffic Signals/Signalization issues for the Designer to address were acknowledged by the designer (SK E&C) when pointed out by SME’s but little action was taken to adjust/make the design to meet Traffic Signals/Signalization requirements. Many instances of this SME attention to Traffic Signals/Signalization requirements are:

June 2009 Land Preparation Report - 2.2.5 Validate that 4 lanes can fit along the east end of the airfield and meet clear zone requirements. Do not believe they can fit. If can't fit, need to validate that traffic network can function at acceptable LOS if 4 lanes cannot fit.

April 2009 For FED PM - FIO - Unable to perform adequate review without full size drawings. In addition, need a copy of the RFP otherwise unable to review against contract requirements. Based on time constraints and other workload, was only able to do a cursory review of onsite drainage, grading, water, sewer. Traffic reviewed by Keith Terada at POD. Identified requirement for H&H for major flood analysis to POH Civil Works and POD. Will continue entering comments if time permits and if review session is left open.

May 2009 All roads within USAG-H are to be planned using design standards from the Criteria Package, according to USAG-Humphreys Facility Design Guidelines. Though the 2 lanes are evaluated as proper considering traffic volume & road capacity, 4 lanes for Primary roads are needed for efficient road operation such as installation of acceleration and deceleration lane of connection road. LOS analysis result has been stated per target year dividing 2 and 4 lanes. [Transportation Analysis Report (Appendix1.) Page 129-143]

June 2009 Clarify why it is not possible to examine internal traffic conditions of existing USAG-H

June 2009 Clarify if the LOS is based on ideal timing of the light phases or if it is based on existing timing. Give recommendation on what can be done to improve the LOS D intersections. Page 180, clarify which left turn lanes need to be extended and the amount

Oct 2009 Transportation Analysis Report was completed with the information provided in the contract documents with assumptions made where needed. Military Pamphlet No. 55-8, Traffic Engineering Study Reference, states that traffic volumes are to be used to justify installation of a traffic signal by comparison with the traffic signal warrants, as stated in the MUTCD. We followed 2003 MUTCD, Section 4C.01, which gives warrant direction and guidelines for the determination of traffic signal installation needs.

Oct 2009 Please feel free to provide to the DOR and any other staff to assist in resolving the issues on the number of traffic signals. It is my position that all the 30/31 signalized intersection in the master plan are required and would meet Warrant #1 when total vehicle traffic is evaluated properly. It should also be noted that there is no requirement in Army regulations nor in the MUTCD that a warrant must be met to justify a traffic signal. There certainly is no requirement that multiple warrants must be met. In City and County and States ordinances are written providing the requirements necessary to justify signals at intersections. Often a City/County/State will require that a warrant be met, but a vote of the City/County Government often is used to overturn that requirement on a case by case basis.

Oct 2009 Avenue G and C are both 4 lanes roads at significant financial investment. The capacity of the road is restricted by the intersection design, specifically the left turn movements. The capacity of these roads classified a Highways, could be increased by widening out the intersection with dedicated left turn lanes. Exact number of left turns movements may be difficult to estimate accurately at this time. Left turn only lanes would increase safety even if not specifically required for capacity. Discuss this option with DPW.

Jan 2010 Verify and justify in DA why road geometry is required to be so irregular. Final design on drawings should have coordinate or dimension for each change from the standard road section.

Jan 2010 Traffic lanes are decided based on MP and Transportation Analysis Report. Road curve data and dimensions are will incorporate in the next submittal.

Feb 2010 1.2.2 "Even though it is reasonable use of the internal traffic demand forecast results described in the previous chapter, A two-way with 2-lane and two-way with four-lane were selected by considering roadway function, class, and characteristics of the USAG-H." What demand forecast results? Nothing is described earlier and this is the first chapter of the DA???

Feb 2010 Paragraph 1.1.3 Second paragraph "Therefore, existing road shall be used again in regard to Clear Zone, in this project it is also planned to use existing road in accordance with that regulation." Which regulation are you referring to? Cite the specific UFC and paragraph number. Also, believe original Master Plan required four lanes along this stretch of road. The traffic analysis done is based on four lanes. What happens to traffic since it will be restricted to only two lanes? What will the level of service be?

Oct 2009 The crosswalks appear not to be set back far enough and do not comply with MUTCD. The stop line for the traffic needs to be further back. The handicap ramps will move accordingly. Drawings show a sing ramp. When the crosswalks are set back, there will be a need to have dual ramps. Please verify against the MUTCD.

Oct 2009 50 mm round posts for signs appear to be less than standard. MUTCD states that the posts be large enough to resist swaying. Will the 50 mm posts resist swaying with the anticipated winds at Humphreys?

Army standards require that local traffic control signs be met. Do these signs meet international road signs that Korea is going to. Signs for school areas are not shown.

Feb 2010 1). Contractor shall provide Sequence of Operation for Traffic Timing Programming.
2). Contractor shall provide Traffic Signal Controller Schedule.
3). Contractor shall provide Traffic Signal Control Diagram.
4). Contractor shall provide Detail DWG 501, 502, 503, 506 for Traffic Signal System.

Response - 1) Traffic Signal General Notes 1 and 2 state that the traffic signal timing shall be coordinated with the traffic signal operator and that the phasing being indicated is based on a typical eight-phase, dual-ring controller. Therefore, timing will be coordinated and determined by the traffic signal operator at the time of operation. Please refer to general note for traffic signal in DWG E-004. 2) Refer to traffic signal controller detail, EI503 in the appendix volume. 3) Refer to traffic signal control system block diagram, DWG EI602. 4) Refer to DWG EI501~EI507 in the appendix volume.

Feb 2010 Sheet CP1160 - This intersection is an example of CASE 1 in the DA page 24 paragraph 1.4.2 of a design that appears to be less than desirable and difficult to facility traffic control. SK should provide recommended solution and Corps should approve any improvement that need to be done.

Feb 2010 Sheet CP459 - This intersection is stop control on the minor leg, J2 Road and free flow on the major leg, J3 Road. This appears to be intersection number 1 in the traffic study, with 1473 vph. The September 2009 Traffic Study page 22 list this intersection as level of service of A. This level of service appears to be based on an average delay for all legs. The major J3 road is free flow without stops; this procedure masks the very high delays on the left turn movements from J2 out the gate. The Highway Capacity Manual, Exhibit 10-28 is an example and indicates a level of service of A may not be achievable on this intersection design based on the volumes listed. Based on the manuals computer run, the individual level of service for the left turn lane of J2 appears to be F level of service. This is not acceptable. Signalization should be evaluated to improve the level of service. Recommend a separate table be developed for each intersection that list the level of service for each lane or turning movement. I have not checked the others intersections, but intersection 7, 9, 10, 11, 12, 45, 47, 48, and 54 at a minimum need to be evaluated

Response - Intersection approach delay calculated using methodologies of Highway Capacity Manual for signalized and non-signalized intersections. LOS D or better is desirable although not always achievable. This in itself is not justification for mitigation.

Reviewer - 1. Thanks for putting this together, it help us understand the location and the magnitude of the delays. Check the calculation for intersection 20, 21, 22, 23, & 24 with the F LOS. Having a LOS of F on one direction (minor) and A LOS on the other direction on the same road with stop sign control is very unusual. Just check to see that the LOS is this low.

The Army and SK should agree on the contractual requirement to provide what minimum level of service. My recommendation is a compromise to providing all the signalizations would be to install some dedicated left and right turn lanes. This will need to be discussed in a separate meeting with Ray Martin. The Army and SK need to continue to work this issue, to minimize the amount of lost design effort. Recommend the LOS be determined for both the am and pm peak traffic.

Response - Intersections #20, 21, 22, 23, and 24 have extremely low peak hour traffic volumes for these approaches therefore the addition of turn lanes is not suggested. Intersections #42 and 45 have separate turn lanes provided to account for the poor LOS. Intersections #50 and 51 are signalized with separate turn lanes provided. Suggested LOS is based off of requirements as stated in AASHTO's A Policy on Geometric Design of Highways and Streets.

Feb 2010 Sheet CP457 - This appears to be intersection 10 in traffic study, with 1539 vph. Justify, per capacity manual that this intersection has no traffic control, in terms of stop signs.

Response - Designed based on signalized intersections. See Traffic signal plan.

May 2010 Sheet CP454 - F Avenue traffic does not stop. Consider posting signs indicating all directions do not stop. South bound 11th street goes to one lane at intersection. Consider installing a merge left sign. The traffic study shows that most of the north bound traffic turns left. Because this section of 11th avenue goes from 2 lane to 4 lanes at this point, recommend the left north bound lane be marked as left turn only. (Note, the reviewer could not verify that north direction was up on the diagram on page 91 of traffic study).

May 2010 Document, where in the Traffic Study, the criteria and warrants were checked to determine if stop signs are required or not required.

Response - Traffic signal warrant needs determined per section 4.2.1. (Final (100%) Transportation Network Analysis Report). For vehicular and pedestrian safety, stop signs provided for approaches of minor road for all other intersection.

It appears by May 2010 that issues related to Traffic Signalization were solved at the concept level for the need for Signals at Intersections based on number of Vehicles per time period based on MUTCD, but the specific layout of the intersections continued to be an issue due to ATRP requirements previously identified in this CASE STUDY and the designer (SK E&C) not able to take into account the influence pedestrians have on intersections (either signalized or non-signalized).

7. Brief History of Korea prior to World War II

The region of Korea (Both North and South Korea) is important due to location with respect to China and Japan prior to the 1940's in that it was part of the region that contributed to the Silk Road and trade in the region to extend to the Middle East and Europe.

Korean is an ancient nation, and one of the very few places in the world where territorial boundaries, ethnicity, and language have been consistent for well over a millennium. It sits next to China and was deeply influenced by the Middle Kingdom, but it has always had an independent civilization. (Cummings 2010, Page C-05)

Korea is one of the oldest nations on earth, with a rich culture, more than a millennium of unity and an indisputable national identity. In 1945, after nearly four decades of harsh Japanese colonial rule, it was divided and denied its independence by outside powers; its people were not consulted. "The USA occupied the South between 1945 and 1948, while the Russians occupied the North. Separate republics emerged on both sides of the thirty-eighth parallel in 1948, each claiming to be the legitimate Korean sovereign, yet Korea was universally recognized as a single nation, and no party in Korea, nor any international body, endorsed the national division. (Halliday & Cumming 1988, page 10)

Korea also had a social structure that persisted for centuries during the five hundred years of the last dynasty the vast majority of Koreans were peasants, most of them tenants worked land held by one of the world's most tenacious aristocracies. (Cummings 2010, page C-04)

The Japanese rule began in 1910 operated through local landed power. So, amid the crisis of national division, upheaval and war, Koreans also sought to rectify these ancient inequities. (Cummings 2010, page C-04)

Korea entered the twentieth century as an agrarian bureaucratic kingdom of half a millennium's duration. Its foreign policy, one of strict seclusion, had led to the country's being known as the 'Hermit Kingdom'. Japan ended this rivalry by defeating Russia in 1905, proceeding to make Korea its colony in 1910. The United States and the Soviet Union ended the periods of colonial rule by defeating Japan in 1945. The Japanese between 1905 and 1945 obliterating Korea's national independence and its self-governing state while building a modern bureaucracy, discriminating against Koreans racially while giving them modern education as good imperial subjects, rewarding collaborators while punishing all but the most moderate forms of resistance, exploiting the economy to Japan's benefit while building an advanced structure of roads, railroads, ports and new industries. (Halliday & Cumming 1988, page 15)

Americans loved victorious generals such as Washington, Jackson, Taylor, Grant, and Eisenhower, enough to make them presidents. But after each victory the military blended back into the woodwork of American life. After reaching 50,000 during the war with Mexico in the 1840s, the army dropped to about 10,000 soldiers, 90 percent of them arrayed against Indians in the trans-Mississippi West at seventy-nine post and trailside forts. The military ballooned into millions of citizen-soldiers during the civil war and the two world wars, but always the army withered within months and years of victory-to a

25,000-soldier constabulary in the late nineteenth century (at a time when France had half a million soldiers, Germany had 419,000, and Russia had 766,000), a neglected force of 135,000 between the world wars, and a rapid shrinkage immediately after 1945. A permanent gain followed each war, but until 1941 the American military remained modest in size compared to other great powers, poorly funded, not very influential, and indeed not really a respected professions. Military spending was less than 1 percent of GNP throughout the nineteenth century and will into the twentieth. (Halliday & Cumming 1988, page F-212)

In 1912 the War Department created a Colonial Army for the Philippines, Hawaii, and the Canal Zone that, although often understaffed, lasted until World War II and created a “cadre of semi permanent colonials” (in Brian Linn’s works) with much Pacific experience. Officers and soldiers quickly settled into the unhurried, idyllic life on the Pacific Army: U.S. forces in the Philippines were almost entirely unprepared for the Japanese attack that came a few hours after Pearl Harbor. Then came instantaneous national mobilization to more than eleven million people in uniform, but again after the war Truman shrank the military: the army had 554,000 soldiers by 1948, and the air force watched most of its contracts get canceled (aircraft industry sales dropped from \$16 billion in 1944 to \$ 1.2 billion in 1947). In 1945 the navy, favored under Roosevelt for four terms, had .34 millions officers and men and nearly 1,000 ships of all kinds; fifteen months later it had 491,663 men and just over 300 ship, and its 1945 budget of \$50 billion had slipped to \$6 billion. The draft ended in that same year (but for reinstated after the Communist coup in Czechoslovakia). Defense spending fell to \$13 billion a year, or about \$175 billion in current dollars. (Cummings 2010, page F-212)

During World War II Franklin Roosevelt had proposed a multilateral trusteeship for Korea (and for Indochina), arguing that Koreans were not ready for self-government and would have to be tutored towards an independence that would come only ‘in due course’. (Halliday & Cumming 1988, page 26)

In 1947 Korea sought funding for a major program to turn back communism there, on the model of ‘Truman Doctrine’ aid to Greece and Turkey. The United Nations hoped to contain Korea (UNTOCK) through collective security that was put into place at the end of World War II. (Halliday & Cumming 1988, Page 29)

The Truman doctrine and the Marshall Plan ended that idle dream in 1947, but Truman and his advisers still did not have the money to fund a far-flung global effort; the defense budget was steady-state in the late 1940s, hovering around \$13 billion. (Cummings 2010, page F-113)

Internal battles were ongoing in South Korea after the end of World War II and one of the most notable was on the island Cheju when political conflicts on a beautiful volcanic island off the southern coast, there guerrilla war began in 1948 where many of the islands residents were put into prison. (Halliday & Cumming 1988, page 36)

United States had withdrawn its formal occupation forces in June 1949, prior to the start of the Korean War. A few US soldiers were stationed in South Korea to provide training and reinforcement, some of the first soldiers were stationed bivouac in the little town of Songak-san, located right on the parallel, just to the east of the Korean city of Kaesong, which was the quickest path for the North Koreans to reach the Nation’s Capital of Seoul.. (Salisbury, ? date, forward)

A declaration by President Truman on January 5, 1950, that specified that the United States would make no move to defend Taiwan should it be attacked by the Communist mainland. The non-interference doctrine was explicitly extended to Korea in two public declarations by Secretary of State Acheson on

January 12 and March 15. On each occasion Acheson drew the American line to exclude both Korea and Taiwan. The U.S. line ran straight south from Ryukuyus to the Philippines. Asserting that Kim Ilsung came to Moscow in late fall 1949 and proposed the attack. Stalin had a fondness for Kim. He was Stalin's man in Korea. (Salisbury, ? date, page 3 of forward.

National Security Council document 48/2, "Policy for Asia," approved by President Truman at the end of 1949. This document is best known for its declassification with the Pentagon papers in 1971, since NSC 48 called for shipping military aid to the French in Indochina for the first time (aid that began arriving before the Korean War started in June 1950). NSC 48 enumerated several American officials principles that they thought should regulate economic exchange in a unified East Asian region (including China): "the establishment of conditions favorable to the export of technology and capital and to a liberal trade policy throughout the world," "reciprocal exchange and mutual advantage," "production and trade which truly reflect comparative advantage," and opposition to that they called "general industrialization". (Cummings 2010, page F-215)

In summary - Prior to 1945 the peninsula of Korea (both North Korea and South Korea) were very self sufficient and the population of Korea was not subjected to outside influences except for ministries from the West that were resited with the majority of history of Korea being Buddhist faith.

Southeast Asia (Korea) and had very few exports along the "silk road" due to Central Asia (mostly China, Taiwan and Hong Kong) for spices and silk as export) being the starting point for the route as it went through Turkey and ending in Europe.

This lack of foreign influence on the peninsula of Korea was instrumental in having a culture that was based on the many Dynasty's (also Confucianism) that were based on agriculture and very little if any industrialization and very rooted in history and culture of the people of Korea.

8. Brief History of Korea between World War II and just prior to start of Korean War

In the early 1950's, as communist fought for control of Korea, receiving support from China and the Soviet Union, Japan and the United States realized there was much to be gained by an East Asian military partnership. (Partridge 2011, page 123)

After World War II the US military gained a toehold in the vital region, establishing a string of permanent bases to influence the region. (Partridge 2011, page 123)

Also important for the Asia-Pacific region and beyond, even as far as the Indian Ocean and Persian Gulf. For example, the Yokosuka Naval Base in Kanagawa Prefecture is often described as the most strategically important U.S. naval installation overseas. Similarly, Okinawa, because of its proximity to the Taiwan Strait as well as mainland China and the Korean Peninsula, has been dubbed by the U.S. military "the Keystone of the Pacific." (Partridge 2011, page 128)

After the North Koreans attacked South Korea in June 1950 the leader of China Mao pored through the annals of the dynasties, seeking precedents and advice from the ancient emperors and their counselors. Mao weighted his options and after three days emerged with his verdict: China could not let her ally down. If she needed help, if the United States was getting the upper hand, China must come to the rescue. If MacArthur threatened the Yalu River which divides Korea from China, China must fight. US/UN forces landing behind the North Korean lines at Inchon, which was carried out with clockwork celerity on September 15. It instantly reversed the course of the war. (Salisbury, ? date, page 5 of forward)

Both US and UN leaders were reticent, both because Korea was a strategic cul-de-sac and perhaps a trap in the global struggle with Moscow, and because the total armed strength of the U.S. Army was 593,167, with an additional 75,370 in the Marines. North Korea alone was capable of mobilizing upward of 200,000 combat soldiers in the summer of 1950, quite apart from the immense manpower reserve of China's People's Liberation Army (PLA). (Cummings 2010, page C-13)

Thus the decision to intervene (US) in force was Acheson's decision, supported by the president but taken before United Nations, Pentagon, or congressional approval. His reasoning had little to do with Korea's strategic value, and everything to do with American prestige and political economy: "prestige is the shadow cast by power". (Cummings 2010, page C-12)

Resistance in the South energized the United State to enter the war in force. Secretary of State Dean Acheson dominated the decision making, which soon committed American air and ground force to the fight. On the night of June 24 (Washington time), Acheson decided to take the Korean question to the UN, before he had notified President Truman of the fighting. (Cummings 2010, Page C-11)

The decision to push North Korea back to the border with China was embodied in NSC document number 81, written mostly by Dean Rusk, which authorized MacArthur to move into North Korea if there were no Soviet or Chinese threats to intervene. It explicitly called for "a roll-back" of the North

Korean regime; was dispatches routinely referred to the “liberated areas” in the North (Cummings 2010, page C-22)

China later they explained that the initial appearance (of Chinese Soldiers in North Korea) was intended as a warning to the Americans (to not push all the way to the Chinese Border) – a last chance to understand that China was serious. When MacArthur ignored this and moved on north, Peng Dehuai prepared to enter the war full scale.

The location for the start of the Korean War was on a remote, inaccessible Ongjin Peninsula, northwest of Seoul, on the night of June 24-25, 1950, Korean time; this was also the point at which border fighting began in May 1940, and the absence of independent observers has meant that both Koreans sides have claimed ever since that they were attacked first. (Cummings 2010, Page C-05)

June 24-25, 1950, was pleasantly cool and fresh in the mountainous terrain of Ongjin Peninsula, which straddles the western end of the 38th Parallel demarcation line in Korea. On Sunday, June 25, 1950, a border skirmish had erupted with a fierce artillery barrage. It came, Washington insisted afterward, from the North.

Just 1 day prior to the start of the Korean War - The veteran industrialist Pak Hung-sik showed up in Tokyo and gave an interview to The Oriental Economist, published on June 24, 1950. Described as an adviser to the Korean Economic Mission (that is, the Marshall Plan), he was also said to have “a circle of friends and acquaintances among the Japanese” (a bit of an understatement; Pak was widely thought in South and North to have been the most notorious collaborator with Japanese imperialism). (Cummings 2010, page C-08)

The US backed Rhee was a septuagenarian who had lived in the USA for nearly four decades, had a Ph.D. from Princeton as leader of South Korea at the start of the Korean War. Rhee had taken an Austrian wife; a patriot well known for devoting his life to Korean independence, he was also a willful man of legendary obstinacy and strong anti-communist beliefs.

In summary – Korea (South Korea and North Korea) did not actively participate in World War II as a country but were occupied by Japan. After World War II the peninsula of Korea was “split the baby” that Korea was split into North Korea that remains communist and South Korea that is more of a Democracy and is self-Governed with assistance from the United Nations Command and to allow a Democracy in the Asia Theater beside that of the Philippines. This was an attempt to deter the Soviet influence by Russia and China for the most part.

9. Brief History of Korea during the Korean War

The North Koreans attacked the South because of fears that Japan's industrial economy and its former position in Korea were being revived by recent changes in American policy. Also, Korea was a critical presence in American policy at the dawn of the Cold War. Stake in Korea was identified in the same "fifteen weeks" in which the containment doctrine and the Marshall Plan were hammered out (at the end of World War II). Little value in the Korean peninsula in the context of rebuilding the Japanese economy and applying the containment doctrine to South Korea was realized prior to the start of the Korean War. The United Nations was used to prop up nations threatened by communism at the start of the Cold War. (Cummings 2010, page F-208)

Japan had long pursued "general industrialization" and what South Korea wanted, too – a nationalist strategy to build a comprehensive industrial base the contrasted sharply with the Southeast Asian countries (who tend to be "niche" economies like the smaller states in Europe. While, Keynesianism used military production as a device that did, finally, prime the pump of the advanced industrial economies (and especially Japan). The Korean War was the crisis that finally got the Japanese and West German economies growing strongly, and vastly stimulated the U.S. economy. American defense industries hardly knew that Kim Il Sung would come along and save them either, but he inadvertently rescued a bunch of big-ticket project – especially on the west coast. In Southern California these included "strategic bombers, super-carriers, and...a previously cancelled Convair contract to develop an intercontinental rocket for the Air Force. (Cummings 2010, page F-216)

Even as the US and UN forces at the time had little concern for South Korea, it also recognized the Communist threat, telling the reasons behind the United Nations' decision to intervene and try to stop the Communist invasion by force is best described that it would be a very quick and short response, which was not the case, The first, an attack upon a hill...the second, the capture of a city... the third, a fighting retreat...was the plan, until China entered the War, then...The fourth report tells the story of the first bit of action involving US Marines after they landed in Korea. All four of these are included for two definite reasons. The first to cover the general over-all military situation in Korea from that first day late in June, up to the first week in September. (Duncan, ? Date, in explanation)

As the Start of the Korean War, to the South of the attacking KPA units was the ROK 7th Division, headquartered at the critical invasion-route town of Uijongbu; probably because it was waiting to be reinforced by the 2nd Division, which had entrained northward from Taejon. It was through this gaping hole in the Uijongbu corridor that North Korean troops poured on the afternoon and evening of June 26, thus jeopardizing the capital. The failure of the 2nd division to fight was the main reason for the quick loss of Seoul. South Korean units mutinied or fled before the oncoming Northern troops of r may reasons, including their relative lack of firepower, their poor training, their officer who had served Japan, and ultimately the unpopularity of the Rhee government-which had nearly been voted out by a moderate coalition in reasonably free elections held on May 30, 1950. (Cummings 2010, page C-10)

The tactics of the North Koreans and the Chinese were traditional: night assaults, infiltration, surprise assaults, ambushes, gauntlets, stakeouts. Not infrequently they wore captured South Korean uniforms. American planes strafed and bombed the columns. The Chinese simply stepped around their fallen

comrades and surged forward. MacArthur's reputation began to fall apart. He never again would be able to pose as America's super general, super-patriot, and the American idol larger than life. On December 23, 1950, General Walton W. ("Johnnie") Walker Commander of the Eighth Army was killed in a jeep crash. Instantly Lieutenant General Matthew R. Ridgeway, the Deputy Chief of Staff, was named to replace. (Salisbury, ? Date, 7th page of forward)

At the start of the Korean War, refugees and US Citizens were flown to Southeast Korea; among them was Syngman Rhee, President of South Korea. U.S. Ambassador Muccio on one plane while another plane also landed from Japan, the C-54 which had landed almost unnoticed on the strip and was taxiing to the parking ramp. The name painted upon its nose said it all: Bataan. General MacArthur stepped down, corncob pipe, long stem and all, clutched as a weapon between his fingers. (Duncan, ? Date, 4th page of body)

Two hangers on the edge of the field had been converted into giant reception centers with registration tables, chow lines and Red Cross units. Evacuees started flooding the place as the transports swung off the taxiways and stopped. By late afternoon the stream of transports had dwindled to a trickle then stopped completely. Every known American citizen had been evacuated from the zone of invasion. Kimpo airfield near Seoul but no more flights were going in. It had fallen into North Korean hands. Landing on the Suwon strip, Southern Koreans blasted the Han River Bridge at Seoul, in their efforts to stop the drive of the invaders from the north. (Duncan, ? Date, 2nd page of body)

When the North Koreans reach Seoul they regrouping just north of the Han River and using newly captured Capital as their General Head Quarters. (Duncan, ? Date, 3rd page of body)

Between the end of May 1950 and early July 1950 the US Military (MacArthur) wanted an American regimental combat team, then two divisions, then to a minimum of 30,000 American combat soldiers, meaning more than four infantry divisions, three tank battalions, and assorted artillery; a week later asking for eight divisions.

Part of the reason for requesting more US military forces was because the ROK Army had mostly ceased to fight. From the start of the war and throughout the summer and fall of 1950, Korean units ceased to exist, lacked equipment to fight the North Koreans, or proved unable to hold the lines in their sectors. (Cumings, 2010, page C-13)

The US Military used the Morse code "'HA" was used all over the front to signal that South Korean forces were "hauling ass" and not able to hold any positions next to US or UN forces. It was only after truce talks began in 1951 that the ROKA had the time to develop, however slowly, its fighting temper. (Cumings, 2010, page C-14)

In the summer months of 1950 the Korean People's Army pushed southward with dramatic success, with one humiliating defeat after another for American forces. (Cumings, 2010, page C-16)

This push by the North Koreans resulted in The Pusan Perimeter, an eighty-by-fifty-mile right-angled front. Northern anchor on the coast around Pohang, its southeastern anchor in the coastal Chinju-Mason region, and its center just above the major city of Taegu was all of the Korean Peninsula that was able to be held by the US and UN forces after the start of the Korean War. (Cumings, 2010, page C-17)

August 7, 1950 was important; it was an ink-encircled date. It had been chosen as the kick-off day for the first United Nations' large-scale infantry attack of the Korean War. (Duncan, ? Date, page 11 of body)

An amphibious fleet of 270 ships in the Inchon operations, depositing eighty thousand marines with hardly a loss. The marines landed mostly unopposed, but then slogged through a deadly gauntlet before Seoul finally fell at the end of September 1950. (Cumings, 2010, page C-19)

By 1951 the United States was spending \$650 billion on defense in current dollars, and finally reached that maximum point again in the early part of this new century-a sum greater than the combined defense budgets of the next eighteen ranking military powers in 2009. (Cumings, 2010, page F-217)

Korean establishment: U.S. troops, South Koreans, UN contingents. Ridgeway had 365,000 men at his disposal. Amid enormous fireworks President Truman relieved MacArthur of his command on April 11, 1951. MacArthur returned to his homeland and addressed Congress, but the great political groundswell that had been anticipated for the old warrior did not develop. Thirty years later it was said in Beijing that there had been only one winner in Korea. Both of the Korean peoples had lost. The United States had lost. China had lost. But, in some ways, the Soviet Union had won. (Duncan, ? Date, 8th page of forward)

On 17 February 1952 agreement was reached on holding a political conference within three months after an armistice to discuss the withdrawal of foreign troops and the peaceful settlement (that is, the reunification) of Korea. 'Operation "Everready", the code-name for a plan to oust-and possibly arrest-Rhee. General Clark also suggested the consideration of a number of steps, including use of the atomic bomb, 'unleashing' Chaign Kai-shek and increasing air pressure on the North. In 23 June American planes bombed the four most vital dams and power complexes in North Korea for the first time. One of these was the huge Supung dam on the Yalu. The dam supplies about 90 percent of North Korea's total power, and about 10 per cent of the power of north-east China. The raid on Supung was the biggest single strike of the Korean War and involved more than 500 US planes. It blasted the generator plant on the Korean side. There was a blackout all over North Korea for two weeks; the North was deprived of almost all its electrical power for the rest of the war. (Halliday & Cumings, 1988, page 187)

Accusation were made that USA had used germ warfare. In February-March 1952 North Korea and China charged that the USA had dropped a large number of diseases from the air, including plague, anthrax, cholera and encephalitis. (Halliday & Cumings, 1988, page 182)

USA had employed Japanese and Nazi germ-warfare experts and was at the time rushing through work on the nerve gas Sarin, a chemical weapon that was banned by the Geneva Convention. (Halliday & Cumings, 1988, page 184)

NSC 68 and passage through Congress of a quadrupling of American defense spending. More than that, it was this war and not World War II that occasioned the enormous foreign military base structure and the domestic military-industrial complex to service it and which has come to define the sinews of American global power ever since. (Cumings, 2010, page F-210)

As the Korean War reached a point that little movement on the lines was taking place, but financial cost increased and troop losses mounted options were considered. When Eisenhower became President, conditions in Korea were worse than he had realized. Chinese leaders, whom he knew well, were, informed that unless the fighting stopped 'we are going to give them a taste of the atom'. During

negotiation the Communist delegates were not recognized by the US or UN negotiators and as a result, you had to see how the communist delegates moved, how they sat. They had been denied recognition. But these talks were recognition. They were on the outside looking in. (Halliday & Cumings, 1988, page 160)

On 20 January 1953 Eisenhower was inaugurated as President of the USA. On 2 February his state of the Union address threatened a significant expansion of the war. He announced that he had instructed that the 7th Fleet should be 'no longer employed to shield communist China; in other words, Chiang Kai-shek was to be 'unleashed''. What he was doing was not winding down the war, but switching the focus to China from Korea. On 24 February China sent a top-level delegation to Moscow, headed by the Nation's leading atomic physicist, Qian Sangiang. It is believed that Qian went to ask Stalin for either the means of retaliation or a nuclear guarantee if Eisenhower used the bomb against China. On 5 March Stalin died. Events now moved fast. On 15 March, Stalin's designated successor, Malenkov, said, 'There is no disputed or unresolved question that cannot be settled peacefully...'. (Halliday & Cumings, 1988, page 191)

Testing in the US continued after World War II and another important development concerned atomic weapons. The first tests of tactical nuclear weapons had been held in January 1951. In June that year the Joint Chiefs again considered using the bomb, this time in tactical battlefield circumstances. 'Project Vista', designed to gauge the feasibility of the tactical use of atomic weapons.

As sign of the US thoughts on use of Atomic Bomb 'Operation Hudson Harbor' in conditions of utmost secrecy was put into action. Lone B-29 bombers flew over North Korea on simulated atomic-bombing runs, dropping dummy atomic bombs or heavy TNT bombs. One may imagine the steel nerves required of leaders in Pyongyang, observing on radar a lone B-29 simulating the attack lines that had resulted in the devastation of Hiroshima and Nagasaki just six years earlier, each time unsure whether the bomb was real or a dummy. Japan played a central role in the Korean War. It was a giant rear base for the USA – America's 'sanctuary'. It was the headquarters for MacArthur, Ridgway and Clark and was dotted with crucial US bases and airfields. (Halliday & Cumings, 1988, page 165)

Two final and costly Communist offensives in June and July sought to gain more ground but failed, and the U.S. Air Force hit huge irrigation dams that provided water for 75 percent of the North's food production. (Cumings, 2010, page C-33)

On 13 May 1953 the USA launched its first raids on a number of dams near Pyongyang. The main US Air Force study remarks: 'These strikes largely passed over by the press, military observers, and news commentators...constituted one of the most significant air operations of the Korean War.' US General Weyland, Commander of the Far East and UN Air Forces, called these attacks 'perhaps the most spectacular (strike) of the war'. The USA initially chose five dams near Pyongyang that supplied water for the irrigation system of the area that produced three-quarters of the country's rice. The first strike, on 13 May hit the Toksan dam above Pyongyang. A similar attack on another dam, Chasan, on 15 and 16 May caused 'tremendous destruction of the rice crop...The blood water surging down the Taedong River inundated large part of the North Korean capital city of Pyongyang.' (Halliday & Cumings, 1988, page 195)

Bombing of dams at Kusong and Tokan in North Korea, and in even finer print the North Korean radio acknowledged "great damage" to these large reservoirs. Stalin's death in March 1953 and Eisenhower administration's escalation of the air war in May and June finally brought the war to a conclusion, while others argue that it easily could have ended in 1951. The United States also brandished the biggest

weapons in its arsenal, the first atomic shell shot from a cannon, which exploded at French Flat, Nevada with ten-kiloton force (half the Hiroshima yield). (Cumings, 2010, Page C-34)

Flooding of the valleys would 'destroy the rat-holed supplies dispersed throughout the valleys and rural villages'. Breaking of the irrigation dams meant disruption of the enemy's lines of communication and supply. (Halliday & Cumings, 1988, Page 196)

The last major Chinese offensive was turned back, and by the late spring of 1951 the fighting stabilized along lines similar to those that today mark the Korean de-militarized zone, with UN forces in occupation north of the parallel on the eastern side, and Sino-North Korean forces occupying swatches of land south of the parallel on the western side. That was about where the war ended after tortuous peace negotiations and another two years of bloody fighting (most of it positional, trench warfare reminiscent of World War I). Discussions between the belligerents to arrange for a cease-fire were long and drawn out. Meeting place turned out to be the ancient Korean capital of Kaesong, bisected by the 38th parallel. Talks were suspended several times and moved to the village of Panmunjom (where it remains today). Issue of freedom of choice in regard to repatriation, introduced by the United States in January 1952 to prevent torture for those prisoners returned like happened at the end of World War II. (Cumings, 2010, page C-30)

The exchange of sick and wounded ('Little Switch') started on 20 April 1953. (Halliday & Cumings, 1988, page 193)

The USA returned to full-dress talks on 26 April 1953. Over the next few weeks the two sides reached agreement both that POWs who did not definitely want to return would be placed in some form of neutral custody and on the composition of a Neutral Nations Repatriation Commission to supervise the process. (Halliday & Cumings, 1988, page 194).

The stated aim of the proposal was to provide POW's with freedom of choice. The West argued that some prisoners did not want to go back where they came from and would be in danger if they were repatriated. (Halliday & Cumings, 1988, page 175).

The main issues were elections and the withdrawal of foreign troops. The USAS and South Korea proposed that elections be held only in North Korea, under Southern law and under UN auspices. The North proposed nationwide elections, arranged by an all-Korea electoral commission and supervised by a Neutral Nations Supervisory Commission. On the question of foreign troops, the North proposed a simultaneous and proportionate pull-out of all foreign forces before elections. The South and the USA refused this withdraw of foreign forces prior to resolving hostilities after elections and setup of government. (Halliday & Cumings, 1988, page 210)

Prior to the Armistice, on 16 May 1953, Secretary of State Dulles indicated that USA was prepared to use the atomic bomb. On 8 June a basic agreement was signed covering the POW question. On the night of 18 June Rhee's officials organized a mass break-out of over 27,000 Korean POWs. To do so, South Koreans locked up US guards and knocked some unconscious. Eisenhower confided to his diary that if it were not for the strategic importance of Japan, he felt that most of the allies would have pulled out of Korea. (Halliday & Cumings, 1988, page 197)

On July 27, 1953, three of the four primary parties to the war signed the armistice agreement (the ROK still refusing). It called for a 2.5-mile-wide buffer zone undulating across the middle of Korea, from

which troops and weapons were supposed to be with-drawn. Today this heavily fortified “demilitarized zone” still holds the peace in Korea, as does the 1953 cease-fire agreement. (Cumings, 2010, Page C-34)

On July 27, 1953, the United Nations, China, and North Korea signed an armistice, effectively-though not technical-ending the three-year old Korean War. American forces have stayed put, operating dozens of bases. Throughout the 1950s and ‘60s, troop levels hovered between 50,000 and 60,000 troops. The U.S.-South Korean alliance, examination how the military partnership has evolved over the years, as well as how it could continue to change in the future. (Partridge, 2011, body page 149).

The USA committed itself to taking responsibility for Rhee’s compliance with the armistice. On 27 July 1953 an armistice was finally signed. The North Korean and Chinese commanders signed it on one side; the USA signed for the other side. South Korea did not sign the armistice – and to this day still has not. (Halliday & Cumings, 1988, page 198)

The year and a half between the opening of truce talks and the accession of Eisenhower to the US presidency saw the war shift to a different pattern: on the military front, heavy ground fighting for limited objectives along a basically stable front line. (Halliday & Cumings, 1988, page 159)

The tragedy was that the war solved nothing: only the status quo ante was restored, only a cease-fire held the peace. (Cumings, 2010, page C-35).

The USA turned the problem to its advantage, but with tragic long-term consequences. It gave Rhee a mutual defense treaty that was initialed by secretary of State Dulles in Seoul in early August 1953. The USA acquired direct control of the South Korean Army and committed itself to maintaining troops in Korea. The USA also prevailed on its allies to issue a declaration (the so-called ‘Greater Sanctions’ statement) saying that they would again intervene in Korea if the South was attacked and that ‘in all probability it would not be possible to confine hostilities within the frontiers of Korea.’ This was taken to mean that the West would attack China. (Halliday & Cumings, 1988, Page 206)

The armistice committed the signatories to holding talks to set up a political conference to decide the future of Korea. These opened on 25 October 1953 between the USA, represented by Arthur Dean a partner in Dulles’s law firm), they broke down on 12 December. The communists asked for an assurance that Rhee would be bound by the commitments of the political conference. They were particularly concerned about the 22,000 POWs, two-thirds of them Chinese, who had not been returned. The British envoy in Peking, Humphrey Trevelyan, wrote: ‘The Chinese were left in possession of the field, and, in our judgment, had won on points.’ But perhaps the Americans won a more important victory by preventing a political conference from being held. (Halliday & Cumings, 1988, page 209)

The Geneva peace conference to discuss the elections in Korea according to Canadian Ronning stated that Molotov’s resolution...could have been accepted as a basis for a settlement by most of the Sixteen [states that fought under the UN flag]. Much has been written about the start of the war but much less on how it ended and why Korea was not reunified... There is room for honest disagreement on how it started, but there can be no question that Rhee was against ending it. The USA maintained Rhee in power at the cost of keeping Korea divided. The conference was a turning-point in Atlantic relations. When the USA tried to reconstitute the Korean coalition for Indochina, it failed. The only countries the USA could get to fight in Vietnam for the Emperor Bao Dai (‘the poor man’s Syngman Rhee’, as one Geneva news paper called him) were the Asian Pacific rim state – of which much the most important, in terms of military assistance, was South Korea. Geneva was the only international conference of its kind that North Korea has ever attended; but it failed to crack the Western bloc in the way that China did, or

the Vietnamese did later. Both Koreas have enjoyed vigorous growth by Third World standards; both have also very large military and security forces. While the South has remained closely tied to the Western world, economically and militarily, the North has become a member of the Non-aligned Movement, while remaining within the communist world. (Halliday & Cumings, 1988, page 211)

North Koreans unanimously describe the war as a great victory but go further and call the armistice a 'surrender' by the USA. According to Kim Il Sung. In fact, neither side won outright. Both had defeats as well as victories, and political and military results were not always symmetrical. Above all, the war was an unmitigated disaster for the Korean people for North and South. One big winner in the war was Syngman Rhee. The US intervention saved him. It raised its prestige in the Third World and among anti-colonial movement, by whom it was perceived as having inflicted major defeats on the USA and resisted American (and British) occupation. The biggest winner of all was Chiang Kai-shek. The war saved him without his even having to fight or suffer the devastation that Korea experienced. (Halliday & Cumings, 1988, page 202)

America's least-known war, a bloody, open-ended conflict still unresolved by a formal peace settlement; a war obscure and convoluted in its origins; a war that took the lives of 33,629 Americans in total casualty figure of 157,000; a war that cost billions of dollars and profoundly changed the post war era. (Salisbury, ? Date, forward)

The people of Korea suffered worst in this war, especially civilians in the North, who had to live three years under the heaviest and most sustained bombing ever known, and the millions of refugees who wandered desperately across the blasted landscape of their beautiful country. Nearly 35,000 American soldiers died fighting in Korea, a fearful toll. But more than 3 million Koreans died a horrendous slaughter that touched every family. This story too is obscured in conventional accounts, but not in photographs from the time. (Halliday & Cumings, 1988, page 11)

Among the major nations, the one that gained the most was Japan. The outbreak of the war makes a peace treaty possible, followed by independence, on highly favorable terms. The Korean war also greatly boosted economic recovery (which was already under way by 1950). Japan became a huge 'sanctuary' and vital rear area for the UN, and politically the war served to bind it much more securely to the West by blocking out much of the memory of the Pacific War. (Halliday & Cumings, 1988, page 203)

The North has set up a tight, security-conscious regime that considers itself a leader of the Third World, blessed with the good luck to be led by a political genius, Kim Il Sung, who is the longest-lasting non-hereditary leader in the world, having been in power effectively since 1945. The North is a more successful socialist economy than is generally recognized; per capita income has risen from a negligible figure in 1953 to a level that is probably about US\$41500. Kim Il Sung, who was born in 1912, has attempted to ensure continuity by endorsing his eldest son, Kim Jong Il, who was officially born in 1942, as his successor. The North has tried to make itself as self-reliant as possible (which is not the same as self-sufficient) in every field. It collectivized agriculture immediately after the Korean War. There are no foreign troops or nuclear weapons in the North. The last Chinese forces withdrew in 1958 after putting in major reconstruction effort, which was one of the keys to the North's very fast recovery after the war; the North has made a big point of its independence. Kim has maintained a balance between, and some distance from, his two giant neighbors, the USSR and China. (Halliday & Cumings, 1988, page 215)

In summary – Korea (South Korea and North Korea) were pushed into the Korean War due to the tensions between the Communist (Mostly China) and the dislike of having a Democracy in the part of the peninsula that was South Korea and that United Nations Forces were providing military support and starting industries in South Korea that was bringing the population out of being Agrarian Society, which was not happening in North Korea due to the inefficiencies in the Communist System of Government. The introduction of industrialization in South Korea was not unique after World War II because most of Western Europe and West Germany were helped by the United States and other Allies by use of the Marshall Plan. This type of assistance in South Korea has led to the creation of an economy that ranks in the top 20 (last measure was 15th by GDP, Gross Domestic Product) in the world in less than 60 years, since the end of the Korean War in 1953.

10. Brief History of Korea and Region after Korean War

There have been many incidents along the Demilitarized Zone since 1953. Well over 1,000 people were killed between the armistice and the end of 1985. The biggest US-North Korean imbroglio came in 1968, when the North seized a US spy ship, the *Pueblo*, off the coast, killing one American sailor and setting off a furore in the USA. In 1969, within a few months of Nixon's taking office as President, the North Koreans shot down a US plane, killing all thirty-one people on board. Nixon and Kissinger at first recommended dropping a nuclear bomb on the North but later backed off. Reunification is still at the center of Korean national life. A brief exchange of visits by one small group from each side in 1985, there has been no contact between the inhabitants of North and South, no postal service, no telephone. Two big problems to reunification: 1-North and South have no agreement between themselves terminating the civil war, 2-find a way to dissolve the decades of tension and distrust between North and South, with the South with 2x the North's population wants to turn the demographic superiority to its advantage when reunification takes place. (Halliday & Cumings, 1988, page 216)

In 1938, the US had 14 military bases outside its continental borders. Seven years later, it had 30,000 installations in roughly 100 countries. While this number was projected to shrink to 2,000 by 1948 (following pressure from other nations to return bases in their own territory or colonies, and pressure at home to demobilize the 12-million-man military). Due to NATO, CENTO, SEATO and bilateral agreements with Japan, Taiwan, South Korea, Australia and New Zealand the base operations have mostly been shrouded in secrecy, helped by the National Security Act of 1947. The US waged war on Vietnam from bases in Guam, Thailand and the Philippines. (Partridge, 2011, body page 14)

U.S. missile defense system (MD) in Poland vs. in Turkey was rejected and the program cancelled after the politics between the host nations and former Soviet Union were resolved during negotiations. (Partridge, 2011, body page 119)

The Korean war of 1950-1953 was the most important war ever fought between the West and communism. It saw sixteen armies from all five continents deployed under US command and the UN flag against two armies, those of North Korea and China. It brought the people of Korea appalling destruction; devastation and tragedy there were millions of deaths and more millions of divided families. Yet it is still an unknown war, with unraveled mysteries and continuing evasions by the major belligerents. Both sides claim to have won, yet both actually seem to feel they lost. (Halliday & Cumings, 1988, page 10)

The U.S. military gained a toehold in the vital region, establishing a string of permanent bases. In "the new Battle of Okinawa" America's Security Treaty with Japan." A contributor to the *Economist* examines the controversy surrounding the Futenma Marine Corps Air Station, a base many residents of Okinawa, the Japanese island that houses the bulk of U.S. Forces, would like to see moved elsewhere. (Partridge, 2011, page 123)

NSC 68 and passage through Congress of a quadrupling of American defense spending. More than that, it was this war and not World War II that occasioned the enormous foreign military base structure and the domestic military-industrial complex to service it and which has come to define the sinews of American global power ever since. (Cumings, 2010, page F-210)

Acheson's NSC 68 moved toward globalism, requiring a huge defense budget and standing army, failed. It failed to win the wars in Korea and Vietnam, and it turned the United States into a country entirely remote from what the founding fathers had in mind, where every foreign threat, however small or unlikely, became magnified and the fundamental relationship of this country to the world was changed forever. The Korean War decisively interrupted American plans to restrict American and Japanese economic relations with other parts of East Asia; indeed the repositioning of Japan as a major industrial producer in response to a raging anti-imperial revolution on the Asian mainland is the key to explaining most of the East and Southeast Asian history for three decades, until the Indochina War finally ended in 1975. But once Japanese economic influence flowed back into South Korea and Taiwan in the early 1960s, along with generous showering of American aid, these two economies were the most rapidly growing ones in the world for the next twenty-five years. (Cumings, 2010, page F-220)

Korean peninsula now includes the DMZ, Panmunjom, two huge Korean armies, and other artifacts of this war (even the United Nations Command) are still standing today as museums of this distant conflict. The South suffered through three decades of military dictatorship while building a strong economy, and after a political breakthrough in the 1990s is both a flourishing democracy and the tenth-largest industrial economy. (Cumings, 2010, page F-211)

There continues to be a strong US military presence in South Korea. After 1953 the USA gradually withdrew most of its armed forces but kept the Southern Army under its command (it is the only foreign armed force in the world under direct US control). (Halliday & Cumings, 1988, page 214)

About 28,500 U.S. forces continue to serve in South Korea, forming the backbone of the Seoul-Washington military alliance and monitoring the movement of frontline North Korean troops. South Korea gave control to the U.S. at the onset of the Korean War. The peacetime command was returned in 1994. (Partridge, 2011, body page 158)

The Korean conflict was the occasion for transforming the United States into a very different country than it had ever been before: one with hundreds of permanent military bases abroad, a large standing army and a permanent national security state at home. (Cumings, 2010, page F-2007)

By 1967, the number of US bases had returned to 1947 levels (2000 Bases). (Partridge, 2011, body page 15)

The aggressors in World War II, Japan and Germany were tied down by American bases, and they remain so: in the seventh decade after the war we still don't know what either nation would look like if it were truly independent. We aren't going to find out anytime soon, either. We have been compelled to create a permanent armaments industry of vast proportions," employing 3.5 million people in the defense establishment and spending more than "the net income of all United States corporation." That was from his famous critique of the military-industrial complex in his Farewell Address; less remembered is Ike's final news conference, where he remarked that the armaments industry was so pervasive that it effected "almost an insidious penetration of our own minds," making Americans think that the only thing the country does is produce weapons and missiles. When Western communism collapsed, it appeared for a few years that a serious reduction in the permanent military might occur, but

“rogue state” kept it going and then the “war on terror” provided another amorphous, open-ended global commitment. (Cumings, 2010, page F-219)

The Korean War was the key factor behind the military build-up of NATO and the vast expansion of military budgets in all the major Western countries. The US Army expanded from 1.5 million to 3.5 million during the war, and the military budget rose from about \$15 billion in 1950 to some 450 billion a year. The war also led to a world economic boom without the high inflation that the Vietnam war caused. Korea had a profound effect on US strategic thinking and led straight into Vietnam. In this a big role was played by Maxwell Taylor, who drew the lesson from Korea that what the USA needed was ‘flexible response’ – a strategy that, with Kennedy’s backing, he helped to pioneer in Vietnam. The war gave a huge boost to desegregation, but it also helped foster a climate of intolerance. (Halliday & Cumings, 1988, page 204)

After World War II and the Korean War, we still had 268 bases in Germany, 124 in Japan, and 87 in South Korea. Others are scattered around the globe in places like Aruba and Australia, Bulgaria and Bahrain, Colombia and Greece, Djibouti, Egypt, Kuwait, Qatar, Romania, Singapore, and of course, Guantanamo Bay, Cuba-just to name a few. (Partridge, 2011, page 10)

By 2009, the United States military had come to control an estimated 795,000 acres of land-territory enough to house some 190,000 troops on more than 1,000 bases in dozens of countries. (Partridge, 2011, preface page viii)

The “Truman Doctrine” also turned back communism in Greece and Turkey. (Cumings, 2010, page F-209)

Complex topics continue to focus on US relations with five countries: Afghanistan, Iraq, Turkey, Japan and South Korea. The United States nevertheless flies its flag over military installations in all corners of the world. (Partridge, 2011, preface page vii.)

North Korea’s nuclear testing and posturing and Pakistan’s interest in nuclear arms, heightened by its role in the wars in Afghanistan and Iraq, have scarcely gone unnoticed in Japan. (Partridge, 2011, body page 144)

Despite the threat of North Korean nuclear armament, northeast Asia no longer carries the strategic importance it once did, and wars of the future will likely not be fought by large contingents of ground soldiers. What’s more, a growing number of Japanese and South Korean citizens are calling for a withdrawal of U.S. forces, citing as reasons the pollution, criminal activity, and noise disturbances that tend to accompany bases. (Partridge, 2011, preface page ix)

Denuclearization of North Korea would include “grand bargain” backed by China. Even then the odds that the Kim regime, facing a leadership transition, would give up its most potent weapon are slim at best. But given the lack of good alternatives-military strikes could trigger a full-scale war while enhanced sanctions would require Beijing’s consent-the diplomatic effort is worth pursuing, despite the scant chance of success. Washington already is reducing its role. U.S. troop levels have fallen from 36,000 to 28,500 over the last decade. In 2012 the Pentagon will turn over wartime operation command (OPCON) of Korean forces to Seoul. There is no international communist menace behind a potential North Korean attack. (Partridge, 2011, body page 155)

The State Department was fatally weakened. In the 1960s came the academic specialist – McGeorge Bundy, Walt Rostow, Henry Kissinger, Zbigniew Brzezinski-svengalis who would tutor the president in the occult science of foreign affairs. But the permanent military installations around the world persist and perjure; they have an eternal writ all of their own. The permanent station of soldiers in a myriad of foreign bases across the face of the planet, connected to an enormous domestic complex of defense industries. Territories of its allies and economic competitors – Japan, Germany, Britain, Italy, South Korea, all the industrial powers save France and Russia – marking a radical break with European balance of power and the operation of real politics, and a radical departure in American history: an archipelago of empire. (Cumings, 2010, page F-218)

The Obama administration's diplomatic efforts are being directed towards maintaining and garnering new access for the US military across the globe. US military officials, through their Korean proxies, have completed the eviction of resistant rice farmers from their land around Camp Humphreys (USAG-Humphreys), South Korea, for its expansion (including a new 18-hole golf course); they are busily making back-room deals with officials in the Northern Marianas Island to gain the use of the Pacific islands there for bombing and training purposes; and they are scrambling to express support for a regime in Kyrgyzstan for use of Manas Airbase, which has been used to gain access to Afghanistan since 2001. (Partridge, 2011, body page 13).

The South, with a population of about 42 million, has been transformed since the end of the Korean war. Gross National Product and per capita income rose by about twenty times between 1953 and 1986 (per capita income from about US\$50 to about US\$2000). The South has broken into many key sectors of highly advanced industry, producing high-quality goods and with broadly based industrial structure. Both the economic geography and the social composition of the country have changed enormously. (Halliday & Cumings, 1988, page 212)

South Korea now operates a modern 655,000-strong force backed by 120 warships, 490 fighter jets and 2,300 tanks. South Korea has emerged as the world's 13th-largest economy after the armistice went into effect. It will spend over \$420US billion on defense this year alone. South Korean Military Park has immediate goal to deter North Korean aggression, but we need to expand our naval forces if we are to contribute more to global and regional security. South Korea recently sent a destroyer to Somali water, where it joined a U.S.-lead anti-piracy campaign. (Partridge, 2011, page 157)

Some politicians think that South Korea would be better served if it devoted its full resources to raising, equipping, and training adequate forces for action on the Korean peninsula. That doesn't mean the two governments (US and South Korean) should not cooperate: both have an interest in a stable and prosperous East Asia. But their cooperation should be issue-by-issue, whether informal and bilateral or formal and multilateral.

In 2004, then-Secretary of Defense Donald Rumsfeld announced plans to close more than one-third of the nation's overseas installations, moving 70,000 troops and 100,000 family members and civilians back to the United States. (Partridge, 2011, body page 11)

After its decades-long stationary mission in South Korea, the U.S. Forces Korea (USFK) is taking steps toward expanding its missions to outside the Korean Peninsula. Improvement to ensure its stable commitment with longer, family-accompanied tours by U.S. service members. (Partridge, 2011, body page 151)

USFK plans to keep the Eighth U.S. Army (EUSA) in South Korea even after it hands over wartime operational control to Seoul in 2012. Instead of the relocation plan, the USFK is to create a new theater command-Korean Command (KORCOM)-around June next year. Its global military strategy is expected to serve as a frontline military foothold for the U.S. in Northeast Asia under its global policy of “strategic flexibility.” South Korea’s geopolitical situation, the continued stationing of EUSA and the establishment of KORCOM is a boon to the nation’s security and defense. The South Korean-U.S. Combined Forces Command (CFC) will be disbanded and run separate theater commands to include planned move to Pyeongtaek (USAG-Humphries), south of Seoul, confirms the U.S. commitment to a strong bilateral alliance and the defense of the Korean people. (Partridge, 2011, body page 160)

As South Korea expands Modern Forces as it seeks “Greater Security Role”, the following piece, the author details the size and scope of the South Korean military, highlighting its “120 warships, 490 fighter jets and 2,300 tanks,” as well as its \$20-billion 2009 defense budget. (Partridge, 2011, body page 150)

Also to improve the security and grow the alliance between the US and South Korea, The U.S. Department of Defense approved a new USFK policy in December 2008 that allows about half of its 28,000 troops stationed in South Korea to have their families live with them. South Korea was once considered too dangerous for families in the face of North Korea’s military threats. (Partridge, 2011, body page 153)

The U.S. Department of Defense approved a new USFK policy in December 2008 that allows about half of its 28,000 troops stationed in South Korea to have their families live with them.

South Korea was once considered too dangerous for families in the face of North Korea’s military threats. Longer tours would solidify the Korea-U.S. alliance by forging lifelong friendships at the family level, USFK officials said. It would also help improve training for service members and reduce stress on troops who have to leave their families behind. The principle institutions of the alliance today – the armistice, short tours and the contingency nature of the Combined Forces Command-all have crisis connotations. Changes to include longer tours and families include troops serving in accompanied billets, including Seoul, Osan, Pyeongtaek, Daegu and Jinhae, will stay for three years. Those troops serving in Uijeongbu and Dongducheon, will be for two years with families. Unaccompanied tours for most troops will remain at one year, but some “key personnel” will serve two years of unaccompanied tours. (Partridge, 2011, body page 153)

Korea has been the victim of a tragic historical injustice. At the end of World War II it was the only state not responsible for aggression which became divided. Japan, which had occupied and annexed Korea and attacked its neighbors, was not split. Even Austria had its unity restored as the Cold War faded in Europe. Most cruel of all is rhetoric to the effect that Korea is ‘a dagger pointed at Japan’: this is the exact opposite of the truth. Korea has never attacked any other country. Rather, it has repeatedly been the victim of attack and interference. It has a right to be left alone, in peace, as a single nation. (Halliday & Cumings, 1988, page 219)

In Summary – With the aid of United Nations Forces and assistance from the United States and other Allies the Government and Population of South Korea has gone from more than 80% GDP being Agrarian prior to 1950’s to being more than 80% Industrial in less than 60-years. This change has come at a cost to the culture of the people of South Korea. The older population that was directly effected by the Korea War is very reluctant to move forward towards having a Military that is much less dependent

on United Nations Forces assistance. With the majority of that presence being the United States Military of mostly US Army and US Air Force inside of South Korea. This presence is on a regular rotation and military exercises that cause tension with North Korea at least 2x per year. This resistance to taking operational control of the Korean Military Forces for the long term defense of South Korea is partial due to Cultural Issues and part of it is the perception that UN Forces and the United States Forces would not be able to provide assistance in the event of North Korean hostile actions. This attempt to reduce the “foot print” of UN and US Forces in Korea is the agreement to consolidate military installations on the peninsula for the US Army to USAG-Humphries and USAG-Dagu, with USAG-Humphries being the focus of the challenges in the “Case Study” for what would appear to be very simple “ATFP” and “Traffic Signalization” for the proper sighting and construction of Roadways. Part of the issues is the “Cost Sharing” arrangement between the Korean Government and the US Government and what the requirements are and the differences in cultures for what facilities are currently being used by UN and US Forces and those planned at the consolidated bases.

11. Impacts of US Forces in the Region of Far East and relations with other allies

The early history of US Military in Far East was the attempt to take the Philippines from Spain in 1898 lead to a drawn-out guerrilla war for independence that required 126,000 US occupation troops to stifle. Between 1947 and 1990, the US military was asked to leave France, Yugoslavia, Iran, Ethiopia, Libya, Sudan, Saudi Arabia, Tunisia, Algeria, Vietnam, Indonesia, Peru, Mexico and Venezuela. Popular and political objections to the bases in Spain, the Philippines, Greece and Turkey in the 1980s gave those governments the grounds to negotiate significantly more compensation from the US. Portugal threatened to evict the US from important bases in the Azores unless it ceased its support for independence for its African colonies. Since 1990, the US has been sent packing, most significantly, from the Philippines, Panama, Saudi Arabia, Vieques and Uzbekistan. Of its own accord, for varying reasons, it decided to leave countries from Ghana to Fiji. Persuading the US to clean up after itself-including, in Panama, more than 100,000 rounds of unexploded ordnance-is a further struggle and a political negotiation. As in the case of the US navy's removal from Vieques in 2003. In Okinawa, polls show that 70 to 80 per cent of the island's people want the bases, or at least the Marines, to leave. In Korea, the great majority of the population feels that a reduction in US presence would increase national security; in recent years, several violent deaths at the hands of US soldiers triggered vast candlelight vigils and protest across the country. (Partridge, 2011, body page 18)

United Nations Command (UNC) and U.S. have been actively seeking to maximize the effective operations of its overseas troops. What is also important is that as the host country, South Korea needs to play more on an equal footing with the U.S. in order to cement the partnership between the two countries.

The Global Defense Posture Review of 2004 by the United States announced changes to the military, focusing not just on reorienting the foot print of US bases away from cold war locations, but on remaking legal arrangement that support expanded military activities with other allied countries and prepositioning equipment in those countries. Military personnel can be transported to, and fall in on, prepositioned equipment significantly more quickly than the equivalent unit can be transported to the theater, and prepositioning equipment overseas is generally less politically difficult than stationing US military personnel. Terms such as facility, outpost or station are used for smaller bases. Distinguishing between the 3-types of military facilities (Main Operating Bases, Forward Operating Sties, and Co-Operative Security Locations) is used to reduce the political implications of bases in foreign countries with the local governments. In recent years, the US has run around 20 exercises annually on Philippine soil, which has resulted in a near-continuous presence of US soldiers in a country whose people ejected US bases in 1992. (Partridge, 2011, body page 16)

Japan contributed direct financial support worth \$3.23 billion and indirect support worth \$1.18 billion in fiscal 2002, which offset as much as 74.5 percent of the total cost for the U.S. to station its forces in

Japan. “Japan...provides over \$4 billion in host-nation support-the most generous of any U.S. ally-and remains steadfast in supporting its share of the cost of alliance transformation,” Adm. Timothy Keating, naval commander of the U.S. Pacific Command, testified before the Senate Armed Services Committee on March 11, 2010. (Partridge, 2011, body page 129)

The cost to Japan for US military presence is about \$2 billion a year –of supporting the 47,000american service member here. That’s about three times what Germany pays to host U.S. forces on its soil. (Partridge, 2011, body page 133)

With the changes in the internal politics in Japan about Okinawa, is the larger question of whether the U.S. Japanese military partnership drawing to a close. David McNeill calls the alliance “one of the odder creations of international diplomacy”. If “Japan Balks at \$2 Billion/year Bill to Host U.S. Troops,” the next selection, Associated Press writer Eric Talmadge examines the debate over who should pay to house, feed, and entertain U.S. troops stationed in Japan. As it stands, the host nation spends more than \$2 billion a year to support U.S. forces. (Partridge, 2011, body page 126)

As an extension of the Okinawa move the U.S. is shifting about 8,000 troops from Okinawa to the U.S. territory of Guam and expects Japan to pay an estimated \$46 billion of the moving costs.

As one of her first acts of diplomacy last February 2010, Mrs. Clinton signed an agreement under which Japan would contribute \$6 billion to relocating Futenma (US Marine Base in Japan). (Partridge, 2011, body page 131)

Japan has promised to provide the US with a new airfield on Okinawa and billions of dollars to build new housing and other facilities for 8,000 marines relocating to Guam. (Partridge, 2011, body page 19)

As an obstacle to moving the bases in Japan it has been reported that critics accuse the Japanese authorities of producing a cooked-up environmental assessment, which states over the dangers the new base would pose to the dugong, a rare sea mammal that grazes on sea grasses near the site of the proposed airstrips. (Partridge, 2011, body page 132)

Before the 2010 election in Japan the Prime Minister of Japan demanded a review of a 2006 agreement calling for the relocation of the aging Futenman base to pristine, ecologically important area off Okinawa’s northern coastline. Okinawa’s responded by overwhelmingly backing the Democrats in last August’s general election. Now they’re wondering if they made a mistake. Caught between Washington’s increasingly insistent demands to honor the 2006 deal and his promise to Okinawa, Hatoyoma dithered before deciding to appoint a government committee to adjudicate. His strategy now seems to be to wait until the outcome of local elections in Okinawa before making a final decision in May 2011. (Partridge, 2011, body page 134)

12. Figures

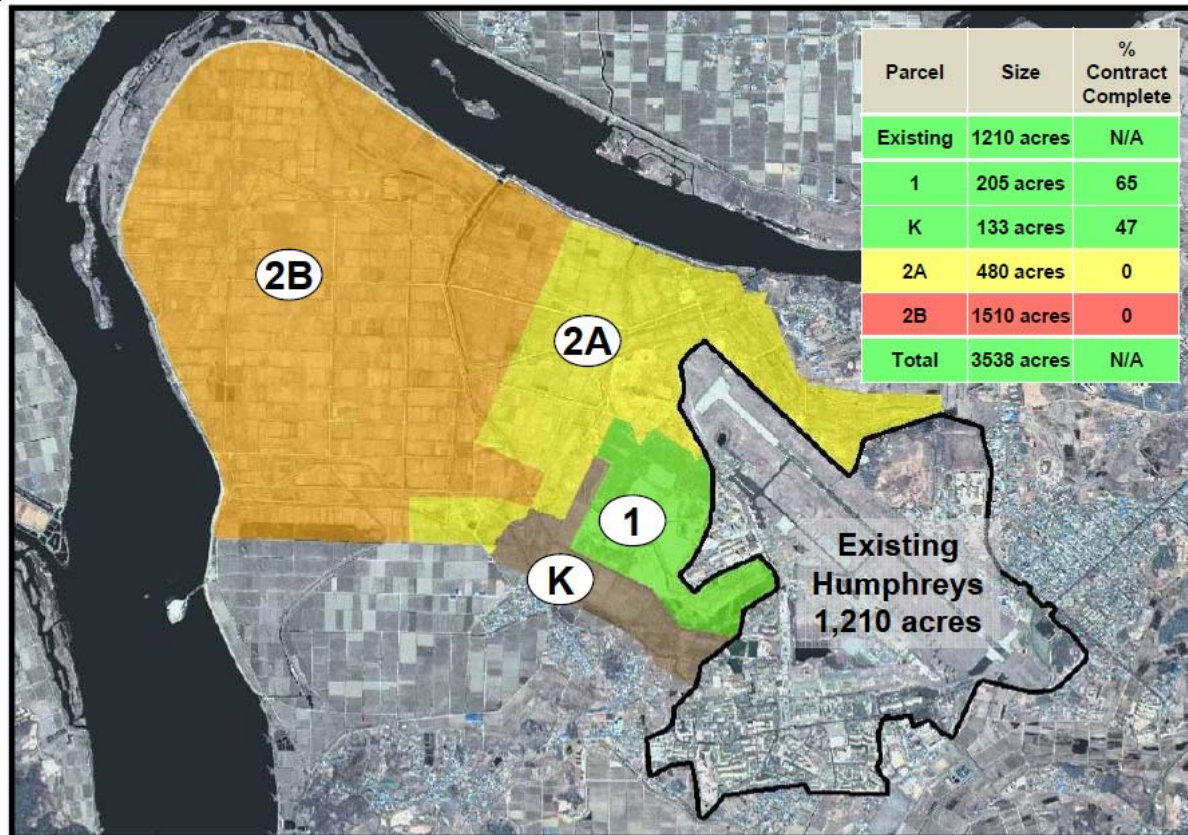
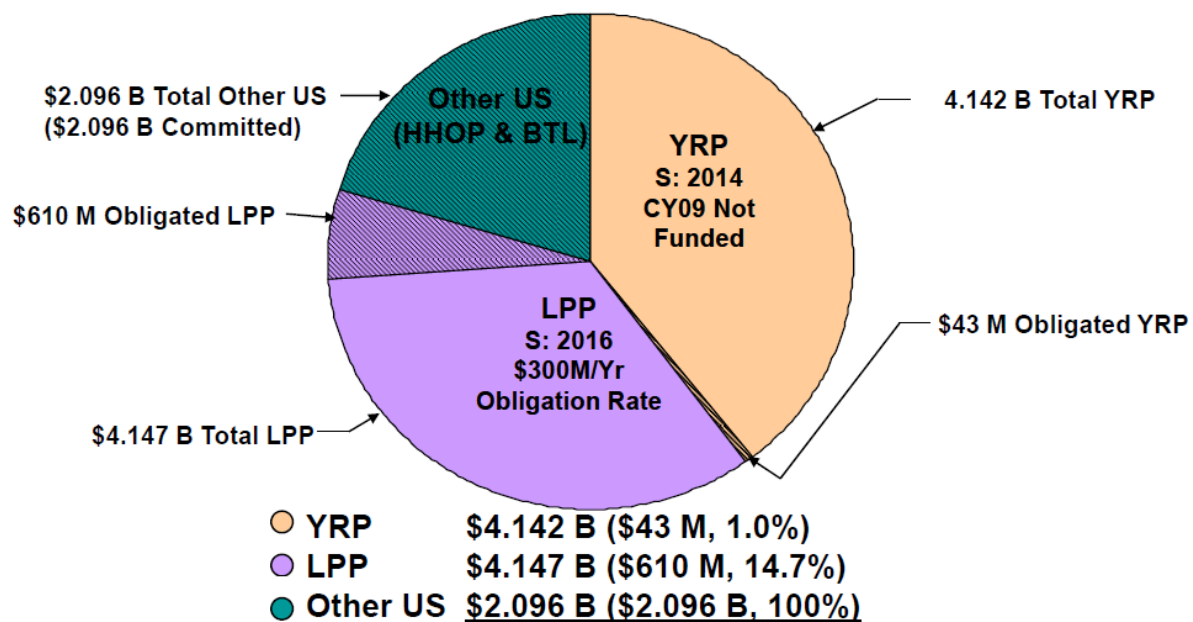


Figure 1. Map of USAG-Humphries existing and with future build-out

USAG-H Construction Costs YRP / LPP-Other Only



Note: Figures in parentheses / cross hatched areas in chart = committed or obligated

Figure 2-1. Projected Cost for Expansion of USAG-Humphries by stakeholders

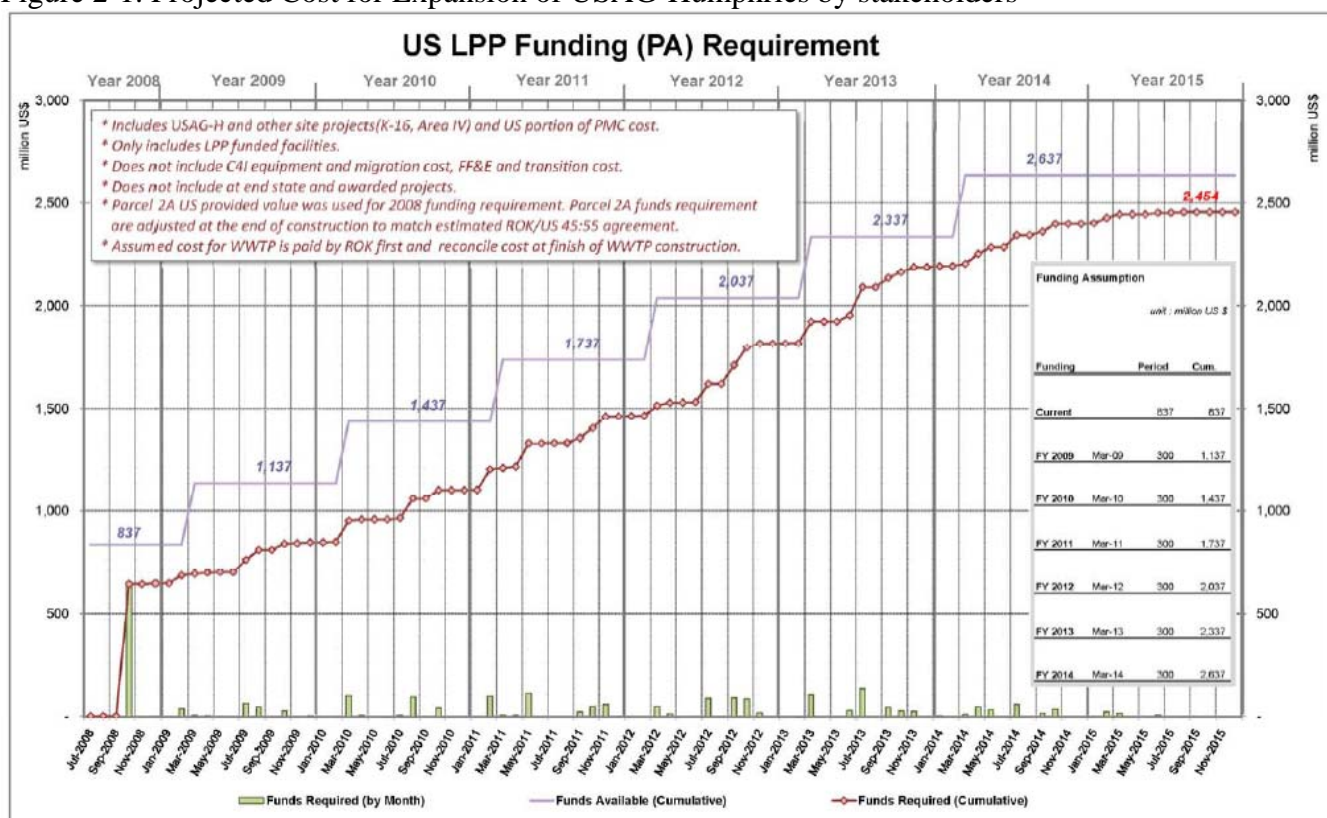


Figure 2-2. Projected Cost for Expansion of USAG-Humphries by stakeholders

- From the USAG-H – Appendix “A” to solicitation, USAG-H Master Plan Update, Coordinating Draft, 18 July 2008
COORDINATING DRAFT 공동초안

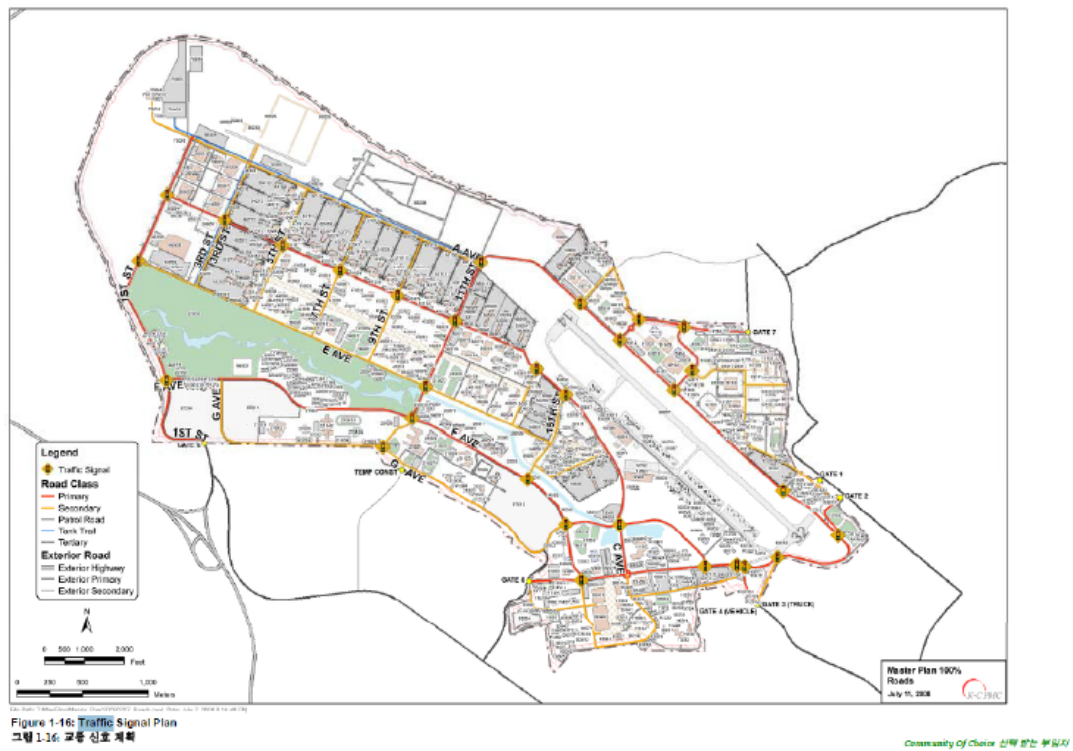


Figure 3. Conceptual Traffic Signalization – 18 July 2008

From the SK E&C Traffic Report and Study – Including Traffic Warrant Analysis for USAG-H with a population of 43,000 +/- the number of signalized intersection is approximately 4 Each.

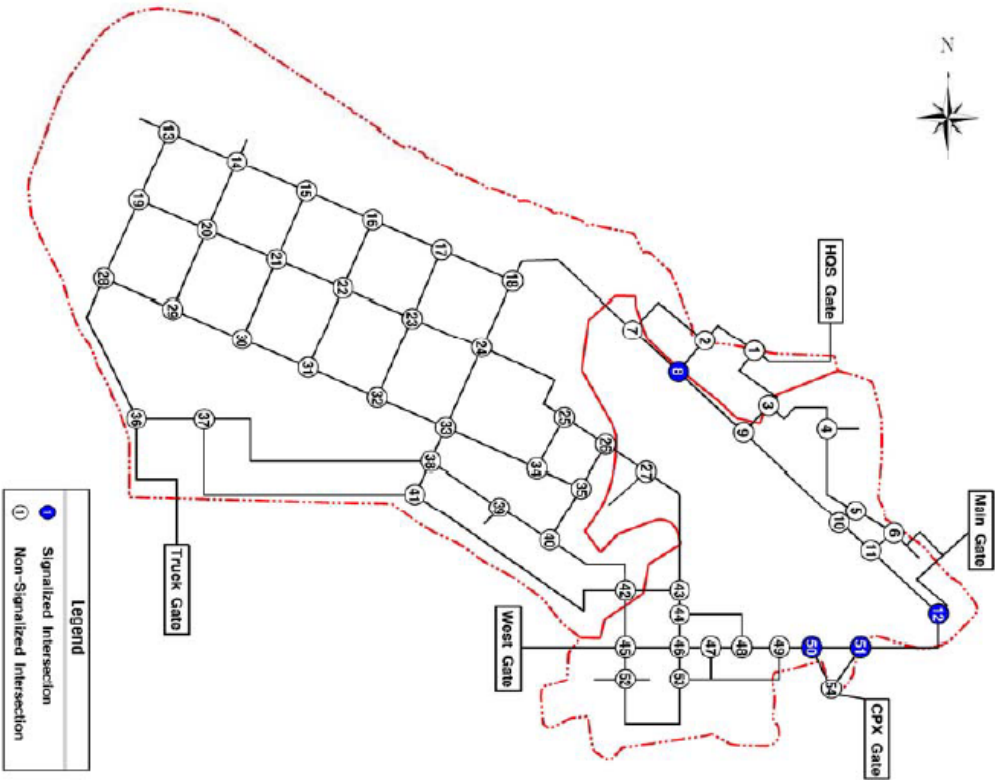


Figure 4. SK E&C Traffic Report and Study results, only 4 traffic Signals

From the SK E&C Traffic Report and Study – If the Traffic Engineer pushes the data to the extreme of analysis, Including Traffic Warrant Analysis for USAG-H with a population of 43,000 +/- the number of signalized intersection is approximately 10 Each.

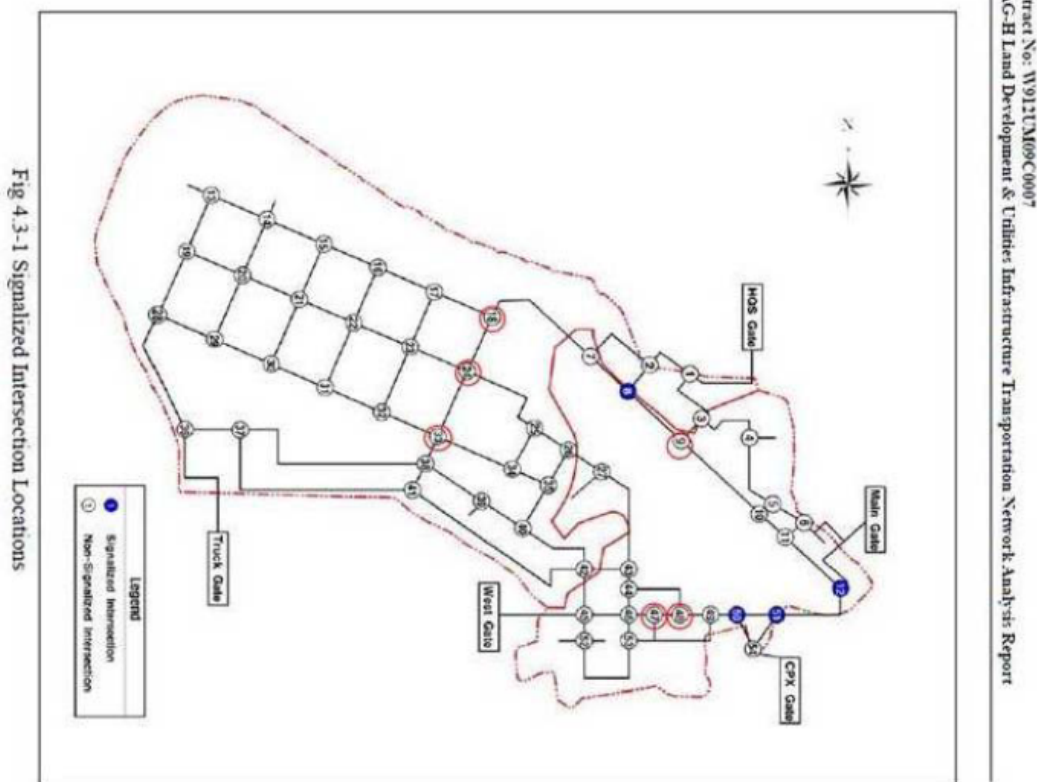


Figure 5. SK E&C Traffic Report and Study results, only 10 traffic Signals

The Criteria used by the USAG-H DPW to mark the USAG-H Master Plan Update, Coordinating Draft, 18 July 2008 for the Signalized Intersections was any location where a 4-Lane Roadway meet another 2 lane or greater street. No rational for traffic volume related to "traffic warrants" was utilized in the preparation of the USAG-H Master Plan.

Traffic Signal Warrants are used per the "Institute of Transportation Engineers. Traffic Engineering Council " to determine the need to install or remove existing traffic signals based on any combination of the warrants that is considered to be appropriate by the city/government in question. http://www.ite.org/pdf/sig_warrants.PDF

The DOR (Designer of Record) was required to produce 14 reports and studies for a complete and usable facility to incorporate all of existing USAG-H, parcels 1, K, 2a, 2B-1 and 2B-2. The report and study for Traffic Signalization indicated that between 4 and 10 signalized intersections were required based on the 43,000+/- population of USAG-H using standard engineering and traffic analysis.

Number and Title		Basis
1	Minimum Vehicular Volume	8-hour volumes
2	Interruption of Continuous Traffic	8-hour volumes
3	Minimum Pedestrian Volume	4-hour pedestrian volumes and gaps
4	School Crossing	number of school children and gaps
5	Progressive Movement	signal progression
6	Accident Experience	accidents and warrant #1, #2 or #3 volumes
7	Systems Warrant	volumes
8	Combination of Warrants	volumes and pedestrians
9	Four Hour Volume	4-hour volume
10	Peak Hour Delay	volume and delay on minor street
11	Peak Hour Volume	1-hour volume

Figure 6. Criteria for "Signalized Intersections"

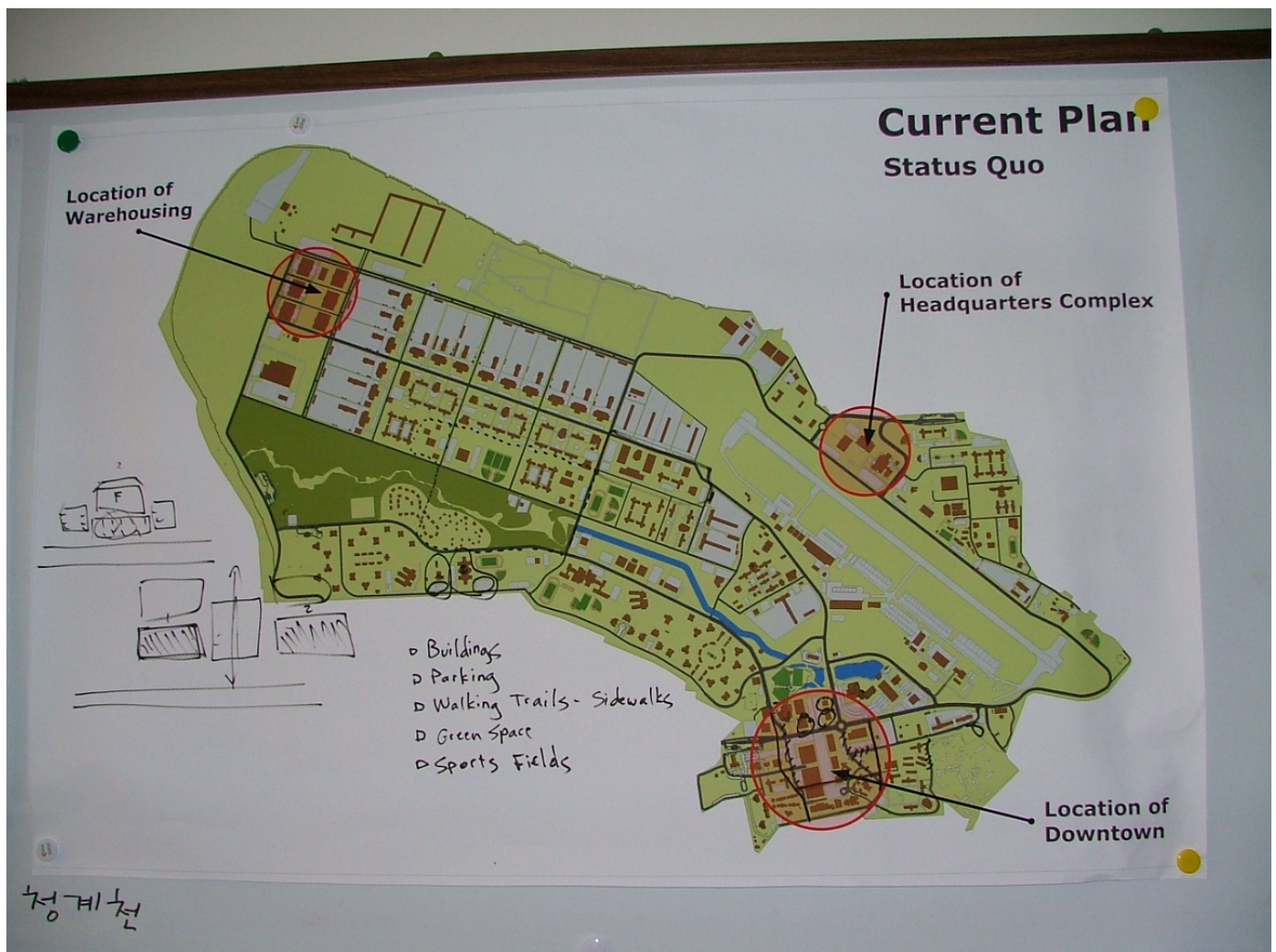


Figure 7-1. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphries thoughts – Early 2009 approved Master Plan and awarded document to SK E&C.

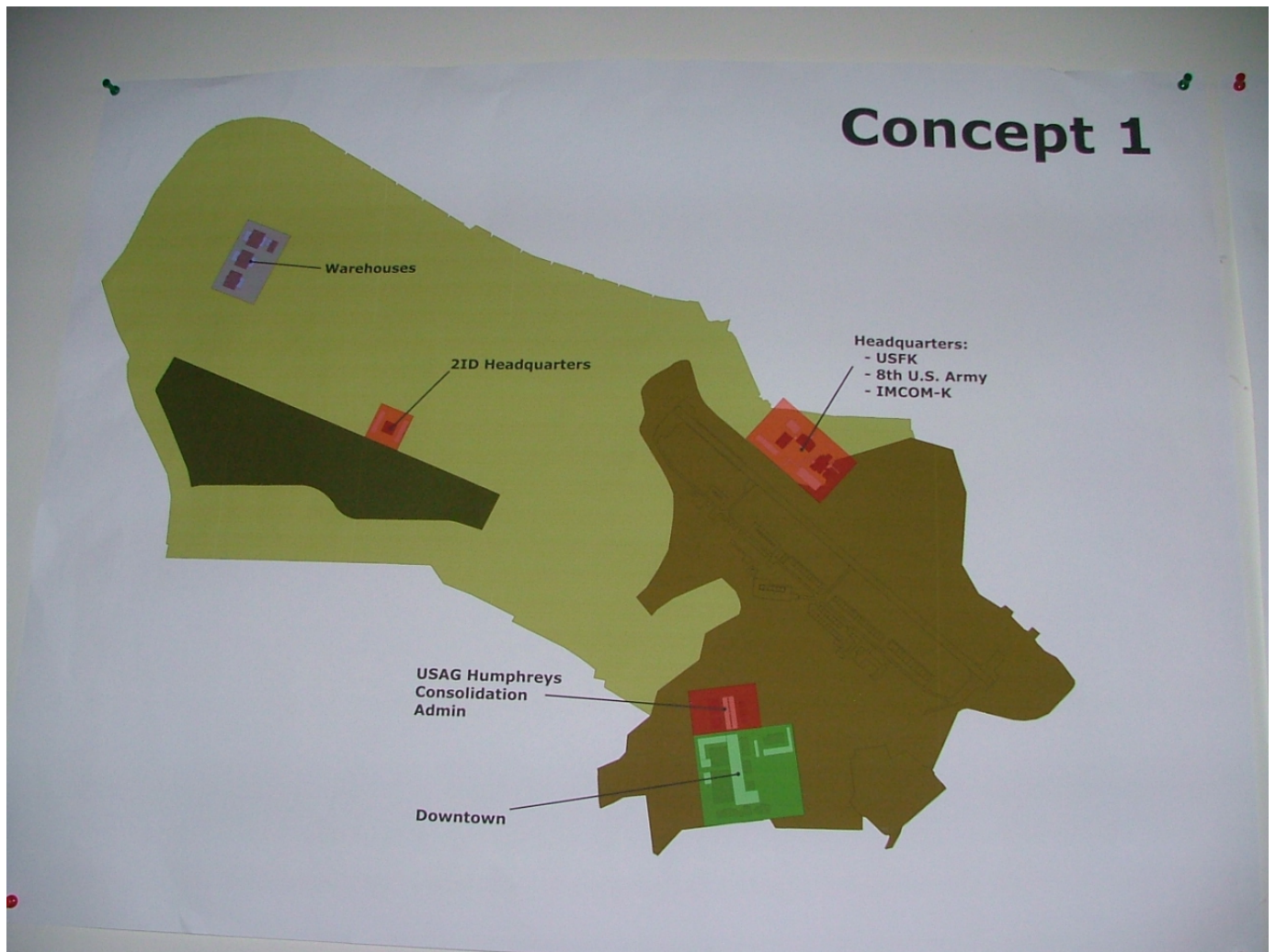


Figure 7-2. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphreys thoughts- Concept 1 – this concept is not a significant change to the Early 2009 Master plan.

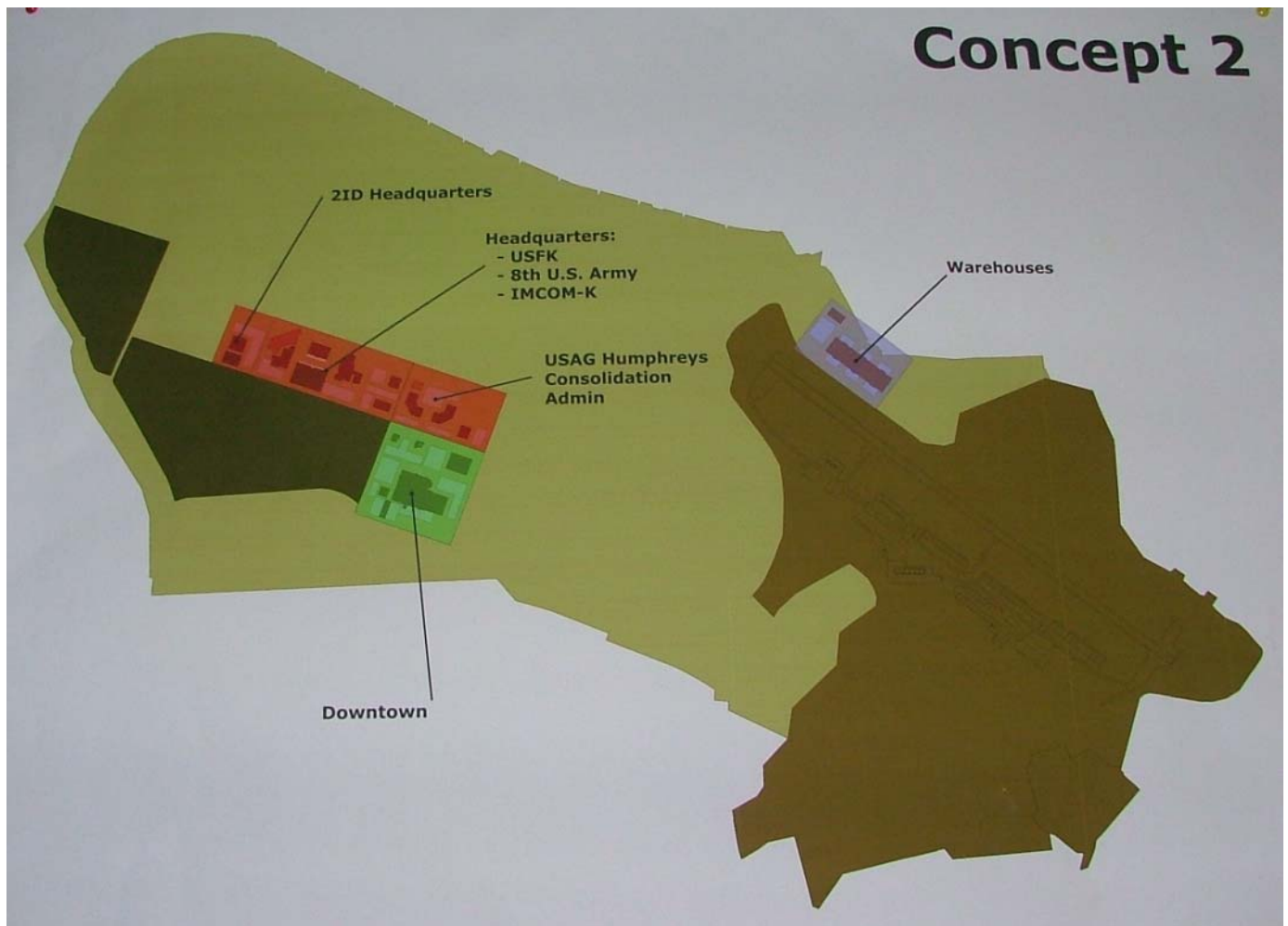


Figure 7-3. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphries thoughts- Concept 2.



Figure 7-4. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphries thoughts-Head Quarters Area – part of Concept 2.

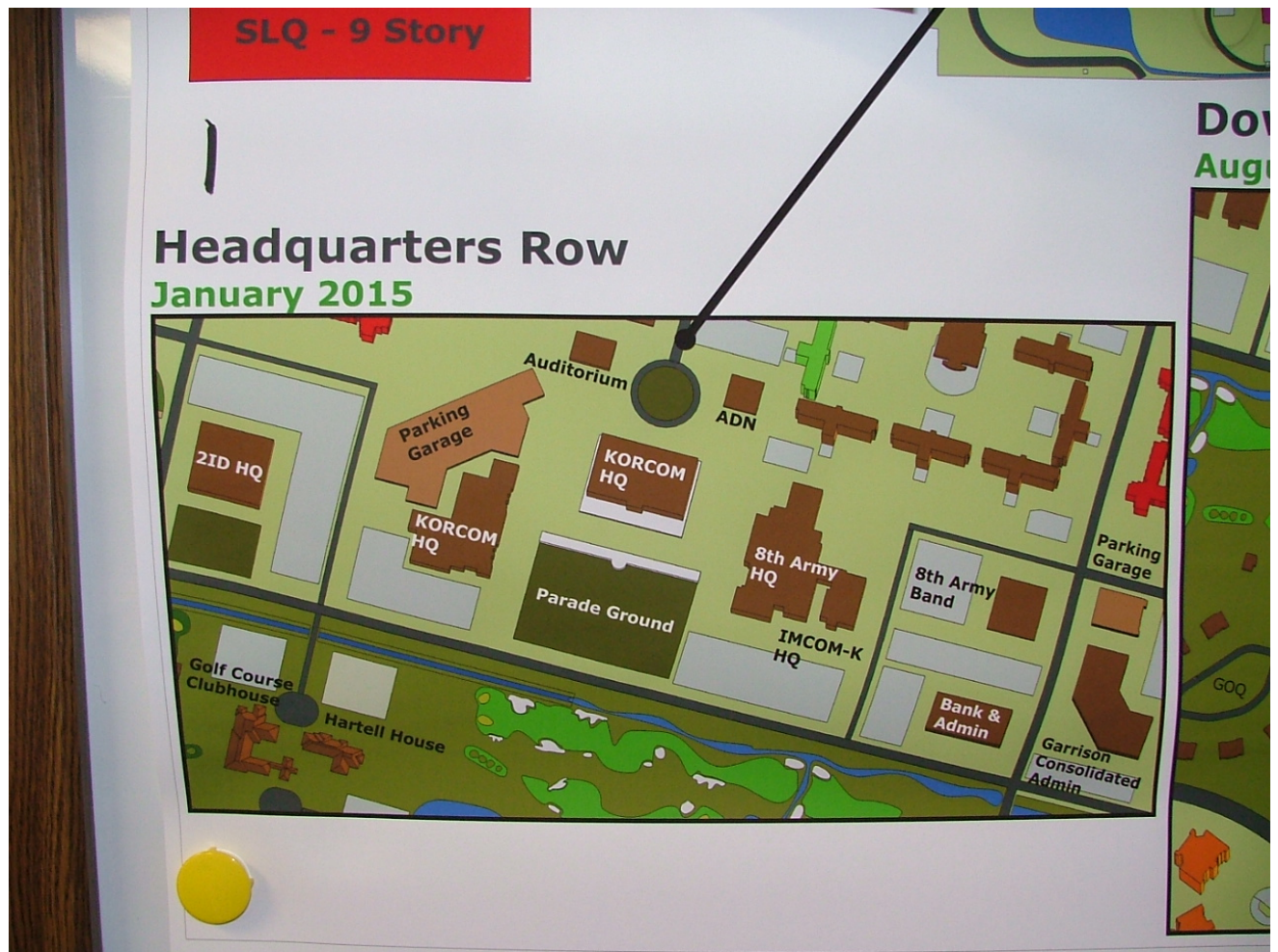


Figure 7-5. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphries thoughts-Head
Quarters Row– part of Concept 2.



Figure 7-6. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphries thoughts-Downtown Area– part of Concept 2.



Figure 7-7. Proposals for new “Master Plan” – 20 Aug 2010 – USAG-Humphries thoughts – movement of Downtown area and Head Quarters Row.

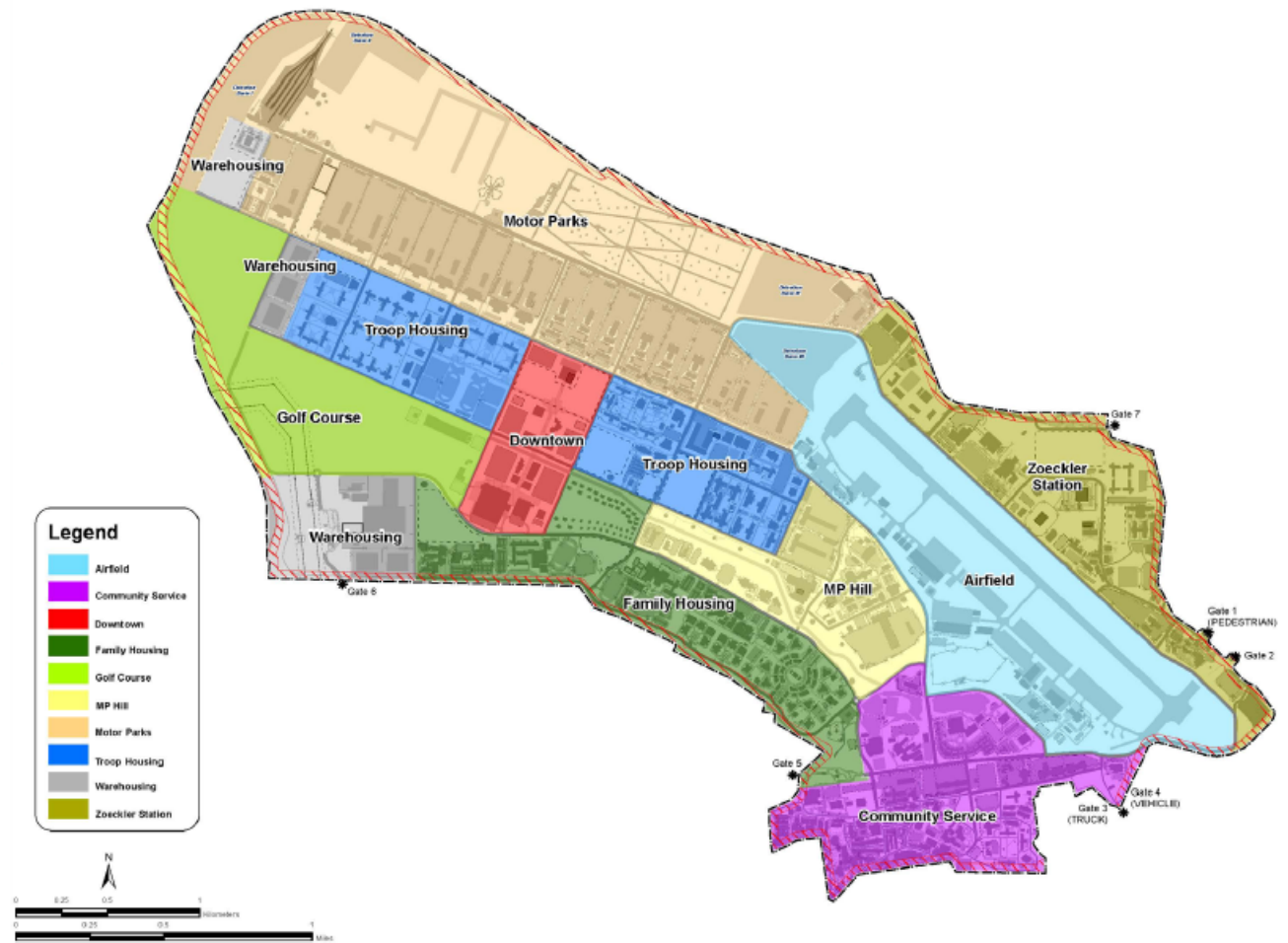


Figure 8. Revised “Master Plan” – 12 January 2012 – Movement of “downtown area” and “warehousing” not agreed to by Korean Representatives

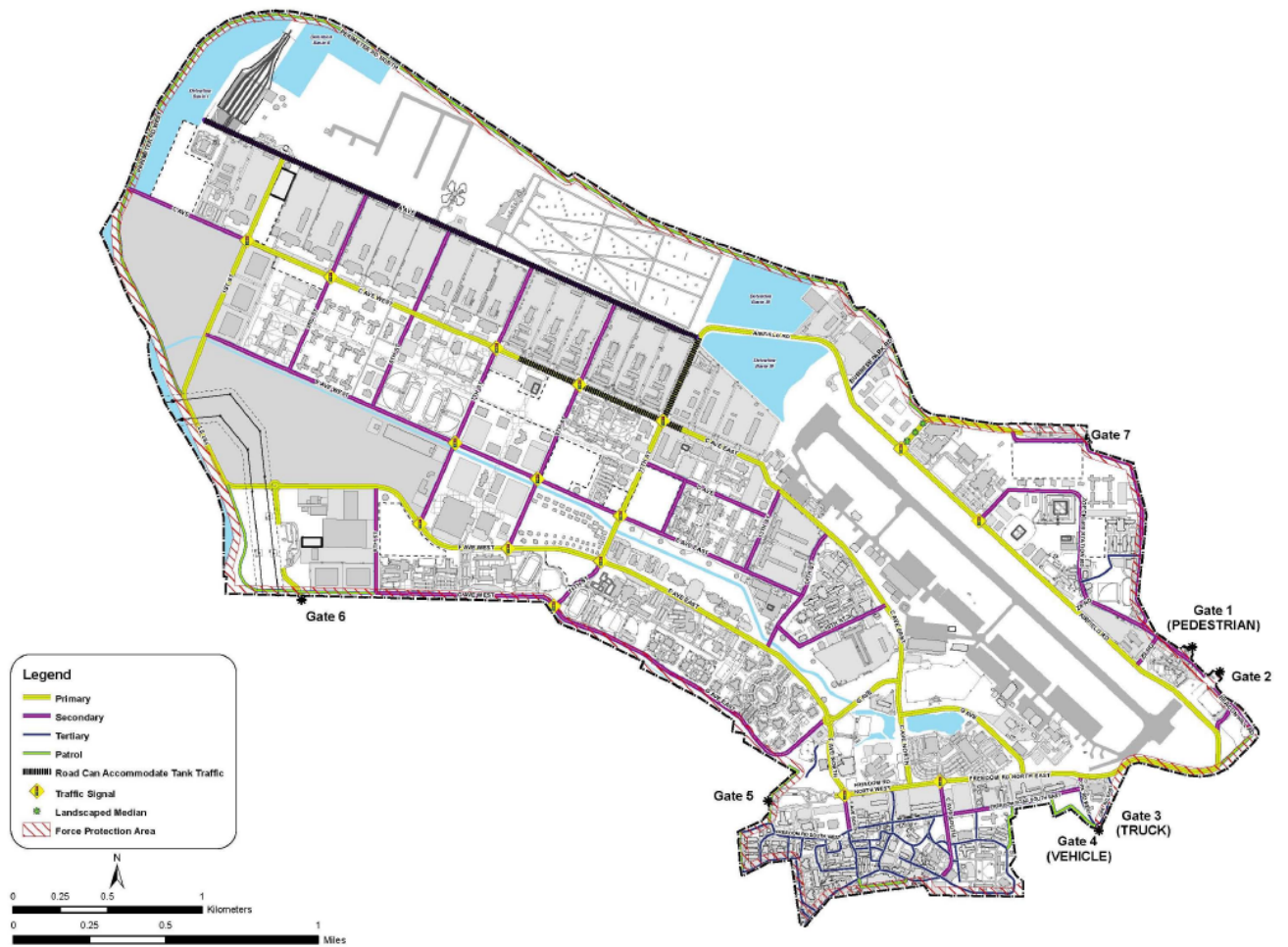


Figure 9. Revised “Master Plan” – 12 January 2012 – 16-each Traffic Signals not agreed to by Korean Representatives

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	Add Comments	Edit	Evaluate	My BackCheck	All BackCheck
		All/Note/Yours	Pend/Concur/Other	Pend/Opn/Clsd	Pend/Opn/Clsd
REPORTS	Humphreys 2012 Final Master Plan Impacts (07-Feb-12 to 30-Aug-12) Review underway.	2 / 0 / 0	2 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	Dsn Complete Submittal 100% for Roads & Utilities (04-May-11 to 25-May-11) (Closed for new comments)	0 / 0 / 0	0 / 29 / 40	0 / 0 / 0	0 / 0 / 69
REPORTS	Revision A of Gas Distribution Sys Sdy & Rpt (14-Apr-11 to 28-Apr-11) (Closed for new comments)	0 / 0 / 0	0 / 4 / 7	0 / 0 / 0	0 / 0 / 11
REPORTS	Final 90% Rpt of Arc Fault Analysis & Protective R (01-Nov-10 to 22-Nov-10) (Closed for new comments)	0 / 0 / 0	0 / 14 / 4	0 / 0 / 0	0 / 0 / 18
REPORTS	Final 90% Landscaping Plan (18-Oct-10 to 08-Nov-10) (Closed for new comments)	0 / 0 / 0	0 / 6 / 3	0 / 0 / 0	0 / 0 / 9
REPORTS	R1 - Final Report of Load and Short Circuit (17-Sep-10 to 01-Oct-10) (Closed for new comments)	0 / 0 / 0	0 / 18 / 12	0 / 0 / 0	0 / 0 / 30
REPORTS	R1 - DESIGN OF SWITCHING STN AT 154KV S/S (02-Sep-10 to 17-Sep-10) (Closed for new comments)	0 / 0 / 0	0 / 232 / 88	0 / 0 / 0	0 / 0 / 320
REPORTS	LED Evaluation (09-Jul-10 to 30-Jul-10) (Closed for new comments)	0 / 0 / 0	0 / 6 / 12	0 / 0 / 5	0 / 0 / 18
REPORTS	Submission of Exterior Pkg Rpt (07-Jul-10 to 28-Jul-10) (Closed for new comments)	0 / 0 / 0	0 / 6 / 4	0 / 0 / 0	0 / 0 / 10
REPORTS	Final 90% Rpt of Geotechnical Investigation (25-Jun-10 to 16-Jul-10) (Closed for new comments)	0 / 0 / 0	0 / 12 / 1	0 / 0 / 0	0 / 0 / 13
REPORTS	Interim 60% Landscaping Plan for Group I - VI, X (28-Jun-10 to 16-Jul-10) (Closed for new comments)	0 / 0 / 0	0 / 41 / 10	0 / 0 / 0	0 / 0 / 51
REPORTS	R1 - Final Dsn of Road & Utilities Ph1,2&3 (Gp IX) (14-Jun-10 to 06-Jul-10) (Closed for new comments)	0 / 0 / 0	0 / 317 / 82	0 / 0 / 27	0 / 0 / 399
REPORTS	R1 - Final Dsn of Road & Utilities, Gp I-VI & VII- (14-May-10 to 07-Jun-10) (Closed for new comments)	0 / 0 / 0	0 / 388 / 112	0 / 0 / 1	0 / 0 / 498
	Utility Crossings, HanJin Area of Parcel "K" Area				

Figure 10-1 Dr. Checks Screen Shots for Reviews from SME.

REPORTS	Final Road & Util Dsn for Exstg, Group IX & X (20-Jul-09 to 31-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 269 / 9	0 / 0 / 0	0 / 0 / 278
REPORTS	80% Dsn of Water Dist & Sanitary Sewer Sys at Parc (01-Jul-09 to 31-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 60 / 2	0 / 0 / 0	0 / 0 / 62
REPORTS	Interim Gas Dist Sys Dsn for Exstg, Group X (20-Jul-09 to 07-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 12 / 3	0 / 0 / 0	0 / 0 / 15
REPORTS	Interim Elect Dsn for Exstg, Group IX & X (20-Jul-09 to 07-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 133 / 11	0 / 0 / 0	0 / 0 / 144
REPORTS	Interim C4I Dsn for Exstg & Parcel 1, Group IVa & (20-Jul-09 to 07-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 35 / 18	0 / 0 / 15	0 / 0 / 53
REPORTS	90% Dsn Land Prep for Parcel 2A, Group 1a-VI (20-Jul-09 to 07-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 24 / 2	0 / 0 / 1	0 / 0 / 26
REPORTS	Final Gas Study and Report (22-Jul-09 to 05-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 9 / 2	0 / 0 / 3	0 / 0 / 11
REPORTS	Backcheck of Final Transportation Network Analysis (06-Jul-09 to 20-Jul-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 8	0 / 0 / 7	0 / 0 / 8
REPORTS	60% Dsn of Underground Elec Dist Sys at Parcel 1P1 (01-Jul-09 to 15-Jul-09) (Closed for new comments)	0 / 0 / 0	0 / 31 / 1	0 / 0 / 0	0 / 0 / 32
REPORTS	60% Dsn of Gas Pipe Line at Parcel 1P1 & 1P2 (01-Jul-09 to 15-Jul-09) (Closed for new comments)	0 / 0 / 0	0 / 23 / 4	0 / 0 / 0	0 / 0 / 27
REPORTS	Backcheck of Land Preparation for Parcel 2-A, Gro (23-Jun-09 to 07-Jul-09) (Closed for new comments)	0 / 0 / 0	0 / 34 / 3	0 / 0 / 0	0 / 0 / 37
REPORTS	Backcheck of Geotechnical Investigation Rpt for (23-Jun-09 to 07-Jul-09) (Closed for new comments)	0 / 0 / 0	0 / 6 / 0	0 / 0 / 0	0 / 0 / 6
REPORTS	Final Transportation Network Analysis Report (21-May-09 to 15-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 13 / 2	0 / 0 / 0	0 / 0 / 15
REPORTS	(Ph 0003) Interim Pwr Dist & Substn Dsn for Extg U (27-May-09 to 10-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 21 / 4	0 / 0 / 0	0 / 0 / 25
REPORTS	60% Design Land Prep for Parcel 2-A, Group 1A-VI (27-May-09 to 10-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 49 / 2	0 / 0 / 0	0 / 0 / 51
REPORTS	Interim Elect Studies/Rpts for Parcel 1, K, 2 Extg (27-May-09 to 10-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 23 / 5	0 / 0 / 0	0 / 0 / 28
REPORTS	Interim Gas Study and Report (21-May-09 to 04-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 29 / 4	0 / 0 / 5	0 / 0 / 33
REPORTS	Final (90%) Land Preparation Dsn for Parcel 2-A Gr (21-May-09 to 04-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 63 / 5	0 / 0 / 16	0 / 0 / 68

Figure 10-2 Dr. Checks Screen Shots for Reviews from SME.

REPORTS	Final Geotechnical Investigation Rpt for Parcel 2A (21-May-09 to 04-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 47 / 0	0 / 0 / 0	0 / 0 / 47
REPORTS	Final Land Preparation and Utilities Report (21-May-09 to 04-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 36 / 4	0 / 0 / 0	0 / 0 / 40
REPORTS	Test Fill Construction Work Plan for Parcel 2A (26-May-09 to 01-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 41 / 0	0 / 0 / 7	0 / 0 / 41
REPORTS	S-0038 - Topographic Survey & Utilities Investigat (07-May-09 to 14-May-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	S-0039 - Request for Electrical Information for We (07-May-09 to 14-May-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	S-0038 - Topographic Site Survey Report, Parcel 2A (07-May-09 to 14-May-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	Group 1 Grading Design Report 60% (20-Apr-09 to 28-Apr-09) (Closed for new comments)	0 / 0 / 0	0 / 13 / 2	0 / 0 / 0	0 / 0 / 15
REPORTS	Transportation Network Analysis Report 60% (20-Apr-09 to 28-Apr-09) (Closed for new comments)	0 / 0 / 0	0 / 8 / 2	0 / 0 / 0	0 / 0 / 10
REPORTS	Group 1 Land Preparation 60% (20-Apr-09 to 28-Apr-09) (Closed for new comments)	0 / 0 / 0	0 / 78 / 8	0 / 0 / 9	0 / 0 / 88

Figure 10-3 Dr. Checks Screen Shots for Reviews from SME.

REPORTS	VII-VI (19-Apr-10 to 04-May-10) (Closed for new comments)	0 / 0 / 0	0 / 1 / 2	0 / 0 / 3	0 / 0 / 3
	Final Dsn of Road & Utilities, Group I-VI &				
REPORTS	VII-VI (25-Jan-10 to 20-Mar-10) (Closed for new comments)	0 / 0 / 0	0 / 805 / 120	0 / 0 / 0	0 / 0 / 925
REPORTS	Final Dsn of Road & Utilities Ph 1, 2 & 3 (Group IX (09-Feb-10 to 20-Mar-10) (Closed for new comments)	0 / 0 / 0	0 / 422 / 119	0 / 0 / 2	0 / 0 / 541
REPORTS	Interim (80%) Rpt of Geotechnical Investigation (03-Mar-10 to 18-Mar-10) (Closed for new comments)	0 / 0 / 0	0 / 19 / 9	0 / 0 / 17	0 / 0 / 28
REPORTS	Backcheck(95%) for Final Rpt of Load & Short Circu (20-Jan-10 to 22-Feb-10) (Closed for new comments)	0 / 0 / 0	0 / 12 / 12	0 / 0 / 0	0 / 0 / 24
REPORTS	Interim Rpt of Arc Fault Analysis & Protective Rel (13-Jan-10 to 27-Jan-10) (Closed for new comments)	0 / 0 / 0	0 / 20 / 5	0 / 0 / 0	0 / 0 / 25
REPORTS	OTS-Fnl Dsn of Utilities, Group Via(Parcel 1P1 & 1 (30-Nov-09 to 01-Jan-10) (Closed for new comments)	0 / 0 / 0	0 / 176 / 78	0 / 0 / 0	0 / 0 / 252
REPORTS	OTS-Fnl Dsn of Roads & Utilities, Early Ph 1-2(Gro (30-Nov-09 to 01-Jan-10) (Closed for new comments)	0 / 0 / 0	0 / 217 / 41	0 / 0 / 0	0 / 0 / 258
REPORTS	Final (90%) Report of Load & Short Circuit (30-Sep-09 to 19-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 17 / 8	0 / 0 / 0	0 / 0 / 25
REPORTS	OTS-Final (100%) Roads and Utilities, Early Phase (04-Oct-09 to 18-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 85 / 8	0 / 0 / 0	0 / 0 / 93
REPORTS	C4I OSP Integration Planning (22-Sep-09 to 13-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 4 / 6	0 / 0 / 0	0 / 0 / 10
REPORTS	Final (100%) Geotechnical Investigation Report (05-Oct-09 to 13-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 4 / 0	0 / 0 / 0	0 / 0 / 4
REPORTS	Asbestos Survey Plan for USAG-Humphreys LDUI (01-Jun-09 to 13-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	95% Dsn Land Prep for Parcel 2A, Group 1a-VI (16-Sep-09 to 09-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 6 / 0	0 / 0 / 0	0 / 0 / 6
REPORTS	95% Land Preparation & Utilities Report (15-Sep-09 to 09-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 25 / 3	0 / 0 / 3	0 / 0 / 28
REPORTS	95% Gas Report (21-Sep-09 to 05-Oct-09) (Closed for new comments)	0 / 0 / 0	0 / 2 / 1	0 / 0 / 0	0 / 0 / 3
REPORTS	Interim Road & Util Dsn for Exstg, Group IX & X (20-Jul-09 to 31-Aug-09) (Closed for new comments)	0 / 0 / 0	0 / 171 / 11	0 / 0 / 1	0 / 0 / 182

Figure 10-4 Dr. Checks Screen Shots for Reviews from SME.

REPORTS	Final Geotechnical Investigation Rpt for Parcel 2A (21-May-09 to 04-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 47 / 0	0 / 0 / 0	0 / 0 / 47
REPORTS	Final Land Preparation and Utilities Report (21-May-09 to 04-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 36 / 4	0 / 0 / 0	0 / 0 / 40
REPORTS	Test Fill Construction Work Plan for Parcel 2A (26-May-09 to 01-Jun-09) (Closed for new comments)	0 / 0 / 0	0 / 41 / 0	0 / 0 / 7	0 / 0 / 41
REPORTS	S-0038 - Topographic Survey & Utilities Investigat (07-May-09 to 14-May-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	S-0039 - Request for Electrical Information for We (07-May-09 to 14-May-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	S-0038 - Topographic Site Survey Report, Parcel 2A (07-May-09 to 14-May-09) (Closed for new comments)	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0	0 / 0 / 0
REPORTS	Group 1 Grading Design Report 60% (20-Apr-09 to 28-Apr-09) (Closed for new comments)	0 / 0 / 0	0 / 13 / 2	0 / 0 / 0	0 / 0 / 15
REPORTS	Transportation Network Analysis Report 60% (20-Apr-09 to 28-Apr-09) (Closed for new comments)	0 / 0 / 0	0 / 8 / 2	0 / 0 / 0	0 / 0 / 10
REPORTS	Group 1 Land Preparation 60% (20-Apr-09 to 28-Apr-09) (Closed for new comments)	0 / 0 / 0	0 / 78 / 8	0 / 0 / 9	0 / 0 / 86

Figure 10-5 Dr. Checks Screen Shots for Reviews from SME.

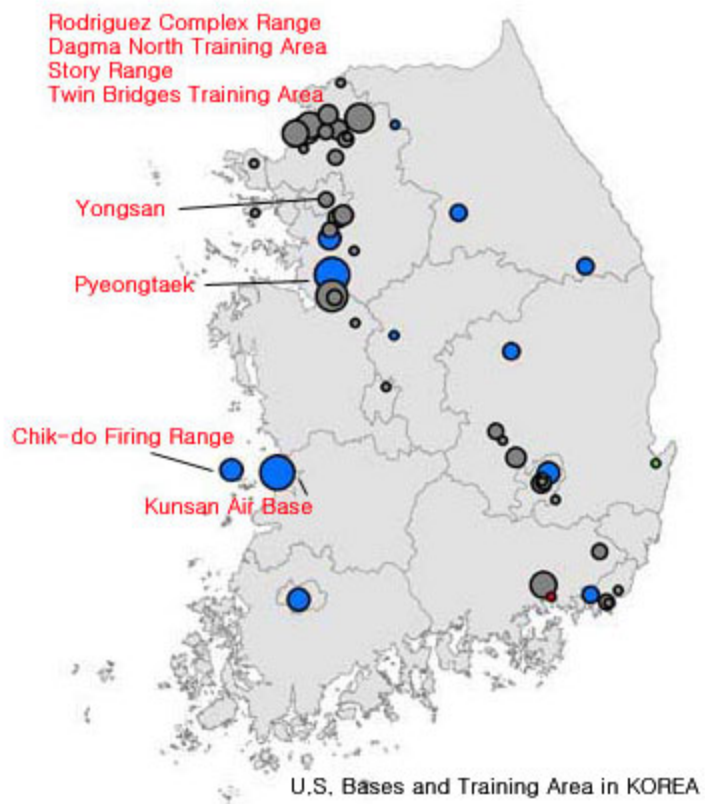


Figure 11 Map of Military Installations in South Korea

13. References

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- A. www.nspe.org/ethics/CodeofEthics/Creed/creed.html Engineers Creed from
National Society of Professional Engineers, June 1954
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