

OFFICE OF THE CITY ATTORNEY
CHARLES PARKIN, City Attorney
333 West Ocean Boulevard, 11th Floor
Long Beach, CA 90802-4664

AGREEMENT

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THIS AGREEMENT is made and entered, in duplicate, as of October 26, 2015, for reference purposes only, pursuant to a minute order adopted by the City Council of the City of Long Beach at its meeting on October 20, 2015, by and between HNTB CORPORATION, a Delaware corporation ("Consultant"), with a place of business at 200 E. Sandpointe Avenue, Suite 200, Santa Ana, California 92707, and the CITY OF LONG BEACH, a municipal corporation ("City").

WHEREAS, City requires specialized services requiring unique skills to be performed in connection with planning and engineering consulting services for the Airfield Geometry Study Phase 2 at the Long Beach Airport ("Project"); and

WHEREAS, City has selected Consultant in accordance with City's administrative procedures and City has determined that Consultant and its employees are qualified, licensed, if so required, and experienced in performing these specialized services; and

WHEREAS, City desires to have Consultant perform these specialized services, and Consultant is willing and able to do so on the terms and conditions in this Agreement;

NOW, THEREFORE, in consideration of the mutual terms, covenants, and conditions in this Agreement, the parties agree as follows:

1. SCOPE OF WORK OR SERVICES.

A. Consultant shall furnish specialized services more particularly described in Exhibit "A", attached to this Agreement and incorporated by this reference, in accordance with the standards of the profession, and City shall pay for these services in the manner described below, not to exceed Eight Hundred Seventy-Three Thousand Four Hundred Ninety-Seven Dollars (\$873,497), at the rates or charges shown in Exhibit "B".

B. The City's obligation to pay the sum stated above for any one

1 fiscal year shall be contingent upon the City Council of the City appropriating the
2 necessary funds for such payment by the City in each fiscal year during the term of
3 this Agreement. For the purposes of this Section, a fiscal year commences on
4 October 1 of the year and continues through September 30 of the following year. In
5 the event that the City Council of the City fails to appropriate the necessary funds
6 for any fiscal year, then, and in that event, the Agreement will terminate at no
7 additional cost or obligation to the City.

8 C. Consultant may select the time and place of performance for
9 these services; provided, however, that access to City documents, records and the
10 like, if needed by Consultant, shall be available only during City's normal business
11 hours and provided that milestones for performance, if any, are met.

12 D. Consultant has requested to receive regular payments. City
13 shall pay Consultant in due course of payments following receipt from Consultant
14 and approval by City of invoices showing the services or task performed, the time
15 expended (if billing is hourly), and the name of the Project. Consultant shall certify
16 on the invoices that Consultant has performed the services in full conformance with
17 this Agreement and is entitled to receive payment. Each invoice shall be
18 accompanied by a progress report indicating the progress to date of services
19 performed and covered by the invoice, including a brief statement of any Project
20 problems and potential causes of delay in performance, and listing those services
21 that are projected for performance by Consultant during the next invoice cycle.
22 Where billing is done and payment is made on an hourly basis, the parties
23 acknowledge that this arrangement is either customary practice for Consultant's
24 profession, industry or business, or is necessary to satisfy audit and legal
25 requirements which may arise due to the fact that City is a municipality.

26 E. Consultant represents that Consultant has obtained all
27 necessary information on conditions and circumstances that may affect its
28 performance and has conducted site visits, if necessary.

1 F. CAUTION: Consultant shall not begin work until this
2 Agreement has been signed by both parties and until Consultant's evidence of
3 insurance has been delivered to and approved by City.

4 2. TERM. The term of this Agreement shall commence at midnight on
5 November 9, 2015, and shall terminate at 11:59 p.m. on November 8, 2016, unless sooner
6 terminated as provided in this Agreement, or unless the services or the Project is
7 completed sooner. The parties have the option to extend the term for one (1) additional
8 one year term.

9 3. COORDINATION AND ORGANIZATION.

10 A. Consultant shall coordinate its performance with City's
11 representative, if any, named in Exhibit "C", attached to this Agreement and
12 incorporated by this reference. Consultant shall advise and inform City's
13 representative of the work in progress on the Project in sufficient detail so as to
14 assist City's representative in making presentations and in holding meetings on the
15 Project. City shall furnish to Consultant information or materials, if any, described
16 in Exhibit "D", attached to this Agreement and incorporated by this reference, and
17 shall perform any other tasks described in the Exhibit.

18 B. The parties acknowledge that a substantial inducement to City
19 for entering this Agreement was and is the reputation and skill of Consultant's key
20 employee, Justin Bychek. City shall have the right to approve any person proposed
21 by Consultant to replace that key employee.

22 4. INDEPENDENT CONTRACTOR. In performing its services,
23 Consultant is and shall act as an independent contractor and not an employee,
24 representative or agent of City. Consultant shall have control of Consultant's work and the
25 manner in which it is performed. Consultant shall be free to contract for similar services to
26 be performed for others during this Agreement; provided, however, that Consultant acts in
27 accordance with Section 9 and Section 11 of this Agreement. Consultant acknowledges
28 and agrees that (a) City will not withhold taxes of any kind from Consultant's compensation;

1 (b) City will not secure workers' compensation or pay unemployment insurance to, for or
2 on Consultant's behalf; and (c) City will not provide and Consultant is not entitled to any of
3 the usual and customary rights, benefits or privileges of City employees. Consultant
4 expressly warrants that neither Consultant nor any of Consultant's employees or agents
5 shall represent themselves to be employees or agents of City.

6 5. INSURANCE.

7 A. As a condition precedent to the effectiveness of this
8 Agreement, Consultant shall procure and maintain, at Consultant's expense for the
9 duration of this Agreement, from insurance companies that are admitted to write
10 insurance in California and have ratings of or equivalent to A:V by A.M. Best
11 Company or from authorized non-admitted insurance companies subject to Section
12 1763 of the California Insurance Code and that have ratings of or equivalent to A:VIII
13 by A.M. Best Company, the following insurance:

14 (a) Commercial general liability insurance (equivalent in scope to
15 ISO form CG 00 01 11 85 or CG 00 01 10 93) in an amount not less than
16 \$1,000,000 per each occurrence and \$2,000,000 general aggregate. This
17 coverage shall include but not be limited to broad form contractual liability,
18 cross liability, independent contractors liability, and products and completed
19 operations liability. City, its boards and commissions, and their officials,
20 employees and agents shall be named as additional insureds by
21 endorsement (on City's endorsement form or on an endorsement equivalent
22 in scope to ISO form CG 20 10 11 85 or CG 20 26 11 85 or both CG 20 10
23 07 04 and CG 20 37 07 04 or both CG 20 33 07 04 and CG 20 37 07 04),
24 and this insurance shall contain no special limitations on the scope of
25 protection given to City, its boards and commissions, and their officials,
26 employees and agents. This policy shall be endorsed to state that the
27 insurer waives its right of subrogation against City, its boards and
28 commissions, and their officials, employees and agents.

1 (b) Workers' Compensation insurance as required by the California
2 Labor Code and employer's liability insurance in an amount not less than
3 \$1,000,000. This policy shall be endorsed to state that the insurer waives
4 its right of subrogation against City, its boards and commissions, and their
5 officials, employees and agents.

6 (c) Professional liability or errors and omissions insurance in an
7 amount not less than \$1,000,000 per claim.

8 (d) Commercial automobile liability insurance (equivalent in scope
9 to ISO form CA 00 01 06 92), covering Auto Symbol 1 (Any Auto) in an
10 amount not less than \$500,000 combined single limit per accident.

11 B. Any self-insurance program, self-insured retention, or
12 deductible must be separately approved in writing by City's Risk Manager or
13 designee and shall protect City, its officials, employees and agents in the same
14 manner and to the same extent as they would have been protected had the policy
15 or policies not contained retention or deductible provisions.

16 C. Each insurance policy shall be endorsed to state that coverage
17 shall not be reduced, non-renewed or canceled except after thirty (30) days prior
18 written notice to City, shall be primary and not contributing to any other insurance
19 or self-insurance maintained by City, and shall be endorsed to state that coverage
20 maintained by City shall be excess to and shall not contribute to insurance or self-
21 insurance maintained by Consultant. Consultant shall notify City in writing within
22 five (5) days after any insurance has been voided by the insurer or cancelled by the
23 insured.

24 D. If this coverage is written on a "claims made" basis, it must
25 provide for an extended reporting period of not less than one hundred eighty (180)
26 days, commencing on the date this Agreement expires or is terminated, unless
27 Consultant guarantees that Consultant will provide to City evidence of uninterrupted,
28 continuing coverage for a period of not less than three (3) years, commencing on

1 the date this Agreement expires or is terminated.

2 E. Consultant shall require that all subconsultants or contractors
3 that Consultant uses in the performance of these services maintain insurance in
4 compliance with this Section unless otherwise agreed in writing by City's Risk
5 Manager or designee.

6 F. Prior to the start of performance, Consultant shall deliver to City
7 certificates of insurance and the endorsements for approval as to sufficiency and
8 form. In addition, Consultant shall, within thirty (30) days prior to expiration of the
9 insurance, furnish to City certificates of insurance and endorsements evidencing
10 renewal of the insurance. City reserves the right to require complete certified copies
11 of all policies of Consultant and Consultant's subconsultants and contractors, at any
12 time. Consultant shall make available to City's Risk Manager or designee all books,
13 records and other information relating to this insurance, during normal business
14 hours.

15 G. Any modification or waiver of these insurance requirements
16 shall only be made with the approval of City's Risk Manager or designee. Not more
17 frequently than once a year, City's Risk Manager or designee may require that
18 Consultant, Consultant's subconsultants and contractors change the amount, scope
19 or types of coverages required in this Section if, in his or her sole opinion, the
20 amount, scope or types of coverages are not adequate.

21 H. The procuring or existence of insurance shall not be construed
22 or deemed as a limitation on liability relating to Consultant's performance or as full
23 performance of or compliance with the indemnification provisions of this Agreement.

24 6. ASSIGNMENT AND SUBCONTRACTING. This Agreement
25 contemplates the personal services of Consultant and Consultant's employees, and the
26 parties acknowledge that a substantial inducement to City for entering this Agreement was
27 and is the professional reputation and competence of Consultant and Consultant's
28 employees. Consultant shall not assign its rights or delegate its duties under this

1 Agreement, or any interest in this Agreement, or any portion of it, without the prior approval
2 of City, except that Consultant may with the prior approval of the City Manager of City,
3 assign any moneys due or to become due Consultant under this Agreement. Any
4 attempted assignment or delegation shall be void, and any assignee or delegate shall
5 acquire no right or interest by reason of an attempted assignment or delegation.
6 Furthermore, Consultant shall not subcontract any portion of its performance without the
7 prior approval of the City Manager or designee, or substitute an approved subconsultant
8 or contractor without approval prior to the substitution. Nothing stated in this Section shall
9 prevent Consultant from employing as many employees as Consultant deems necessary
10 for performance of this Agreement.

11 7. CONFLICT OF INTEREST. Consultant, by executing this Agreement,
12 certifies that, at the time Consultant executes this Agreement and for its duration,
13 Consultant does not and will not perform services for any other client which would create
14 a conflict, whether monetary or otherwise, as between the interests of City and the interests
15 of that other client. And, Consultant shall obtain similar certifications from Consultant's
16 employees, subconsultants and contractors.

17 8. MATERIALS. Consultant shall furnish all labor and supervision,
18 supplies, materials, tools, machinery, equipment, appliances, transportation and services
19 necessary to or used in the performance of Consultant's obligations under this Agreement,
20 except as stated in Exhibit "D".

21 9. OWNERSHIP OF DATA. All materials, information and data
22 prepared, developed or assembled by Consultant or furnished to Consultant in connection
23 with this Agreement, including but not limited to documents, estimates, calculations,
24 studies, maps, graphs, charts, computer disks, computer source documentation, samples,
25 models, reports, summaries, drawings, designs, notes, plans, information, material and
26 memorandum ("Data") shall be the exclusive property of City. Data shall be given to City,
27 and City shall have the unrestricted right to use and disclose the Data in any manner and
28 for any purpose without payment of further compensation to Consultant. Copies of Data

1 may be retained by Consultant but Consultant warrants that Data shall not be made
2 available to any person or entity for use without the prior approval of City. This warranty
3 shall survive termination of this Agreement for five (5) years.

4 10. TERMINATION. Either party shall have the right to terminate this
5 Agreement for any reason or no reason at any time by giving fifteen (15) calendar days
6 prior written notice to the other party. In the event of termination under this Section, City
7 shall pay Consultant for services satisfactorily performed and costs incurred up to the
8 effective date of termination for which Consultant has not been previously paid. The
9 procedures for payment in Section 1.B. with regard to invoices shall apply. On the effective
10 date of termination, Consultant shall deliver to City all Data developed or accumulated in
11 the performance of this Agreement, whether in draft or final form, or in process. And,
12 Consultant acknowledges and agrees that City's obligation to make final payment is
13 conditioned on Consultant's delivery of the Data to City.

14 11. CONFIDENTIALITY. Consultant shall keep all Data confidential and
15 shall not disclose the Data or use the Data directly or indirectly, other than in the course of
16 performing its services, during the term of this Agreement and for five (5) years following
17 expiration or termination of this Agreement. In addition, Consultant shall keep confidential
18 all information, whether written, oral or visual, obtained by any means whatsoever in the
19 course of performing its services for the same period of time. Consultant shall not disclose
20 any or all of the Data to any third party, or use it for Consultant's own benefit or the benefit
21 of others except for the purpose of this Agreement.

22 12. BREACH OF CONFIDENTIALITY. Consultant shall not be liable for
23 a breach of confidentiality with respect to Data that: (a) Consultant demonstrates
24 Consultant knew prior to the time City disclosed it; or (b) is or becomes publicly available
25 without breach of this Agreement by Consultant; or (c) a third party who has a right to
26 disclose does so to Consultant without restrictions on further disclosure; or (d) must be
27 disclosed pursuant to subpoena or court order.

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1 13. ADDITIONAL COSTS AND REDESIGN.

2 A. Any costs incurred by City due to Consultant's failure to meet
3 the standards required by the scope of work or Consultant's failure to perform fully
4 the tasks described in the scope of work which, in either case, causes City to request
5 that Consultant perform again all or part of the Scope of Work shall be at the sole
6 cost of Consultant and City shall not pay any additional compensation to Consultant
7 for its re-performance.

8 B. If the Project involves construction and the scope of work
9 requires Consultant to prepare plans and specifications with an estimate of the cost
10 of construction, then Consultant may be required to modify the plans and
11 specifications, any construction documents relating to the plans and specifications,
12 and Consultant's estimate, at no cost to City, when the lowest bid for construction
13 received by City exceeds by more than ten percent (10%) Consultant's estimate.
14 This modification shall be submitted in a timely fashion to allow City to receive new
15 bids within four (4) months after the date on which the original plans and
16 specifications were submitted by Consultant.

17 14. AMENDMENT. This Agreement, including all Exhibits, shall not be
18 amended, nor any provision or breach waived, except in writing signed by the parties which
19 expressly refers to this Agreement.

20 15. LAW. This Agreement shall be construed in accordance with the laws
21 of the State of California, and the venue for any legal actions brought by any party with
22 respect to this Agreement shall be the County of Los Angeles, State of California for state
23 actions and the Central District of California for any federal actions. Consultant shall cause
24 all work performed in connection with construction of the Project to be performed in
25 compliance with (1) all applicable laws, ordinances, rules and regulations of federal, state,
26 county or municipal governments or agencies (including, without limitation, all applicable
27 federal and state labor standards, including the prevailing wage provisions of sections 1770
28 *et seq.* of the California Labor Code); and (2) all directions, rules and regulations of any

1 fire marshal, health officer, building inspector, or other officer of every governmental
2 agency now having or hereafter acquiring jurisdiction.

3 16. PREVAILING WAGES.

4 A. Consultant agrees that all public work (as defined in California
5 Labor Code section 1720) performed pursuant to this Agreement (the "Public
6 Work"), if any, shall comply with the requirements of California Labor Code sections
7 1770 *et seq.* City makes no representation or statement that the Project, or any
8 portion thereof, is or is not a "public work" as defined in California Labor Code
9 section 1720.

10 B. In all bid specifications, contracts and subcontracts for any
11 such Public Work, Consultant shall obtain the general prevailing rate of per diem
12 wages and the general prevailing rate for holiday and overtime work in this locality
13 for each craft, classification or type of worker needed to perform the Public Work,
14 and shall include such rates in the bid specifications, contract or subcontract. Such
15 bid specifications, contract or subcontract must contain the following provision: "It
16 shall be mandatory for the contractor to pay not less than the said prevailing rate of
17 wages to all workers employed by the contractor in the execution of this contract.
18 The contractor expressly agrees to comply with the penalty provisions of California
19 Labor Code section 1775 and the payroll record keeping requirements of California
20 Labor Code section 1771."

21 17. ENTIRE AGREEMENT. This Agreement, including all Exhibits,
22 constitutes the entire understanding between the parties and supersedes all other
23 agreements, oral or written, with respect to the subject matter in this Agreement.

24 18. INDEMNITY.

25 A. Consultant shall indemnify, protect and hold harmless City, its
26 Boards, Commissions, and their officials, employees and agents ("Indemnified
27 Parties"), from and against any and all liability, claims, demands, damage, loss,
28 obligations, causes of action, proceedings, awards, fines, judgments, penalties,

1 costs and expenses, including attorneys' fees, court costs, expert and witness fees,
2 and other costs and fees of litigation, arising or alleged to have arisen, in whole or
3 in part, out of or in connection with (1) Consultant's breach or failure to comply with
4 any of its obligations contained in this Agreement, including any obligations arising
5 from the Project's compliance with or failure to comply with applicable laws,
6 including all applicable federal and state labor requirements including, without
7 limitation, the requirements of California Labor Code section 1770 *et seq.* or (2)
8 negligent or willful acts, errors, omissions or misrepresentations committed by
9 Consultant, its officers, employees, agents, subcontractors, or anyone under
10 Consultant's control, in the performance of work or services under this Agreement
11 (collectively "Claims" or individually "Claim").

12 B. In addition to Consultant's duty to indemnify, Consultant shall
13 have a separate and wholly independent duty to defend Indemnified Parties at
14 Consultant's expense by legal counsel approved by City, from and against all
15 Claims, and shall continue this defense until the Claims are resolved, whether by
16 settlement, judgment or otherwise. No finding or judgment of negligence, fault,
17 breach, or the like on the part of Consultant shall be required for the duty to defend
18 to arise. City shall notify Consultant of any Claim, shall tender the defense of the
19 Claim to Consultant, and shall assist Consultant, as may be reasonably requested,
20 in the defense.

21 C. If a court of competent jurisdiction determines that a Claim was
22 caused by the sole negligence or willful misconduct of Indemnified Parties,
23 Consultant's costs of defense and indemnity shall be (1) reimbursed in full if the
24 court determines sole negligence by the Indemnified Parties, or (2) reduced by the
25 percentage of willful misconduct attributed by the court to the Indemnified Parties.

26 D. The provisions of this Section shall survive the expiration or
27 termination of this Agreement.

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1 19. AMBIGUITY. In the event of any conflict or ambiguity between this
2 Agreement and any Exhibit, the provisions of this Agreement shall govern.

3 20. NONDISCRIMINATION.

4 A. In connection with performance of this Agreement and subject
5 to applicable rules and regulations, Consultant shall not discriminate against any
6 employee or applicant for employment because of race, religion, national origin,
7 color, age, sex, sexual orientation, gender identity, AIDS, HIV status, handicap or
8 disability. Consultant shall ensure that applicants are employed, and that
9 employees are treated during their employment, without regard to these bases.
10 These actions shall include, but not be limited to, the following: employment,
11 upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or
12 termination; rates of pay or other forms of compensation; and selection for training,
13 including apprenticeship.

14 B. It is the policy of City to encourage the participation of
15 Disadvantaged, Minority and Women-Owned Business Enterprises in City's
16 procurement process, and Consultant agrees to use its best efforts to carry out this
17 policy in its use of subconsultants and contractors to the fullest extent consistent
18 with the efficient performance of this Agreement. Consultant may rely on written
19 representations by subconsultants and contractors regarding their status.
20 Consultant shall report to City in May and in December or, in the case of short-term
21 agreements, prior to invoicing for final payment, the names of all subconsultants
22 and contractors hired by Consultant for this Project and information on whether or
23 not they are a Disadvantaged, Minority or Women-Owned Business Enterprise, as
24 defined in Section 8 of the Small Business Act (15 U.S.C. Sec. 637).

25 21. EQUAL BENEFITS ORDINANCE. Unless otherwise exempted in
26 accordance with the provisions of the Ordinance, this Agreement is subject to the
27 applicable provisions of the Equal Benefits Ordinance (EBO), section 2.73 et seq. of the
28 Long Beach Municipal Code, as amended from time to time.

1 A. During the performance of this Agreement, the Consultant
2 certifies and represents that the Consultant will comply with the EBO. The
3 Consultant agrees to post the following statement in conspicuous places at its place
4 of business available to employees and applicants for employment:

5 “During the performance of a contract with the City of Long Beach, the
6 Consultant will provide equal benefits to employees with spouses and its
7 employees with domestic partners. Additional information about the City of
8 Long Beach’s Equal Benefits Ordinance may be obtained from the City of
9 Long Beach Business Services Division at 562-570-6200.”

10 B. The failure of the Consultant to comply with the EBO will be
11 deemed to be a material breach of the Agreement by the City.

12 C. If the Consultant fails to comply with the EBO, the City may
13 cancel, terminate or suspend the Agreement, in whole or in part, and monies due or
14 to become due under the Agreement may be retained by the City. The City may
15 also pursue any and all other remedies at law or in equity for any breach.

16 D. Failure to comply with the EBO may be used as evidence
17 against the Consultant in actions taken pursuant to the provisions of Long Beach
18 Municipal Code 2.93 et seq., Contractor Responsibility.

19 E. If the City determines that the Consultant has set up or used its
20 contracting entity for the purpose of evading the intent of the EBO, the City may
21 terminate the Agreement on behalf of the City. Violation of this provision may be
22 used as evidence against the Consultant in actions taken pursuant to the provisions
23 of Long Beach Municipal Code Section 2.93 et seq., Contractor Responsibility.

24 22. NOTICES. Any notice or approval required by this Agreement shall
25 be in writing and personally delivered or deposited in the U.S. Postal Service, first class,
26 postage prepaid, addressed to Consultant at the address first stated above, and to City at
27 333 West Ocean Boulevard, Long Beach, California 90802, Attn: City Manager, with a copy
28 to the City Engineer at the same address. Notice of change of address shall be given in

1 the same manner as stated for other notices. Notice shall be deemed given on the date
2 deposited in the mail or on the date personal delivery is made, whichever occurs first.

3 23. COPYRIGHTS AND PATENT RIGHTS.

4 A. Consultant shall place the following copyright protection on all
5 Data: © City of Long Beach, California _____, inserting the appropriate year.

6 B. City reserves the exclusive right to seek and obtain a patent or
7 copyright registration on any Data or other result arising from Consultant's
8 performance of this Agreement. By executing this Agreement, Consultant assigns
9 any ownership interest Consultant may have in the Data to City.

10 C. Consultant warrants that the Data does not violate or infringe
11 any patent, copyright, trade secret or other proprietary right of any other party.
12 Consultant agrees to and shall protect, defend, indemnify and hold City, its officials
13 and employees harmless from any and all claims, demands, damages, loss, liability,
14 causes of action, costs or expenses (including reasonable attorney's fees) whether
15 or not reduced to judgment, arising from any breach or alleged breach of this
16 warranty.

17 24. COVENANT AGAINST CONTINGENT FEES. Consultant warrants

18 that Consultant has not employed or retained any entity or person to solicit or obtain this
19 Agreement and that Consultant has not paid or agreed to pay any entity or person any fee,
20 commission or other monies based on or from the award of this Agreement. If Consultant
21 breaches this warranty, City shall have the right to terminate this Agreement immediately
22 notwithstanding the provisions of Section 10 or, in its discretion, to deduct from payments
23 due under this Agreement or otherwise recover the full amount of the fee, commission or
24 other monies.

25 25. WAIVER. The acceptance of any services or the payment of any
26 money by City shall not operate as a waiver of any provision of this Agreement or of any
27 right to damages or indemnity stated in this Agreement. The waiver of any breach of this
28 Agreement shall not constitute a waiver of any other or subsequent breach of this

1 Agreement.

2 26. CONTINUATION. Termination or expiration of this Agreement shall
3 not affect rights or liabilities of the parties which accrued pursuant to Sections 7, 10, 11,
4 17, 19, 22 and 28 prior to termination or expiration of this Agreement.

5 27. TAX REPORTING. As required by federal and state law, City is
6 obligated to and will report the payment of compensation to Consultant on Form 1099-
7 Misc. Consultant shall be solely responsible for payment of all federal and state taxes
8 resulting from payments under this Agreement. Consultant shall submit Consultant's
9 Employer Identification Number (EIN), or Consultant's Social Security Number if
10 Consultant does not have an EIN, in writing to City's Accounts Payable, Department of
11 Financial Management. Consultant acknowledges and agrees that City has no obligation
12 to pay Consultant until Consultant provides one of these numbers.

13 28. ADVERTISING. Consultant shall not use the name of City, its officials
14 or employees in any advertising or solicitation for business or as a reference, without the
15 prior approval of the City Manager or designee.

16 29. AUDIT. City shall have the right at all reasonable times during the
17 term of this Agreement and for a period of five (5) years after termination or expiration of
18 this Agreement to examine, audit, inspect, review, extract information from and copy all
19 books, records, accounts and other documents of Consultant relating to this Agreement.

20 30. THIRD PARTY BENEFICIARY. This Agreement is not intended or
21 designed to or entered for the purpose of creating any benefit or right for any person or
22 entity of any kind that is not a party to this Agreement.

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OFFICE OF THE CITY ATTORNEY
CHARLES PARKIN, City Attorney
333 West Ocean Boulevard, 11th Floor
Long Beach, CA 90802-4664

IN WITNESS WHEREOF, the parties have caused this document to be duly executed with all formalities required by law as of the date first stated above.

HNTB CORPORATION, a Delaware corporation

11/3/2015, 2015

By *Darlene K. Gee*
Name *Darlene K. Gee*
Title *Vice-President*

11/4/2015, 2015

By *Craig W. Deason*
Name *Craig W. Deason*
Title *Secretary*

"Consultant"

CITY OF LONG BEACH, a municipal corporation

11/23, 2015

By *P. H. [Signature]*
City Manager

"City"

This Agreement is approved as to form on November 12, 2015.

CHARLES PARKIN, City Attorney

By *[Signature]*
Deputy

EXHIBIT “A”

Scope of Work

Long Beach Airport - Geometry Study Phase II

Scope of Professional Services

**To be performed by:
HNTB Corporation**

**In Partnership with:
Woolpert, Wagner Engineering & Survey, and Kimley Horn & Associates**

August 27, 2015

Project Background

LGB is a Part 139 Certificated Airport located in Long Beach, CA, that is overseen by the City of Long Beach. LGB serves the greater Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area of approximately 12.8 million residents. In 2013, LGB accommodated approximately:

- 3 million passengers (1.47 million enplanements)
- 24.36 thousand metric tons of Air Cargo (freight + mail)
- 251,957 aircraft operations

The LGB airfield is characterized by five total runways including one primary commercial runway of 10,003 feet and a secondary air-carrier with a length of 6,192 feet. The airport supports passenger operations with a 11-gate terminal. LGB has a sizable aircraft manufacturing and completion centers with Boeing and the C-17 and Gulfstream with corporate jets. LGB also serves a sizeable General Aviation (GA) community with four Fixed Base Operators (FBO) and three GA runways.

The latest revision to the LGB Airport Layout Plan (ALP) was completed and submitted to the Federal Aviation Administration (FAA) in April, 2012. Since then, LGB is currently finishing an Airfield Geometry Study (AGS) to address safety issues related to the airport configuration. Decisions made related to the AGS study (e.g., which individual actions will be approved, modifications to standards to be pursued, etc...) will be reflected on the ALP. Additionally, shifting magnetic declination will require the renaming of Runways 7L-25R, 7R-25L in the near future.

The ALP Update project will encompass two elements that comply with FAA Advisory Circular (AC) guidance:

Long Beach Geometry Study Phase II SOW

1. Aeronautical Surveys compliant with guidance presented in FAA AC 150/5300-16A, AC 150/5300-17C, and AC 150/5300-18B
2. Airport Layout Plan Update compliant with guidance presented in FAA AC 150/5300-6B and the FAA's Standard Operating Procedure (SOP) ALP Checklist

The contents of this document describe the scope of work that will be adhered to in delivering updated aeronautical surveys and an updated ALP for LGB.

Project Area: The project area encompasses LGB and surrounding areas covering the limits of the high precision planimetric / topographic data collection as well as the limits required for the airspace analysis. Figure 1 details the general data capture areas for the three areas encompassed in this project. The blue boundary depicts the area for the digital mapping. The yellow boundary depicts the area for the approach surfaces which will be part of the obstruction survey, and the red boundary depicts the area for the horizontal and conical surfaces which will complete the areas for the obstruction survey.

FIGURE 1 – Photogrammetry and Survey Data Collection Boundaries

~ Note that these areas are approximate ~



Element 1: Airport Aeronautical Survey, Preparation of Planimetric Data and Airport Layout Plan (ALP) Update

The Consultant Team (Team) shall provide an Airport Aeronautical Survey in accordance with Table 2-1 of FAA AC 150/5300-18B and the ACs noted below. Data collected will include, but is not limited to, aerial photography, digital photogrammetry, digital planimetric mapping, runway end positions, runway vertical profiles, monument locations, positions and elevations of navigational aids (NAVAIDS), and positions and elevations of representative obstacles. Verification of accurately positioned airport geodetic control is also required. Submission of data will be through the FAA Airports Geographic Information System (A-GIS) web portal.

The ACs identified below detail the data collection requirements and accuracies for the Aeronautical Survey:

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- AC 150/5300-16A “General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey;”
- AC 150/5300-17C “Standards for Using Remote Sensing Technologies in Airport Surveys”
- AC 150/5300-18B “General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards.”

The National Geodetic Survey (NGS) has established one Primary Airport Control Station (PACS) and two Secondary Airport Control Stations (SACS) at LGB (pending validation). Should the need arise, temporary airport control will be established according to the guidelines established in AC 150/5300-16A.

The Team shall tie the airport survey to the National Spatial Reference System (NSRS) using the existing PACS and SACS and/or temporary control established at LGB. The Team shall provide the required deliverables identified in the appropriate AC through the A-GIS website. In support of the data collection efforts, the Team shall acquire imagery and submit the required deliverables as specified in AC 150/5300-17C “Standards for Using Remote Sensing Technologies in Airport Surveys.” Aerial photography or imagery will be submitted directly to the FAA at the address listed in AC 150/5300-17C on an appropriately labeled recordable media such as CD, DVD, or portable hard drive. The media will include a label identifying the airport and company contact information. The City shall be granted full rights to use the aerial photography and associated delivered photogrammetric products. Conventional photogrammetry and remote sensing methodology is necessary for this project as the use of LIDAR is currently not eligible for AIP reimbursement.

The Team shall conduct an Airport Airspace Analysis consistent with AC 150/5300-18B (18B), Section 2.7, for Runway 12-30 and Runway 7L-25R using the standards established for Vertically Guided Instrument Approach Procedures. Runway 7R-25L will be analyzed using the standards established for Non-Vertically Guided Approach Procedures. The Airport Airspace Analysis will use the future runway end points as proposed in the AGS study and provided by HNTB. An Airport Airspace Analysis will not be conducted for Runways 16R-34L and 16L-34R. FAR Part 77 Imaginary Surfaces will also be collected to the full extents of the imaginary acquired. This is necessary for the ALP update to reflect all obstructions because an 18B Airport Airspace Analysis survey includes a grid-type analysis that does not necessarily collect all obstruction data. This additional analysis is necessary for use in the ALP update.

The Team shall collect the position, elevation, and where required, the appropriate navigational aid perpendicular point of all electronic and visual navigational aids (NAVAIDS) within 10 nautical miles of the airport and/or associated with a current instrument approach servicing the airport, consistent with AC 150/5300-18B, Section 2.6.10.3. The Team shall collect and submit runway profiles for all runways according to the standards in AC 150/5300-18B, Section 2.6.10.2.6, at 10-foot intervals. The Team shall also collect and provide 10-foot supplementary offset runway profiles on either side of the centerline.

The Team survey personnel have previously performed Aeronautical Surveys to the same specifications accepted by the NGS. The survey personnel is also experienced in communicating with the FAA and the NGS regarding questions to the various ACs and in preparing Plans and Reports that meet the requirements of both the FAA and the NGS.

The Team shall perform all work in a manner consistent with the level of care and skill that projects of this magnitude require. All deliverables will be submitted in a timely manner in the formats specified by the FAA ACs and the City of Long Beach.

Team survey personnel and vehicles must either meet the Airport's criteria for unescorted driving privileges in the movement area, or incur costs for escort service provided by the Airport.

HNTB Corporation shall be responsible for all uploads to the A-GIS portal and final QA/QC. Data and reports will be the responsibility of Woolpert as noted below.

**Task 1.1. Project Initiation, Coordination, and Data Gathering
(LEAD - HNTB, Woolpert)**

HNTB will subcontract a suitable aerial photography specialist to capture all necessary color aerial photography and Airborne Global Positioning System (ABGPS) data. Prior to commencement of the aerial flight mission, the Team shall develop a "Proposed Flight Mission Report" detailing flight plan, pilot, aircraft type, and "N" number. In accordance with FAA standards, the Team shall develop a "Survey Work Plan and Quality Control Plan" as well as an "Imagery Acquisition Plan" which will be submitted to FAA prior to commencing the flight mission. In addition, the "Imagery Acquisition Plan" will be coordinated with local (LGB) Air Traffic Control Tower (ATCT) staff and airport operations staff in order to facilitate the completion of the flight missions. Note that additional ATCT coordination may be required with Los Angeles International Airport (LAX),

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Torrance Zamperini Field (TOA), Hawthorne (HHR) and Santa Ana John Wayne Airport (SNA) given the proximity of these airports if the flight mission will encompass portions of their airspace.

Aeronautical Surveys following the guidelines in the ACs requires that interviews be conducted with multiple people associated with the airport. These interviews include the Airport Manager, Air Traffic Control Tower Manager, and FAA NAVAID maintenance staff. These interviews follow an existing FAA checklist and allow for a starting point for additional discussions about safety and any special considerations while working within the AOA, movement areas, near NAVAIDs, and on runways.

The completion of the above preparatory tasks allows the Team, in conjunction with the City of Long Beach, to develop the Statement of Work (SOW). The SOW will be uploaded to the A-GIS website and will be reviewed by the FAA for compliance with the relevant ACs and their expectations.

The acceptance of the SOW will trigger the Team to upload two plans required by the FAA and NGS. The two plans include: the Imagery Acquisition Plan and the Survey Work Plan and Quality Control Plan.

The Imagery Acquisition Plan will provide details for the aerial imagery. Critical items like flying heights, equipment used, and anticipated flight control are outlined in this report for review by the FAA and NGS.

The Survey Work Plan and Quality Control Plan specifics how the Team is going to perform the survey and acquire the features outlined in the SOW. This plan is the most important of the three, as it lists the equipment, personnel, and what type of quality control measures will be used throughout the life of the project.

Meetings:	1 Kick-Off Meeting with City of Long Beach project staff (HNTB/Woolpert) 1 Coordination Meeting with FAA ATC Personnel for Flight Planning (HNTB/Woolpert) 1 Interview session with each identified individual (Woolpert)
Deliverables:	Survey Work Plan and Quality Control Plan (Woolpert) Imagery Plan (Woolpert) Proposed Flight Mission Report (Woolpert) Uploads to A-GIS (HNTB)

**Task 1.2. Capture Aerial Photography
(LEAD – Woolpert, SUPPORT – HNTB)**

All Aerial Photography (AP) will be acquired utilizing a calibrated photogrammetric camera. The project areas will be flown during suitable flying conditions, which will include:

- Ground not obscured by haze, fog, or dust;
- Trees in leaf-on conditions;
- Solar angle greater than or equal to 30 degrees;
- Clouds not above photographic areas

The AP flight mission will consist of two flight altitudes. The first will be flown at an altitude of approximately 2,500' above ground level (AGL) with a photo scale of 1"=300' to capture all imagery encompassed within the blue outlined area in Figure 1; the second flight will be flown at an altitude of approximately 5,500' AGL with a photo scale of 1"=800' to capture all of the imagery encompassed within the yellow and red areas in Figure 1.

The AP, upon receipt, shall be reviewed for proper contrast, tone, balance and resolution. Each photographic exposure will be labeled at the north-end with an assigned roll number, photo scale, flight strip number, exposure number, and the date of the flight mission.

After the processing and development of the aerial photography, the imagery will be scanned for use in a softcopy environment. The scanned image will be checked for completeness, cleanliness, and image quality at the workstation and will conform to Intel TIFF (continuous tone raster graphics/non-compressed) file format.

An "Imagery Flight Report" will be finalized and submitted to the FAA as part of meeting AC requirements.

Meetings:	Meetings (HNTB & Woolpert)
Deliverables:	AP Acquisition Report including Flight Report and Flight Layout (Woolpert), Upload to A-GIS (HNTB)

**Task 1.3. Perform Survey
(LEAD – Woolpert, SUPPORT – HNTB)**

Once the various Plans have been approved by the NGS, field work can begin. Since the airport environment is dynamic, decisions about exactly how the field surveys shall be done are made between the field personnel, the managing staff, and the airport operations team at the time of the survey. Various options will be outlined in the Survey and Quality Control Plan.

Most field efforts in support of Aeronautical Surveys rely substantially on GPS, utilizing Static, RTK (Real-time Kinematic), and PPK (Post-processed Kinematic) methods.

For aerial panels or photo identification points used to help orientate the aerial photography, either static or RTK GPS survey techniques are used.

For airport features, RTK GPS is used as much as possible. Since Runway Ends and Displaced Thresholds have the strictest accuracy requirements, they are typically located using either GPS Rapid Static or RTK Surveys from two separate Static GPS/RTK Base Points (two measurements on the same location).

For most NAVAIDs, RTK GPS is used. For those airport features where GPS will not work, total stations, in both a conventional and reflectorless technique will be used.

Various photographs and sketches are made in the field while the field personnel are at the site surveying the feature.

An office review and reduction of notes will be done throughout the field survey process. This will allow for a continuous review of the work, verifying that work done meets the accuracy requirements outlined in the ACs and detailed in the various Plans.

Team survey personnel shall:

- Verify all NAVAIDS to be collected with HNTB and City of Long Beach Staff

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- Submit the original version of all observation logs, hand-written station descriptions/recovery notes, Station Location Sketch and Visibility Diagrams, digital photographs;
- Submit spreadsheets used to compare vector processing results and submit copies of any other files requested by NGS for quality control;
- Submit all ADJUST (or equivalent commercial software) and checking programs input, output files and the spreadsheets used and/or INVERSE3D program output files used for comparing published coordinates with their adjusted coordinates;
- Submit all original, raw data, RINEX data, precise ephemeris, and commercial software files in accordance with Appendix 8 and include the data files used for processing.;
- Submit all processing, adjustment, and supporting files in digital format and any other files required by the ACs or requested by NGS and not previously submitted;
- Submit NGS ASP with digital stereo imagery of the area of analysis in accordance with AC 150/5300-17C;
- Collect all features defined in Table 2-1; Survey Requirements Matrix, of AC 150/5300-18B; including centerline surveys of all runways to provide runway centerline gradients and elevations;

Meetings:	1 Coordination Meeting with, the City of Long Beach Geomatics Staff, LGB Ops and FAA personnel for required Interviews and Survey Field Work Planning (Woolpert)
Deliverables:	Tie in PACS and SACS and Establish RTK Base Station Points (Woolpert) Upload project report to A-GIS (HNTB)

**Task 1.4. Geo-reference Imagery
(LEAD – Woolpert)**

During completion of the flight-missions, ABGPS (easting, northing, elevation) coordinates will be established for the center of each photograph to reduce the

amount of control points outside of the blue outlined area in Figure 1. The ABGPS coordinate values will be tied into the specified coordinate system. The use of ABGPS will provide the necessary horizontal coordinate accuracy for the creation of stereo imagery.

To update mapping features, ground based photo-identifiable points shall be identified and established after the scanning stage is complete. The scanned images will then be georeferenced (aerial-triangulated) in soft-copy format to fix the imagery to real-world coordinates by utilizing the previously established ground control features or targets. The surveyor shall provide all necessary services for establishing the ground control network for the project.

Meetings:	Meetings (Woolpert)
Deliverables:	Aero-triangulation Report (Woolpert) Upload to NGS (Woolpert)

**Task 1.5. Create Digital Ortho-Photography
(LEAD – Woolpert, SUPPORT – HNTB)**

The digital orthophotos will be produced to meet the standards set forth by the City and shall comply with guidance set forth in AC 150/5300-17C. Final orthophotos shall meet the following specification:

- Figure 1, Blue Boundary: ground pixel resolution of 0.25' suitable for a 1"=40' scale;
- Figure 1, Yellow and Red Boundaries: ground pixel resolution of 0.5' suitable for a 1"=100' scale (Upload to A-GIS).

A sheet layout for the orthorectified area of interest will be verified prior to cutting the digital orthophotos. This sheet will serve as the boundary between individual orthophoto files (i.e. geo-referenced area) and shall be created to hold a pre-determined amount of digital information (e.g. 200 megabytes of data per sheet or other according to City specifications).

Meetings:	Meetings (Woolpert & HNTB)
Deliverables:	Color Digital Orthophotos in TIFF format (uncompressed) including TFW World files – 0.25' GSD for areas in Figure 1 Blue Outline (Woolpert), 1.0' GSD for areas within Figure 1 Yellow and Red

	Outlines (Woolpert), Submittal to City of Long Beach (HNTB), Upload 1.0' GSD to A-GIS (HNTB)
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**Task 1.6. Perform Airspace & Obstruction Analysis
(LEAD – (Woolpert, SUPPORT – HNTB)**

Gathering the necessary aerial images, an airspace analysis will be performed for all runways according to the specifications set forth in AC 150/5300--18B, AC 150/5070-6B, and the FAA SOP ALP Review Checklist, which requires obstructions analysis according to FAR Part 77 – Objects Affecting Navigable Airspace. Obstruction data will be collected to meet the appropriate obstruction identification surface and selection criteria. Surfaces to be analyzed as part of Runways with Vertical Guidance will include:

- Primary Surface (VGRPS)
- Primary Connection Surface (VGPCS)
- Approach Surface (VGAS)
- Protection Surface (VGPS)
- Approach Transitional Surface;
- Horizontal Surface (VGHS);
- Conical Surface (VGCS)
- FAR Part 77 (To 20,000 feet from Runway Ends with Full Precision Instrument Approaches)
 - Primary Surface
 - Approach Surface (inner and outer)
 - Transitional Surface (inner and outer)
 - Horizontal Surface
 - Conical Surface

Specific airspace surfaces for each runway end are presented in **Table 1** below. Formatting of final collected obstacles will adhere to requirements in AC 150/5300-18B, Chapter 5 Airport Data Features. All data collected per AC 150/5300-18B requirements will be delivered to A-GIS. The FAR Part 77 data will be delivered in both a .xls and .dwg format.

The Team shall provide field surveys (See **Task 1.3**) to locate photo identification points and check points for a low level flight. Surveys will be constrained to the control values established for the obstruction surveys and will comply with the accuracy requirements established in AC 150/5300-16A and AC 150/5300-18B.

Table 1 – Obstruction Surfaces for Each Runway End

Survey Locations:	Survey Specifications Required	Comments
Runways 07L/25R 07R/25L 12/30	Vertically Guided Approach Surface (VGAS)	Approach surface extending 20,200 feet from end of the physical runway end.
	Vertically Guided Runway Primary Surface (VGRPS)	1,000 foot wide rectangular surface longitudinally centered on the runway centerline.
	Vertically Guided Primary Connection Surface (VGPCS)	Connection between the VGRPS and the VGATS.
	Vertically Guided Protection Surface (VGPS)	A trapezoidal surface sloping at 62.5:1 beginning at the physical runway end extending outward 6,000 feet.
	Vertically Guided Approach Transitional Surface (VGATS)	Surface aligned with VGPCS and sloping upward toward the VGHS.
	Vertically Guided Horizontal Surface (VGHS)	Horizontal plane established 150 feet above the Airport elevation for a distance of 10,000 feet.
	Vertically Guided Conical Surface (VGCS)	Sloping surface extending upward and outward from the VGHS for a distance of 7,000 feet.
Additional Surfaces: Rwy approach End 30	ADDITIONAL: FAR Part 77 Precision Instrument Extended Approach Surface	A surface longitudinally centered, on the extended centerline of the PIR runway, beginning at the end of the Primary Surface and extending outward and upward at a slope of 50:1 (2.0 percent) for a horizontal distance of 10,000 feet and at a slope of 40:1 (2.5 percent) for an additional 40,000 feet. The surface width is that of the Primary Surface at the beginning and increases uniformly to a width of 16,000 feet at a distance of 50,000 feet from the end of the Primary Surface
Additional Surfaces: 07L/25R & 07R/25L	ADDITIONAL: D-NONPRECISION INSTRUMENT APPROACH	A surface longitudinally centered on the extended centerline of the runway, beginning at the end of the Primary Surface. Primary Surface width at end adjacent to runway end and flaring to 4,000 feet at a distance of 10,000 ft from the end of the Primary Surface

Meetings:	Meetings (Woolpert and HNTB)
Deliverables:	Obstruction Analysis and Report in both CAD and GIS formats (Woolpert). QA/QC and Upload to A-GIS (HNTB)

**Task 1.7. Collect Digital Mapping Data
(LEAD – Woolpert, SUPPORT - HNTB)**

Utilizing the aero-triangulated aerial photography, each photographic stereo pair will be oriented and compiled on calibrated analytical stereo-plotters and/or

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image stations. Mapping features will be collected for portions of the airport required according to guidance set forth in AC 150/5300-18B and any additional areas defined by the City. All mapping within the airport property boundary (yellow area), runway protection zones (RPZ) (red areas), and aviation easement areas (green areas) must meet criteria set forth in AC 150/5300-18B. For those areas outside of the airport property, RPZs, and aviation easements, building outlines, top elevations, ground contours, and roads are acceptable mapping features. The mapping areas to be included are illustrated in Figure 2 below. The planimetric and terrain data will be collected for a final 1"=40' map scale showing one foot contours.

ALP features to be collected and attributed include:

5.4.1.	Aircraft Gate Stand
5.4.2.	Aircraft Non Movement Area
5.4.4.	Airfield Light
5.4.11.	Runway LAHSO
5.4.14.	Taxiway Holding Position
5.4.15.	Airport Sign
5.4.16.	Apron
5.4.19.	Marking Area
5.4.20.	Marking Line
5.4.23.	Restricted Access Boundary
5.4.27.	Runway Label
5.4.29.	Shoulder
5.4.30.	Taxiway Intersection
5.4.31.	Taxiway Element
5.5.1.	Landmark Segment
5.7.4.	Flora Species Site
5.7.5.	Forest Stand Area
5.7.11.	Shoreline
5.7.12.	Wetland
5.8.6.	Airport Control Point – Profile Points
5.8.10.	Elevation Contour
5.8.11.	Image Area
5.9.1.	Building
5.9.2.	Construction Area
5.9.3.	Roof
5.9.4.	Fence
5.9.5.	Gate
5.9.6.	Tower
5.13.1.	Bridge
5.13.2.	Driveway Area

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5.13.3.	Driveway Centerline
5.13.4.	Parking Lot
5.13.7.	Road Centerline
5.13.8.	Road Point
5.13.9.	Road Segment
5.13.10.	Sidewalk
5.13.11.	Tunnel
5.14.1.	Tank Site
5.14.2.	Utility Line
5.14.3.	Utility Point
5.14.4.	Utility Polygon

OA features to be collected and attributed:

5.4.22.	Runway
5.4.12.	Runway Elements
5.4.26.	Runway Ends
5.4.8.	Runway CenterLine (Profile)
5.4.25.	Runway Blast Pad
5.4.27.	Runway Label
5.4.10.	Runway Intersection
5.4.18.	TOUCH DOWN LIFTOFF
5.7.11.	Shoreline
5.11.8	Dock Area
5.4.19.	Marking Area
5.4.20	Marking Line
5.5.1.	Landmark Segment
5.8.1.	Airport Control Point – Runway Intersection Point
5.8.2.	Airport Control Point – Airport Elevation
5.8.3	Airport Control Point – Centerline Perpendicular Points
5.8.4	Airport Control Point –Displaced Threshold Point
5.8.6.	Airport Control Point – Profile Points
5.8.7	Airport Control Point –Touchdown Zone Elevation (TDZE)
5.8.8	Airport Control Point –Primary and Secondary Airport Control Stations (PACS/SACS)
5.8.9	Coordinate Grid Area
5.5.4	Obstruction Identification Surface
5.5.2	OBSTACLE
5.5.3	OBSTRUCTION AREA
5.10.	NAVAID EQUIPMENT

FIGURE 2 – Planimetric Data and Mapping Boundary



After the digital mapping of each stereo-model, a quality assurance check will be performed of the analytically compiled models using a soft copy workstation. The reviewed data will be superimposed on the compiled stereo-model images and will be reviewed for accuracy and completeness. If the compiled data should produce areas that do not meet the requirements of the review, the Team shall make the necessary changes model to model. After the soft-plotter review has been completed for each stereo-model, a Graphics Editor will review the compiled data for completeness and proper symbols and labels. The compiled data will be processed through automated programs to provide proper edge-matching, closed polygons, and squared buildings. After a final quality review of the processed data, the digital file will then be formatted into a GIS format.

- Planimetric data will be prepared for three uses:
- Compliance and data requirements set forth in AC 150/5300-18B
- Preparation of the Airport Layout Plan with consideration to meeting typical ALP production for the FAA Western-Pacific Region for cartographic standards of data presentation

Woolpert will be required to complete any feature attribution that can be completed by photogrammetric methods.

Meetings:	Meetings (Woolpert and HNTB)
Deliverables:	Digital mapping file (AutoCAD and GIS formats) (Woolpert)

**Task 1.8. Perform Map Accuracy Validation
(LEAD – Woolpert, SUPPORT – HNTB)**

After completion of **Task 1.5** and **Task 1.6**, a validation of map accuracy will be performed following the guidance of the Federal Geographic Data Committee’s National Standard for Spatial Data Accuracy (NSSDA) methodologies. The result of this validation will provide an accuracy statement for the digital orthophotography and digital mapping products at the 95% confidence level.

Field survey requirements in support of this task are described in **Task 1.3**.

Meetings:	Meetings (Woolpert, HNTB)
Deliverables:	Digital Mapping data consisting of 1" = 40' planimetric data for areas defined in this Scope and Digital Mapping data consisting of a digital terrain model and contours at a 1' interval for all areas within the Figure 1 Blue outline (Woolpert) Map Accuracy Validation (Woolpert) QA/QC of final formatted data (HNTB) Submittal of Data to City of Long Beach (HNTB) Upload of Mapping to A-GIS (HNTB)

**Task 1.9. Project Close-Out and Final Reporting
(LEAD – Woolpert, SUPPORT - HNTB)**

A “Final Report” will be generated in accordance with AC 150/5300-18B. This report, together with the supporting data outlined below, can only occur after the

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Survey File has been uploaded to AGIS and gone through the automated data validation process.

The Project Final Report will include the following:

- Written Final Summary detailing the project and any deviations from the Survey and Quality Control Plan (Woolpert and HNTB)
- Copies of the Airport Interviews (Woolpert)
- Information regarding the Geodetic Control Data (Woolpert)
- Information regarding the runways (Woolpert)
- Information regarding NAVAIDs (Woolpert)
- Information regarding obstacles (Woolpert)
- All observation logs, hand-written station descriptions/recovery notes, Station Location Sketch and Visibility Diagrams, digital photographs (Woolpert)
- Spreadsheets used to compare vector processing results and submit copies of any other files requested by NGS for quality control (Woolpert)
- All processing, adjustment, and supporting files in digital format and any other files required by the ACs or requested by NGS and not previously submitted (Woolpert)

Project closeout will consist of ensuring receipt and acceptance of the obstruction survey and digital mapping data by the FAA and NGS.

Meetings:	Meetings (HNTB, Woolpert)
Deliverables:	LGB Data Collection Final Report and final digital mapping file (Woolpert) QA/QC and final report formatting (HNTB) Upload to A-GIS (HNTB)

Airport Layout Plan Update (HNTB)

In addition to the aeronautical survey, this element updates the Airport Layout Plan (ALP) for LGB. This will include incorporating the existing and proposed facilities necessary for the operation and development of the airport. Preparation of the ALP is for the purpose of documenting the existing conditions at LGB, maintaining and enhancing safety, monitoring facilities, and submitting planned improvements to FAA for review.

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The Team shall follow guidelines contained in the FAA Standard Operating Procedure (SOP) ALP Checklist. AC 150/5070-6B, Chapter 10 and Appendix F will also provide general guidance for the preparation of the ALP.

The LGB ALP package shall consist of a Narrative Report, ALP Plan Drawings, and a completed ALP Review Checklist. Below is a listing of the ALP package along with a brief description of each item:

1. Narrative Report
 - a. The narrative report will be a concise summary of the activity forecast, design aircraft, support documentation for modifications of standards, runway safety area determinations, and proposed development.
2. Title Sheet
 - a. The title sheet contains graphic representations of the airport and its content, as well as global location information.
3. Airport Data Sheet
 - a. The airport data sheet will informational tables including a summary of the wind analysis as well as the existing and future airport design criteria.
4. Existing ALP Drawing
 - a. This sheet serves as the main informational sheet of all the ALP plan drawings and depicts the existing conditions of the airfield. Particular attention to formatting will be paid due to the volume of data that needs to be displayed.
5. Future ALP Drawing
 - a. A separate drawing showing future conditions will be necessary to depict proposed conditions depicted under the AGS study and other future projects.
6. Future Declared Distance Drawing
 - a. The declared distance sheet(s) serve to graphically depict the complexities of the planning necessary to publish declared distances. This sheet will show how the declared distances is set by the limitations of the airport design criteria.
7. Future Airport Airspace Drawing
 - a. This sheet has the broadest geographic coverage of all the ALP plan drawings. This sheet contains the future Part 77 imaginary surfaces and information regarding tall objects in the airport vicinity. Runways 16L-34R and 16R-34L will be excluded from any obstruction analysis and airspace surface preparation.
8. Existing/Future Inner Portion of the Approach

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- a. These sheets are often the most complex sheets within the ALP plan package. The intent of these sheets is to display obstructions in a tabular, plan, and profile view. This sheet will also provide a proposed disposition of surface penetrations. Runways 16L-34R and 16R-34L will be excluded from any obstruction analysis and airspace surface preparation.
9. Departure Surface Drawings
 - a. These sheets will depict the departure surface plan and profiles for each future end that has an instrument departure. Runways 16L-34R and 16R-34L will be excluded from any obstruction analysis and airspace surface preparation.
10. Future Obstacle Free Zone (OFZ) Drawing
 - a. Similar to the inner portion of the approach drawings, this sheet will display obstructions to the OFZ in a tabular, plan, and profile view. Dispositions of surface penetrations will be provided.
11. Terminal Area Drawing(s)
 - a. The terminal area drawings serve two main purposes – they provide the airport sponsor and others a relatively detailed view of existing and future development areas. They also give the FAA a tool to evaluate compliance with safety standards in these areas.
12. Land Use Drawing (Optional)
 - a. Depicts both on and off airport land uses and zoning in the area around the airport. The airport noise contour is often displayed on this drawing.
13. Airport Property Map / Exhibit A
 - a. This sheet is used by the FAA to determine federal funding eligibility for certain projects and ensure that the airport sponsor has an appropriate level of control over the airport environment. The Exhibit A will rely on the best-available existing data, including the most recently approved Exhibit A, for parcel information and related records / data. The Exhibit A will rely on City of Long Beach staff to conduct research to the extent possible to complete the property data table.
14. Completed ALP Review Checklist
 - a. An electronic version of the ALP Review Checklist will be provided.

The ALP package will be submitted in a preliminary draft form to the City for internal review. Once review comments are received and changes incorporated, the draft documents will be forwarded to the FAA for their review. A final submittal will be forwarded to both the City and the FAA after FAA review comments have been received and addressed.

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Each draft submittal and the final submittal, to both the City and the FAA, will include ten copies of the ALP package. The Team shall also provide the City with an electronic copy in Adobe .pdf format, as well as any associated drawings in AutoCAD .dwg format.

All ALP documentation will be submitted to the FAA's Los Angeles Airports District Office (LA-ADO), part of the FAA's Western-Pacific Region.

The State of California provides no formal guidance on the preparation of ALP and has no formal role in review of an ALP. However, the California Airports Best Practices Guide, published in July 2008, encourages airport sponsors to involve the State Department of Transportation if seeking state level funding for any proposed projects. A copy of the Final, FAA approved ALP shall be submitted by the City of Long Beach and to the California Department of Transportation – Division of Aeronautics.

The ALP portion of the Scope consists of seven broad tasks:

1. Coordination
2. Data Gathering and Base Map Preparation
3. ALP Narrative Creation
4. ALP Plan Drawing Creation
5. ALP Review
6. ALP Submittal
7. ALP Approval

Task 1.10. Coordination

Coordination, essential to timely and efficient completion of the ALP, shall primarily occur between three parties:

1. City of Long Beach (City)
2. Consultant Team (Team)
3. Federal Aviation Administration (FAA)

Coordination will consist of meetings between the City, the FAA, and the Team. The Team shall take responsibility for and support the City in coordination with the FAA's LA-ADO representative planner. The purpose of the coordination task is to establish expectations and requirements at the beginning of the process, enhance organization, and determine an appropriate level of effort. Understanding FAA's expectations and requirements at the outset will be instrumental toward minimizing the length of time for FAA to approve the ALP. As time is of the essence, the Team will obtain preliminary comments and

concerns for all proposed projects to be illustrated on the ALP to expedite the FAA review period. The ideal FAA review period for the draft submittal would be a period of six (6) weeks with a final review period of not more than two (2) weeks.

Task 1.11. Data Gathering and Base Map Preparation

This project encompasses a comprehensive survey and planimetric data set as described in **Element 1: Data collected under Element 1:** will be utilized for the LGB ALP Update.

The City will provide the Team with the most recent ALP data in AutoCAD .dwg format. The Team will work with City staff to compile a comprehensive list of projects completed since the previous updates, projects currently under construction, and projects nearing construction or planned within the five-year ACIP. With this list, the City will provide the Team with AutoCAD or other digitally formatted data that can be incorporated into the ALP.

The City will also coordinate with the Team to determine other changes to the existing facilities since the previous update. This includes, but is not limited to:

- New or changed tenants;
- Changes to existing structures not shown in any design drawings;
- Changed data (e.g., runway markings, taxiway markings);
- Changes to navigation equipment;
- Changes to taxiway names/designations;
- Changes to airport data;
- Changes to facility status (e.g., opened or closed areas);
- Modifications of Standards and/or Memoranda of Agreement affecting facilities at the Airports.

Task 1.12. ALP Narrative Creation

An ALP Narrative is necessary to provide an executive summary of the findings and recommendations to be shown on the ALP. This report is an opportunity to explain how things have changes since the last ALP Update was completed. It also allows an opportunity to provide rationale for the proposed items of development. A summary of the basic aeronautical forecast from the most recent Master Plan will be provided along with a brief "high level" update summarizing

the accuracies of the forecast. It is important to note that a full aeronautical forecast update will not be completed at this time.

Meetings:	1 Meeting with City of Long Beach project staff (HNTB)
Deliverables:	ALP Narrative Report

Task 1.13. ALP Plan Drawing Creation

The Team shall prepare the comprehensive update to the LGB ALP including all required sheets and an accompanying Narrative Report. It is anticipated that the LGB ALP will be printed on a 36" by 48" sheet which represents a deviation from the FAA regional checklist standard. Color will be utilized where appropriate to illustrate airfield safety areas. The consultant will work with the City to optimize the layout for ease of use.

Meetings:	ALP Review Meeting 1: 2 Team staff and LGB staff will review the Draft ALP for accuracy and completeness. ALP Review Meeting 2: 2 Team staff and LGB staff will review the Draft ALP for accuracy and completeness based on FAA Comments on 1st Draft.
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Task 1.14. ALP Review

Integral to providing correct and consistent information, the Team and City staff shall review the ALP and associated narrative report. The Team project manager and designated Quality Assurance manager will review the format and content of the ALP and narrative report, and provide quality assurance and quality control (QA/QC) prior to submitting to the City for review. Kimley Horn will also be enlisted to provide an independent and unbiased review of the ALP package.

A minimum of two rounds of review with the City and Kimley Horn will be accounted for prior to submission to FAA for review. Further, FAA may be consulted prior to official submittal in order to ascertain primary concerns with format and layout so that FAA review can focus on standards and compliance.

The Team shall participate in the City and Kimley Horn review and revise the ALP per comments. The Team will rely on the ALP SOP Review Checklist as a guide for document review. The Team shall keep in frequent contact with City staff and Kimley Horn Reviewer to ensure that ALP formatting and style are acceptable on a general basis.

Meetings:	<p>ALP Review Meeting 1: 2 Team staff, LGB staff, and the Kimley Horn reviewer will review the Draft ALP for accuracy and completeness.</p> <p>ALP Review Meeting 2: 2 Team staff, LGB staff, and the Kimley Horn reviewer will review the Draft ALP for accuracy and completeness based on FAA Comments on 1st Draft.</p>
Deliverables:	<p>Draft ALP package suitable for submission to FAA (8 Copies, Full Color)</p> <p>Final ALP package suitable for submission to FAA (8 Copies, Full Color)</p> <p>Final ALP package with FAA signature (10 Copies, Full Color)</p>

Task 1.15. ALP Submittal

ALPs will be submitted to the FAA Western-Pacific Region in draft format for review by the various sections within FAA. It is expected that FAA will provide comments on several sections that will require answers and/or integration into the document. Submittals will be prepared in accordance with the ALP SOP Review Checklist.

The Team shall make edits to the ALP per the comments provided by FAA or respond to comments given by FAA in formal documentation.

Task 1.16. ALP Approval

Upon receipt of FAA approval or conditional approval, the Team shall publish all required copies of the ALP Package.

The Team shall produce up to 10 copies of the ALP in the following formats:

- 36" X 48" Full Color
- 11" X 17" Full Color
- 36" X 48" Adobe .pdf format on compact disk
- 11" X 17" Adobe .pdf format on compact disk

Element 2: Necessary Environmental Compliance Documentation

Task 2.1. Environmental Support to LGB Staff

HNTB will assist LGB Staff with the preparation of Federal Aviation Administration (FAA) Categorical Exclusion (CatEx) environmental documentation for the Airfield Geometry Study Preferred Alternative. Specific tasks include providing up to 20 graphic exhibits based on the Airfield Geometry Study Preferred Alternative. Should additional environmental documentation in addition to the CatEx be required; a new scope, fee and schedule will be agreed upon at a later time depending on the documentation and effort required.

Any follow-on environmental documentation that would be required on a per project basis would not be a part of this scope of work.

Task 2.2. Safety Risk Management Support to LGB Staff

It is anticipated that a detailed safety risk assessment will occur as individual projects develop. However, the Selected Consultant will assist LGB Staff, if during the ALP update, a formal SRM assessment is requested. This task will be budgeted as an optional task and executed only if SRA assistance is requested. Assistance will include attending up to three SRA meetings and preparation of meeting materials including applicable drawings and PowerPoint presentations.

EXHIBIT “B”

Rates or Charges

LOB Phase II: Elements 1 & 2

Personnel Categories:	HNTB				Kemply Horn				Workport				LABOR EXPENSES			
	Project Manager	Deputy/Lead Planner	Planner	Tech Support/ Admin	Lead Planner	Lead Surveyor	Lead Photogrammetrist/Specialist	Surveyor/Task Lead	Project Surveyor	Technician	Field Crew Chief	Chairperson		Senior Photogrammetrist/Specialist	Obstruction Survey Specialist	AGIS Mapping Specialist
Hourly Rate:	\$200.00	\$195.00	\$115.00	\$85.00	\$200.00	\$180.00	\$185.00	\$155.00	\$140.00	\$88.50	\$115.00	\$105.00	\$75.00	\$66.00	\$4.00	\$48.00
Element 1: Aeronautical Survey and ALP																
Task 1.1: Project Initiation, Coordination and Data Gathering	40	40	40	24		28	60	60	60				20			
Task 1.2: Capture Aerial Photography	4	8	4			4	40	40	8				8			
Task 1.3: Perform Survey	8	8	8			12	60	60	80	120	180	160	20			
Task 1.4: Georeference Imagery						8	40	40	40	64	64	64	60			120
Task 1.5: Create Digital Orth-Photography							40	40	80				80			180
Task 1.6: Perform Airspace & Obstruction Analysis	16	18	16	16		4	40	40	18				80			140
Task 1.7: Collect Digital Mapping Data	16	16	16	16		8	50	50	40				80			140
Task 1.8: Perform Obp Accuracy Analysis	16	16	16	16		4	50	50	40				80			140
Task 1.9: Perform Obp Accuracy Analysis	16	16	16	16		4	50	50	40				80			140
Task 1.10: Coordinate	100	120	100	80					24	40			16			
Task 1.11: Data Gathering and Base Map Preparation	80	160	160													
Task 1.12: ALP Narrative Creation	10	60	60													
Task 1.13: ALP Plan Drawing Creation	80	240	400													
Task 1.14: ALP Review	100	160	140		120											
Task 1.15: ALP Submittal	80	100	240		40											
Task 1.16: ALP Approval	100	100	160													
Total Hours Element 1	650	1052	1364	104	160	68	302	244	328	184	224	224	380	200	820	300
Element 2: Environmental Compliance Documentation																
Task 2.1: Environmental Support to GIB Staff	8	32	32													
Task 2.2: Safety Risk Management Support to GIB Staff (Optional)	40	64	80		32											
Total Hours Element 2	48	96	112	0	32	0	0	0	0	0	0	0	0	0	0	0
Total Hours	698	1148	1476	104	192	68	302	244	328	184	224	224	380	200	820	300
Total Cost	\$199,600	\$154,980	\$169,740	\$8,840	\$38,400	\$12,240	\$72,500	\$37,820	\$45,920	\$18,124	\$25,760	\$23,520	\$28,500	\$13,200	\$4,400	\$14,400
Subtotal Element 1																
Subtotal Element 2																
Subtotal Labor																
Total Expenses																
Estimated																

See Below

EXHIBIT “C”

City’s Representative:

Stephan Lum, Civil Engineer

EXHIBIT “D”

Materials/Information Furnished: None