

POLICE STATION BUILDING TASK FORCE
491 E. PIONEER AVENUE
HOMER, ALASKA
www.cityofhomer-ak.gov

REGULAR MEETING
TUESDAY, 4:00 P.M.
APRIL 18, 2017
CITY HALL COWLES COUNCIL CHAMBERS

**REGULAR
MEETING AGENDA**

- 1. CALL TO ORDER, 4:00 P.M.**
- 2. AGENDA APPROVAL**
- 3. PUBLIC COMMENTS UPON MATTERS ALREADY ON THE AGENDA** *(Three Minute Time Limit)*
- 4. VISITORS**
- 5. APPROVAL OF THE MINUTES**
- 6. REPORTS**
- 7. PUBLIC HEARINGS**
- 8. PENDING BUSINESS**
- 9. NEW BUSINESS**

- A. Memorandum PSBTF 17-01 Welcome Task Force Members **Page 3**
 - 1. Resolution 16-128(S)(A), Creating a Police Station Building Task Force
Establishing the Scope of Work and Parameters to Conduct Its Work
 - 2. Memorandum 17-051, Appointments to the Police Station Building Task Force
- B. Memorandum PSBTF 17-02 Election of Chair and Vice Chair **Page 31**
 - 1. Typical Duties of a Chair and Vice Chair
- C. Memorandum PSBTF 17-03 Establishing a Meeting Schedule **Page 33**
- D. Memorandum PSBTF 17-04 Tasks Assigned by City Council **Page 35**
 - 1. Submit Two Project Recommendations
 - \$6 Million Dollars
 - \$9 Million Dollars
 - 2. Site Selection
 - 3. Alternative Funding Options
 - Lease Purchase Option
 - Build to Suit
 - Availability of Grants
 - 4. Construction Options
 - Phased Construction
 - Remodel/Renovation/Addition vs New Construction
 - 5. Additional Facility/Maintenance Costs to Overall City Budget
 - Personnel
 - Supplies
 - Depreciation
 - Furniture
 - 6. Funding Mechanisms & Repayment Methods

10. INFORMATIONAL MATERIALS

A. Police Facility Planning Guidelines by International Association of Chiefs of Police **Page 37**

B. Build-to-Suit Leases: A Construction Contract and a Lease Merged into One by George P. Bernhardt and James E. Goodrich, Real Property, Trust and Estate Law Section, American Bar Association **Page 99**

11. COMMENTS OF THE AUDIENCE

12. COMMENTS OF STAFF/CONSULTANTS

13. COMMENTS OF THE TASK FORCE MEMBERS

14. ADJOURNMENT

Tentative Next Regular Meeting is Monday, **May 1, 2017 at _____ p.m.** All meetings scheduled to be held in the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska.



City of Homer

www.cityofhomer-ak.gov

Office of the City Clerk

491 East Pioneer Avenue
Homer, Alaska 99603

clerk@cityofhomer-ak.gov

(p) 907-235-3130

(f) 907-235-3143

Memorandum PSBTF 17-01

TO: POLICE STATION BUILDING TASK FORCE

FROM: RENEE KRAUSE, CMC, DEPUTY CITY CLERK I

DATE: APRIL 4, 2017

SUBJECT: WELCOME TASK FORCE MEMBERS

Thank you for volunteering your time to help out the City of Homer! Following is the resolution 16-128(S)(A) Creating the Police Station Building Task Force and Outlining your job. This is a very short timeline to get all the tasks assigned to this Task Force by Council and a lot of background materials to go through so I hope everyone has been able to at least read through the minutes and view the various documents.

I have also attached the information on all members as is standard procedure.



Recommendation

No Action Required. Informational in Nature.

**CITY OF HOMER
HOMER, ALASKA**

Mayor

RESOLUTION 16-128(S)(A)

A RESOLUTION OF THE HOMER CITY COUNCIL CREATING A
POLICE STATION BUILDING TASK FORCE AND ESTABLISHING THE
SCOPE OF WORK AND PARAMETERS UNDER WHICH THE TASK
FORCE WILL CONDUCT ITS WORK.

WHEREAS, Council created a Public Safety Building Review Committee (PSBRC) in
January 2014 to review and rate GC/CM proposals for a new public safety building, review the
proposed contract and provide input on the scope of work and deliverables, and make
recommendations to Council as to how to proceed with the project; and

WHEREAS, The proposed new fire department was separated from the public safety
building project when it became apparent the cost was too steep to simultaneously build a
new police and fire station; funds were appropriated to the Fire Department for updates and
improvements to extend the life of the facility; and

WHEREAS, Council supported a bonding request to construct a reduced size public
safety campus with police station only to the voters at the general election in October 2016 in
an amount not to exceed twelve million dollars; and

WHEREAS, Proposition #1 that would allow the City of Homer to incur debt and issue
general obligation bonds in an amount not to exceed twelve million dollars (\$12,000,000) to
finance the planning, design and construction of a police station and related capital
improvements was defeated by the voters at the October 4, 2016 regular election; and

WHEREAS, The Public Safety Building Review Committee was disbanded via Resolution
16-127; and

WHEREAS, It would be beneficial to establish a Police Station Building Task Force
(PSBTF) to build on the extensive work done by the Public Safety Building Review Committee
and assist the City in moving forward with a new police station project.

37 NOW, THEREFORE, BE IT RESOLVED that the Homer City Council hereby establishes the
38 Police Station Building Task Force (PSBTF).

39
40 BE IT FURTHER RESOLVED that the task force is directed to analyze and report back to
41 City Council on the following items by May 30, 2017:

- 42 -two (2) proposed budgets: one project not to exceed \$6 million dollars and one project
- 43 not to exceed \$9 million dollars
- 44 -site selection
- 45 -possibility of public private partnerships (such as lease purchase)
- 46 -constructing in phases
- 47 -feasibility of remodeling the HERC to a police station
- 48 -impact to the operating budget of ongoing maintenance costs
- 49 -a funding mechanism and repayment method that takes into account capital and
- 50 maintenance expenses

51
52 BE IT FURTHER RESOLVED that the Task Force membership shall be four city residents
53 and one non-city resident.

54
55 BE IT FURTHER RESOLVED that primary staff support shall be provided by the Public
56 Works Director or their designee, the Police Chief or their designee, and Deputy City Clerk or
57 their designee; secondary support shall be provided as needed and requested by the City
58 Manager, the Finance Director, and the City Planner.

59
60 BE IT FURTHER RESOLVED that every attempt will be made to schedule meetings in the
61 Council Chambers.

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63 BE IT FURTHER RESOLVED that the Task Force shall establish its own work schedule.

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65 BE IT FURTHER RESOLVED that the City Clerk is authorized to advertise for members of
66 the community to serve on the task force.

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68 PASSED AND ADOPTED by the City Council of Homer, Alaska, this 13th day of February,
69 2017.

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CITY OF HOMER

BRYAN ZAK, MAYOR

ATTEST:

JO JOHNSON, MMC, CITY CLERK

Fiscal Note: Staff time and advertising costs.



City of Homer

www.cityofhomer-ak.gov

Office of the Mayor

491 East Pioneer Avenue
Homer, Alaska 99603

mayor@ci.homer.ak.us

(p) 907-235-3130

(f) 907-235-3143

Memorandum 17-051

TO: HOMER CITY COUNCIL
FROM: BRYAN ZAK, MAYOR
DATE: MARCH 22, 2017
SUBJECT: APPOINTMENT OF HANNAH VANCE TO THE LIBRARY ADVISORY BOARD; DEBRA LOWNEY, VICKI LOWE, JOSH GARVEY, COLETTA WALKER, AND DANIEL WEATHERLY TO THE POLICE STATION BUILDING TASK FORCE

Hannah Vance is appointed to the Library Advisory Board as their student representative.

Appointments to the Police Station Building Task Force include Debra Lowney, Vicki Lowe, Josh Garvey, Coletta Walker, and Daniel Weatherly.

RECOMMENDATION:

Confirm the appointments of Hannah Vance to the Library Advisory Board; Debra Lowney, Vicki Lowe, Josh Garvey, Coletta Walker, and Daniel Weatherly to the Police Station Building Task Force.

Fiscal Note: N/A



City of Homer

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Office of the Mayor

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Homer, Alaska 99603

mayor@ci.homer.ak.us

(p) 907-235-3130

(f) 907-235-3143

March 29, 2017

Daniel Weatherly
PO Box 1018
Homer, AK 99603

Dear Daniel,

Congratulations! Council confirmed/approved your appointment to the Police Station Building Task Force during their Regular Meeting of March 29, 2017, via Memorandum 17-051.

Thank you for your willingness to serve the City of Homer on the Police Station Building Task Force.

Your term will expire upon completion of the work tasked to the Task Force.

Cordially,



Bryan Zak, Mayor

Enc: Memorandum 17-051
Certificate of Appointment

City of Homer

Homer, Alaska

Mayor's Certificate of Appointment

Greetings

Be It Known That

Daniel Weatherly

Has been appointed to

serve as

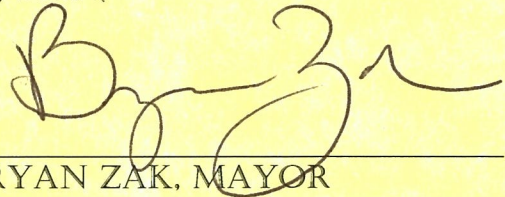
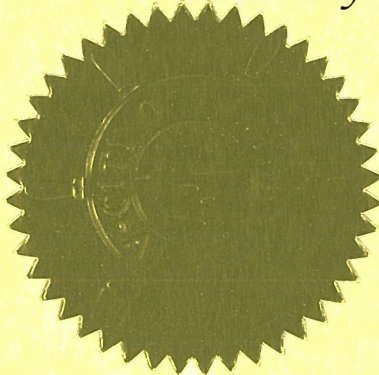
“Task Force Member”

on the

“Police Station Building Task Force”

This appointment is made because of your dedication to the cause of good government, your contributions to your community and your willingness to serve your fellow man.

*In Witness whereof I hereunto set my hand
this 29th day of March, 2017.*



BRYAN ZAK, MAYOR

ATTEST:



JO JOHNSON, MMC, CITY CLERK



**CITY OF HOMER
APPLICATION TO SERVE ON ADVISORY BODY
COMMISSION, BOARD, COMMITTEE, TASK FORCE**

**CITY CLERK'S OFFICE
CITY OF HOMER
491 E. PIONEER AVE
HOMER, AK 99603
PH. 907-235-3130
FAX 907-235-3143
clerk@cityofhomer-ak.gov**

The information below provides some basic background for the Mayor and Council
This information is public and will be included in the Council Information packet

Name: DANIEL WEATHERLY Date: 14 FEB 2017

Physical Address: 3866 LYRIC CIRCLE, MILE 7 OLD STERLING

Mailing Address: P.O. Box 1018 HOMER, ALASKA 99603.1018

Phone #: 235 6770 Cell #: 309.4314 Work #:

Email Address: dbwxly@hotmail.com

The above information will be published in the City Directory and within the city web pages if you are appointed
by the Mayor and your appointment is confirmed by the City Council

Please indicate the advisory body that you are interested in serving on by marking with an X.
You may select more than one.

- | | |
|--|---|
| ☐ ADVISORY PLANNING COMMISSION
1ST & 3RD WEDNESDAY OF THE MONTH AT 6:30 PM
WORKSESSION PRIOR TO EACH MEETING AT 5:30 PM | ☐ ECONOMIC DEVELOPMENT ADVISORY COMMISSION
2ND TUESDAY OF THE MONTH AT 6:00 PM |
| ☐ PARKS ART RECREATION & CULTURE ADVISORY COMMISSION
3RD THURSDAY OF THE MONTH AT 5:30 PM | ☐ CANNABIS ADVISORY COMMISSION
4TH THURSDAY OF THE MONTH AT 5:30 PM |
| ☐ PORT & HARBOR ADVISORY COMMISSION
3RD WEDNESDAY OF THE MONTH
OCT-APRIL AT 5:00 PM
MAY - SEPT AT 6:00 PM | ☐ LIBRARY ADVISORY BOARD
1ST TUESDAY OF THE MONTH AT 5:30 PM |
| ☐ PUBLIC ARTS COMMITTEE
2ND THURSDAY OF THE MONTH AT 5:00 P.M.
FEB, MAY, AUGUST & NOVEMBER
WORKSESSIONS PRIOR AT 4:00 PM | ☒ OTHER - PLEASE INDICATE
<u>PUBLIC SAFETY BUILDING -</u>
<u>REPRESENTATIVE OUTSIDE</u>
<u>CITY LIMITS.</u> |
| ☐ CITY COUNCIL
2ND & 4TH MONDAY OF THE MONTH
SPECIAL MEETINGS & WORKSESSIONS AT 4:00 PM
COMMITTEE OF THE WHOLE AT 5:00 PM
REGULAR MEETING AT 6:00 PM | |

I have been a resident of the city for 0 years. I have been a resident of the area for 33 years.

I am presently employed at RETIRED

Please list any special training, education or background you may have which is related to your choice of advisory body.

WAS A MEMBER OF STATE TROOPERS FOR 22 YEARS. STATIONED IN HOMER AS POST SUPERVISOR FOR 15 YEARS. FAMILIAR WITH THE AREA OF KACHEMAK BAY & KENAI PENINSULA. UPON RETIREMENT I WORKED 3 YEARS FOR HOMER P.D. IN PATROL & JAIL STAFF HOLD.

Have you ever served on a similar advisory body? If so please list when, where and how long:

SOUTH PENINSULA MENTAL HEALTH OPERATING BOARD, FROM 1989 TO 1996 (APPROXIMATELY)

Why are you interested in serving on the selected advisory body?

I THINK I MAY ADD TO THE COMMITTEE FROM BOTH A RESIDENT & LAW ENFORCEMENT PERSPECTIVE. TO GIVE SERVICE BACK TO THE COMMUNITY.

Please list any current memberships or organizations you belong to related to your selection(s):

NONE.

Please answer the following only if you are applying for the Advisory Planning Commission:
Have you ever developed real property other than a personal residence, if so briefly explain:

Please answer if you are applying for the Port & Harbor Advisory Commission:
Do you use the Homer Port and/or Harbor on a regular basis?

Yes ☐ No ☐ What is your primary use? Commercial ☐ Recreational ☐

Please include any additional information that may assist the Mayor in his/her decision making:

I HOLD AN ADVANCE CERTIFICATE FROM ALASKA POLICE STANDARDS COUNCIL. 1800 HOURS IN LAW ENFORCEMENT TRAINING. 99 CREDIT HOURS TOWARDS A BACHELOR DEGREE. FOR 15 YEARS I WORKED IN THE PRIVATE SECTOR AND HAVE AN APPRECIATION FOR PRIVATE/PUBLIC COOPERATION IN MAKING A COMMUNITY FUNCTIONING & VITAL

When you have completed the application please review and return to the City Clerk's Office. You may also email this to clerk@cityofhomer-ak.gov or fax to 907-235-3143. Thank you for applying!



City of Homer

www.cityofhomer-ak.gov

Office of the Mayor

491 East Pioneer Avenue
Homer, Alaska 99603

mayor@ci.homer.ak.us

(p) 907-235-3130

(f) 907-235-3143

March 29, 2017

Debra Lowney
PO Box 1445
Homer, AK 99603

Dear Debra,

Congratulations! Council confirmed/approved your appointment to the Police Station Building Task Force during their Regular Meeting of March 29, 2017, via Memorandum 17-051.

Thank you for your willingness to serve the City of Homer on the Police Station Building Task Force.

Your term will expire upon completion of the work tasked to the Task Force.

Cordially,

Bryan Zak, Mayor

Enc: Memorandum 17-051
Certificate of Appointment

City of Homer

Homer, Alaska

Mayor's Certificate of Appointment

Greetings

Be It Known That

Debra Lowney

Has been appointed to

serve as

"Task Force Member"

on the

"Police Station Building Task Force"

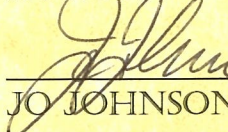
This appointment is made because of your dedication to the cause of good government, your contributions to your community and your willingness to serve your fellow man.

*In Witness whereof I hereunto set my hand
this 29th day of March, 2017.*




BRYAN ZAK, MAYOR

ATTEST:


JO JOHNSON, MMC, CITY CLERK



CITY OF HOMER
APPLICATION TO SERVE ON ADVISORY BODY
COMMISSION, BOARD, COMMITTEE, TASK FORCE

CITY CLERK'S OFFICE
CITY OF HOMER
491 E. PIONEER AVE
HOMER, AK 99603
PH. 907-235-3130
FAX 907-235-3143
clerk@cityofhomer-ak.gov

The information below provides some basic background for the Mayor and Council
This information is public and will be included in the Council Information packet

FEB 21 2017 AM 10:32 Rk

Name: Debra Lowney Date: 2/21/17

Physical Address: 350 Woodside Ave

Mailing Address: PO Box 1445

Phone #: 235-6154 Cell #: 299-0344 Work #: _____

Email Address: dlowney@acsalaska.net

The above information will be published in the City Directory and within the city web pages if you are appointed
by the Mayor and your appointment is confirmed by the City Council

Please indicate the advisory body that you are interested in serving on by marking with an X.
You may select more than one.

- | | |
|--|---|
| ☐ ADVISORY PLANNING COMMISSION
1ST & 3RD WEDNESDAY OF THE MONTH AT 6:30 PM
WORKSESSION PRIOR TO EACH MEETING AT 5:30 PM | ☐ ECONOMIC DEVELOPMENT ADVISORY COMMISSION
2ND TUESDAY OF THE MONTH AT 6:00 PM |
| ☐ PARKS ART RECREATION & CULTURE ADVISORY COMMISSION
3RD THURSDAY OF THE MONTH AT 5:30 PM | ☐ CANNABIS ADVISORY COMMISSION
4TH THURSDAY OF THE MONTH AT 5:30 PM |
| ☐ PORT & HARBOR ADVISORY COMMISSION
3RD WEDNESDAY OF THE MONTH
OCT-APRIL AT 5:00 PM
MAY - SEPT AT 6:00 PM | ☐ LIBRARY ADVISORY BOARD
1ST TUESDAY OF THE MONTH AT 5:30 PM |
| ☐ PUBLIC ARTS COMMITTEE
2ND THURSDAY OF THE MONTH AT 5:00 P.M.
FEB, MAY, AUGUST & NOVEMBER
WORKSESSIONS PRIOR AT 4:00 PM | ☒ OTHER - PLEASE INDICATE
<u>Police Station Bldg Task Force</u> |
| ☐ CITY COUNCIL
2ND & 4TH MONDAY OF THE MONTH
SPECIAL MEETINGS & WORKSESSIONS AT 4:00 PM
COMMITTEE OF THE WHOLE AT 5:00 PM
REGULAR MEETING AT 6:00 PM | |

I have been a resident of the city for _____ years. I have been a resident of the area for _____ years.

I am presently employed at _____

Please list any special training, education or background you may have which is related to your choice of advisory body.

Have you ever served on a similar advisory body? If so please list when, where and how long:

Why are you interested in serving on the selected advisory body?

Please list any current memberships or organizations you belong to related to your selection(s):

Please answer the following only if you are applying for the Advisory Planning Commission:
Have you ever developed real property other than a personal residence, if so briefly explain:

Please answer if your are applying for the Port & Harbor Advisory Commission:

Do you use the Homer Port and/or Harbor on a regular basis?

Yes ☐

No ☐

What is your primary use? Commercial ☐

Recreational ☐

Please include any additional information that may assist the Mayor in his/her decision making:

When you have completed the application please review and return to the City Clerk's Office. You may also email this to clerk@cityofhomer-ak.gov or fax to 907-235-3143. Thank you for applying!



City of Homer

www.cityofhomer-ak.gov

Office of the Mayor

491 East Pioneer Avenue
Homer, Alaska 99603

mayor@ci.homer.ak.us

(p) 907-235-3130

(f) 907-235-3143

March 29, 2017

Vicki Lowe
710 Ridgeway Court
Homer, AK 99603

Dear Vicki,

Congratulations! Council confirmed/approved your appointment to the Police Station Building Task Force during their Regular Meeting of March 29, 2017, via Memorandum 17-051.

Thank you for your willingness to serve the City of Homer on the Police Station Building Task Force.

Your term will expire upon completion of the work tasked to the Task Force.

Cordially,

Bryan Zak, Mayor

Enc: Memorandum 17-051
Certificate of Appointment

City of Homer

Homer, Alaska

Mayor's Certificate of Appointment

Greetings

Be It Known That

Vicki Lowe

Has been appointed to

serve as

"Task Force Member"

on the

"Police Station Building Task Force"

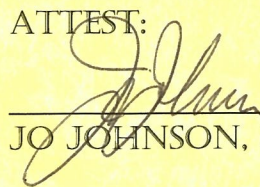
This appointment is made because of your dedication to the cause of good government, your contributions to your community and your willingness to serve your fellow man.

*In Witness whereof I hereunto set my hand
this 29th day of March, 2017.*




BRYAN ZAK, MAYOR

ATTEST:


JO JOHNSON, MMC, CITY CLERK



**CITY OF HOMER
APPLICATION TO SERVE ON ADVISORY BODY
COMMISSION, BOARD, COMMITTEE, TASK FORCE**

MAR 13 2017

CITY CLERK'S OFFICE
CITY OF HOMER
491 E. PIONEER AVE
HOMER, AK 99603
PH. 907-235-3130
FAX 907-235-3143
clerk@cityofhomer-ak.gov

The information below provides some basic background for the Mayor and Council
This information is public and will be included in the Council Information packet

Name: Vicki Lowe Date: 03/10/17

Physical Address: 710 Ridgeway Court

Mailing Address: 710 Ridgeway Court, Homer, AK 99603

Phone #: 907-299-3360 Cell #: _____ Work #: 907-235-4600

Email Address: villg@rocketmail.com

The above information will be published in the City Directory and within the city web pages if you are appointed
by the Mayor and your appointment is confirmed by the City Council

Please indicate the advisory body that you are interested in serving on by marking with an X.
You may select more than one.

- | | |
|--|---|
| ☐ ADVISORY PLANNING COMMISSION
1ST & 3RD WEDNESDAY OF THE MONTH AT 6:30 PM
WORKSESSION PRIOR TO EACH MEETING AT 5:30 PM | ☐ ECONOMIC DEVELOPMENT ADVISORY COMMISSION
2ND TUESDAY OF THE MONTH AT 6:00 PM |
| ☐ PARKS ART RECREATION & CULTURE ADVISORY COMMISSION
3RD THURSDAY OF THE MONTH AT 5:30 PM | ☐ CANNABIS ADVISORY COMMISSION
4TH THURSDAY OF THE MONTH AT 5:30 PM |
| ☐ PORT & HARBOR ADVISORY COMMISSION
3RD WEDNESDAY OF THE MONTH
OCT-APRIL AT 5:00 PM
MAY - SEPT AT 6:00 PM | ☐ LIBRARY ADVISORY BOARD
1ST TUESDAY OF THE MONTH AT 5:30 PM |
| ☐ PUBLIC ARTS COMMITTEE
2ND THURSDAY OF THE MONTH AT 5:00 P.M.
FEB, MAY, AUGUST & NOVEMBER
WORKSESSIONS PRIOR AT 4:00 PM | ☒ OTHER - PLEASE INDICATE
<u>Police Station Task Force</u> |
| ☐ CITY COUNCIL
2ND & 4TH MONDAY OF THE MONTH
SPECIAL MEETINGS & WORKSESSIONS AT 4:00 PM
COMMITTEE OF THE WHOLE AT 5:00 PM
REGULAR MEETING AT 6:00 PM | |

I have been a resident of the city for 5 years. I have been a resident of the area for 19 years.

I am presently employed at Homer High School

Please list any special training, education or background you may have which is related to your choice of advisory body.

I have been in public service for 20 years and understand that safety is paramount to the

workings of any successful community or institution. I have objectivity and diplomatic skills,

which allow me to work respectfully and productively with all members of the public.

Have you ever served on a similar advisory body? If so please list when, where and how long:

Yes, I served on the Homer Demonstration Forest Steering Committee for a few years about a decade

I also served on the Homer Hockey board for three years (2013-2015) .

Why are you interested in serving on the selected advisory body?

As a mother, community member and public educator, I have a dedicated interest helping the

City of Homer get this new police station built.

Please list any current memberships or organizations you belong to related to your selection(s):

Please answer the following only if you are applying for the Advisory Planning Commission:
Have you ever developed real property other than a personal residence, if so briefly explain:

Please answer if you are applying for the Port & Harbor Advisory Commission:

Do you use the Homer Port and/or Harbor on a regular basis?

Yes ☐ No ☐ What is your primary use? Commercial ☐ Recreational ☐

Please include any additional information that may assist the Mayor in his/her decision making:

I have the critical thinking skills and creativity necessary to help move this task force forward.

I hope to bring balance to the committee with the unique perspectives that I have . Thank you

for the opportunity to participate in this process.

When you have completed the application please review and return to the City Clerk's Office. You may also email this to clerk@cityofhomer-ak.gov or fax 207-907-235-3143. Thank you for applying!



City of Homer

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Office of the Mayor

491 East Pioneer Avenue
Homer, Alaska 99603

mayor@ci.homer.ak.us

(p) 907-235-3130

(f) 907-235-3143

March 29, 2017

Coletta Walker
PO Box 1544
Homer, AK 99603

Dear Coletta,

Congratulations! Council confirmed/approved your appointment to the Police Station Building Task Force during their Regular Meeting of March 29, 2017, via Memorandum 17-051.

Thank you for your willingness to serve the City of Homer on the Police Station Building Task Force.

Your term will expire upon completion of the work tasked to the Task Force.

Cordially,

Bryan Zak, Mayor

Enc: Memorandum 17-051
Certificate of Appointment

City of Homer

Homer, Alaska

Mayor's Certificate of Appointment

Greetings

Be It Known That

Coletta Walker

Has been appointed to

serve as

“Task Force Member”

on the

“Police Station Building Task Force”

This appointment is made because of your dedication to the cause of good government, your contributions to your community and your willingness to serve your fellow man.

*In Witness whereof I hereunto set my hand
this 29th day of March, 2017.*



Bryan Zak
BRYAN ZAK, MAYOR

ATTEST:

Jo Johnson
JO JOHNSON, MMC, CITY CLERK



CITY OF HOMER
APPLICATION TO SERVE ON ADVISORY BODY
COMMISSION, BOARD, COMMITTEE, TASK FORCE

CITY CLERK'S OFFICE
CITY OF HOMER
491 E. PIONEER AVE
HOMER, AK 99603
PH. 907-235-3130
FAX 907-235-3143
clerk@cityofhomer-ak.gov

MAR 14 2017
[Signature]

The information below provides some basic background for the Mayor and Council.
This information is public and will be included in the Council Information packet

Name: Cole Ha Walker Date: March 13, 2017

Physical Address: 664 Soundview Ave

Mailing Address: PO Box 1544

Phone #: 235-2483 Cell #: 299-2992 Work #: 235-2483

Email Address: bearypatch@ak.net

The above information will be published in the City Directory and within the city web pages if you are appointed
by the Mayor and your appointment is confirmed by the City Council

Please indicate the advisory body that you are interested in serving on by marking with an X.
You may select more than one.

☐

ADVISORY PLANNING COMMISSION

1ST & 3RD WEDNESDAY OF THE MONTH AT 6:30 PM
WORKSESSION PRIOR TO EACH MEETING AT 5:30 PM

☐

PARKS ART RECREATION & CULTURE ADVISORY COMMISSION

3RD THURSDAY OF THE MONTH AT 5:30 PM
NO MEETINGS IN JANUARY, JULY & DECEMBER

☐

PORT & HARBOR ADVISORY COMMISSION

4th WEDNESDAY OF THE MONTH
OCT-APRIL AT 5:00 PM
MAY - SEPT AT 6:00 PM

☐☐

ECONOMIC DEVELOPMENT ADVISORY COMMISSION

2ND TUESDAY OF THE MONTH AT 6:00 PM

☐

CANNABIS ADVISORY COMMISSION

4TH THURSDAY OF THE MONTH AT 5:30 PM

☐

LIBRARY ADVISORY BOARD

1ST TUESDAY OF THE MONTH AT 5:30 PM
NO MEETINGS IN JANUARY, JUNE AND JULY

☒

OTHER - PLEASE INDICATE

Police Station Building Task Force

☐

CITY COUNCIL

2ND & 4TH MONDAY OF THE MONTH
SPECIAL MEETINGS & WORKSESSIONS AT 4:00 PM
COMMITTEE OF THE WHOLE AT 5:00 PM
REGULAR MEETING AT 6:00 PM

I have been a resident of the city for 27 years. I have been a resident of the area for ____ years.

I am presently employed at Self

Please list any special training, education or background you may have which is related to your choice of advisory body.

I am concerned about a proper facility for processing criminals in Homer. I desire to ensure the safety of our officers / personnel and maintaining a tight budget while staying within guidelines.

Have you ever served on a similar advisory body? If so please list when, where and how long:

No

Why are you interested in serving on the selected advisory body?

Refer to above comment

Please list any current memberships or organizations you belong to related to your selection(s):

None

Please answer the following only if you are applying for the Advisory Planning Commission:
Have you ever developed real property other than a personal residence, if so briefly explain:

Please answer if your are applying for the Port & Harbor Advisory Commission:
Do you use the Homer Port and/or Harbor on a regular basis?

Yes ☐ No ☐ What is your primary use? Commercial ☐ Recreational ☐

Please include any additional information that may assist the Mayor in his/her decision making:

I care about our community!

When you have completed the application please review and return to the City Clerk's Office. You may also email this to clerk@cityofhomer-ak.gov or fax to 907-235-3143. Thank you for applying!



City of Homer

www.cityofhomer-ak.gov

Office of the Mayor

491 East Pioneer Avenue
Homer, Alaska 99603

mayor@ci.homer.ak.us

(p) 907-235-3130

(f) 907-235-3143

March 29, 2017

Josh Garvey
4037 Mattox Road
Homer, AK 99603

Dear Josh,

Congratulations! Council confirmed/approved your appointment to the Police Station Building Task Force during their Regular Meeting of March 29, 2017, via Memorandum 17-051.

Thank you for your willingness to serve the City of Homer on the Police Station Building Task Force.

Your term will expire upon completion of the work tasked to the Task Force.

Cordially,

Bryan Zak, Mayor

Enc: Memorandum 17-051
Certificate of Appointment

City of Homer

Homer, Alaska

Mayor's Certificate of Appointment

Greetings

Be It Known That

Josh Garvey

Has been appointed to

serve as

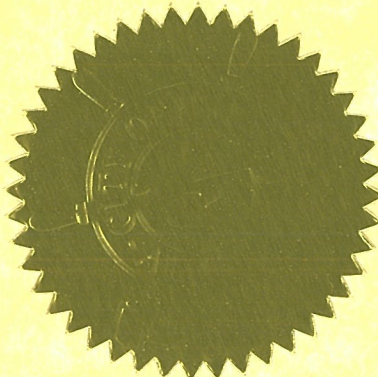
"Task Force Member"

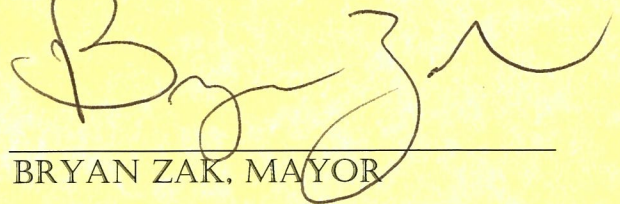
on the

"Police Station Building Task Force"

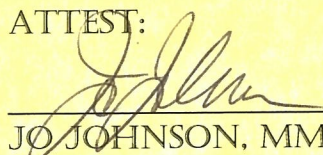
This appointment is made because of your dedication to the cause of good government, your contributions to your community and your willingness to serve your fellow man.

*In Witness whereof I hereunto set my hand
this 29th day of March, 2017.*




BRYAN ZAK, MAYOR

ATTEST:


JO JOHNSON, MMC, CITY CLERK

Published on *City of Homer Alaska Official Website* (<http://www.cityofhomer-ak.gov>)

[Home](#) > [Application for Appointment to an Advisory Body](#) > [Webform results](#) > Application for Appointment to an Advisory Body

Submission information

Form: [Application for Appointment to an Advisory Body](#)
Submitted by Visitor (not verified)
Tuesday, March 14, 2017 - 1:06pm
104.254.227.62

Applicant Information

Name

Josh Garvey

Physical Address

4037 Mattox Rd

Mailing Address

4037 Mattox Rd

Email

joshua_garvey@hotmail.com

Phone

907-299-4577

Please select the bodies you are interested in serving on

Advisory Bodies

Other: Please indicate

Other - Please Describe

Police Building Advisory Task Force

I have been a resident of the city for
25+ years

I have been a resident of the area for
25+ years

Special Training & Education

Master in Accounting and Finance

Prior Service

None

Why are you interested?

This is an important project for our community and I want to serve in researching, vetting, and proposing a plan for the Council that will garner community wide support and buy-in.

Other memberships

None

Additional related information**Finish**

When you have completed this application please review all the information and hit the submit button. Thank you for applying!

Source URL: <http://www.cityofhomer-ak.gov/node/9051/submission/6131>



City of Homer

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Memorandum PSBTF 17-02

TO: POLICE STATION BUILDING TASK FORCE
FROM: RENEE KRAUSE, CMC, DEPUTY CITY CLERK I
DATE: APRIL 4, 2017
SUBJECT: ELECTION OF CHAIR AND VICE CHAIR

So we need a Chair and a Vice Chair (whose main job will be to fill in for the Chair when they are unavailable to attend the meeting or have a conflict) responsibilities of the positions include but are not limited to:

- Assisting staff with the agenda and packet materials
- Conducting the meetings
- Calling a meeting in the event of no quorum or possible non-quorum. A quorum of three members is required to conduct a meeting.
- Requesting Motions for the Task Force to take action and restating the motion for the benefit of the Clerk and Audience
 - Example: Moved by “Mr. Pear and Seconded by Ms. Apple to approve the selection of Option B for the Building Design” Any Discussion? Any opposition? Hearing None the motion is approved.”

As a helpful tool a “Chair’s Agenda” will be provided with recommended motions and actions to be taken by the Task Force however the Task Force may make alternate motions after the discussion on the individual issues.

There are no restrictions on a member running for election – if the member feels confident that they can run the meeting and assist with the agenda and packet. They are qualified for the job!

See simple!?!

Procedure:

Acting Chair will call for nominations from the Task Force Members present.

After assuring that there are no additional nominations for Chair the Acting Chair will close the nominations.

The Acting Chair will then call for a vote by a show of hands for each nominee.

If only one member is nominated they can agree to serve in the capacity or turn down the nomination in lieu of a vote.

The newly appointed Chair will then call for nominations for Vice Chair. The Chair will close the nominations for Vice Chair and call for the vote for each nominee.



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Memorandum PSBTF 17-03

TO: POLICE STATION BUILDING TASK FORCE

FROM: RENEE KRAUSE, CMC, DEPUTY CITY CLERK I

DATE: APRIL 4, 2017

SUBJECT: ESTABLISHING A MEETING SCHEDULE

The delay in appointing members to this task force has shortened the time available to review and submit recommendations as requested by City Council as such we will be required to meet every other week. I have the following dates available and of course if everyone would be available for each meeting date that is preferable but if we have a least three members present which will constitute a quorum that works just as well.

All materials are uploaded to the website including the minutes and that should allow all members the ability to keep up to date on the progress of the Task Force.

The dates I have available are as follows (days in **Bold** provide the most meeting opportunities:

Monday, May 1st - Any time *(Tentatively on the calendar and scheduled for 4 or 5 p.m. to reserve the date)*

Thursday, May 4th - Any time

Tuesday, May 16th - Anytime *(Tentatively on the calendar and scheduled for 4 or 5 p.m. to reserve the date)*

Monday, May 22nd - Anytime

Tuesday, May 23rd - Anytime *(Tentatively on the calendar and scheduled for 4 or 5 pm to reserve the date)*

City Council has provided a deadline of Tuesday, May 30th for submitting their recommendations. Due to the requirements of advertising, gathering materials and or information required by the Task Force and staff commitments and time restraints the Task Force can meet every other week.

If the Task Force is unable to meet the deadline to provide City Council the recommendations requested we can submit a request for a time extension of an additional 30 days to be approved at the May 30th Council meeting per the City Clerk.

The City Council desires this proposition to be on the October 2017 ballot.

Recommendation

Review dates, discuss a time agreeable to majority of the members of the Task Force.



City of Homer

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Office of the City Clerk

491 East Pioneer Avenue
Homer, Alaska 99603

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Memorandum PSBTF 17-04

TO: POLICE STATION BUILDING TASK FORCE

FROM: RENEE KRAUSE, CMC, DEPUTY CITY CLERK I

DATE: APRIL 4, 2017

SUBJECT: TASKS ASSIGNED BY CITY COUNCIL

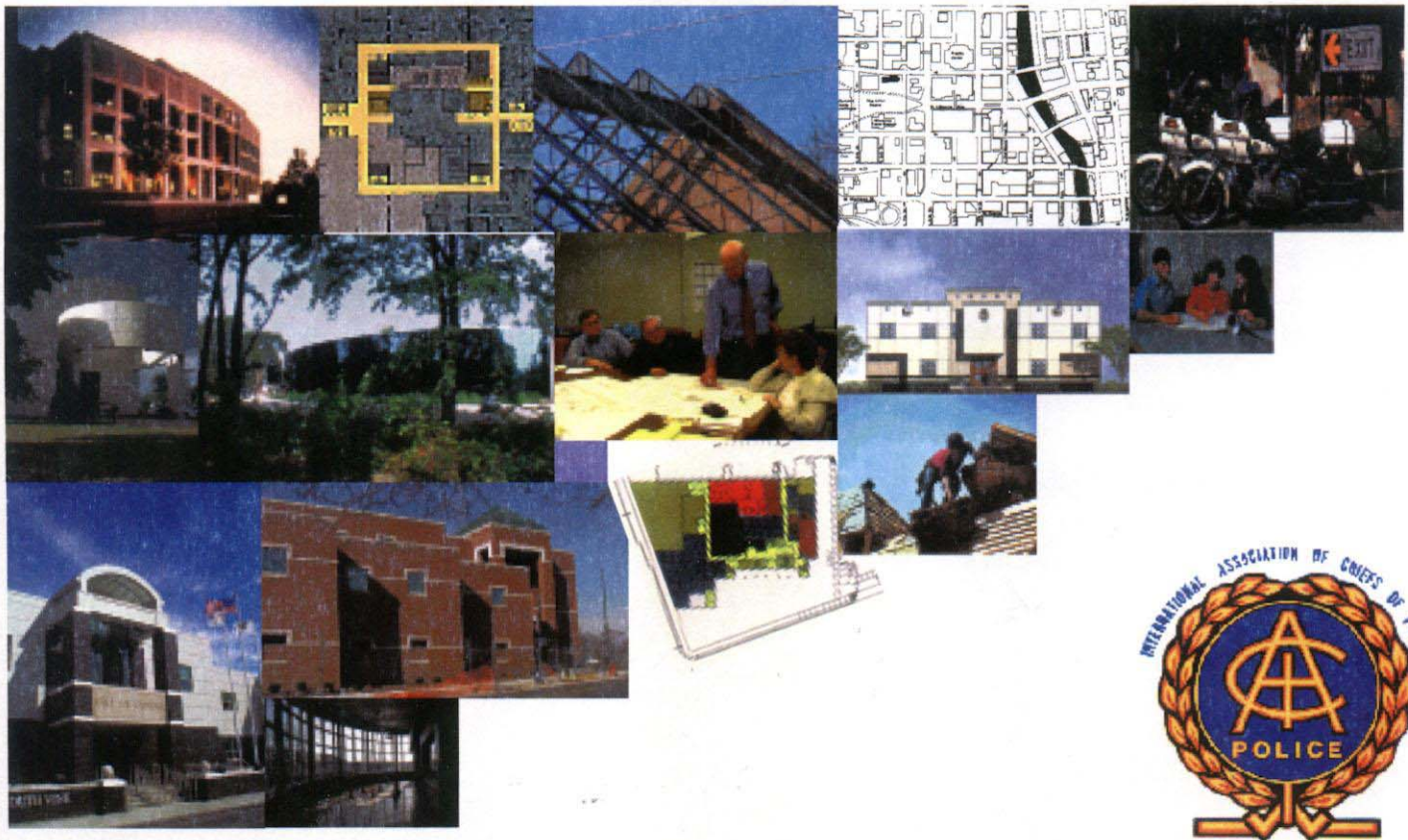
Following are the tasks assigned to the Task Force that were outlined in Resolution 16-128(S)(A), these will be on the agenda for each meeting until they have been completed.

Additional

1. Submit Two Project Recommendations
 - \$6 Million Dollars
 - \$9 Million Dollars
2. Site Selection
3. Alternative Funding/Construction Options
 - Lease Purchase Option
 - Build to Suit
 - Availability of Grants
4. Construction Options
 - Phased Construction
 - Remodel/Renovation/Addition vs New Construction
5. Additional Facility/Maintenance Costs to Overall City Budget
 - Personnel
 - Supplies
 - Depreciation
 - Furniture
6. Funding Mechanisms & Repayment Methods

Police Facility Planning Guidelines

Desk Reference for Law Enforcement Executives



International Association of Chiefs of Police

Acknowledgments

The IACP is indebted to a great number of individuals who made the development of this Desk Reference possible, particularly the many police leaders and architects who provided advice throughout the project. A full list of all those who gave their time is provided in the project advisory and staff/consultant pages that follow.

Our thanks go to the United States Department of Justice, Bureau of Justice Assistance for its leadership in supporting the project both programmatically and financially. In particular, we want to thank Acting BJA Director Richard Ward; Senior Law Enforcement Advisor Luke Galant; and project managers Tammy Shelton and Richard Sutton.

We also thank those police chiefs who opened their facilities to our project team for site visits: Chief James Bradley, White Plains, New York, Police Department; Chief Douglas Petit, Oregon, Wisconsin, Police Department; and Chief J. Thomas Manger and Major Tyrone Morrow, Fairfax County, Virginia, Police Department. Their support allowed us to make firsthand assessments of how recently built facilities are meeting client needs.

This project was supported by Grant Number 98-DD-BY-0061, awarded by the Bureau of Justice Assistance, U.S. Department of Justice. Points of view in this document are those of the IACP and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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Introduction

“The IACP contends that architects alone cannot design a functional police structure. They need the help and guidance of qualified police administrators.”

IACP Police Facility Design Report, 1978

There are almost 19,000 state and local police agencies in the United States. Each has, or will in the future need to plan, design and build a new headquarters, precinct or substation. Since the useful life of a police facility can range from 20 to over 50 years, a new facility project is typically a “first time” experience for most law enforcement executives. They have little or no expertise in the subject area. Effective planning for a new or renovated law enforcement facility is the most cost-effective step a jurisdiction can take to ensure a successful project outcome.

A chief’s role in the decision-making process has dramatic impact on the design, budget, use and life of a new facility. Decision making during the facility project is similar to a funnel – wide at the top and narrow at the bottom. At the beginning/planning stages, the project team has the greatest opportunity to change building philosophy, size, and design with the least impact on cost. At later design stages, opportunities for change and correction become more limited and more costly. Changes during the construction stage are the most expensive and can seriously delay a project.

This Desk Reference is designed to help chiefs and other law enforcement executives make sound decisions through use of a comprehensive planning approach. It will help chiefs design and construct a new facility, renovate an existing police facility, or adapt another type of facility to police purposes. The Desk Reference incorporates the expertise of police chiefs, police facility project managers, architects and consultants and identifies the critical project management steps involved in successful planning.

The Problem

Most police facilities continue to operate well past the planned life span. They often become seriously overcrowded, suffer from a lack of sufficient infrastructure (HVAC, electrical, data, telecommunication) and make due with outdated security and safety systems. These conditions often impair staff efficiency and morale, occupant safety, policing effectiveness and public perception of the department.

Focus of the Desk Reference

This Desk Reference provides police leaders with an 18-step Police Facility Planning Model applicable to all types and sizes of facility projects, regardless of complexity. The Planning Model is intended to promote a successful project outcome, whether the jurisdiction is constructing a multi-use justice complex, a police headquarters facility or any one of several smaller projects, such as a precinct facility or substation.

This document is designed principally by police chiefs and other law enforcement executives. It is designed to position the police executive and/or his or her staff in a leadership role as facility project activities ensue. The guide focuses to the greatest extent on the planning process and to a lesser extent on design or construction elements. While design and construction issues are unique to each jurisdiction, core planning steps are essential to every jurisdiction.

The Facility Planning Model

This Desk Reference is designed around the IACP's Facility Planning Model, taking the reader through the four phases of facility planning, and the steps included in each phase. Detailed discussion helps the reader understand the value of each phase and step, and gain clarity on how each step can be successfully completed:

Phase I: Project Initiation

This phase of the planning model contains seven project start up steps:

1. Identify and document facility problems
2. Build police internal planning team
3. Build political support
4. Identify and secure planning funds
5. Document policing philosophy
6. Establish project pre-design team
7. Establish community support for project

Phase II: Project Planning/Pre-Design

This phase includes three steps focusing on pre-design planning issues:

8. Conduct space needs analysis
9. Evaluate facility options
10. Conduct site evaluation

Phase III: Budgeting & Funding

This phase outlines three steps of the model that must be taken to assess and secure the necessary funds to complete the facility project:

11. Develop preliminary project design/construction costs
12. Obtain project funding
13. Secure & purchase site

Phase IV: Design & Delivery Phase

The last five steps of the model identify all necessary actions to design, construct and occupy the facility:

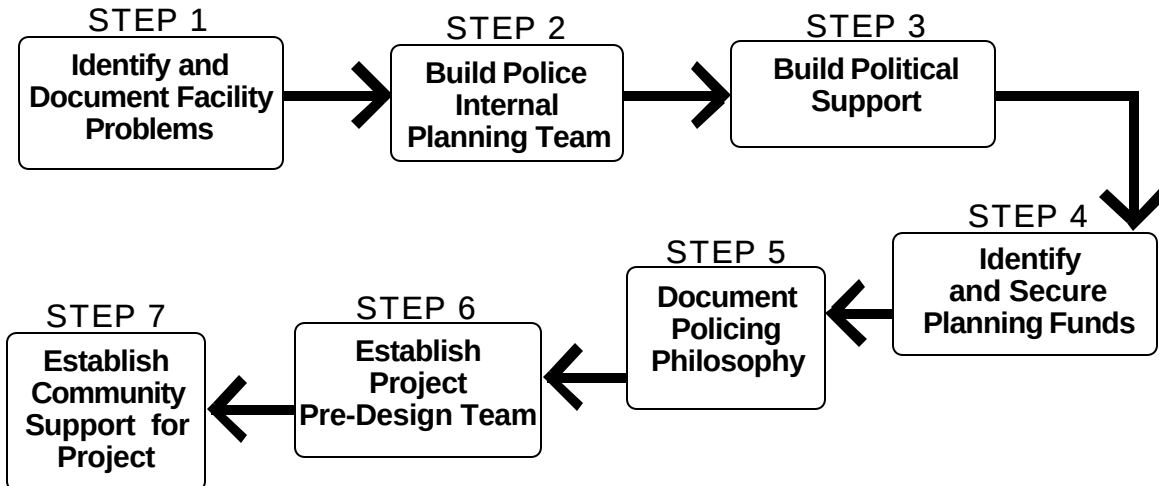
14. Deliver design & construction services
15. Select an architect
16. Design the facility
17. Build the facility
18. Develop occupancy strategy

While individual jurisdictions may have the need to re-order some of the steps based on unique local issues, the IACP believes that each of the 18 steps of the planning model must be accomplished successfully. Following the planning model will insure that the facility constructed reflects the mission of the department, meets all programmatic needs, fulfills all functional requirements, and has sufficient space to meet departmental needs for at least the next twenty years.

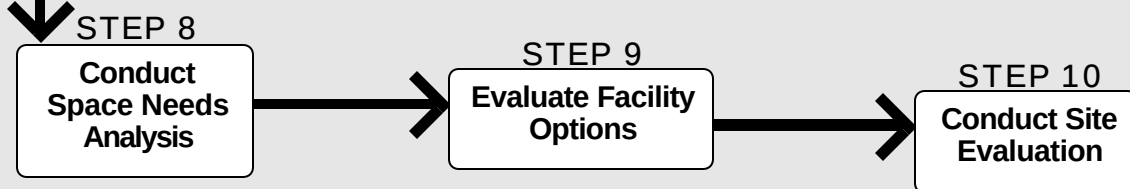
OVERVIEW

Facility Planning Model

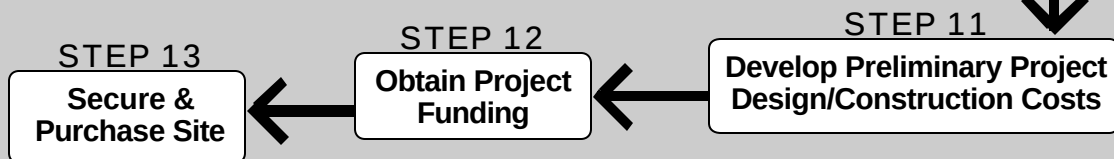
Phase I: Project Initiation



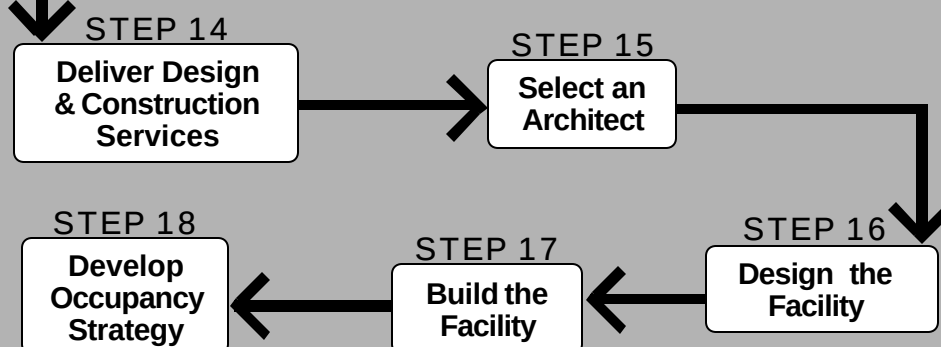
Phase II: Project Planning/Pre-Design



Phase III: Budgeting & Funding



Phase IV: Design & Delivery



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Section One

Project Initiation

The first section of the Facility Planning Model focuses on the initial actions a police chief should take to explore an existing facility's needs and deficiencies, assembling a police project team, building political support, setting goals, and examining cost implications. Also explained in this section is the process required for data collection to formulate a reliable and informative report on existing facility deficiencies. That report, along with a talented and committed project team, agency and community support, as well as a positive political climate, will hopefully be catalysts for continuing on to the next steps of a facility planning project.

Step 1: Identify and Document Problems With Current Facility

The first step of any facility project is to identify and document the deficiencies of the existing building. Step 1 explains how to approach this task. The outcome of Step 1 is a Facility Deficiencies Document that will serve as the foundation for all subsequent project steps.

Well-designed police facilities enable staff to perform their duties efficiently and effectively. As a facility ages, it may no longer meet the needs of an evolving department, thus negatively affecting morale, efficiency, safety, security, technology, and overall policing efforts. When these conditions occur, agencies search for alternatives. Typical remedies include expanding or renovating the existing facility, adaptively re-using an existing non-police facility, or building an entirely new facility.

To outline the possible scope of a project accurately, it is necessary to document existing facility deficiencies. A *broad-brush* approach should be used, examining all facility needs, including department, staff, equipment, fleet and public needs. A wide array of staff participation during this information collection phase is encouraged. Does the building support your policing philosophy? The agency mission statement regarding operational philosophy and goals is essential to clearly defining problems with the current building. Does the current facility design help achieve that mission? (See Step 5, page 9).

During the deficiency assessment, it is vital to:

- Collect reliable and accurate data on all facility deficiencies (a recent building or code compliance assessment audit is a good place to start).

PLANNING TIPS

Initial Steps

- Assemble a police planning team
- Write a mission statement
- Complete a facility deficiencies report

- Take slides and photos, and perhaps video, of facility deficiencies. These will greatly assist in visually expressing any deficiencies during future presentations.
- Ask relevant questions such as:
 - What current facility deficiencies prevent officers from doing a good job?
 - What delivery of services is needed for the public that the old facility cannot offer?
 - How does the proposed project align with the jurisdiction's overall strategic business plan and service goals?
 - What does a department need to make Community Oriented Policing efforts work better for themselves and the community? COP efforts are strengthened when a police department and its employees have the correct tools. A police facility is one of those tools.
 - Are operational standards or best practices of the department compromised through use of the current facility?
 - Have customer, civilian employee, and officer surveys been completed to document their needs and perceptions of facility issues?
 - Is the building itself a hazard? Does this building meet, or can it be made to conform in a cost-effective way, to state or local structural building codes?
 - Is there space currently for police archives (police museum in larger cities) to display the history of the department for staff and public image building?
- Conduct community meetings to discuss facility deficiencies, enlighten citizens and solicit feedback. When citizens become part of a planning team and are educated as to the facility's deficiencies, they will be more likely to realize the advantages of a new or expanded facility and ultimately support your cause.
- Focus on what the public needs:
 - Public parking that is clearly marked
 - Ability to easily identify and access the entrance
 - Readily accessible and identifiable ticket sign-off parking area
 - Visitor friendly design that incorporates safety as a priority
 - Waiting area
 - One-stop shopping concept for police services
 - Easy pick up of report copies and property
 - Community Center/meeting room
- Tour other police facilities:
 - Observe the overall layout (exterior and interior)
 - Observe work flow
 - Observe interesting design features that improve efficiency
 - Question why things are designed the way they are
 - Ask how evidence, reports, and arrestees are processed; how visitors are assisted
 - Ask what does and doesn't work within the facility design—or what could work better

- Search for maintenance “headaches” and overlooked areas that are now causing problems and/or procedural changes that were not expected, but that are made necessary by the way work flows
- Note the lessons learned from good and bad design features. Document these issues with photography for later use
- Contact your current facility customers (City, County, State agencies, courts, jails, etc.) and gain insight into a different perspective of facility deficiencies.
- Have similar discussions with project managers and architects in your jurisdiction to gain their insight into the project.
- Elicit staff participation at all levels within the department to identify problems.
- Gain as many perspectives as possible to assist in identifying deficiencies during the preliminary deficiencies assessment phase.

All information must be formatted and eventually blended into a formal Existing Facility Deficiencies Document for broad distribution to staff, community board, citizens and others.

Existing deficiency analysis can be performed by 1) an experienced consultant or architect, or 2) in-house staff, if your department has facility planning expertise. Whomever is selected will need to work closely with the police project manager to insure good communication and oversight.

Depending on the size of the agency or project, it may be helpful to utilize a trained and experienced consultant or architect for this stage. If an architect or consultant is to be hired, a simplified Request for Proposal (RFP) can be utilized to solicit a qualified professional. It is recommended that any in-house staff selection be based upon expertise, skill and commitment.

Step 2: Build a Police Internal Planning Team

Early selection of a dedicated and qualified police project manager and project team is essential. Staffing and assignments can vary throughout a project, but commitment to common goals and teamwork is vital. A governance structure and a decision-making process is critical for clear roles and authority.

Once the facility deficiencies are documented, the next (and often parallel) step is to build an internal planning team within the department. The diagram on the next page illustrates the structure and purpose of the internal planning team.

PLANNING TIPS

Key Points in Documenting Facility Deficiencies:

- Take photographs and videos
- Ask relevant questions about the building
- Conduct community meetings
- Tour other facilities
- Ask your customers about their needs
- Talk with staff

Police Internal Planning Team

Membership	Leadership	Function	Communication
• Project Manager or Chief Administrator • First Line Supervision • Sworn Staff • Non-Sworn Staff	Consensus and decision-making process must be consistent.	This group directs the project from start to finish. Consistency is imperative.	One spokesperson is essential. Maintain a consistent procedure with all partners.
<i>Choose people knowledgeable in technology, construction, finance, etc. These individuals will help define the concerns of the police department and ensure the department's needs are included in planning and decision-making in the early planning stage.</i>			

Project management is the key to any project, especially one as vital, detailed, costly, and politically sensitive as planning, designing and constructing a new police facility. Careful selection of a Police Internal Planning Team can mean the difference between project success and failure. Each team member must understand and agree to the actual time commitment involved. A three-to-five-year undertaking is normal. This could easily be extended depending upon the size and scope of the project. Part time vs. full time responsibility varies with each department team member, depending upon the role assigned and the stage of the project. The size and assignments of a police project team vary with the size and scope of a project, management philosophy, staff capabilities, project scheduling and staff availability.

Selecting a Police Project Manager

A police project manager, pivotal during an entire project, may be either a police chief (usually the case with smaller agencies) or a designee, such as a commander, captain, lieutenant, civilian manager, facility manager. Occasionally the two may share the role, with a designee handling most of the tangible work and a chief managing the more sensitive, political aspects of the project, such as the concerns of citizens and council members.

If a chief elects to utilize a designee as a police project manager, selection should be based on expertise, skill and commitment. A background in facility planning and construction will be helpful. A genuine interest in learning and managing all aspects of a project, as well as being accountable for a project's success or failure, are strong selection criteria. The stronger the personal commitment, the better the project.

A successful police project manager should:

- Plan to stay with the project from pre-planning to dedication day
- Always know what is going on relative to the entire project
- Attend all group meetings
- Select and convene an Internal Police Planning Team
- Serve as police department representative on the Pre-design Project Team (see page 12)
- Sit in on all transition task force meetings to ensure necessary work is completed within set timelines
- Coordinate and schedule activities
- Be capable of delegating assignments
- Serve as a single point of contact and spokesperson

PLANNING TIPS

Size and complexity of police internal planning team will vary with size of law enforcement agency.

Selection of police project manager is crucial to project success.

Project Manager Qualities:

- Dedicated and formally committed to the project
- Capable of delegating
- Good listener
- Positive attitude
- Consensus builder

- Document the results of each planning session
- Be a good listener and have a positive attitude
- Build consensus among community agencies, members of the department, partners, planning committees and others

The police project manager must remain in place throughout the project. It is very important to have consistency in terms of leadership and project commitment; project history; philosophy; police standards; established relationships; and knowledge of the project.

Tips for Police Project Managers

- The more planning you do up front, the fewer problems you have at the end.
- Don't assume architects/consultants know your department's needs. Get involved! Don't let them work in a vacuum.
- Ask questions, expect answers.
- Learn how to read blueprints & specifications. Double-check all documents to ensure they meet your department's needs.
- Take the IACP Facility Planning and Design Course (See page 6).
- You can't do all the work yourself. Form transition teams as soon as possible.
- Think proactively, not reactively.
- Don't assume you know everything about your department's needs. Ask your employees, get their feedback. Involve them in the process. They will have to work in the building.
- Don't develop tunnel vision. Focus on the big picture.
- Share and document what you've learned so others can learn from mistakes and successes.

Internal Planning Team Members

Team members may include sworn and non-sworn managers and/or employees, each representing their particular technical or operational point of view, especially during design development and the later parts of construction. Still other team members may include police line-level employees with special skills, or an interest in architectural or construction projects. The duties of these members, as well as the size of the team, can vary as the project evolves.

Part-time membership may include organization representatives, such as a buyer, who may be brought in during the acquisition process, a building maintenance representative to identify any city or agency "standards" or to offer oversight into the facility's mechanical systems and interior finishes, or public works staff who specialize in off-site work or underground utility information. Ad hoc groups may be added to the Internal Police Planning Team at various times to provide additional information. Community members with specific expertise and interest may also be on the Internal Police Planning Team at various times. Project architects and consultants, if brought on at this stage, should be considered an extension of this team.

PLANNING TIPS

Build project support within the agency by involving staff at each step.

PLANNING TIPS

Development of a governance structure and decision-making process is a crucial step in assuring an effective outcome of the Internal Police Planning Team.

Internal agency and governing body support is critical for a police facility project to move beyond Steps 1 and 2.

Many individuals in the department, each with his or her own particular interest, expertise, and level of participation, may be involved in a planning process at one stage or another. Some will be called upon from time to time to perform particular tasks or advise on particular issues. Others will provide broader reaction with less direct involvement. With the exception of the police project manager, the make up of the Internal Police Planning Team can be fluid, if need be. Depending upon the nature and detail of the work being performed at any given stage in a project, team members may be added or reassigned to best suit the needs of that project. Only the police project manager and a few key members of a planning team must remain a constant to ensure project stability.

Development of a governance structure and decision-making process is critical in assuring an effective Internal Police Planning Team. The police project manager and the chief should design the roles, responsibilities and chain of command for any decision-making of this team. All team members must understand the mission and goals of the project and the process by which information is gathered and reviewed. All data collected by individual members or committees should be presented to the police project manager who will compile the results of the deficiency report and present it to the chief. For the sake of simplicity and clarity, the police project manager should be the single point of contact through which all questions and information flows. The police project manager should also have final decision-making authority once issues have been fully explored.

At this step, and/or even up to Step 6 (expanded team with governing body members), the selected representatives should consider attending available training and education courses offered on police facility design. One example is the IACP sponsored *Planning, Designing and Constructing Police Facilities* training course. This four day intensive training session, designed for city administrators, police managers, police planners, engineers and architects examines the steps presented in this Desk Reference in greater detail and empowers local teams to work effectively to produce state-of-the-art facilities.

Step 3: Build Consensus for Political Support

Governing body support is critical if a project is to move beyond steps 1 and 2. The chief must fully understand governing body issues, concerns and budgetary constraints. He or she must then present any new facility planning project within that context. Tying the facility project to broad jurisdictional business plans and service goals is essential.

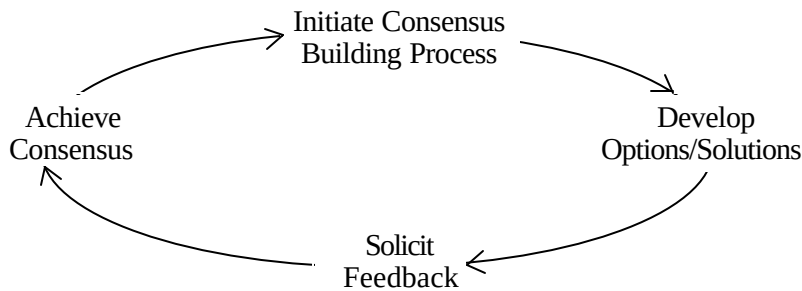
Internal agency and governing body support is critical for a police facility project to move beyond Steps 1 and 2. Existing facility deficiencies must be presented to all concerned, involved parties, at the proper time, by the proper person(s), in a logical format with complete understanding of what is important to each. Identifying and conveying the deficiencies of a current facility can be relatively easy, however convincing executive and political decision-makers of the need to move forward with a project that will require considerable amounts of funding is far more difficult. Government executives and decision-makers have political motivation, challenges and problems associated with capital projects, funding and internal infrastructure goals. Take this step slowly, attempting to discover ways to appeal to each decision-maker.

Developing project support from heads of other departments/agencies in your jurisdiction is wise, especially from the departments that have a strong relationship with the top executive decision-maker or have members on public works project teams. Gaining the support of other department heads can occasionally be the turning point for convincing the top executive decision-maker that a project is in the best interest of the entire organization. A critical step here is to prove that the project aligns with the jurisdiction's overall strategic business plan and service goals.

Government leaders may be initially resistant to police facility projects. Public safety (police, fire, EMS) budgets and staff are usually larger than other departments. Their role in life saving, emergency response and daily protection of citizens lends itself more easily to justification of funding required for new programs, staffing levels, facilities and equipment, while other government departments have a more difficult time. This may lead to animosity or resistance from other department members.

It is important to involve other departments in planning and supporting a project; however, it takes special effort to educate them and bring them into the process in a positive way. Consider joint use within a new facility to assist in gaining internal support, such as proposing a city employee fitness center, open-use lunchroom, meeting rooms, etc. Bring other organizational representatives into the process to solicit their input and ideas. Demonstrating that you are open to their inclusion can result in their support for the project.

Consensus building is an effective tool for promoting a useful dialogue and decision-making process between agencies or individuals with divergent viewpoints. The diagram below is an example of a consensus building process aimed to promote effective discussion and planning.



To gain support from other city organizations and governing bodies, you must make it clear that the police department has a stake in, and impact on, quality of life in the community. The image of a police facility must be seen as synonymous with the image of the government and community it represents.

PLANNING TIPS

- Build political support by stressing business plan and service goals to:
- political allies
 - city department heads
 - community groups

Consider joint use for the facility.

PLANNING TIPS

Planning Funds—the most valuable investment that can be made in the project.

Front-end planning can save millions of dollars in 20-year life cycle facility costs and later renovation costs.

If possible, avoid making estimates of project costs.

“Ballpark” estimates are frequently wrong.

The department should take the position that actual facility costs are not and cannot be known until the planning process is put in place and specifically until Step 11 of the model is complete.

Step 4: Identify and Secure Planning Funds

The chief should seek a reasonable level of initial planning funds from the governing body to initiate a more comprehensive facility needs assessment. Planning funds ensure that the groundwork for all future facility design work is reliable and data-driven.

Once facility deficiencies are documented, an Internal Police Planning Team is in place, and governing body support for the project is forthcoming, securing sufficient funds to conduct a comprehensive facility planning study becomes necessary. Planning costs will vary based on facility and departmental size and complexity. *This expenditure, which may seem large to the governing body at the time of request, is the most valuable investment that can be made in the project.* Planning funds represent the least amount of money that will be spent on the overall project while offering the most potential to ensure a successful project.

At this stage the department should obtain planning funds to, 1) confirm the commitment of the jurisdiction to a new facility project, 2) allow the department to begin to expand the project team (use of consultants), 3) travel to model sites as needed. (*See Site Visit Protocol, Appendix 2.*) Requests for up-front planning funds are supported by the materials developed by actions taken in Steps 1, 2, and 3 and should be based on the cost experiences of similar departments regionally who have already planned and designed a new facility.

Some issues to consider when making the request to the governing body for planning funds:

- Examine jurisdictional funding constraints and priorities
- Clarify that front-end planning costs can save millions of dollars in 20 year life cycle facility costs and in later renovation costs, as well as expedite the project by providing project justification
- Time request to coincide with city’s yearly budget cycle or long range capital improvements plan
- Base consultant fees on scope of work you want them to do
- Obtain planning expenditure approval

When seeking funds for the planning stage, police leaders should refrain from making estimates of the anticipated design/construction costs of the planned facility. “Ballpark” estimates at this stage are frequently wrong, since they are not based on documented information and analysis. Estimates at this stage also become liabilities for the chief and the department, whether they are too high or too low. *The department should take the position that facility costs are not, and cannot be known until the planning process is put in place, and specifically until Step 11 of the model is completed.*

Step 5: Document Policing Philosophy

The chief must clarify the mission, philosophy, and goals of the department. These principals should be the driving factor in all facility planning, design and construction decisions. Absence of attention to goals and philosophy leads to a facility that does not reflect the department's true mission.

Facility planning projects often move ahead too quickly or underestimate the time needed to undertake a comprehensive functional and/or space needs analysis. In particular, an essential step—documenting the philosophy and mission statement of the organization—is often overlooked. The mission goals, objectives and programmatic needs of an organization should dictate the design of its facility.

Most police agencies in 21st-century America have a written policing philosophy in place. The planning team must fully comprehend and document the agency's governing principles to ensure that the new facility reflects them. Mission statements regarding the operational philosophy of an agency must drive, rather than be defined, by the physical layout of the building. Balancing secure internal space and publicly accessible space, for example, requires an understanding of the mission of the department. If an agency is determined to increase contact and collaboration with the community within a community policing framework, the building must be designed to make visitors feel welcome. Fortress-like facility designs, while ensuring officer and departmental safety, are antithetical to community policing initiatives. A balance between secure internal and public spaces must be achieved in each facility project.

Step 6: Establish Project Pre-Design Team

Before moving to the complex initial planning steps (site analysis, space needs analysis, and preliminary cost estimates) the jurisdiction must identify, select and put in place a Project Pre-Design Team to oversee the hiring of an experienced architectural firm/consultant with specific law enforcement facility planning and design experience. This is usually accomplished through an RFP, RFQ, QBS writing and review process. It is important that the police project manager be highly involved during this process.

The Project Pre-Design Team is created after the governing body has given consent to move ahead with facility planning and provided sufficient initial planning funds to do so. Creation of this team offers an opportunity to bring all stakeholders together and create a working relationship focused on the same goals. The Pre-Design Team is an expansion of the Internal Planning Team, keeping core internal team members in place and adding additional experts from outside the department.

PLANNING TIPS

The mission, philosophy and goals of the department should drive all facility planning and design decisions.

Project Pre-Design Team

Membership	Leadership	Function	Communication
• Police Project Manager • Police Staff Representatives • Ad hoc members • Architects/Consultants • City Planners, Finance • Public Works • Community Members • Other Government Reps.	Makes all decisions or recommendations. Consensus is vital to project success.	Directs project and ensures the project's success through decision-making and consensus building	The importance of a consistent process to communicate to parties is vital. One spokesperson for all.

Project Pre-Design Team Operational Objectives

The Project Pre-Design Team provides the avenue through which all major planning, design, and construction decisions are made. The membership requires diversity and it influences the community buy-in and overall success of the project. The task of managing consultants and making decisions on complex and often tedious issues falls to this group. Once again, it is vital to the success of the project for the police project manager to be consistent from start to finish and he/she must be a consensus-builder.

- Design a facility that addresses the agency's policing philosophy and supports current and future space, equipment and technology needs
- Represent all policing agency and community interests equally
- Examine all design documents (working drawings and specifications) in detail to decrease change orders and reduce errors and omissions
- Implement and provide oversight of transitional-specific planning teams
- Enhance communication to facilitate a mutual understanding of all issues and points of view
- Operate within budget and on schedule, whenever possible
- Utilize negotiation techniques and flexibility to meet the project's many challenges
- Work closely with other departments involved in the project (public works)

Public Works Involvement

New construction, adaptive re-use, large expansion, and extensive renovation of police facilities typically move to public works once they become formalized and recognized as capital projects. This usually occurs anytime between Step 1 and Step 11, depending upon the organization of the city government. Public works projects are usually supported by a public works agency project director. If the department of public works develops a project team and appoints a project director, the police project manager must play a major role on this team, while at the same time continuing to head up the Internal Police Planning Team. In these cases, the earlier developed Police Internal Planning Team becomes a vital technical/user sub-committee of the public works team. If the project becomes headed by public works, then this sub-committee will relay their input through the police project manager.

Whether the Pre-Design Team is public works or police based, the formal organization of a project team needs to be set, so everyone acknowledges that a certain structure exists and is agreed upon. Public works projects and

their structures already exist within most municipalities. Keeping this in mind, a governance structure will need to be developed for a team to ensure effective planning and decision-making takes place. Each agency will set formal or informal governance structures for their organizations. The structure will most likely be two tiered, composed of committees or teams with defined roles and responsibilities. These transition teams address specific impact and planning issues associated with relocating and/or transitioning to a renovated, expanded, new or adaptive re-use facility.

Agreement needs to be reached regarding the Pre-Design Team's decision-making process. Major decisions effecting project approval, funding sources, architectural or construction contract award are usually reserved for the entity's top-level decision-makers and/or elected officials. Most cities, counties and states have laws pertaining to the awarding of contracts and use of public funds which establish a set process to follow. Again, each project varies, but this needs to be discussed up-front so all team members understand and agree to the process and their responsibility to make certain decisions, whether they relate to design, budget, location, furnishings, public relations, selection of architects, contractors and consultants, or acceptance of product submittals, etc.

Role of Architectural Consultants on Pre-Planning Team

Qualified architect/consultants, experienced in design and construction of police/law enforcement facilities, play a key role on the Pre-Design Team. Typically, they take the lead in, 1) conducting site feasibility study, 2) completing a formalized space needs analysis (see Step 8 for details) and 3) developing preliminary budget. References of qualified architectural firms or consultants can usually be gathered from local police departments who have recently gone through the building process.

Criteria to use in selecting architectural consultants should include:

- Experienced agency (well-structured and proven in law enforcement design)
- Flexibility
- Current, extensive similar project experience
- Positive relationships with contractors
- On time, within-budget delivery of projects (last five years of projects documented)
- Size of firm and years in business
- Listening and teamwork skills
- Creative talent/ strength of ideas
- Pending work schedule. Can they devote the time to your project?
- Personal chemistry/comfort level/ compatibility
- Plan for design process and possible alternatives - a problem-solving approach
- Skilled project team members with substantial law enforcement experience
- Samples of previous studies
- Reference checks

PLANNING TIPS

All members of the Pre-Design Team need to agree on a decision-making process.

PLANNING TIPS

A project manager should review the RFP, RFQ, or QBS prior to release to ensure that agency needs are covered.

Prior to awarding the contract a police project manager should:

- Contact all references
- Visit sites designed by submitting firms
- Meet with the architect

To hire an architectural consultant for the space needs and site analysis and preliminary budget development, most government organizations utilize a Request for Proposals (RFP), Request for Qualifications (RFQ), or Qualification Based Selection (QBS) process. Each process has similarities to the others; however, each has its own particular strengths and should be considered depending upon the project being proposed.

Note: Each jurisdiction must confirm architects'/contractors' acquisition protocol with their legal counsel and purchasing departments.

RFP - Request for Proposals: Bases architect/consultant selection upon a presentation of proposed project scope of services set forth by a particular firm, using a set of evaluation criteria and scoring sheets. (In this stage, the architect/consultant is only providing a space needs analysis as in Step 8). It also outlines the firm's qualifications to handle the particular project. Fees are sealed and not opened until scoring is completed and firms are ranked. Fees are then considered as part of the final selection process weighed with ability, experience and other selection criteria.

RFQ - Request for Qualifications: Bases architect/consultant selection upon qualifications of a particular firm to perform the required services, using a set of evaluation criteria and scoring sheets. Once considered properly qualified, selection can continue or proceed directly into fee negotiation with the firm considered most qualified, (similar to the RFP process).

QBS - Qualification Based Selection: Bases architect/consultant selection upon the qualifications of a particular firm using a set of evaluation criteria and scoring sheets. The emphasis is on matching the qualifications of firms to the police agency's needs, rather than comparing one firm to another. Once the match is made, the agency/municipality negotiates a mutually agreeable scope of services with that firm. (Brooks Act of 1972 mandates the QBS system be used by the federal government for procurement of architectural/engineering services on city projects where some federal money may be included).

The RFP, RFQ, or QBS document is usually written, advertised and released by an organization's public works department, or similar agency. Obtaining copies of comparable documents from local agencies that have recently built similar facilities is encouraged. A police project manager should ask to review the document prior to its release, therefore insuring the needs and viewpoints of the agency are expressed. These documents should include minimum qualifications for proposing, such as prior size and scope of previous police projects, former police project manager references, demonstrated comprehension of the applicable policing philosophy, etc.

A police project manager should carefully read over all submitted information from architectural firms proposing on the project, contact their listed references, and visit sites designed by the firms, if possible. It is not uncommon to have the submitting firm present their proposal at your agency. This can enhance the selection process. A police project manager should be a major decision-maker in the selection process to ensure department needs are represented and the quality, philosophy and personality of the architectural firm/consultant team meet the needs of the project.

Step 7: Establish Community Support for the Project

Gaining governing body and taxpayer support for a capital funded project is crucial. The techniques used for marketing such a project should be carefully considered. Educating the community can lead to increased project support.

The level of success of a public project can be measured by the support it receives from the governing body, other public agencies, citizens, business leaders and associations. Such support is usually engendered through education efforts and articulation of current facility deficiencies and needs analysis results, demonstrating the benefits to each audience.

External organizations can offer their support in a variety of ways. They can support a project by commenting on it in their newsletters or speaking about it at their meetings. Business improvement organizations (BIO) groups such as the Lions, Elks or Kiwanis Club, local philanthropic and civic groups, are excellent sources of support. Organizations may also wish to sponsor furnishings for a particular room within a newly proposed facility, such as a child victim interview room, police museum, or local community room. Within some municipalities, private corporations have donated their products or furnishings to offset project costs. In California, a woman placed the Santa Ana Police Department's canine section in her will so that her estate funded their new facility canine kennels. In Chandler, Arizona, etching the names of project sponsors in the entry pavers helped to fund an officer memorial.

The ultimate goal is to gain as much support as possible from all city departments, staff, taxpayers/citizens, private corporations, press, etc. The larger the support base, the higher the probability for project funding. High level strategies are usually developed by a top executive decision making team, which in most municipal government cases, would include a city manager, police chief, director of public works, planning director and director of finance. The process may also include input from elected as well as appointed officials, chambers of commerce, etc.

If public funding is to be used, taxpayer support for a project is vital. Strategies to gain such support need to be developed. If a project is large, costly, and vital, decision-makers should consider the use of a professional marketing agency to assist in presenting the project to the public. An ongoing advertising campaign may be needed to further the reach to taxpayers.

Most strategies involve educating specific public and private sector organizations, groups and selected individuals. The education of these groups may take on many forms and be assigned to the same or different individuals. Usually, executive management such as a city manager or chief of police, will handle these high-profile meetings and public relations events. To assist in this educational process, consider the following:

- Present at community-oriented policing meetings and other similar public forums

PLANNING TIPS

The ultimate goal is to gain as much support as possible from all other city departments, staff, citizens, corporations and the press.

PLANNING TIPS

A summary of the facility deficiencies report should be disseminated to the public to confirm and document facility issues.

- Plan proactive media attention, such as television coverage and/or newspaper articles addressing current facility overcrowding, lack of detention space, citizen access concerns, etc.
- Offer tours to educate participants about an overcrowded facility
- Publicize positive aspects of possible future joint-use benefits
- Focus on life cycle cost benefits of a facility with multipurpose uses
- Highlight community oriented policing benefits for citizens and employees
- Emphasize the importance of being open to new ideas
- Utilize a marketing approach to “sell” a project to constituents, department staff and taxpayers
- Acknowledge the importance of effective presentation styles
- Stress a Community Service Center Facility concept and the enhanced quality of life that such a facility will provide
- Attempt to close any gaps between perceptions of the project
- Publicize a facility as a crucial and useful tool to facilitate community-oriented policing

A summary of the previously developed existing facility deficiencies report should be published and disseminated to the public to highlight facility issues. This document is a critical tool to engage community support.

Section Two

Planning/Pre-Design Phase

Section Two of the Facility Planning Model focuses on the need to define and examine existing and future needs of a project. It elaborates on the selection of a qualified architect or consultant to carry out a formal space needs analysis. This section also emphasizes the site selection process and possible planning phase hazards that project teams may encounter.

Step 8: Conduct a Space Needs Analysis

Conducting a formal space needs analysis is an important step towards defining the scope of a facility project and developing accurate preliminary cost estimates. Hiring an experienced architect/consultant familiar with law enforcement needs is crucial to obtaining a detailed analysis addressing current and projected space needs.

A formal space needs analysis is required for any project to move beyond a conceptual stage and into a more defined phase. A thorough space analysis must demonstrate the inadequacies of a current situation, offer reliable estimates of current and projected space requirements based upon industry standards, policing trends and client growth.

Space Standards

One area that affects all space needs analyses is the determination of square footage allocation per occupant, or for certain rooms, offices, workstations, etc. These sizes can vary with each project, as demographics, organizational philosophies, functional needs, and other issues impact each agency's needs. While there are some minimum standards set by law, and/or accreditation agencies as to jail and holding cell sizes (state boards of corrections and state court requirements) and circulation area standards (Americans with Disabilities Act and fire codes), there are no absolute standards for offices, workstations, locker sizes, etc. Each individual agency must examine their needs while keeping in mind the standards utilized throughout other governmental offices, law enforcement facilities, etc. Harmony across government agencies is important. Consistency of space allocations across city and government offices helps with coordination of furniture purchases and simplifies the moving process between offices and agencies. When there is standardized room size and furniture across the jurisdiction departments, the overall cost to the city is lower and the effort and expense to move is dramatically reduced.

PLANNING TIPS

A formal space needs analysis is crucial for any project to move beyond a conceptual stage.

Accurate preliminary cost estimates are based on the results of the space needs analysis.

When planning office sizes, remember that consistency, or harmony across city agencies and government offices, simplifies the moving process and lowers overall expenses.

There are no absolute space standards for offices, workstations, lockers, etc.

PLANNING TIPS

The architect/consultant hired to do the space needs analysis must possess a thorough understanding of police agency operation.

The results of the space needs analysis will determine the size of a facility.

Once established, office and workstation square footage standards will be used as a basis for space allocation during the facility assessment planning process. Other areas, such as roll call or briefing rooms, lunchrooms, conference rooms, etc., may be determined upon room occupancy needs and growth factors. The space needs analysis report, which will include an examination of all existing and needed square footage, also provides estimated cost analysis for the final determined size, based upon required square footage and local construction costs of similar sized police projects.

Preparing for the Space Needs Analysis*Agency Background*

The architect/consultant hired as part of the Pre-Design Team (see Step 6) to conduct the space needs analysis must possess a thorough understanding of the client police agency. The following information is critical and must be shared with the architect/consultant to ensure an accurate analysis.

- Policing philosophy
- Organizational hierarchy and organizational chart
- Current and future department goals
- Jurisdictional strategic plan (mission, goals, objectives)
- Current and future staffing projections
- Department history
- Key personnel to be interviewed
- Arrests/calls-for-service data
- Prevalent types of crime within the jurisdiction
- Data collected from client facility needs questionnaire
- Space needs of the agency by function (sworn/civilian staff, justice agency staff and citizens/visitors)

Existing Facility

The architect/consultant also must understand the layout of the existing department's current facility as well as building codes within the jurisdiction. This information may affect a recommendation to renovate or expand the current facility. Data gathered on the current facility and relevant building codes will include:

- Review updated floor plans of current facility
- Review civic center master plan
- Review zoning, planning and building code issues
- Evaluate technological systems
- Evaluate structural systems
- Evaluate HVAC systems
- Evaluate plumbing system and fire protection
- Evaluate electrical and telecommunications systems
- Assess environmental deficiencies
- Conduct walk-through of current facility

Future Trends

Conducting a needs analysis requires an understanding of future policing trends, as well as specific department needs and preferences. The architect/consultant must:

- Examine future trends and needs such as:
 1. Legal changes that mandate adult and juvenile arrestee/inmate space needs, additional evidence storage capacities, space for mandated officer training, etc.
 2. Planned department growth
 3. Impact of grant financed programs, task forces, regional enforcement groups
- Identify preliminary adjacency needs for each section and department
- Identify current, future and potential shared uses such as custodial exchange, public safety use, firing range, classroom training etc.
- Assess parking/vehicle storage needs for police department staff vehicles, employees, visitors, deliveries, repairs, evidence pick up, police auction space and ticket sign-off area
- Determine life span of new facility and include associated growth factors into all calculations

Technology Needs

The rapidly changing information technology environment continues to impact design, space requirements and equipment specifications for facilities. The following should be closely scrutinized:

- Size, quantity and location of communications closets and potential for Emergency Command Post
- Wiring for Emergency Command Post
- Access floors and ceiling heights
- Larger computer staff and equipment areas
- Computers for training and continuing education
- Forensic and photo labs/darkrooms
- Officer information technology equipment storage needs
- General storage needs for hi-tech gear
- Wire tap rooms and associated equipment
- Satellite uplink-downlink needs
- Hi-tech driving or firearm training areas
- Lobby space for computerized interactive citizen participation
- Teleconferencing areas
- Crime task force computer needs
- Technological needs at firing ranges (computer simulation equipment)
- Proper HVAC and ventilation for electronic/technology equipment and rooms
- Workstation quantity and sizes for additional tech items

Space Needs Analysis Checklist

The following is a checklist of areas that might be included in the space needs analysis. It is generic in nature, and will need to be adjusted (addition or deletion of areas for study) based on local needs:

Administration

Chief's office - restroom, conference room, etc.
Staff offices
Reception areas
Professional Standards and Internal Affairs
Secured file storage - personnel records
Personnel interview and testing rooms
Legal Advisor office, law library, etc.
Management Information System
Planning and research areas

Common Facilities

Locker rooms w/showers, restrooms
Fitness Center
Community Room
Conference rooms
Interview rooms
Lunch rooms/coffee areas
General storage rooms
Electrical rooms
Communications rooms
Janitorial rooms
Building maintenance storage and repair rooms
Visitor parking
Employee parking
Marked and unmarked police vehicle parking
Delivery/load dock area
Vendor repair parking
Cart and bicycle parking
Large trash storage
Pneumatic tube systems
Restrooms and lounges

Communications/Dispatch

Dispatch consoles and offices
Emergency Operations Center
Break room and restrooms
Training/briefing room
Lockers and storage

Crime or Forensic Laboratory

Staff office and file areas
Photo processing/imaging areas
Evidence processing areas
Ballistics processing areas
Special computer needs
Citizen counter
Officer counter
Evidence temporary lockers
Biological drying lockers
Vehicle examination area
Equipment and photo storage areas
Specialized lab areas

Evidence

General evidence storage
Weapons storage
Narcotics storage (special ventilation)
Evidence lockers - DNA/Biological storage
Public counter
Officer counter
Bicycle storage
Freezer and refrigerator storage rooms
Video tape storage
Video/audio tape duplicating areas
Arson storage
Hold areas for auction or destruction
Office areas
Safety precaution sinks, restrooms, etc.
Automobile storage
Large item return for citizens
Citizen viewing room

Investigation

Staff offices
Reception areas
Secured file storage
Soft interview rooms
Hard interview rooms
Child abuse interview rooms
Juvenile and suspect restrooms
Gun lockers
Wiretap rooms
Narcotics or money storage areas
Undercover locker rooms
"Cold" or undercover phone rooms
Informant entrance
Briefing room
Equipment storage rooms
Mug/print room
Audio/visual tape equipment room
Polygraph room
Victim ID area (computer graphics)
Task force needs
Line-up and viewing room

Patrol

Briefing/roll call room
Report writing room
Clothes and equipment lockers
Secured sallyport
Evidenced packaging areas
Hard suspect interview rooms
Soft interview rooms
Audio/visual tape equipment
Watch commander offices
Juvenile holding rooms
Adult holding rooms

Large item booking area
Radio and shotgun pick up area
Supply and uniform pick up area
Sleep center
Uniform dry cleaning drop-off/return

Records

Citizen counter
Officer counter
General office areas
Teletype area
Report copying area
Micrographics/optical disk area
Hard copy records storage room
Supply storage

Traffic

General office areas
Citizen counter
Motorcycle parking
Ticket storage
Accident investigations interview rooms
Ticket sign-off parking area

Training

Driving simulator rooms
Firing range and gun cleaning rooms
Training equipment storage rooms
Ammunition and target storage
Classrooms
Video studio, duplicating rooms, etc.
Video training viewing areas
Obstacle course areas
Department weapons storage

Other General & Specialty Areas

Central supply warehousing area
Main computer & radio equipment rooms
Computer staff offices and storage
Specialized computer training rooms
Fiscal, payroll, purchasing areas
Crime prevention areas
DARE program needs
Surplus uniform and equipment storage
Employee mailboxes
Trophy and award storage
Pay telephones
Vending machines
Automated teller machine
Copier, shredder, mailrooms
SWAT weapons and ammo storage
K-9 office and kennel
Animal control storage and offices
Gun lockers

Examination of prior police facility planning efforts shows that many of the above areas, while critical to the policing function, are often overlooked during space needs analyses. It is critical that the police agency ensures that the architect/consultant is aware of all possible space needs before completing the analysis.

The project manager should continuously re-examine, refine and redirect a project, if necessary, during the space needs analysis phase. As data is collected it can change a project's size, scope, budget and direction. It is important to include all key stakeholders in the decision making process, making all necessary changes as early as possible. The emergence of technology's role in day-to-day law enforcement suggests that an IT Specialist provide service at the earliest project stages.

Since the new facility may be in use for a life span of 20 to 50 or more years, projecting future growth is an essential part of the space planning stage. Space must be allocated to anticipate changes in staffing levels, programs, and the changing demographics of the service population. While determining future needs is difficult, jurisdictions can sometimes use past history of change (typically the last 20 years) to estimate future growth. In other locations, recent and anticipated community development can directly impact the need for increased police services and required facility space.

The results of a space needs analysis should be closely examined. These results will determine the size of a facility which usually sets the budgetary limits of a project. The project team should remain flexible and open to new ideas and changes, exploring all options for workable space alternatives.

Step 9: Evaluate Facility Options

There are three basic options when considering replacing an existing police facility: Renovation of the existing building, acquisition and adaptation of an existing non-law enforcement facility, or new construction. Comparing capital and life-cycle costs for each are essential to determine the most cost-effective use of public funds.

The space needs analysis will have identified the various functional components, adjacency requirements, security needs, movement and flow between components, and individual area requirements. This analysis data forms a solid foundation and benchmark for identifying available facility options and the evaluating of the extent to which each option can be successful in meeting the identified needs.

While the range of available facility options will vary in each individual circumstance, the following are the basic possibilities:

- Renovate and expand the existing police facility
- Acquire and adapt another existing facility
- Construct a new facility

PLANNING TIPS

Three Facility Options:

- 1) Renovate current building
- 2) Adapt an existing non-law enforcement building for police use
- 3) Build new

The preferred choice is selected as a result of the analysis of each option and its ability to meet functional space needs.

PLANNING TIPS

In many cases, government officials will not consider a new construction project, or acquisition of an alternative facility, until the inadequacy of the existing building is clearly demonstrated.

The preferred choice is selected as a result of the analysis of each available option's ability to meet identified programmatic, functional and space needs. Each option must meet the criteria established in that jurisdiction. Beyond meeting basic square footage requirements, examples of facility evaluation criteria may include:

- Ability to meet “essential services” of building and structure code requirements
- Ability to deliver the required space identified in the space needs analysis
- Ability to group components for efficient operations (needed adjacencies)
- Ability to provide needed security zoning
- Ability to separate public, staff and prisoner movements
- Ability to achieve desired civic/police facility image
- Ability for future expansion
- Ability to accept new technology systems, furnishings, equipment, etc.
- Adequacy of parking for department and public
- Adequacy of mechanical, electrical and technology support systems
- Ability of this facility option to be accomplished within capital budget constraints for renovation or new construction
- Ability of facility to support cost-effective operations and reduce long-term life-cycle costs (for example staffing, energy, maintenance)
- Time required for implementation
- Interim relocation needs and related costs
- Facility visibility and accessibility to the public
- Achieve insurance and warranty requirements

Many of the above criteria are likely to require professional input by an architectural consultant experienced in law enforcement activities and facility needs assessments. Throughout the facility option evaluation process, police input is crucial and police needs should be the primary influence for decision-making. The general characteristics of the three basic facility options are reviewed below.

Renovate and Expand the Existing Facility

This is frequently the first option considered. In many cases, however, the existing facility may be small, deteriorated, or so obsolete that there is no reasonable ability for it to be adequately improved. In these cases, attention can immediately move to the next two alternatives: acquisition of another building for adaptation or the option of new construction.

In those cases where it is not obvious whether the existing facility could be successfully renovated, its re-use and improvement should be explored. In many cases, government officials will not consider a new construction project, or acquisition of an alternative facility, until the inadequacy of the existing building is clearly demonstrated. If so, each of the criteria cited above needs to be considered as well as any other that may emerge. Since nearly all building codes require police facilities to conform to structural requirements for earthquakes or high winds, it is often not cost effective to expand a non-conforming building. Codes for public safety buildings are generally higher than for other buildings.

Existing facilities often fail on the criterion of adequacy of space. In most cases increases in police services and personnel have not been accompanied by in-

creased space to support them. It is common for police department staffing and operations to have expanded significantly along with community growth since the time the existing facility was built or acquired. In many cases an existing police facility may provide very little of the total required space that a detailed space needs analysis, including the application of standards, finds to be required.

The decision to re-use and expand an existing facility may be driven more by site considerations than the value of the existing structure. The ability to stay at the existing location eliminates the cost of site acquisition and the existing facility may offer space that has value in a renovated form.

When evaluating an existing facility for renovation, other criteria are likely to arise. Among these are the existing mechanical, electrical, plumbing and technology support systems. In a facility that is twenty or more years old, these systems may be obsolete or inadequate. This means that the cost of their replacement must be considered in the existing or new building. If extensive interior renovation is required, the cost of new partitions, doors, security systems, finishes and equipment can be as great or more in an existing building as in a new building. In the event of extensive renovation, the only retained value of the existing building may be the building structural and exterior enclosure. Foundations and substructure are in addition to this “frame.” The enclosure may require new windows, roof and doors to extend the building life.

The evaluation must consider whether functionality is compromised by the configuration of the existing facility. Apparent cost savings achieved through renovation must be compared against potential reduction in staffing efficiency and quality of services delivered to the public as a result of facility conditions. The evaluation of options is completed by police and the architect/consultant to arrive at an accurate recommendation.

Acquire and Adapt Another Existing (Non-Law Enforcement) Building

Specific local circumstances will govern whether this is a feasible or attractive option. The recommendation of the space needs analysis, or space program, will indicate the amount of space needed. Caution should be taken to ensure that the “useable” space in any facility under consideration is equivalent to that which the space program has identified as needed. The distinction here is between “net” square footage and “gross” square footage. The “net” space is that which exists “between the walls, paint-to-paint” in particular functional areas or the amount of space that can actually be used for the tasks or functions. The “gross” space is the total building area after allowing for such features as corridors, stairs, elevators, mechanical, toilets, structure, wall thicknesses, etc. The total gross area offered by an existing building is not going to be entirely available for police operations. A professional feasibility analysis will be required to determine this relationship.

The configuration of existing buildings not originally designed as police facilities may compromise quality, efficiency or even security of police operations. For example, a multi-story building with its space uniformly distributed over two or more floors may force some police components to be separated from other units with which they work closely. This means that staff may spend more time traveling between units, reducing their efficiency. It can also mean that needed interaction between staff is discouraged by the building configuration. In a local law enforcement facility, the majority of the operational

PLANNING TIPS

Apparent cost savings achieved through renovation must be compared against potential reduction in staffing efficiency and quality of services delivered to the public as a result of facility conditions.

Check net and gross square footage totals when considering adapting another existing building for police use.

The configuration of existing buildings not originally designed as police facilities, often compromises quality, efficiency or security of police operations.

PLANNING TIPS

It is helpful in the planning stage to compare and prioritize the features that can be obtained with new construction against those that result from renovation or adaptive re-use.

The new construction option allows the ability to design a facility that can respond directly to the local law enforcement agency's policing philosophy, mission and goals.

components will benefit from a main level (street level) location. For example, the movement of prisoners between floors, is generally less desirable from a security, operational efficiency and staff safety viewpoint. Similarly, patrol operations benefit from easy access to and from vehicular areas.

Another important configuration issue, even with a one-story building, will be the actual shape of the existing floor plan since the structural system also comes into play. The proportions of the existing floor plan will determine how needed space is arranged. For example, will staff work spaces have windows? The existing building configuration will determine this. Will separations between public, staff and prisoner movements be possible? The existing building configuration may pose challenges for movement flow and security construction. Another consideration will be where the existing building is located on the site. Adapting a retail store or office building, with parking in front, does not typically function well since a police station needs most of its parking in a secure area behind the building.

After the use potential of an existing building has been determined, the evaluation needs to determine whether any compromises from optimal relationships are created. The physical size of an alternative building being considered for law enforcement use, in relation to the amount of needed space, will not be the only consideration that determines its desirability or feasibility.

Construct a New Facility

In both the renovation or adaptive re-use options, the greatest concern is that making use of an existing building may force an agency into a facility configuration that requires compromises in the quality, efficiency and even security of police operations. Thus it is usually helpful and cost-effective in the planning stage to compare and prioritize the features that can be obtained with new construction against those that result under either or both of the two previous options. If for no other reason, this should be done in order to see what the difference in cost would be between the choices. This information could be instrumental in tipping the scale in one direction or another, or in making it a very clear choice.

When comparing feasibility of a new facility as renovation or adaptation, it is not necessary to develop a detailed design for a new facility. It will normally be sufficient to take the total gross square footage that has been developed in the space program at an average cost per square foot according to recent construction cost experience for similar buildings in the geographic vicinity. To this, an allowance should be added for site acquisition (if any), site work, professional fees and other project expenses. The services of an experienced professional will be essential. In those instances where the feasibility of one or more sites is a question, it will be necessary to enter into a sufficient amount of design analysis to make the site determination. Included will be the consideration of parking and movement requirements, in addition to the building footprint.

The new construction option brings with it the ability to design a facility that can respond directly to the local law enforcement agency's policing philosophy, mission and goals. It allows projected needs to be anticipated in the original design so that they can be accommodated adequately or with minimal disruption when they arrive. This calls for an overall master planning strategy to be developed at earliest conceptual phase of architectural design work.

One benefit of building a new facility is the freedom to be creative in the design phase. The architect/police team can consider any number of innovative approaches to facility design, since they are not constrained by an existing shell. Such innovative designs typically maximize facility response to police mission, citizen access and overall facility efficiency.

Important budgeting information will result from the options analysis discussed above. Depending upon the source of funds for construction or remodeling, this budget assessment may establish the basis for a bond referendum or the formulation of local capital funding allocations under recurring operating revenues.

Justice Complex/Multi-Agency Approach

While construction costs continue to increase, shared use is fast becoming a consideration to gain public and political support for new facility projects. Some agencies have discovered that incorporating other government or justice needs into the design of a facility, such as other municipal functions, court-related functions, probation offices, fire department communications, juvenile diversion centers, city council chambers, etc., can make a project more appealing and cost-effective. Using the community oriented policing philosophy as a foundation for early planning decisions allows for an inclusive perspective that considers all public safety needs, as well as other related joint uses. For instance, recreational or community centers add more community-oriented options for facility use.

The police facility planning team should take the time to brainstorm possible shared uses that meet or exceed department needs. A creative approach should be used and input from others should be solicited. Oftentimes, government approval boards allow departments to include additional areas within a facility's design if they can show an important dual use and improved community profile, revenue generating capabilities, or a feature that would add to a facility's justification. Placing another public use facility at the same site as a police facility may be considered by some as unusual; however, for some municipalities, it may be a selling point that a new facility needs in order to receive funding. Other municipalities prefer a police facility as a stand-alone for security and for a more modest project scope.

A good example of shared use options includes the co-location of police, fire, communications and EMS into one public safety facility concept. Another example is a city or county law enforcement agency, medical examiner and/or coroner located together. There are also many shared programmatic areas that several agencies in a public safety facility can potentially share, for example: vehicle storage/parking needs, training area, locker rooms, media and communications. Cost savings through common use can be substantial; however, saving should not be sought at the expense of public safety.

Many police agencies that are heavily involved in community oriented policing are now participating in multi-jurisdictional task forces to focus specifically on areas such as gangs, drugs, illegal weapons, etc. These joint task forces are usually made up of officers from different local, state and federal agencies, (such as Alcohol, Tobacco and Firearms (ATF), Drug Enforcement Administration (DEA), state parole, state probation, district attorney's office, etc). The joint use forces are becoming more and more common, and need to be considered when determining current and future space needs.

PLANNING TIPS

While construction costs

continue to increase, shared use is fast becoming a consideration to gain public and political support for new facility projects.

A good example of shared use options includes the co-location of police, fire, communications and EMS into one public safety facility concept.

PLANNING TIPS

Police leaders must gauge political and public perceptions relative to shared use facilities (police, fire, EMS, for example), before moving in that direction .

Recommended options must be framed within a persuasive cost-benefit analysis.

Shared use facility concepts may also have drawbacks. In particular, the chief of police should carefully consider citizen attitudes about public facilities. In some jurisdictions, voters are very likely to pass a bond issue to build a properly sized, practical and efficient police facility. But when the bond increases to larger proportions to include what the public may perceive as excessive space for jails or courts, the bond fails, leaving the police agency project stalled. Police leaders must be able to gauge the political and public perception issues relative to shared use before moving in that direction and must also frame the recommended option within a cost-benefit analysis that is persuasive.

Each organization needs to examine their situation and search for innovative approaches to component/agency inclusion, design and funding. Visit or contact other jurisdictions that have successfully designed and constructed joint use facilities. Contact some of the organizations listed in Appendix 1 to locate projects of this type.

Step 10: Conduct Site Evaluation

Careful consideration must be given to the size, location and flexibility of any existing or potential facility site. Site selection determines the maximum footprint or size of the facility and must, therefore, meet all space needs requirements. Site location determines accessibility of police facility to other government staff, the public and police officers.

Site evaluation and selection must be carefully considered whether exploring the possibility of renovation of an existing facility, acquisition of an adaptive re-use facility or new construction. According to real estate investors, a primary rule in selecting property is location. This is also true for police facilities. There are many essential components of site evaluation:

- Cost of land
- Cost of site development
- Size and shape of site
- Potential for multiple uses
- Public access to site (vehicular and pedestrian)
- Visibility and views
- Proximity to other governmental functions
- Response to citizens needs and concerns - a neighborhood context
- Travel and mileage issues
- Positioning of new facility on site
- Security
- Noise and traffic impact
- Expansion possibilities
- Former use of identified land
- Possible ground contamination

- Possibility of locating artifacts during site preparation & excavation
- Zoning
- Utilities/easements
- Topography/geotechnical/soils
- Waterbodies/wetlands/floodplain/stormwater control

Several acquisition issues must be kept in mind. The first is cost. Are the sites being considered priced reasonably given jurisdictional budgetary constraints? Are the site owners willing to set up a reasonable timetable to acquire the site? Have EPA and other studies (for example, geotechnical) been completed and are reports available? Given the issues, it is always advisable to consider multiple sites for comparative purposes.

Site selection is occasionally imposed upon agencies when government organizations already own a new site they want to use. The site itself will dictate the maximum footprint of a facility. Occasionally, site selection will involve multiple sites until one is finally decided upon. All sites must be examined carefully for needed characteristics, functions and detractions. The planning team should remain flexible when viewing all sites as potential selections.

Site selection can also be difficult if other jurisdictional priorities intervene. Many American cities are now “built out.” Buying land on the outskirts of town is no longer feasible. One faction may want to site the police facility centrally to buttress a declining downtown. Other factions similarly concerned with adaptive reuse may want to use the old junior high as a primary site consideration. In other areas of the country, decentralization and/or regionalization are strong themes and would impact and possibly limit the range of sites a department can consider. Police facility site selection in larger cities may have to begin with the completion of an organizational strategic plan to determine whether the correct long term solution is one single building or a number of strategically placed new buildings.

Expansion or extensive renovation of a current facility can necessitate the acquisition of adjoining land. Occasionally this may be difficult. Owners of adjacent property may not want to sell. Further, the expansion of the current site may not offer the optimum setting or security, etc. All of this needs to be considered if expansion or facility renovation is being considered as a viable option.

Political and executive project commitments to the community and police department, such as site and facility size, joint use, jail inclusion, security, building positioning and location, may be unachievable due to limitations of available sites or sufficient funding for site acquisition. Continued investigation of additional sites may be necessary, which can delay a project. Site selection delays can affect in turn project momentum and costs which increase with time.

PLANNING TIPS

The site itself will dictate the maximum “footprint” of a facility.

In some areas of the country decentralization and/or regionalization are strong themes and would impact and possibly limit the range of sites a department can consider.

Expansion or extensive renovation of a current facility may necessitate the acquisition of adjoining land.

Site selection delays can affect project momentum and costs— which increase with time.

Section Three

Budgeting and Funding

Section Three of the Facility Planning Model provides information on all aspects of facility project costs and necessary funding. Steps 11 through 13 guide facility teams through the development of preliminary project costs, strategies to secure necessary project funds and cost issues relative to site acquisition.

PLANNING TIPS

Preliminary budget is based on:

- Space needs analysis
- Recommended square footage needs
- Site selection

Initial planning and cost estimates usually can be expected to change over the life of the project.

Step 11: Develop Preliminary Project Design and Construction Costs

Preliminary facility project costs can and should be estimated at this stage using information now available. Projections of cost at this juncture become reliable as a foundation for project funding initiatives (bonds or government support).

At this stage the project team is poised to create a reliable budget for the entire project, based on the data collected and developed in the previous steps. New cost information must also be obtained and included at this phase.

Square foot construction costs vary across the country, fluctuate with the economy and are different depending upon the type of facility being considered. Construction costs of expansion, renovation, or adaptive re-use projects are more difficult to estimate due to the possibility of concealed conditions discovered during demolition, code compliance, etc.

Some of the critical cost-components when developing the preliminary facility budget are:

- Site and site development costs
- Site survey
- Facility costs using space needs as basis
- Related architectural, engineering and construction estimates
- Environmental standards/guidelines
- Stormwater/drainage issues
- Geotechnical evaluation
- Environmental assessment
- Asbestos assessment/abatement (older, existing facilities)
- Landscape design
- Interior design
- Furniture

- Contingencies
- Telecommunications systems
- Equipment
- Security systems

There are also other elements to be considered to further refine the budget. The quality of a facility's systems, such as its chillers and boilers, emergency generators, elevators, etc., are not defined at this stage in a planning process so estimates must be made. The quality levels of engineered systems, equipment, finishes and furnishings can affect the overall budget substantially. Efforts to broadly define expectations should be undertaken as early as possible. It is best to use qualified, experienced, and reliable cost estimators to assist in defining a budget at this time.

Too often, low estimate cost projections are publicized too early in a project, prior to the conclusion of a formal needs analysis or actual budget development. This can negatively affect a project, as strong justification may be necessary to increase the budget figure in a sensitive political arena. Avoid "ballpark" estimates whenever possible. The budget developed at this stage is based on substantial and accurate facility, space and site information and is a reliable figure for decision-making purposes.

Step 12: Obtain Project Funding

Once planning stages are completed, funds must be acquired to design, construct, furnish and equip the planned facility. In many cases, the jurisdiction has sufficient funds to move into this phase, in others, alternative sources of funding are required.

At this juncture of the project, the police agency and the governing body should be ready to take steps to obtain the necessary funding to complete the project identified in the preceeding planning phases. For example, if a new building and new site are being proposed, project funding includes monies to purchase the site, design the facility, construct it, furnish it and equip it.

In many cases, jurisdictions may have capital improvement funds that can be used for the project. In the absence of available funds, bond issues or public referendums are required to raise funds sufficient to complete the project. If citizen support is not yet clear for the new project, a survey to determine support will yield useful information to propel a subsequent referendum or bond issue. Strong political support is required to seek and obtain the necessary funds for project completion.

There may be several alternative funding options (for governing body or community funds) that cities can explore. One is the "Lease-Buy Back" approach. In this funding structure, the jurisdiction enters into a lease agreement with a developer who has proposed to deliver the required facility either through new construction or renovation of an existing building for jurisdictional use. The lease payments can be structured to be credited against a predetermined purchase price at the end of a specified period. Under this funding model, the jurisdiction will generally meet its lease payments out of its operating budget. The adequacy of that budget to meet lease payments over time is a matter for analysis.

PLANNING TIPS

The quality levels of engineered systems, equipment, finishes and furnishings can affect the overall budget substantially. Efforts to broadly define expectations should be undertaken as early as possible.

Avoid "ballpark" estimates whenever possible. The budget developed at this stage should be based on substantial and accurate facility, space and site information and is clearly a reliable figure for decision-making purposes.

In the absence of available funds, bond issues or public referendums are required to raise funds sufficient to complete the project.

Strong political support is required to seek and obtain the necessary funds for project completion.

Step 13: Secure and Purchase Site

Once a site is selected, a facility project moves from planning to implementation stage. Lease and all other options must be carefully researched prior to a decision to ensure the most beneficial outcome.

PLANNING TIPS

If a site acquisition is required for a particular project, it must be purchased prior to action on any other design or construction step.

The site selection option that yields the best long term financial flexibility to address future concerns for the jurisdiction should be selected.

If a site acquisition is required for a particular project, it must be purchased prior to action on any other design or construction step. Decisions on securing and purchasing the selected site should be based on all planning steps previously completed—in particular, the site evaluation completed in Step 10 (p.24). Before purchasing a site, the jurisdiction should cost out several options with contingencies:

- Purchasing site outright
- Gaining an option to purchase at a later date
- Leasing the site

The above options should be considered and the option that yields the best long term financial flexibility to address future concerns for the jurisdiction should be selected. Be aware that leases have many more conditions than ownership. Ownership, for example, may provide more flexibility of building options. The planning team must also be aware of possible unanticipated site purchase costs, such as poor soils requiring expensive foundations, or legal fees to secure clear title and must have sufficient funds to cover these costs.

Section Four

Design and Delivery Phase

Section Four of the Facility Planning Model examines the design and delivery phase of the project by reviewing the facility design and construction approaches currently in use. At this stage of the project, a design architect is selected. It is important to emphasize that strong and continuous dialogue must be maintained between police, architect and contractor to ensure project success.

Step 14: Deliver Design and Construction Services

A number of design and construction procurement options are available to jurisdictions—Design-Bid-Build; Design-Build; Fully Partnered Approach. It is important to test which methods may serve your organization and jurisdiction most effectively. Regardless of the choice, it is essential that a strong and continuous dialogue be maintained between the police planning teams, the architectural team and the contractor.

Design and construction services are typically delivered through one of the following approaches:

Design-Bid-Build

Traditionally, the most widely used method to accomplish construction/renovation of a police facility is the design-bid-build model. The process begins with the planning and programming phase (to determine facility requirements). Followed by the design phase (developing the facility plans that respond to these requirements) and ends with the construction phase (award of contracts and actual construction). In this approach, a very close dialogue between the police agency and the architect should occur when project design proceeds in Step 16. The resulting design is then the basis for the bidding and selection of a contractor to build the facility.

In most jurisdictions, applicable laws call for a design-bid-build approach. These laws call for any public project exceeding certain budget thresholds to be advertised and competitively bid. The award of the construction then goes to the lowest responsible bidding organization. If negotiations fail with the construction contractor, the jurisdiction can move onto the next contractor. The decision-making process is based upon experience and qualifications, not price alone.

PLANNING TIPS

Regardless of the choice for design and construction procurement, it is essential that a strong, continuous dialogue be maintained between police, architect, and contractor.

PLANNING TIPS

The selection of the alternative design delivery/construction services approach, such as a fully partnered approach, will necessarily affect architect selection decisions discussed in the following section.

Selection of the architectural team to design the facility, may or may not be connected to the selection of the architect/consultant chosen previously to produce a space needs analysis.

Design-Build

In this alternative delivery approach, a request for proposal is issued to contractor-architect teams in which an invitation is made to respond to the jurisdiction's needs with a design proposal and guaranteed construction cost amount. Competitive proposals are received and evaluated in terms of both their costs and building features. Under this procurement method there must be strong and continuous dialogue between the user agency (police department) and the contractor-architect team during project formulation. The police agency must clearly define its needs up front and continue to maximize input with the architect/consultant and contractor. The focus here is to ensure that the needs and standards of the police department are fully articulated and understood. Variations of design-build approaches can include the preparation by the police agency/owner agency of a detailed set of building requirements. This can also include a detailed design development set issued to the design-build teams for further use.

Fully Partnered Approach

In recent years, selected jurisdictions have changed procurement laws to allow (and even encourage) further alternative building delivery methods. In the fully partnered model, the jurisdiction selects the whole project team, including the contractor, based on credentials while stating a fixed budget at the outset. In this approach, the jurisdiction hires a consultant to perform the space needs analysis, then a site feasibility study. Once the size of the project is established and the particular needs of a specific site are established, a reasonable building and project budget is developed. At this point, rather than selecting a contractor based on low bid, the jurisdiction assembles a comprehensive team that links the space needs consultant, an architect and the contractor into an interdependent team. Having the contractor at the table during design eliminates miscommunication when design is transferred to the contractor. All parties work for a pre-determined development fee.

In some areas the team may be expected to sign a contract to develop the project for a predetermined "guaranteed maximum price" with the contractor "at risk," hence, there are no change orders. In some cases this process is structured as a modified "design-build" process, while in other instances it is accomplished as a "construction management at risk" process. The selection of the alternative design/delivery/construction services approach, such as a fully partnered approach, will necessarily affect architect selection decisions discussed in the following section.

Choosing among the three design and construction delivery approaches is a difficult task with no simple answers. Jurisdictions can, however, obtain sufficient information to aid in decision-making by taking the following steps:

- Seek advice from other jurisdictions regarding recent construction by asking about the design and construction approach used and the degree of its success
- Seek local advice by asking officials about the approach predominantly used in your jurisdiction
- Review the benefits and deficits of each delivery approach to determine which approach would best fit your project

Step 15: Select an Architect

Selecting the architectural firm to complete the project is a complex task. Smaller local architects provide a level of familiarity and comfort, as well as a history of completed regional projects important to any client. Larger firms, particularly those based in larger cities distant from the client jurisdiction may bring unparalleled expertise in the law enforcement design arena, but are often entirely unknown to the client. Teams that blend local architectural firms with nationally experienced police facility consultant architects, are a promising option.

Selection of the architectural team to design the new facility, may or may not be connected to the selection of the architect/consultant chosen previously in Step 6 to produce a space needs analysis. Some jurisdictions make it clear in the contract for the space needs analysis that the architect chosen will not participate in the actual design, with the intent of balancing biases. Other jurisdictions find it best to contract with the planning phase architect/consultant for the purpose of project continuity. Selection will be affected by the design and construction delivery approach selected in Step 14.

For smaller projects, a single (often local) qualified architectural team may be sufficient. In cases where there may not be a local firm experienced in police facility design, an experienced consultant joining the local architect may be advisable. Occasionally, larger police projects will require the recruitment of combination teams, such as a local, architectural company developing a partnership or joint venture with a nationally experienced police facility specialist. This will allow for a local presence, while offering the experience of a larger architectural company. In any size project, it is important to hire an architectural team with experience in designing similar law enforcement facilities.

Key criteria to consider when selecting an architectural team include:

- Recent experience with law enforcement facility projects
- Experience of proposed project team members
- Good listening and teamwork skills
- Personal chemistry/comfort level
- Flexibility/creativity
- Solid, experienced organization with a good reputation
- Preliminary plan for design process and possible alternatives
- Size of firm and years in business (at least five years)
- Reference checks
- Pending work on other projects (availability)

The techniques and approaches used by architectural teams are significant. The best technical skills are only as good as the architect's ability to employ and articulate them. If an architectural team cannot establish rapport with a client, they cannot effectively use their skills to serve that client. The jurisdiction's selection team must ensure the hiring of the best-suited architect. The selected architect must ensure a successful design that meets police needs.

PLANNING TIPS

For any size project, it is important to hire an architectural team with experience in designing similar law enforcement facilities.

The jurisdiction's selection team must ensure the hiring of the best-suited architect. The selected architect must ensure a successful design which meets police needs.

One essential element is the architectural team's expertise in the planning, design and construction of police facilities.

Whichever competitive selection process is chosen, the jurisdiction should take great care to evaluate competing firms on their knowledge, skills and abilities and then develop a short list of potential firms.

PLANNING TIPS

The design phase typically

includes three steps:

1) Schematic Design

2) Design Development

3) Construction Documents

One essential element is the architectural team's expertise in the planning and design of police facilities. While almost all architectural firms seek competency in this area, many have little to no experience. Further, firms that assert "justice facility" architectural expertise may have had experience only with correctional or court facilities, but no substantial police facility exposure. The police agency must carefully assess architectural team qualifications to identify those teams with the most relevant experience.

Selection of the architect will mirror the RFQ, RFP, QBS formats detailed in Step 6. Once the selection is official and an architect is hired, the project manager will merge the architectural team into the Pre-Design Planning Team as soon as possible through a series of meetings and discussions. Whichever competitive selection process is chosen, the jurisdiction should take great care to evaluate competing firms on their knowledge, skills and abilities and then develop a short list of potential firms. If an RFP, RFQ, QBS process is mandated by law or through jurisdiction preference, the agency should keep in mind that selection focusing on a low-bid concept can be of concern. Firms lacking expertise may well submit uninformed proposals at lower amounts.

Step 16: Design the Facility

Preliminary designs allow for constant adjustment. More detailed final design concepts can be displayed in block model fashion, or even through interactive computer simulations/modeling. Final design documents are then prepared and serve as the guide for actual construction.

The design phase of a police facility project typically includes three steps:

Schematic Design: In this stage the architectural team provides a preliminary design of the facility.

Design Development: After client approval of the schematic step, design development begins.

Construction Documents: The final step is the development of design documents that can be used for contractor bidding and building purposes. This step describes, in sequential order, the actions and decisions that typically occur and the issues addressed during the design phase of a project.

Schematic Design: Preliminary Design/Layout Decisions

The product that results from a formal needs analysis is utilized to guide a project's preliminary design. The design must reflect the philosophy of a department, diversity of activities and future growth needs. In the preliminary design stage, layouts are not highly detailed. During this stage the architectural team provides the following services to the client:

- Review and verify the program
- Conceptual site plan
- Conceptual building plan
- Review/Establish schedule
- Review/Establish budget
- Preliminary selection of building systems and materials

- Preliminary exterior design
- Conceptual floor plan
- Preliminary interior elevations
- Preliminary building section
- Preliminary equipment list
- Preliminary MEP and FP (engineered systems)
- One major review

Key issues to consider are:

- Balancing security concerns versus openness to the public
- The role of emerging technology and community policing change the programmatic needs of a facility
- Established office standards versus design placement issues
- Creative design versus operational reality
- Economies of scale
- Vertical and horizontal adjacencies
- Interior flexibility and furniture systems. Harmonize the system to reduce cost of warranty and parts
- Department growth
- Potential to “rent” or “charge-back” space as a cost offset
- Police image
- Community policing perspective
- Police employee morale
- Location
- Scale of community versus scale of building
- Department centralization versus decentralization
- Efficient interior and exterior design
- Specialized services
- Cost of decisions
- Possible shared uses such as:
 - Custodial exchange area
 - Fire department physical training areas
 - Firing range access for other agencies
 - Community room
 - Communications
 - Courts

The preliminary design and layout decision phase will greatly impact the final design of a project. A project manager’s careful planning, comprehensive understanding, attention to detail and a genuine interest in all facets of design and layout decisions made at this stage are important to a successful project.

There are a range of basic and high technology methods used by architects to address preliminary designs and layouts. By utilizing the square footage information gathered during a needs assessment, architects may prepare paper blocks or cutouts, each labeled and representing a function or section’s relational size, such as records, evidence, locker room, roll call, visitor parking lot, etc. Sessions take place whereby a police planning team and architect manipulate

PLANNING TIPS

SCHEMATIC DESIGN:

Translate the building program into preliminary design/layout.

PLANNING TIPS

Preliminary design and layout decisions will greatly impact the final design of a project.

A project manager's careful attention to detail at this time will greatly influence a successful project outcome.

these blocks or cutouts, attempting to find the best adjacency fit that meets a department's needs, as well as any present site constraints. This is a very hands-on approach and allows a police planning team to be thoroughly involved in the process and discuss the realities of site constraints, functional area size, adjacency relationships, etc.

Architects will then take this information and prepare preliminary drawings. These drawings are brought to subsequent planning sessions, whereby architect and team members comment, contribute and refine them until they are satisfied with the layouts.

Some architectural firms now utilize automated computer-based methods to expand upon the preliminary design process, such as computer simulations/modeling. This approach can offer clients virtual reality tours of designed facilities. Architects can now offer traditional preliminary drawings, but also a computerized look at a facility at any stage during a design process. This new technology is becoming common place and offers the added benefits of three-dimensional, visual comprehension to the traditional two-dimensional architectural drawings. This information not only makes it easier for a planning team to understand what the layout and facility will look like or function like, but can also introduce important changes early in this planning process, with lower cost impact.

Another tool utilized by architects is the building of conceptual project models. Being able to view a three-dimensional model of a proposed facility assists everyone in visualizing how floor layouts, adjacencies, site positioning, etc., affect a design. If the appearance of a facility model is not acceptable, options can be discussed and changes can be made to the internal layout or external design again with lower cost impact than changes made during construction.

Design Development: Finalizing the Facility Design

After the preliminary design and layout stage, the specifics of a project's drawings, specifications and details are refined. Detailed design drawings are prepared that will later evolve into actual construction documents. Architectural team actions during this step are:

- Refinement/coordination of plans including floor plans, sections and exterior elevations
- Outline specifications by system
- Define key details
- Refinement/coordination of engineered systems
- Review of schedule
- Review of budget
- Review at 50% and at completion

Along with re-examining criteria already agreed upon, more refined aspects of a project need to be considered, such as:

- Technology access
- Infrastructure needs
- Video applications
- Nuts & bolts cabling
- Future needs
- Build in flexibility of rooms, furniture and infrastructure (wiring, cabling)

- Security
- Circulation
- Durability of finishes
- Special needs for locating:
 - General and dedicated electrical outlets
 - Telephone/data jacks
 - Light switches (including energy saving switches)
 - Intercoms, video cameras, monitors, etc.
 - Access system readers and over-ride buttons
 - Panic alarm activators
 - Paging system and radio speakers
- User safety

Functional relationships between a design team are critical at this stage. A design team must be ready to handle identified mistakes, troubleshoot, engage in *value engineering* and resolve problems that arise.

Value Engineering: Once a budget is refined and reflects a higher cost than anticipated or allowed, *value engineering* sessions are useful. These meetings will entail cost cutting methods and substitutions affecting quality, size and features of a project. Participation by all project team members is a must. You may encounter value engineering again when making final decisions on all design elements.

Value Engineering is a formal process that offers a way to optimize project costs. The process consists of establishing value objectives, generating alternatives, analyzing them and selecting options that meet the value objectives while offering cost savings. This process is most valuable during the design development phase and should always be included in contract negotiations with the architectural team. If value engineering occurs after the design phase as a means of cost cutting, when a contractor can offer “deducts” to the owner for such recommended cuts, it can jeopardize the longevity and function of building systems if “deducts” are not evaluated carefully. Reducing construction/installation costs by using an inferior quality of materials is not value engineering and will often increase maintenance costs in the long run.

Scenario Testing: Scenario testing is the step by step analysis of how various actions or activities can occur in the new facility. This practice is highly recommended at this point to ensure design layouts meet the exact operational need for which it is intended. Police project team members should examine each document, blueprint, specification and detail applying scenario testing to insure that the proposed design is effective. Check for the following:

- Specificity
- Exact location
- Anticipated use
- Durability
- Description
- Listed make/model of acceptable “contractor furnished, contractor installed” furniture, fixtures and equipment (FF&E)
- Missing or excluded items
- Lack of detail
- Mislabeled items

PLANNING TIPS

DESIGN DEVELOPMENT:

Finalizing facility design.
At this stage, detailed design drawings are prepared that will later evolve into actual construction documents.

Functional relationships between a design team are critical at this stage. The team must be ready to identify mistakes, troubleshoot, engage in *value engineering* and resolve problems that arise.

PLANNING TIPS**CONSTRUCTION DOCUMENTS:**

Final decisions on all project design elements occur at this stage.

Architectural errors or omissions and design or owner-elected changes can be very costly to a project and should be minimized.

The more detailed inspection performed by a police planning team, the greater the chances items will be discovered that need to be changed or addressed.

Construction Documents: Final Decisions on All Project Design Elements

The final step is the development of design documents that can be used for contractor bidding and building purposes. These sealed documents include:

- Architectural documents
- Structural documents
- Site/Site landscaping documents
- Plumbing
- Heating, ventilation, air conditioning (HVAC)
- Electrical
- Project manual which includes specifications, contracts and bidding requirements

During the construction document phase, the architect will also:

- Provide reviews at 50%, 75% and final
- Secure regulatory approvals
- Revise budget if necessary
- Revise schedule if necessary
- Obtain approval to bid
- Provide security system and acoustical design

In addition, the following are optional to construction documents list:

- Telecommunications
- Furniture
- Food service requirements

Whenever possible, changes in design, specifications, or details need to be made prior to construction documents being completed. In the Design-Bid-Build model, the general contractors base their submitted bids upon a project's construction documents. It is vital that they be detailed and complete. Architectural errors or omissions and design or owner-elected changes can be very costly to a project and should be minimized.

The length of time to transition from preliminary design through design development and finally to construction documents varies, depending upon the size and scope of a project, architect's time schedule and resource commitment, as well as the level of involvement of a police project team. Police project managers are encouraged to maintain good communication with the project architectural team, in an effort to receive all detailed drawings as soon as possible, to afford the greatest amount of time for review. Projects are on a tight schedule at this point and too often not enough time is set aside for owner examination of completed drawings.

The quantity of final drawings, specifications and details for a project can at first be viewed as overwhelming to an inexperienced police project team. Breaking down the documents by category such as: electrical, security, plumbing, furnishings, interior finishes, etc., can greatly assist in dividing them up within a team for analysis. A suggestion is to use the sticky type notes that are available and label each drawing or specification/detail that is incorrect, needs clarification, etc. It is not unusual for one blueprint page to have many of these notes attached if a team member has questions or requested changes. These marked up drawings and spec/detail books may then be given back to the architects to make changes, clarify their design decisions, etc. Drawings can be overlayed on a light table or a PC for comparative purposes.

The more detailed inspection performed by a police planning team, the greater the chances items will be discovered that need to be changed or addressed. Some examples of this include: the location or quantity of electrical outlets, selection or positioning of furnishings, concern over selected interior finishes, identification of which doors are solid and which need windows, etc. Attention to these details adds to the efficiency and durability of the future facility.

No individual team member—architect, contractor, or other, has the insight of the police facility user. A committed Police Internal Planning Team has an opportunity to pore over all drawings, specifications and details, to ensure that everything meets their needs. They can imagine the completed area or room in their minds and compare it to the drawings they are examining. When the two do not match up, changes may be discussed and made, if warranted. One strategy to ensure that final design documents reflect all user needs is to create a sign-off sheet for design documents that are filled out by all Unit Commanders and other key departmental staff. Once the plans are finalized they become construction documents and at that stage, all changes become costly. Avoiding design revisions during later construction stages will save time, money and problems for all concerned.

Throughout each of the above design steps, the jurisdiction and/or the police department has significant responsibilities to collaborate with and provide information to the architectural team. Some examples of these responsibilities are:

Schematic Design: Provide topographical and boundary survey, soil borings (geotechnical evaluation), program, budget requirements

Design Development: Review documents to ensure program requirements and standards are met

Construction Documents: Review all plans and specifications to ensure program requirements are met

The jurisdiction, in particular, the facility end-user, must fully understand, take on and complete all owner responsibilities to ensure that the project reflects all initial planning requirements and that the overall project proceeds in a timely fashion.

Step 17: Build the Facility

The police project manager should be on the construction site as often as possible to observe and attend construction meetings, approve submittals, discuss design issues and build rapport with the contractor. Continuity from pre-design to construction is essential to maintain project integrity.

Construction times vary depending upon the size and scope of a project, schedule, natural or imposed delays such as weather or labor strikes, difficulty obtaining specific materials, or other variables. It is vital to hire an experienced and recognized general contractor who has a good track record of delivering facilities on time, within budget.

Oftentimes, contracts may include financial penalties for delays if a contractor cannot deliver a project on time per the set construction schedule, or for

PLANNING TIPS

One strategy to ensure that final design documents reflect all user needs is to create a sign-off sheet for design documents that are filled out by all Unit Commanders and other key departmental staff.

It is vital to hire an experienced and recognized general contractor who has a good track record of delivering facilities on time, within budget.

PLANNING TIPS

During construction, architectural and police team members should focus on oversight; solving design issues confronted during construction; approving submittals and substitutions; etc.

Collaboration on ideas and solutions during construction results in an even more successful project.

large cost overruns. Other contracts may include monetary incentives to contractors who finish a project ahead of schedule. This is often the case with transportation contracts, as completing a major road or bridge construction early has a direct affect on commuters. While not often used as an incentive to complete a police facility ahead of schedule, all of these incentives and/or penalties are available to jurisdictions who wish to structure their contract in such a manner. This decision is usually left up to an organization's top decision-makers and/or public works director.

Most public projects are competitively bid. The law typically requires an advertisement or invitation to bid to be published in one or more newspapers. The project architect usually prepares the advertisement for bid, which includes information such as the project location, description, type of contract, date, time, location for receiving bids, how to obtain documents and any other special requirements. Local laws vary in allowing this method (RFP, RFQ) for public projects. An attorney should be consulted before using any bidding model or bid language. Once deemed qualified (generally through documented experience in constructing similar projects of scope and size, proven record of quality constructions, etc.), bids by pre-qualified contractors are accepted and a successful bidder is selected.

The fully partnered approach (see Section Four, page 30) is especially useful during a construction process, as it promotes accountability and communication between partners responsible for design and construction. Owners, designers, construction managers and builders sign a partnership charter that commit to shared goals. This allows the parties to identify and solve problems before they occur. It is important for owners to keep in mind that the most costly changes are those that take place during construction, so it is wise to keep changes to a minimum, whenever possible.

There are a number of issues relevant to the construction phase that must be attended to by the jurisdiction. Once construction begins, police departments and their governing bodies should be aware of and be responsive to the following:

- Communication protocols between owner, architectural team and contractor
- Owner's construction project controls
- Standard types of field communication and record keeping (always keep records and signoffs)
- How to handle periodic pay requests
- How to conduct site visits
- How to understand shop drawings
- How to understand and make use of scheduling tools
- How to deal with change orders
- How to deal with periodic changes to regulations and building codes
- How to deal with unforeseen construction field conditions
- What to expect for construction close-out
- Sales tax rebates - some range from 2 to 3%
- Difference between "substantial completion" and "final completion"
- How to incorporate and manage a contingency and testing allowances into the final construction contract
- Definition of "retainage"
- Definition of "warranty period"

During construction, architectural and police team members should focus on

oversight, solving design issues confronted during construction, approving submittals and substitutions, etc. Successful accomplishment of early planning and design steps supports successful construction. Collaboration on ideas and solutions during construction results in an even more successful project.

Project members should strive to be good neighbors during a construction phase. This can translate into project T-shirt and hat giveaways, newsletters to community members indicating a project's progress and the time of day when certain tasks are performed, so that residents bordering a construction site will know what to expect. A construction office phone number can be made available to all bordering residents so they may call and register complaints directly to a general contractor, who in turn, can handle a complaint or fix the problem.

The following responsibilities typically fall upon a police project manager during construction:

- Establishment of a facility's new door security key plan. Care should be taken to ensure a lock sub-contractor thoroughly understands a department's master key hierarchy needs, quantities required, identification stamped on each key and timing of key inventory and cabinet delivery to owner. This process offers a department an opportunity to limit the quantity of issued keys, while improving overall facility security.
- Determine responsibility for contracting and installing phone and data cable. Ensure state-of-the-art cabling is specified and sufficient lines and conduits are installed for future needs. Attempt to work out a scenario whereby installation of main communication backbone systems will be allowed during the last phases of construction. This can be accomplished by a telecommunications consultant.
- Establish an identification system for all telephone and data jacks. Ensure that installation crews label each jack and each communication room port accordingly. Record this information on a reproducible drawing for future use. (A telecommunications consultant is helpful here).
- Set up a database listing all telephone and data jack information. Include jack ID number, jack type (data or phone and how many of each per location), type of phone (analog or digital) and phone features (single line or multi line, modem or fax). Also include whether the phone has voice mail, whether any restrictions are put on the phone for outside or long distance use, etc. This will make later phone/computer moves much easier to accomplish and provide a systematic communications roadmap for the life of a facility. (A telecommunications consultant is helpful here too).
- Work closely with the architectural team, general contractor and sub-contractors to establish an organized approach to the placement of equipment within communication rooms. Most communication rooms are a conglomeration of wires, cables, trays, electrical and equipment boxes. They are often designed too small, especially now, with the rapid increase in technological equipment used in a workplace. Often during construction, each trade (electrical, security, fire control, telephone, computer, etc.) picks a location on a communication room wall and installs their equipment without consulting each other. A proactive project manager can work out a more organized solution.
- Select Transition Team leaders and assemble transition teams. Include a variety of representatives from the department (sworn and civilian) to ensure staff buy-in and consensus. Promote detailed and continuous scenario testing by transition team members.

PLANNING TIPS

Transition teams are crucial to the project's success and should be chosen early based upon commitment and organizational skills.

Transition planning refers to a relocation of personnel, equipment, documents and furnishings from an old location to a new one.

- Establish a photo/information board (aerial photos are effective) to keep employees involved in the project and update it every two to three months. Use this board as a tool to inform and maintain employee enthusiasm.
- Inquire as to what will be tested and documented to ensure functionality prior to move-in. This will reduce the list of items a Testing and Acceptance Transition Team will need to check. The architect specifies what information to include in the O&M Manuals.
- Avoid any late improvements, as cost escalates after design is completed and construction is underway.
- Establish an interior finishes file. Compile complete information on all interior and exterior paints, wall, panel and upholstery fabrics, window tinting, furniture paint, drawer pulls, millwork/furniture laminate, interior wood finishes, exterior façade materials, window glass and tinting, floor coverings, etc. Suggest compiling a sample of each, which will help a great deal when later trying to replace, repair or match a particular finish. Attempt to obtain samples from actual construction submissions.

Step 18: Develop Occupancy Strategy: Transitioning into the New Facility

Civilian and sworn staff satisfaction with a new facility is affected by the manner in which the transition to occupancy strategy is carried out. Confusion, loss of information and other transitional problems can negatively impact staff morale. A clear and well-designed transition to occupancy plan is required. Members of all transition teams need to be detail-oriented.

Transition planning is a crucial element during the construction phase. Transition teams are crucial to the project's success and should be chosen early based upon commitment and organizational skills.

TRANSITION PLANNING

Transition planning refers to a relocation of personnel, equipment, documents and furnishings from an old location to a new one. Transition teams are established to ensure detailed planning takes place, scenarios are tested and a smooth changeover occurs. It is highly advisable to include a variety of staff representative(s) on all transition teams to ensure staff buy-in and consensus.

The following list outlines recommended transition teams and their assignments.

Recommended Transition Teams

- **Furniture, Fixtures & Equipment** - Manage the purchase and installation of owner's new FF&E; budgeting, specification writing, phone/data cabling, data-base creation and warranty file setup.
- **Move Logistics** – Coordinate review of bids from moving companies, establish detailed inventories of what will and won't be moved, schedule employee packing seminars, determine scheduled phases of actual move, oversee movers and employee compliance and timely unpacking.

- **Orientation & Training** – Preparation for groundbreaking ceremony, official opening, monthly employee and community updates on project's progress. Coordinate and video tape employee training on new equipment and procedures. Handle requests from public, politicians, media and employees for tours and briefings.
- **Contracts & Services** – Identify and write specifications for new and renewed contracts and services, such as food service, inmate medical, building maintenance and janitorial, trash and equipment maintenance. Timelines are crucial to ensure new contracts are awarded at move-in, so services are not interrupted.
- **Policies and Procedures** – Identify and respond to possible changes due to new facility rules, layout, etc. Usually encompasses department policies dealing with visitors, handling of inmates/suspects, security or maintenance issues, etc. Changes in department policies or procedures need approval and dissemination prior to or during move-in.
- **Testing & Acceptance** – Crucial pre-occupancy testing of all items, such as locks, telephones, electrical outlets, lights, toilets, showers, furniture (ergonomic features on chairs, keyboards, drawers, etc.), panic alarms, cameras, etc. Goal is to discover problems prior to move-in and assist with repairs after move-in.

Resolve All Equipment Purchase/Replacement Issues

A major concern during transition is the installation of 911 phone lines. Some areas will need to plan three to six months in advance with their local telephone company to assure on time delivery. It is important to confirm the schedule with the telephone company close to move-in date.

One approach to 911 transition is the operation of parallel systems, where the system in the old facility continues to run and take all 911 calls and the new system becomes operational simultaneously, but only to take “dummy” calls to test operability. Once operability is assured, the old system is shut down and all 911 calls are transferred to the new system.

Most facilities are designed and built for a minimum 20-year occupancy. Furnishings, fixtures and equipment (FF&E) placed in new facilities need to be durable and functional, while blending with the aesthetics of a new complex. Funding for new furnishings, fixtures and equipment can be difficult to obtain, so careful planning is important, attention to detail is vital and strong specifications are crucial to ensure high quality furnishings are obtained for the best possible price. Furniture issues can also cause delays as the transition plan begins.

It is important to determine which furnishings, fixtures and equipment are provided by a general contractor and which are provided by an owner. Most situations fall into one of the following categories:

- Contractor furnished, contractor installed (CFCI)
- Owner furnished, contractor installed (OFCI)
- Owner furnished, owner installed (OFOI)

The contractor furnished, contractor installed category limits an owner's ability to: alter colors, patterns, makes, models, or details to better fit a user, upgrade to a newer design, or address the needs of a changed department preference. Unless details of a contract specify a particular make and model of an item, such as a specific workstation and/or ergonomic keyboard holder without allowing for any substitutions, a contractor maintains control over the selection and final quality of such items.

PLANNING TIPS

Most facilities are designed and built for a minimum 20-year occupancy. Furnishings, fixtures and equipment (FF&E) placed in new facilities need to be durable and functional, while blending with the aesthetics of the facility.

PLANNING TIPS

It is recommended that one or two members of the purchasing department be appointed to handle all purchases related to a new facility project.

Equipment purchases should be negotiated with attention to infrastructure, space needs, installation plan and maintenance issues. Ensure all large suppliers and installers can meet project deadlines and have experience and references.

Transitional planning for a move is essential. The creation of a Move-In Logistics Transition Team is recommended.

Acknowledge the psychological stress of moving and change. Layout maps of the new facility should be provided to all staff.

It is important to note that contractor furnished, contractor installed items are specified by an architect during a design stage. Years can pass between design and actual occupancy of a facility. Thus, a technological or ergonomic specification of an item may be out of date before an owner actually starts using it, especially for items such as security/electronics, computer hardware or software, chairs and keyboard holders.

Owner furnished items present a challenge for police project managers and members of a Furnishings, Fixtures and Equipment Transition Team. This group will have an opportunity to decide what items will be moved into a new facility and what items will be replaced by new ones. Detailed planning regarding what, when and how to purchase these items are vital components that play a part in intelligently allocating a budget and keeping to the transition timeline. For example, one police department found that replating the file cabinets (to harmonize the color scheme) appeared to be less expensive than buying new ones, but found that the process took much longer and was more expensive than anticipated. The security and confidentiality of records is essential during the transition phase.

Many organizations have a separate purchasing department which handles the bid solicitations, bid openings and purchase order contracts. It is recommended that a single member, or perhaps two members of the purchasing department be appointed to handle all purchases related to a new facility project. This task can be overwhelming, especially if the FF&E budget is large. Assigning one or two people to work closely with and be members of, the FF&E Transition Team, is recommended. This procedure promotes translating the needs of the police department, to the purchasing department. Equipment purchases should be negotiated with attention to infrastructure, space needs, installation plan and maintenance issues. Ensure all large suppliers and installers can meet project deadlines and have experience and references.

Create a Move-In Strategy

Transitional planning for a move is essential. The creation of a Move-In Logistics Transition Team is recommended. For larger organizations, a move can be compared to a military operation. Groups are moved in by priority with the following factors being considered:

- Dependence upon a working computer system
- Reliance on functional communication system
- Need for access to records
- Obligation for evidence to be secured
- Dependence upon secured suspect holding areas
- Access to citizens

Every detail must be considered, timed and pre-planned, if a move is to be successful. Acknowledge the psychological stress of moving and change. Layout maps of the new facility should be provided to all staff. When employees know the general layout of a new facility and the location of their workstation or office, the stress of moving is greatly reduced. Packing seminars can help streamline the moving process and greatly reduce employee concerns. Ensure that communication takes place as to what will and what will not be moved to a new facility. Inventory listings are a good way of documenting what will be moving and when. Ascertain what special current equipment requires vendor disassembly, moving and re-assembly, due to warranty concerns. Establish a “lost and found” for items misplaced during a move.

Encourage an appearance of organization and “back to business” as soon as possible. Set dates for unpacking and ensure staff adhere to them. Establish packing box drop off points for empty cartons and have a staff member circulate daily to remove empty boxes from hallways, storage closets, workstations, etc.

Organizations that move themselves usually regret their decision. Some important considerations to include in this decision are:

- Possible employee injuries
- Down time
- Unprofessional appearance
- Employee confrontations
- Damage to the new facility
- Overall confusion
- Delay to moving schedules:
 - Inefficient use of elevators
 - Blockage of loading/unloading staging areas
 - Driveways blocked due to quantity of vehicles on scene
 - Lack of moving equipment and elevator access
 - Employee reluctance to move heavier items

If a decision to use a professional moving company is made, a transition team should prepare specifications to allow for competitive bidding. A complete inventory of all items being moved, a moving schedule and a mandatory job walk-through of both the current and new facilities should help to obtain fair bids.

Conduct Extensive Pre-Occupancy Testing, Training and Staff Orientation

Extensive pre-occupancy testing, commissioning, training and staff orientation should begin during the last months of construction. All transition teams should be working at full speed. The police project manager will be inundated with details and decisions. Strong organization skills, leadership, time management and stress reduction expertise will be required during this fast paced stage.

Testing and Acceptance Transition Team members should be testing everything from plumbing to electrical systems, security systems to furniture systems. It is important to clear all testing with the architectural team to avoid liability, personal injury and concerns over damage created by the owner. The more detailed the testing that takes place, the more assurances a project manager will have that a facility is ready for occupancy. Running through scenarios, such as a panic alarm activation or a loading dock delivery can ensure that all facets of these situations were considered and included in the design and furnishings. Staging other scenarios, such as an officer delivering a suspect to a holding room and conducting a taped interview or simulating the preparation and delivery of food from the holding cell kitchen to an inmate in their cell, can identify equipment that isn't working properly and ineffective procedures. Scenarios are useful tools to test the performance of elevators, security door locks, intercoms, audio/video recording equipment, gun lockers, etc. With scenario testing, potential problems can be identified, documented and repaired prior to move-in and within product warranties.

Unlike scenario-testing, commissioning is the thorough test of a system (HVAC, security, video) from A-to-Z. Depending on the time of year that you occupy the facility, one may only be able to test the HVAC cooling aspect of the

PLANNING TIPS

A complete inventory of all items being moved, a moving schedule and a mandatory job walk-through of both the current and new facilities' should help to obtain fair moving bids.

Extensive pre-occupancy testing, commissioning, training and staff orientation should begin during the last months of construction.

The more detailed the testing that takes place, the more assurances a project manager will have that a facility is ready for occupancy.

With scenario testing, potential problems can be identified, documented and repaired prior to move-in.

Verifying that everything works well assures a smoother transition during move-in.

system. So a contract should require that the HVAC contractor come back one month prior and during the heating months to commission the system. This process includes system setup, training, operation and maintenance schedules, spare parts and system testing during normal and adverse conditions.

Besides testing contractor installed items, this period of time allows for thorough examination of other items provided by an owner, such as combination and keyed locks, telephone systems, office equipment such as copiers, typewriters, furniture lighting and ergonomic features, etc. Verifying that everything works well assures a smoother transition during move-in.

Training needs to be conducted for personnel who will be using new pieces of equipment, such as laboratory fume hoods, automated shelving systems, loading dock levelers, vehicle lifts, etc. Building maintenance personnel will require many hours of detailed training on all new facility systems. It is recommended that training sessions of this type be video recorded and maintained in a training library.

Conduct Extensive Pre-Occupancy Public Relations Events

The completion of a new building is a significant public relations opportunity for any jurisdiction or department. Use the attention wisely but ensure an extensive facility check is made prior to any event. Consider the following public relations opportunities which can be used as a “shake down” of a facility’s access, traffic flow, adaptive use of space, lighting and equipment testing:

- Receptions
- Open houses
- Tours
- Media releases
- Media tour of the building and orientation

Employee public relations are important too. Smaller sectional tours are recommended to offer a more personal approach to future facility occupants. The tours should assist in familiarizing everyone with their new office space, overall building layout, etc.

Some jurisdictions use moving into a new or remodeled facility as an opportunity to evoke department pride by taking a departmental staff photograph in the new facility. This move-in event can be an exceptional and memorable event for the entire organization.

Another pre-occupancy public relations responsibility is to determine the quantity, design and location of any facility project recognition plaques. These decisions are not easily made because they can be politically sensitive. In any case, gain approval of identity, correct spelling/correct titles, order and placement of any names associated with the plaques. Also, ensure all plaques are ordered in a timely manner and are delivered and installed according to schedule.

Commonly Forgotten Items

Frequently, general contractors are not completely finished with a project when the occupants move-in. There are always areas or equipment that are included on a “punch list” (items noted during the final walk-through by the owner that require repair, touchup, etc.). Many times, owners will move into

a facility with many items pending. The contractor will remain on site or return on a daily basis to fix some or all of the items. Completion could take months (or years in exceptional cases). The police project manager must maintain continued contact with the contractor to ensure the work is completed.

Since the workload of a police project team greatly increases at the later stages of a project, many areas can be overlooked or forgotten. The following list can identify potential problem areas:

- Ensure a facility's infrastructure is prepared for occupancy. Remember to order, stock and distribute all necessary items, such as paper towels, hand soap, toilet paper, janitorial cleaning equipment and chemicals.
- Coordinate a systematic approach to the facility's many keys. Inventory, tag, issue, duplicate and secure all keys (doors, furniture, files, restroom accessories, clothes lockers, mailbox, gun locker, cells, alarmed emergency exits, access system over-ride keys, mechanical equipment ignitions or locks, electrical panels, elevator keys, safes, etc.).
- Ensure warranty information files, sometimes called Operations and Maintenance Manuals, are set up and maintained. Decide who will keep equipment maintenance warranty information, furniture warranties, etc.
- Placing certain restrictions on telephones is often overlooked. Some phone systems allow for restrictions to be placed on phones to limit calling locations. Phone abuse by staff or contracted employees, usually within certain areas such as a locker room or conference room, usually cause restrictions to be placed on phones.
- Door locks and an associated master keying system needs to be dealt with prior to the move and should be re-assessed once occupancy takes place. Changes are usually needed after move-in. Staff's desire and need for privacy will have to be dealt with so that attitudes remain positive and work assignment time lines can be kept. Security issues concerning individual and group access to certain areas will need to be assessed and dealt with in a timely manner.
- Establish a phone number "hot line" or circulate repair forms where employees can report furniture, phone or equipment problems that can be addressed quickly by Testing & Acceptance Transition Team members.
- Address maintenance issues such as janitorial, steam cleaning, rodent control, trash dumpster pick-up, chemical storage, maintenance contracts for items after warranty, etc.
- Facilitate signage needs for the following: deliveries, overhead clearances, after-hours phone use, lobby hours, visitor protocol, room identity, kiosks, parking, intercom use, general directories, legal rights of arrested individuals, etc.
- Coordinate general post-occupancy tours for VIP's, project architects, other visiting public safety agencies, etc.

Glossary of Facility Planning Terms

Adaptive Re-use: The acquisition of a new or used non-police facility and the redesign/transformation process necessary to adapt it into a fully usable police facility that meets all necessary structural and security requirements.

Building Footprint: The outer limits and configuration of a building's plan shape—(the actual building plan features).

Change order: A change order occurs when, during the course of a project, the owner wants to change the scope of the contract documents. A proposal request usually precedes the change order. The proposal request defines to the contractor (just like the contract documents) the scope of work the contractor is to provide (or not provide, some change orders are credits). The change order is signed by the owner, architect, and contractor. The change order modifies cost and/or time of the project.

Construction submittals: A general term that includes items such as shop drawings, product data, samples, warranties and mock ups that are submitted by the general contractor to the architect for review and verification that the design intent is met.

Contingency: A recommended design practice that utilizes a cushion of 5-15% of the construction costs (depending upon the design phase) to cover unforeseen or minor construction or other work changes which incur cost.

FF&E: Furniture, Fixtures and Equipment.

Final completion: Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the architect will promptly make such inspection and when the architect finds the work acceptable under the Contract Documents and the contract fully performed, the architect will promptly issue a final Certificate for Payment stating that to the best of the architect's knowledge, information and belief and on the basis of the architect's on-site visits and inspections, the work has become completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the contractor and noted in the

final certificate is due and payable. The architect's final Certificate for Payment will constitute a further representation that conditions as precedent to the contractor's being entitled to final payment have been fulfilled.

Final payment shall not become due until the contractor has delivered to the owner a complete release of all liens arising out of this contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the owner to indemnify the owner against such lien. If such lien remains unsatisfied after payments are made the contractor shall refund to the owner all money that the owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

FP: Fire protection

Gross square footage: The space which includes corridors, stairs, elevators, toilets, mechanical, structures, wall thickness, etc.

MEP: Mechanical, electrical and plumbing.

Net square footage: That which exists between the walls, paint-to-paint in particular functional areas or that space that can actually be used for tasks or functions.

Operations and maintenance manuals: Equipment, FF&E, warranty information files which must be maintained and catalogued for easy access.

Preliminary cost estimates: The estimated cost of a new or renovated police facility that is based on the data from the space needs analysis.

Project manual: The document that is comprised of the front-end documents such as insurance requirements; instructions for bidders; bid bond; plans and specifications; legal components of construction; etc.

Punch list: A list of items noted by the architect, contractor and owner at the time of substantial completion and at final walk through. Items can be added to the punch list for several months after the owner has moved in. The contractor requests the architect to inspect the list and sign off as completed.

Retainage (hold back): Each time a builder/contractor submits an invoice for a progress payment it is reviewed for accuracy by the architect and the owner (if the contractor claims it is 30% complete, the architect must make a value decision whether the project is indeed that far along). When the invoice is approved for payment an amount (usually 10%) is deducted and retained. When the project is approved for “final completion” all “hold backs” are released.

Scenario testing: A step-by-step analysis of how various actions or activities can occur in the new facility.

Shop drawings: Drawings prepared by contractors, subcontractors, or suppliers showing how a particular aspect of the work is to be fabricated and installed. These documents are submitted to the architect for review during construction. Other data may be included in the submittal, such as schedules; performance charts; brochures; diagrams; or samples to illustrate materials, systems, and workmanship involved.

Specifications: A section of the Project Manual that describes the scope, products and execution of the work, e.g. concrete, carpet installation.

Substantial completion: The stage in the progress of the work when the work or designated portion thereof is sufficiently complete in accordance with the contract documents so that the owner can occupy or utilize the work for its intended use. This date signals the end of the contract time and the beginning of the time when insurance responsibility is transferred from the contractor to the owner. Warranties are effective on this date. All work signed off by the architect must conform to the definition contained in the contract documents before the certificate of substantial completion is issued.

Substitution: An alternate product, material or method from what was proposed in the contract documents. Typically submitted by a supplier, subcontractor, or contractor to the architect, who reviews for compliance with the contract documents. The burden of proving that a substitution meets the requirements of the project is typically the responsibility of the submitting contractor. Substitutions may occur during the bidding or construction phase.

Value engineering: Review of FF&E materials and/or cost-cutting methods and substitutions affecting quality, size and features of a project. A formal process that offers a way to optimize project costs.

Warranty period: Most jurisdictions compel the contractor to provide a minimum warranty period of one year from the date of final completion. During that time they must coordinate repairs to correct flaws in workmanship and equipment. Just before the 1 year anniversary date a prudent building owner has the architect return to the site and perform a warranty inspection. Actually, many components in the building have warranties that vastly exceed one year (a 20 year roof warranty for example).

Working drawings: Synonymous with construction documents. Detailed plans and specifications used in bidding a project.

APPENDIX 1

Useful Planning/Design Resources

PLANNING TIPS

One of the best resources is the experience and knowledge of colleagues who have recently built facilities.

Site visits to recently built police facilities are beneficial to a successful building project.

There are many planning and design resources available for police project managers. One of the best resources is the experience and knowledge of colleagues who have recently built facilities. They can offer insight into their planning process, documents and contracts issued, what they would do differently, what they would do over again and can offer a unique personal and professional perspective.

Site visits to recently built police facilities are not only beneficial, but are an essential tool to clarify project goals and objectives. They also help formulate a planning team's vision and an architect's understanding of that vision. Site visits allow for a visual experience of design features, adjacencies, interior finishes, furnishings and other details, while blending with the realities of actual facility use. Site visit photos are recommended for later design clarification. Compiling an album or computerized database of photographed design features is an excellent way to preserve these items for later reference. Categorizing each facility by name and each photograph by function or design feature is especially helpful.

Compiling a business card file of all site visit contacts is highly recommended. Networking with prior project managers, discussing common pitfalls and successes of each project and ascertaining particular details related to transition or furniture specifications and purchases, are all examples of valuable information that is available.

Each of the following resources offers a different perspective and category of assistance.

IACP - The International Association of Chiefs of Police provides a number of resources including: A training class in Planning, Designing, and Constructing Police Facilities and information on recently constructed police facilities throughout the United States.

(703) 836-6767 (800)-843-4227 www.theiacp.org

AIA - The American Institute of Architects maintain new and archived articles available that may assist you with a specific design or construction topic. They also sponsor training seminars and conferences with police related topics and speakers.

(202) 626-7300 www.aiaonline.com

NIC - The National Institute of Corrections provides assistance in subjects dealing with jails and holding facilities. This federally funded organization offers free technical assistance with planning, designing and constructing jails.

(800) 995-6429 www.nicic.org

CALEA - Commission on Accreditation of Law Enforcement Agencies provides general guidelines for standards concerning holding facilities, property areas and communication centers.

(800) 368-3757 www.calea.org

APPENDIX 2:

Police Facility Planning Guidelines

Site Visit Protocol

Overview

There are many facets to the planning, design, and construction of a new police facility. Included here are some suggestions for agencies to follow as they contemplate model site visits- an important step in information gathering during the planning phase of a new building project.

Choose a Site to Visit

If you have not already chosen a model site to visit, contact these resources to locate a model site near you, that reflects your department size, budget and type of policing e.g. problem-solving. The closer the comparison the more valuable the information.

Develop a Travel Budget for Site Visits

Most police departments do not have a budget set aside for new facility planning. For this reason, it is recommended to consider visiting local agencies within a short travel distance for site visits. Even if a local site is larger or smaller than your department, valuable insights can be gained by discussing the planning, building and construction of new facilities with a colleague.

- If your department has chosen an architect, discuss with them the possibility of visiting local sites and suggest applying the travel costs to their planning/design budget.
- Check with the local municipality for a real estate representative. Some cities have real estate representatives to assist local departments to relocate or build. They may be able to cover the cost of or assist in a model site visit.
- If you are in the planning stages and funds are available to include a line item for site visits in your current budget.

Determine a Site Visit Team

Each agency's resources and needs will be unique in this process. The municipal or departmental restrictions relative to budget, architectural selection process, etc. may well determine whether you will be able to visit model sites and, if so, who will be on the team. The most important persons to include are:

- The police chief or facility project manager
- The facility planning committee chair or member
- An architect or city planning representative
- The city manager or municipal board representative

Keep the team number small and choose the team with your goal in mind. Since you may want use this visit to instruct, plan the team and the visit around that goal.

PLANNING TIPS

How to Plan a Site Visit:

1. Choose a site to visit that closely reflects your building needs, size and budget
2. Develop a travel budget for site visits
3. Determine the site visit team
4. Schedule interviews for the site visit
5. Determine site visit interview questions
6. Determine the form and recipients of the site visit report

Schedule Site Visit Interviews

Schedule interviews with the chief or project manager, building occupants, and architects. Site visit goals and outcomes are:

- To review building cost estimates and timelines
- To review building site recommendations, design options and/or restrictions
- To determine helpful strategies for dealing with planning teams or governing municipal committees
- To determine important training and/or user needs for building occupants
- To review choices of architectural firm

Ask the local chief or facility project manager who they would recommend for interviews. Inform the interviewees of the reason for the visit and the scope of your project.

Determine Site Visit Interview Questions

Included in this document are sample questions for site visits. Determine the interview questions based on the stage of your facility planning, building process and what the goals and objectives of the visit are. Use the included questions as a template and modify them according to your needs. A user's roundtable, consisting of representatives of the occupants of the building, is strongly recommended. Design advantages or disadvantages are often uncovered at this roundtable discussion. (A group of 5-10 is recommended).

Decide the Form and Recipients of the Site Visit Report

The goals of the site visit will determine the form and recipients of the report. Of course, as a courtesy, provide the site visit host with a copy of the report. It may be useful to them also. Recommendations for report recipients include:

- Chief or facility project manager
- City manager or mayor
- City planner or member of the planning commission
- Architectural team
- Police union steward or employee (officer and/or civilian) representative

Include a section within the summary for conclusions. Make sure the points you need to emphasize, which support your project, are clearly stated. Provide a reference list from the site visit for your city manager or other municipal officials to contact for further information. This may prove persuasive as the project continues.

Site Visit Suggested Questions

BIG PICTURE QUESTIONS: *Planning & Administrative Process Questions for the Chief*

- 1 How is success defined?
- 2 Would you consider the building of this facility a “success?”
- 3 How was the site location determined? What criteria was used?
- 4 Did you visit any other sites? Which ones and why?
- 5 Does this building reflect the department’s policing philosophy? Examples.
- 6 How did you balance community access needs with the need for security?
- 7 Were there any unexpected stumbling blocks in the planning, design, or building process?
 - *What were they?*
 - *How were they resolved?*
 - *Recommendations to others?*
- 8 What did you learn from the planning, design, building process that you think is essential for others to know?
- 9 Are there any unexpected problems with the current facility?
- 10 How was the communication between police officials and architect facilitated?
 - *What ingredients made that relationship successful?*
 - *What recommendations would you make for other departments/architects?*
 - *How were specific police facility needs communicated to the architect?*
- 11 How did you choose the architect? Would you recommend that process?
 - *What criterion did you use?*
 - *Did you view any of their previous buildings?*
- 12 How was the Planning Committee decision-making process accomplished?
 - *Consensus*
 - *Chief (political) veto?*
- 13 Was adaptive re-use of existing structures ever considered? If so, why discarded?
- 14 Was there difficulty getting financial and community support for the facility?
 - *If so, how was it resolved?*
 - *How did you justify the need for a new building to local officials and community?*
 - *Tips for others?*
- 15 What need/risk assessment tool was used? Was it accurate? Can it be recommended?
- 16 Did your planning process include future expansion?

WALK THROUGH QUESTIONS: (Look for adequate space and ventilation of officer lockers; parking & access for officers; crime lab/forensics design; evidence storage; general work flow issues; security measures).

- 1 From a staff perspective, what works best about this building?
- 2 Does the building design effectively support work flow (e.g. arrest, booking, holding, interviewing?)
- 3 What is missing that could be useful to the facility? What do you wish you had in this section? (individual working sections)
- 4 Has the choice of location proven to be a good one?
- 5 Have there been any citizen complaints or compliments about the building/location?
- 6 Were materials used in the building inner-outer surfaces good choices? Why?
- 7 Has either building access or usage become problematic? How?
 - Staff Access/Use
 - Citizen Access/Use
- 8 What, if any, are the shared uses of the building? What works, what doesn't?

ROUNDTABLE QUESTIONS: (Focus here on functionality and shared uses; lighting; foot traffic flow; communication systems; heating/cooling features; staff input on design & future plans; security; staff & visitor parking.)

- 1 Which section do you work in?
- 2 Have you done this work in another facility? Can you compare functionality?
- 3 How is this building an improvement over the old building?(if applicable).
- 4 In your view, what is the most positive characteristic of this building? The most negative?
- 5 Does the building contribute to greater staff efficiency? How?; Impede? How?
- 6 Does your section have adequate space to operate effectively?
- 7 How involved were you in the planning, design, building, or occupancy stages?
- 8 How was (is) your involvement helpful in assisting design of the work flow or business process in your work area?
- 9 Are there any building design or occupancy issues that you would recommend be addressed by other departments who build new facilities?
- 10 Are you involved in agency future plans for expansion (if there are any)?
- 11 Is heating/cooling system adequate?

INFORMATIONAL PURPOSES ONLY

Build-to-Suit Leases: A Construction Contract and a Lease Merged into One

By George P. Bernhardt and James E. Goodrich

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One of the hybrids in real estate practice is a build-to-suit lease. It is both a construction contract and a lease combined into one document. A practitioner must focus both on issues arising in lease negotiations and on construction contract issues when drafting and negotiating a build-to-suit lease. This article will address the construction-related issues of build-to-suit leases.

What Is a Build-to-Suit Lease?

A “build-to-suit” lease has various definitions. The simplest definition is any lease that references some construction to meet the tenant's requirements. This construction can range from adding minor tenant finish items to a general business office to the full design and construction of a new building particularly suited to the tenant's business needs. Some examples of leases with a build-to-suit component (and varying levels of complexity) include minor building renovations, major renovations such as moving walls or expanding the premises, tenant finish of a shell space, cookie-cutter type construction of a standard building, such as a chain retail store or restaurant, and architectural design and construction of a special use building optimized for a particular site such as a manufacturing plant, corporate campus, or a one-of-a-kind architecturally significant office.

Minor construction on an existing building is typically handled by adding a simple work letter to a standard lease agreement. Typically, these work letters become longer and more detailed as the level of construction increases. For a full design and construction lease, the work letter can approach the complexity of a full construction contract. In effect, the parties are entering into two related transactions. The tenant is contracting with the landlord for the construction of a significant building and is at the same time entering into a transaction to lease the newly constructed building, usually for a substantial period of time. Construction concepts also tend to become more integrated into the actual lease document (as opposed to the work letter) as the construction becomes more integral to the transaction.

This article focuses on leases of new buildings to be designed and constructed under the lease. Transactions of this type necessarily involve numerous aspects of both a lease and a construction contract. References to build-to-suit leases in this article will refer to ground-up construction projects and may or may not apply to leases requiring lesser levels of construction.

Typical Candidates for Build-to-Suit Projects

Various types of landlords and tenants participate in build-to-suit lease transactions. Although any type of tenant may want a build-to-suit facility, a typical build-to-suit tenant requires a specialized building not readily available on the market. An example is a chain retailer or restaurant that has a standard, distinctive model used for many or all of its facilities. Amazon, for example, requires its landlords to design and build facilities in accordance with an extremely specific set of specifications designed for maximum efficiency and Amazon's particular business needs. Certain manufacturing tenants may need a specific layout to facilitate an optimal manufacturing process. The tenant may have various related businesses that may or may not all have a presence at each of the tenant's facilities. A tenant may have selected a unique site. The tenant may wish to have an architecturally unique building or meet certain sustainability or energy efficiency standards.

A build-to-suit landlord often has both internal construction and property management divisions specializing in build-to-suit leasing. These companies may hold the completed building indefinitely or flip the property to a more traditional investor landlord following completion of construction. Alternatively, large developers may offer build-to-suit services for pad sites or other outbuildings in the commercial centers they develop. Commercial landlords may do an occasional build-to-suit project, either because of a relationship with an existing client or because it is the most expedient way to use a site held for development.

Site Selection

Sites for build-to-suit projects are selected in various ways. The following alternatives are some of the more common situations: a tenant often will select a new commercial development and then negotiate with the developer to determine whether the tenant's building will be developed on a buy-own or build-to-suit basis; the tenant may have done its own site search and selected a site advertised for a build-to-suit lease; the tenant may publish a request for proposals to various specialized build-to-suit developers, who may then each provide a proposal for a site selected by the developer; the tenant may select a build-to-suit developer and then work in partnership with the developer to locate an appropriate site for the project; or the tenant may select a site and then contact various build-to-suit developers for proposals to acquire and develop the site.

Typical Characteristics of Build-to-Suit Leases

Although the length of the term of a build-to-suit lease varies from project to project, for the most part these leases have very long terms, often 10 to 20 years or longer. The more specialized the project, the more important it is to the landlord that the lease term be long enough to fully amortize the landlord's investment in the property. Very specialized properties may have little value to any party other than the original tenant.

If the project is basically an off-balance sheet financing, the lease is likely to have characteristics of a "bond lease" (in which the landlord sits back and collects rent-like interest payments on a bond) or a "hell-or-high-water" lease (as in "the rent gets paid come hell or high water"). These leases typically have a long term, the tenant is responsible for all or nearly all building management and operation, and virtually nothing will interrupt the rent flow to the landlord. The tenant will be responsible for a

repairs and maintenance, will insure the building, and may even be responsible for restoration. There is often no abatement of rent for a casualty or other force majeure event. In return, the tenant will often require the ability to freely alter or expand the building and to assign the lease.

Documenting the Construction Aspect

As noted above, construction terms can be contained in a work letter, included in the body of the lease, or some combination of both methods may be employed. Ultimately, the decision on whether to include the provisions in a work letter or in the body of the lease will depend on the size and complexity of the project. For significant build-to-suit projects, some elements of the construction project will be included in the body of the lease, but the bulk of the construction terms will be contained in a separate work letter or construction agreement, which is attached as an exhibit to the lease and signed simultaneously with the lease.

Construction information that may be included in the lease documentation includes the proposed site plan, proposed interior schematic drawings, exterior renderings, a detailed pro-forma construction budget, project specifications, a list of any tenant-provided construction, the construction schedule, and other construction-related documents.

Core Concerns of Each Party

As in any construction project, the landlord and the tenant in a build-to-suit lease are each focused on having the work completed (1) on time, (2) within the allocated budget, and (3) properly, in accordance with the construction plans and specifications. When the landlord performs the work, rent payments typically will not commence until after the work has been *substantially completed* (more on that standard later). The landlord therefore should establish a schedule for the construction process and make sure its contractor closely adheres to that schedule.

Also of fundamental importance to the landlord is keeping the construction project within budget. If the landlord has agreed to deliver a turnkey project at its sole cost (without any tenant reimbursement), a failure to stay within budget will hurt the landlord's economics. If the tenant is liable for cost overages above the budgeted amount, a cost overrun will result in an unhappy tenant, which is not a particularly good way to start what hopefully will be a long-term relationship between the landlord and the tenant. If the project is significantly over budget, the tenant could resort to litigation either to terminate the lease or to attempt to charge the landlord for the overages because of negligent management of the project.

Likewise, the landlord wants the work properly performed in accordance with the plans and specifications. Not only will improperly performed work potentially lead to an unhappy tenant, but the landlord also could suffer lost rent while defects are being repaired.

For the tenant, its business needs may require it to open the location for normal business operations by a date certain. The tenant may have an existing lease that is expiring, requiring the tenant to relocate by a certain date or face holdover rent. Retail tenants may want to be open before the holiday season, and industrial tenants may have contractual deadlines to deliver products or services.

Few issues are of greater importance to the tenant in a build-to-suit lease than ensuring the construction fits the tenant's needs and complies with applicable laws. Smart tenants spend an extraordinary amount of time and effort in the planning stages of a project and involve important stakeholders to try to ensure that the ultimate project suits the tenant's needs. When interviewing prospective landlords for a build-to-suit lease, sophisticated tenants often present a detailed set of specifications, which often is attached as an exhibit to the lease. This is especially true of national retailers and restaurants that have standard building models.

The tenant will want to limit its liability for costs and cost overruns on the project. Ideally, from a tenant's perspective, the landlord will be liable for cost overruns. If the tenant is forced to contribute an amount to the build-out, the lease from the tenant's perspective should set forth that specific amount. The tenant's argument to the landlord (when the landlord is responsible for the build-out) is that insofar as the landlord handles the construction process and hires the general contractor to perform the work, the landlord is in a better position to control costs than the tenant. Likewise, to the extent excess costs result from unknown conditions, the landlord, as the property owner, is in a better position to have known about those conditions.

Change orders also may result in cost increases. Build-to-suit leases typically provide that the tenant shall pay for the additional costs of any change orders the tenant requests either up-front or at an amortized rate over the term of the lease. If a tenant allowance is obtained for the improvements, the tenant should add language that it is liable for the cost of change orders only to the extent the change order causes the project cost to exceed the amount of the allowance. From the landlord's perspective, although it may desire to reasonably accommodate the tenant's change order requests, it does not want to delay substantial completion and the start of rent payments. Nor does it want to bear any cost of a change order. The landlord may consider adding language stating that, if a tenant change order delays the completion of the improvements beyond the targeted completion date, the rent commencement date shall nonetheless be the date it would have been had the change order not been accepted.

The tenant needs to ensure the site works for its business needs. Because of the typical long-term nature of a build-to-suit lease, the tenant's due diligence can be similar to that performed by a property purchaser. The larger the construction project and the longer the initial term of the lease, the greater probability the tenant will need to perform its own geotechnical study and environmental testing. The tenant will want to examine title to and the zoning of the property and potentially procure leasehold title insurance. The tenant also will need to investigate access rights and infrastructure.

Landlords also need to perform due diligence, particularly when they are acquiring a site to develop. For example, the landlord needs to know whether rezoning or re-subdivision will be needed or whether there are issues with infrastructure or utilities. See Marie Moore, *Avoiding the "Gotcha"—Build-to-Suit Construction Issues*, 8 Retail L. Strategist, no. 5, 2008, at 1, 3.

If the landlord needs to obtain zoning approvals or other rights in order to develop the property as planned, the landlord should include a provision permitting it to terminate the lease without liability to the tenant if such approvals are denied or if no decision is made by the governing jurisdiction within

some set period. *Id.* Likewise, the tenant may want a termination right if its due diligence shows the site is not satisfactory or if all necessary permits, rezoning, or other required or desired approvals are not obtained by a predetermined date. *Id.* When the landlord is acquiring the property, then the party's termination rights under the lease should be exercised before the landlord's termination date under the purchase agreement. *Id.*

Scope of Work and Responsibilities of Each Party

Landlord Design and Construction. In many instances, a build-to-suit project is designed and built by the landlord, often a specialized build-to-suit developer that maintains a full construction division in addition to a leasing division. Larger build-to-suit developers will have in-house design capabilities. The vast majority of tenants will never build more than one or two buildings. Even those that build a building every few years may not have the experience or knowledge to play a significant role in the design and construction phase of the project. The experienced build-to-suit firm or developer, on the other hand, deals with these issues regularly and has an experienced staff of professionals to guide the tenant through the construction process. Moreover, although a building may be customized to some extent, many build-to-suit projects involve fairly standard office or retail buildings. In such cases, the tenant may not need to have significant involvement in the project.

Even when the tenant has a reasonable amount of experience in construction, the landlord will likely have various reasons to want to minimize tenant involvement in the construction process. First and foremost, the landlord is investing a large amount of capital in the project and will own the completed project. Clearly, the landlord will not want to risk obtaining a poorly designed or constructed building. If the project is part of a larger development already constructed by the developer, the developer will already have design and construction teams in place that are familiar with the overall project. In such cases, it is more cost-effective to have those teams handle the new building rather than to bring in new teams unfamiliar with the project. When the project is being financed by the developer, the developer's lender will not permit construction to be performed by anyone other than the developer.

Tenant Construction of Specialty Items. Although the standard landlord design and build model will be effective in most cases, if the project includes trade fixtures or other elements that are either highly specialized or that the landlord does not believe will add reasonable value to the new building, the parties may agree that the tenant will be responsible for these specialized portions of the project. Even absent truly specialized tenant requirements, the tenant may assume responsibility for installation of voice and data equipment and security systems because of security concerns and to allow communication with the tenant's other locations.

If the tenant's business requires specialized equipment or if the installation of the equipment involves specialized knowledge, the tenant may take a larger role in the construction. In a restaurant, the tenant can either specify that the contractor will use specific equipment or take responsibility itself for installation of kitchen equipment. A high-tech company might retain responsibility for clean rooms. Some industrial installations can involve trade secrets the tenant will not want to share with the developer. All of these situations lend themselves to the tenant handling specific parts of the building finish after the developer has completed the basic construction. In such cases, the lease should clearly delineate the

construction responsibilities, especially the responsibility for preparing utilities or surfaces to receive the tenant's equipment. In a manufacturing plant, for example, drawings should show all electrical features, drains, water supply, gas lines, and so on and delineate who is responsible for hooking up the equipment to the required utilities.

Tenant Design, Landlord Construction. It is not unusual for the tenant to be responsible for the design phase of the project and the landlord to handle the construction, especially for large tenants that own tens or even hundreds of facilities around the country. The tenant's design responsibilities can include the entire design or providing the landlord with schematic drawings and then having the landlord's architect prepare the final construction documents. This is common in a number of situations. Probably the most common situation would be when the tenant has a standard design, especially for a freestanding restaurant or retail location. If the tenant has already constructed similar buildings on numerous occasions, the tenant may be able to reuse the existing plans (subject to any copyright limitations) after modifying them to account for site conditions and any differences in local code and development requirements. The same also could apply to any standard building used in the landlord's business such as a warehouse or distribution center.

Another option is for the tenant to perform the basic design work in advance and include the design in its bid package or request for proposal for the proposed project. This approach can benefit the tenant in both time savings and by obtaining bids that are more easily compared.

Tenant Design and Construction (Paid by Landlord). Although rare, in some circumstances the tenant is fully responsible for the design and construction of the project, which is funded by the landlord. This is basically an alternative to a sale-leaseback transaction. Typically, this would be seen only in projects for very large tenants with significant construction experience. This approach is also useful in certain international projects in countries where foreign companies are not permitted to own real estate.

Design Issues

Another issue to address in build-to-suit leases is at what time construction drawings are prepared. This issue presents a catch-22. On the one hand, no one wants to spend money on construction plans and specifications before the deal is final, but, on the other hand, until those drawings are prepared and sent to contractors for bid, the construction costs for the project will not be fully known, making it difficult for either party to commit to the project. The parties therefore are basing their construction costs and the tenant allowance negotiations on educated guesses.

In addition to the cost issue, it may not be practical from a timing standpoint for those drawings to be done by the time the lease is ready to be signed. When the drawings are not done by the time of lease execution, the lease needs to set forth a process and deadlines for the preparation and approval of the drawings. Those deadlines need to fit within the overall construction schedule for the project. The lease often sets a deadline for the delivery of drawings to the other party by the party having those drawings prepared, followed by a specific time frame within which the other party needs to approve, give comments on, or reject (with specific reasons) the drawings. The lease should specify the consequences of a

party's failure to respond by the deadline—perhaps a deemed approval. The schedule needs to allow sufficient time for back and forth so both parties are satisfied with the drawings, the drawings can be sent out for bid, and any desired adjustments can be made to the drawings after those bids are received. To the extent the drawings and specifications show materials or other items having long lead times, the schedule will need to allow for those long lead items or the plans and specifications will need to be adjusted accordingly.

As Marie Moore wrote in her article, the parties can consider inserting a termination right into the lease if they cannot agree on final detailed plans. She also recognized that such a termination right creates an untenable position for a landlord that has acquired land for the build-to-suit lease. Accordingly, she rightly recommends that termination because of failure to agree on plans not be allowed after the landlord's right to terminate the purchase agreement has expired.

The responsibility for preparation of the construction drawings depends on the circumstances. If the tenant is a specialized user or a large entity that does numerous construction projects each year or has multiple similar locations, the tenant may prefer to prepare or have prepared the drawings by an architect familiar with tenant's business and layouts. Conversely, if the landlord is a design-build contractor with internal designers or if the tenant does not have internal experience with construction projects, the landlord likely will push to keep the design process in house.

The lease also should address the cost of preparation of the plans. The landlord can allocate a portion of the tenant allowance or a specific tenant allowance for the preparation of those drawings and require the tenant to be liable for any additional cost in the preparation of the drawings. If the drawings are prepared before lease execution, the tenant will typically pay or reimburse the landlord for the cost of the preparation of those drawings. Such advance preparation, however, may benefit the tenant financially, as the detailed drawings—and any contractor bids based on those drawings—may give the tenant leverage to argue for an increased allowance.

If the tenant is sure it will do the project and is bidding the project out to multiple parties, it may prepare full plans and specifications in advance at its own cost in an effort to obtain the most accurate rental cost from the prospective landlords bidding for the lease.

Contractor Selection

If the landlord is in the construction business or has a construction subsidiary, it often will insist on—and part of its value-add may be—serving as the contractor. In other circumstances, the selection of the contractor is another item for negotiation.

Some tenants have contractors that have performed multiple build-outs and understand and work well with them. On the other hand, a landlord may want to control which contractors perform work in (or construct on) its properties. When the contractor has not been selected at the time of the lease execution, the lease may set forth a process for that selection. The lease can specify that the landlord shall

send the construction drawings out to a minimum number of firms for bid, and the tenant shall be entitled to nominate one or more bidders, or select or have approval rights over the winning bid, particularly if the tenant has liability for construction costs in excess of the allowance.

The negotiation of the construction contract—and the degree to which each party wants approval rights over a construction contract between the other lease party and a third-party contractor—often depends on the circumstances. The three most common choices of construction contracts are a fixed cost or stipulated sum contract (in which the work is performed for a set price), a cost-plus contract (in which the contractor bills the landlord for the contractor's costs to perform the construction work plus an agreed amount for the contractor's profit), or a guaranteed maximum price (GMP) contract (which is a hybrid). Under a GMP contract, the contractor bills the landlord for the contractor's costs, plus a profit percentage, but agrees not to exceed a certain designated amount. If the tenant has liability for excess costs above an allowance, it may want to confirm the contract is for a stipulated sum or a GMP. Often the total costs under a cost-plus contract are lower than under a stipulated sum or GMP contract because the contractor needs to build in less of a contingency; however, the tenant may prefer the certainty of a fixed price or not-to-exceed price.

If the landlord is a pure investor, the situation may be more akin to a sale-leaseback in which the tenant selects the contractor, negotiates the construction contract, and handles most of the project management, even though the contract is in the landlord's name. Generally, in such a situation, the landlord will have someone review the project but otherwise takes a fairly hands-off approach. This is most common with a Fortune 500 or similar-sized tenant with the capability to do the project independently but that wishes to structure the transaction as a lease for financial reasons.

Work Schedule, Including Pertinent Deadlines, Phased Completion, Substantial Completion, and Final Completion

Schedule

Completing the work on schedule is of great importance to both parties. Generally, the landlord will not receive any rent until the building is properly completed. The tenant has business projections, customer obligations, and often deadlines to vacate its existing facilities that may be adversely affected by late completion.

Although no one wants a construction project to be delayed, in practice, delayed completion happens. The parties need to work together to ensure the project is completed on time. Each party should appoint a project manager who can decide on day-to-day construction issues. The tenant must provide prompt responses to landlord inquiries and should regularly inspect the project to ensure it is being constructed in accordance with the tenant's requirements.

Changes in the work are a major cause of delays. The more complete the project plans are before the start of construction, the better. The tenant should have a well-developed set of specifications for the project to ensure time is not lost in selecting finishes or because of the unavailability of materials. When

the landlord is building the project, it should use good project management practices to anticipate potential delays in all areas of construction and take appropriate actions to avoid or minimize such delays.

Force Majeure and Other Excused Delays

No matter how carefully a project is planned, it is always possible that the project will be delayed by force majeure. Most commonly, force majeure will be caused by natural disasters such as hurricanes and windstorms, tornados, earthquakes, wild fires, and freezing weather; however, any number of events can be defined as force majeure under a typical build-to-suit lease.

Although generally nothing can be done to avoid a force majeure event, the parties should carefully consider what types of events would excuse the landlord's performance. Some force majeure clauses list very specific events such as war, natural disasters, strikes, and terrorism. Other clauses are very general in nature; for example, referring to any cause outside of landlord's reasonable control. The more specific the clause, the more limited the types of events that can relieve the landlord of its obligation to complete the work by the commencement date. If the landlord is using an outside construction contractor, the landlord should ensure that the force majeure clause in the construction contract mirrors the clause in the lease. In addition to natural disasters, any unusual weather can delay a project if it occurs before the shell construction is complete or when final exterior work is being done. Leases and related construction contracts may note that above-average rainfall or early freezes or snowfall can constitute an excused delay.

Besides typical force majeure events, the lease may provide that certain other matters will constitute "excused delays," that is, delays for which the landlord is entitled to an extension of the completion date. These are typically construction-related circumstances and can include delays in issuing building permits or other government approvals for reasons outside of the landlord's control, discovery of hazardous materials at the project site, or discovery of endangered species or historical relics at the site.

From the tenant's standpoint, it will want to receive notice shortly after the commencement of a force majeure event. The tenant should consider adding language to the lease to the effect that a force majeure event will not extend the completion deadline unless the landlord has given the tenant notice a certain number of days after the start of the event.

Landlord and Tenant Delay

Delays in construction generally will be attributed to the landlord, the tenant, or to force majeure or other excused delays. A build-to-suit lease typically includes a detailed clause describing what types of delays will be attributed to the tenant and therefore allow the landlord additional time to complete the project. Tenant delays can be defined in great detail or simply as delays caused by the tenant, such as failure to timely respond to requests for approval. Some items that can be specified as tenant delays include failure to timely provide information required to prepare construction documents; failure to timely approve construction documents; requests for special order materials, finishes, or equipment; changes in the work requested by tenant; and delays caused by the tenant's separate contractors.

The tenant should try to curtail the landlord's ability to extend the schedule because of a supposed tenant delay. The tenant can ask for notice and cure rights, for example. As with force majeure, the tenant can try to require a notice to the tenant of an alleged event within a certain number of days before that event (or non-occurrence) constitutes a tenant delay.

Change Orders

Changes in the work are probably the most common cause of delays in completion. Although few projects are constructed without change orders, it is important to minimize change orders through a thorough initial design and by establishing institutional controls on the change order process.

It is recommended that the landlord and tenant each appoint a single person and an alternative to approve change orders. If numerous stakeholders within the tenant's organization can all request (or approve) changes in the work, major delays in the project are all but inevitable. If all changes are routed through the project manager and an internal procedure is established to review requested change orders, it is far more likely that the project will be completed on time and within budget.

Change orders take time not only because of the additional construction required but also because of the process of initiating and approving the change order. When the tenant decides that it might like to have a slightly different layout or a change in entry tile, the contractor needs to devote time to researching the change, determining what effect the change has on the existing work, pricing the materials and determining their availability, and then writing up a proposal for the change order. The tenant then needs to review the landlord's response and obtain its internal approvals for the additional cost and time.

Substantial Completion

A typical definition of substantial completion is "the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use." American Institute of Architects, AIA[®] Document A-201[™] —2007 *General Conditions of the Contract for Construction* § 9.8.1. Under AIA contracts, this is determined by the project architect. With the landlord anxious to start receiving rent and the tenant determined to have its new building completed exactly as it has envisioned it, the parties can dispute when the project is substantially complete. What exactly is sufficiently complete? Who employs the architect that makes the decision? It is important to have clear directions in the lease stating who determines substantial completion and what conditions constitute substantial completion. A tenant may wish to note specific items that it expects to be complete as a condition to substantial completion, especially if the building was intended to perform some special purpose.

Who Determines Substantial Completion? Often the parties do not give this question much consideration, and they end up negotiating whether the building is substantially complete. Often the lease is silent on how substantial completion is defined and determined, and many construction contracts use the standard AIA[®] language, even though the architect may not provide construction phase services. A savvy tenant will try to use language similar to the AIA[®] standard

but note that substantial completion is determined by the tenant, or by the tenant in the tenant's reasonable discretion. The tenant can argue that as the property is being constructed to the tenant's requirements, only the tenant truly knows when the property can be used for its intended purpose.

Obviously, the landlord will not want the tenant to have the ability to delay payment of rent until every last bit of construction is completed. The landlord will typically try to control the completion date, either by providing that the landlord will determine when the project is substantially complete or by having the landlord's architect determine completion. It is often best to state specific requirements for substantial completion. An example of a tenant clause defining substantial completion is as follows:

Notwithstanding anything herein contained, the Improvements shall not be considered complete until (i) the Tenant has determined it can occupy or utilize the Improvements for their intended use, (ii) all that remains to be done is to correct or repair defective or non-conforming work or other minor punch list items, (iii) all systems and facilities included in the Improvements and necessary for the Tenant's occupancy of the Improvements have been installed and are in good operating order and condition, and (iv) the Landlord has obtained all necessary governmental and other permits and approvals of the Improvements (in final form) to permit lawful occupancy of the Premises for Tenant's intended use. The punch list may include only minor work capable of being completed within thirty (30) calendar days.

Certificate of Substantial Completion. Whether or not an AIA[®] contract is used for the construction, the parties may use the standard AIA[®] *Certificate of Substantial Completion*, AIA[®] Document G704[™]—2000, the language of which is similar to that contained in the standard AIA[®] construction contracts. Although this is not a bad definition, by expanding on it as noted above, the tenant receives some additional certainty about what is meant by “sufficiently complete . . . [to] utilize the Work for its intended use.” Although one might expect that to mean that all utilities are in place, all systems are operational, and all permits have been issued, it is better to state these items clearly than to rely on the landlord's architect having the same understanding.

Ready to Use for Its Intended Use. The ultimate question in determining substantial completion is whether the premises are ready to be used for their intended purpose. This should generally be clear for a typical office, warehouse, or retail store. A restaurant or other food service venue might be a bit more difficult to determine because of the need to ensure that health department requirements have been met and that the equipment (if it is to be supplied by the landlord) is fully operational. It can be difficult, however, to agree on whether the property is ready to use if it will be used for technical, industrial, or manufacturing purposes. In these cases, the tenant should either insist on making the determination or add any special performance conditions to the substantial completion definition. For example, for delicate manufacturing work, electrical power often must achieve a specific reliability factor to avoid causing large amounts of waste. Similarly, there must be sufficient utility capacity for the tenant's requirements.

Final Inspection and Punch List

When the landlord's contractor believes the project is substantially complete, the contractor will contact the landlord and schedule an inspection to determine substantial completion. This is normally done by the contractor, the landlord, and the project architect, but, in a build-to-suit situation, the tenant also should be involved. Both parties will want to have a consistent punch list and a consistent date of substantial completion, and a way to facilitate this is by having all parties do a joint walk-through inspection. If the tenant does not have internal construction personnel, the tenant can hire its own architect or consultant to participate in the substantial completion review and preparation of the punch list. For a large project, the parties may wish to inspect the property over a period of time and then meet to coordinate their respective preliminary punch lists.

The punch list should include only items that will not adversely affect the tenant's ability to use the improvements for their intended purpose. Accordingly, punch list work should be fairly minor items. Because the tenant will not want construction workers disrupting its activities for any longer than necessary, it is good practice to require that all punch list items be completed within 30 or 60 days. Once the parties have all agreed on the remaining work to be completed, the punch list is attached to a certificate of substantial completion (either one drafted by the parties or the standard AIA[®] Document G704[™]—2000), which is signed by the landlord and the contractor. At the same time, the landlord and the tenant sign a commencement certificate confirming the commencement date for the lease term.

The standard certificate of substantial completion specifically states “[t]he failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.” The tenant should insist on similar language in the commencement certificate or any related punch list. Although landlord forms often state the premises are accepted “AS IS” other than punch list items on signing the commencement certificate, the commencement certificate should include language identical to that contained in the standard certificate of completion set forth above.

Fixturing Period

Depending on allocation of construction responsibilities and the tenant's business, the tenant may need to complete considerable additional construction following substantial completion of the building to ready the building for the tenant's business operations. During this period the tenant may install trade fixtures, voice and data systems, security systems, and other specialized tenant improvements. The landlord and tenant may negotiate a rent-free or reduced-rent fixturing period to allow the tenant to complete the final tenant finish items. A typical fixturing period might grant the tenant one-month free base rent to complete its fit out with the tenant being responsible for all other expenses, such as utilities, maintenance, and insurance.

Ramifications for Late Delivery or Default

For the many reasons discussed above, even when all of the parties have worked together throughout the process to ensure that the construction is completed as quickly as possible, construction delays are still quite common. If the tenant has timed its move to the new facility to coincide with the termination

of its existing lease, the tenant may end up in a holdover under its existing lease. Depending on the particular circumstances, such a holdover can be difficult and costly to the tenant. Assuming the tenant did not cause the delay, what alternatives does the tenant have when a delay occurs?

Tenant Hold-overs Under the Existing Lease

Most significant leases contain some kind of holdover provision. A tenant-friendly provision will provide that a holdover will create a month-to-month tenancy at the same rate as was in effect at the end of the term. A landlord-friendly provision might provide that the holdover tenant is a tenant at sufferance at a rate of some multiple of the rent at the end of the term, such as 200% or more. Obviously, a lengthy stay at such a holdover rent will quickly become painful for the tenant.

If a tenant remains in possession at the end of a lease term and continues to pay rent, and the landlord accepts the rent, the holdover may be found to be an extension of the lease. If the lease contains an extension option that does not specifically require written exercise, the holdover may be considered an exercise of an extension option unless the tenant clearly notifies the landlord that it does not intend to extend the lease. Even when written renewal is required, it is possible a lengthy holdover could be determined to waive the requirement of written notice. Some leases may contain evergreen renewal clauses providing that the lease will automatically be extended at the end of each term unless one of the parties notifies the other that it does *not* intend to extend the term.

It is possible that the state in question has a statute abolishing holdover tenancies and substituting some other tenancy, typically from month to month or from year to year. See Kan. Stat. Ann. § 58-2502 (“[w]hen premises are let for one or more years, and the tenant with the assent of the landlord continues to occupy the premises after the expiration of the term, such tenant shall be deemed to be a tenant from year to year.”); Conn. Gen. Stat. § 47a-3d (“holding over by any lessee, after the expiration of the term of his lease, shall not be evidence of any agreement for a further lease. Parol leases of lands or tenements reserving a monthly rent and in which the time of their termination is not agreed on shall be construed to be leases for one month only”). Absent such a statute, the holdover will likely still form a periodic tenancy under state common law. Typically, the term of the common law periodic tenancy created by the holdover will be equal to the rent payment period, but note that if the rent is stated as an annual rent paid in installments, the tenancy may still be considered a year-to-year tenancy.

The renewal or periodic tenancy can be good or bad for the tenant, depending on the length of the tenancy. A month-to-month tenancy may afford the tenant the time needed for construction to be completed and for the tenant to relocate. On the other hand, a periodic tenancy for an additional year or an extension for one or even several years may lock the tenant into payment of rent for a property it neither wants nor needs. Accordingly, it is extremely important for the tenant to carefully review its lease and discuss options with its current landlord as soon as it suspects the premises may not be completed on time.

Effect of Construction Delays on the New Lease

As previously discussed, it is common for build-to-suit leases to allocate fault for construction delays among three categories: landlord delays, tenant delays, and delays for which neither party is at fault. Often significant delays will be some combination of all three. In the event of a tenant delay, the build-

to-suit lease will often provide for no adjustment of the lease terms, such that the tenant will commence payment of rent on the date the rent would have commenced absent the tenant delay. For delay not caused by either party—typically force majeure delays—the tenant will not be required to pay rent early, but it will receive no assistance with any costs it might incur under its existing lease for failure to vacate the premises or for relocating to temporary space.

If the construction delay is because of the fault of the landlord, including delays caused by the landlord's general contractor, then a well-represented tenant should have some type of remedies included in the lease. Most basically, the rent would not commence in the new space until the building is substantially complete. In recognition of the damages suffered by the tenant because of the landlord's delay, the lease may provide for some amount of rent abatement for each day of delay. This may be from one-half day to two days rent credit for each day of delay by the landlord. Alternatively, there may be a provision for the landlord to pay the tenant's costs for holdover rent and similar expenses or for temporary space during the delay. Typically, the landlord will want to limit damages to a set amount, such as a day's rent. Most importantly, the landlord will want to avoid liability for consequential damages, such as the tenant's lost business.

Depending on the circumstances, the tenant also may want the right to terminate the lease if the building is not completed on time. The landlord will strongly resist this, especially if the premises are of a nonstandard design. A delay would generally need to be either early in the project or for an extremely long period for there to be much likelihood that the landlord will agree to permit termination. Termination would most commonly be available if the landlord is unable to obtain basic rights required for the project, such as rezoning or a building permit, or if the landlord is unable to complete the purchase of the proposed project site.

Warranties

From the tenant's standpoint, when the landlord is responsible for the build-out, the warranties on that work should be set forth in the lease. A knowledgeable tenant will require numerous different construction-related warranties on a build-to-suit lease. For example, the tenant will want the landlord to warrant that the work will comply with the plans and specifications and construction drawings as well as all relevant construction and zoning codes (the landlord may wish to add "in all material respects"). In addition, the tenant will want the landlord to warrant that when the build-out is completed, all mechanical, electrical, plumbing, HVAC, and all other systems serving the premises shall be connected to the premises and in good working order.

The tenant should require a landlord warranty that the work shall be free from any construction defects. The landlord's response to these tenant warranty requests often is that the landlord shall not provide an independent warranty of its own, but rather shall assign to the tenant the construction warranty that the landlord is receiving from the general contractor on the work. From a tenant's standpoint, that response is insufficient because, for example, the contractor warranty may not provide the detailed warranty the tenant would prefer. In addition, the contractor may never perform another job for the tenant. Thus, the tenant's leverage with that contractor may be minimal. Finally, the tenant may encounter difficulty enforcing the warranty as a third-party beneficiary.

Landlord forms frequently start with a “non-warranty” position—specifically, that when the tenant occupies the property, it is deemed to have agreed that the landlord has satisfactorily performed all of the landlord’s build-out obligations. Tenants should try to strike this language. For landlords, such clauses can cut short the tenant complaints about work.

The landlord also may push to limit the tenant’s remedies in the event of a breach of the construction warranty to the repair of defects. If the defect is such that it materially impairs the tenant’s operations, the mere fixing of the defect may not make the tenant whole.

Another subject of warranty negotiations is the duration of the warranty. Landlords frequently offer tenants a one-year warranty, starting at the date of substantial completion of the work. From a tenant’s standpoint, a longer warranty period is preferable, though it comes at a cost. If the tenant desires a warranty period of longer than one year, or wishes that the warranty begin at the date of final (not substantial) completion, the tenant’s specifications should so state.

Another point of contention in warranty negotiations is one stating that the premises, when completed, shall comply with all applicable laws. A landlord may resist this warranty because the build-out follows approved construction plans and specifications. If the plans and specifications would result in a project that fails to comply with applicable laws, the landlord may argue it should not be held liable. This debate between the landlord and the tenant underscores the need for a continuing warranty in the architect’s contract that, if the project is built in compliance with the drawings, the project will comply with all applicable laws.

Allowance Issues

In addition to the amount of a tenant allowance, the parties may need to grapple with other allowance issues. For example, when the tenant needs to make a contribution to the cost of build-out work that the landlord is performing or has performed, the timing of the tenant’s payment warrants attention. Savvy landlords will require a tenant to contribute its amount to the build-out funds when the lease is signed or before the landlord incurs significant costs, rather than at a later time. The tenant may resist that request, particularly if the schedule calls for the work to be performed at a much later date. Often the timing turns on the tenant’s credit. A large credit tenant will have a much easier time convincing the landlord to accept payments as the construction progresses.

When the tenant performs (or has performed) the work and receives an allowance from the landlord, the timing of these payments is a significant issue for the tenant. The tenant will incur construction costs during the course of the project, and contractors and subcontractors will want to be paid. The landlord’s preference often will be to withhold any payments until substantial or final completion has been achieved to verify the work is performed well before the landlord’s funds flow. That puts the tenant in the position of fronting costs during construction and being reimbursed for those costs later.

Construction Loan and Payment Issues

When either the landlord or the tenant is procuring financing for the build-out, the terms of the construction documents need to be in sync with both the lease and the loan documents. For example, if the tenant is performing the build-out but the landlord is paying for some or all of that build-out using the proceeds from a construction loan, the landlord should verify that it is not required to disburse funds to the tenant before the construction lender itself has disbursed those funds. Similarly, the landlord's construction contract with the contractor should, from the landlord's perspective, condition its requirement to deliver payments to the contractor on the construction lender's release of that payment. Contractors usually will balk at such a "pay when paid" structure.

Two issues related to payment are retainage and payment timing. Retainage is an amount that a construction lender or a party contracting to have work performed withholds from the contractor or subcontractor, usually until substantial completion or in some cases final completion. For example, the construction contract may provide that 10% of each progress payment during construction shall be withheld until substantial completion has been achieved. The party (whether the landlord or the tenant) contracting to have the construction work performed needs to confirm that the construction loan's retainage requirements are consistent with those under the construction contract. Retainage is also a matter of local law and practice. Because a primary purpose of retainage is to avoid mechanic's liens, the parties should review local mechanics' and materialmen's lien statutes to determine whether any particular requirements must be met to avoid such liens.

For example, in Texas if an owner withholds 10% retainage through completion of the project, then any liens will attach only to the retainage and the owner's liability will not exceed the 10% retained funds. Tex. Prop. Code § 53.101.

Lien waivers are another area in which the party contracting to have the work performed will want to make sure that the respective provisions of the construction loan documents, the construction contract, and the lease are consistent. The AIA A201—*General Conditions of the Contract for Construction*, for example, does not require lien waivers as a condition of the release of progress payments. Construction lenders typically require lien waivers as one of several preconditions for the release of progress payments. If the tenant is contracting to have the work performed and being reimbursed by the landlord for costs, landlords are advised to require lien waivers as a precondition to the release of progress—and final—payments. The tenant will then need to make sure its construction contract requires the contractor to deliver those lien releases.

Conclusion

As this discussion demonstrates, a build-to-suit lease is no ordinary lease. Practitioners negotiating build-to-suit leases should focus on specifying the work to be done during design and construction, specifying the party bearing that responsibility, and addressing ramifications (or lack of ramifications) for the non-occurrence of those requirements in accordance with their client's interests.



City of Homer

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Memorandum

TO: POLICE STATION BUILDING TASK FORCE
FROM: RENEE KRAUSE, CMC, DEPUTY CITY CLERK I
DATE: APRIL 18, 2017
SUBJECT: SUPPLEMENTAL PACKET

INFORMATIONAL MATERIALS

A Council member requested through City Manager Koester to have staff provide the Task Force information on Flood Zone, Waddell Plat/Property and Tsunami Hazard Report (separate document)

Pages 1-5

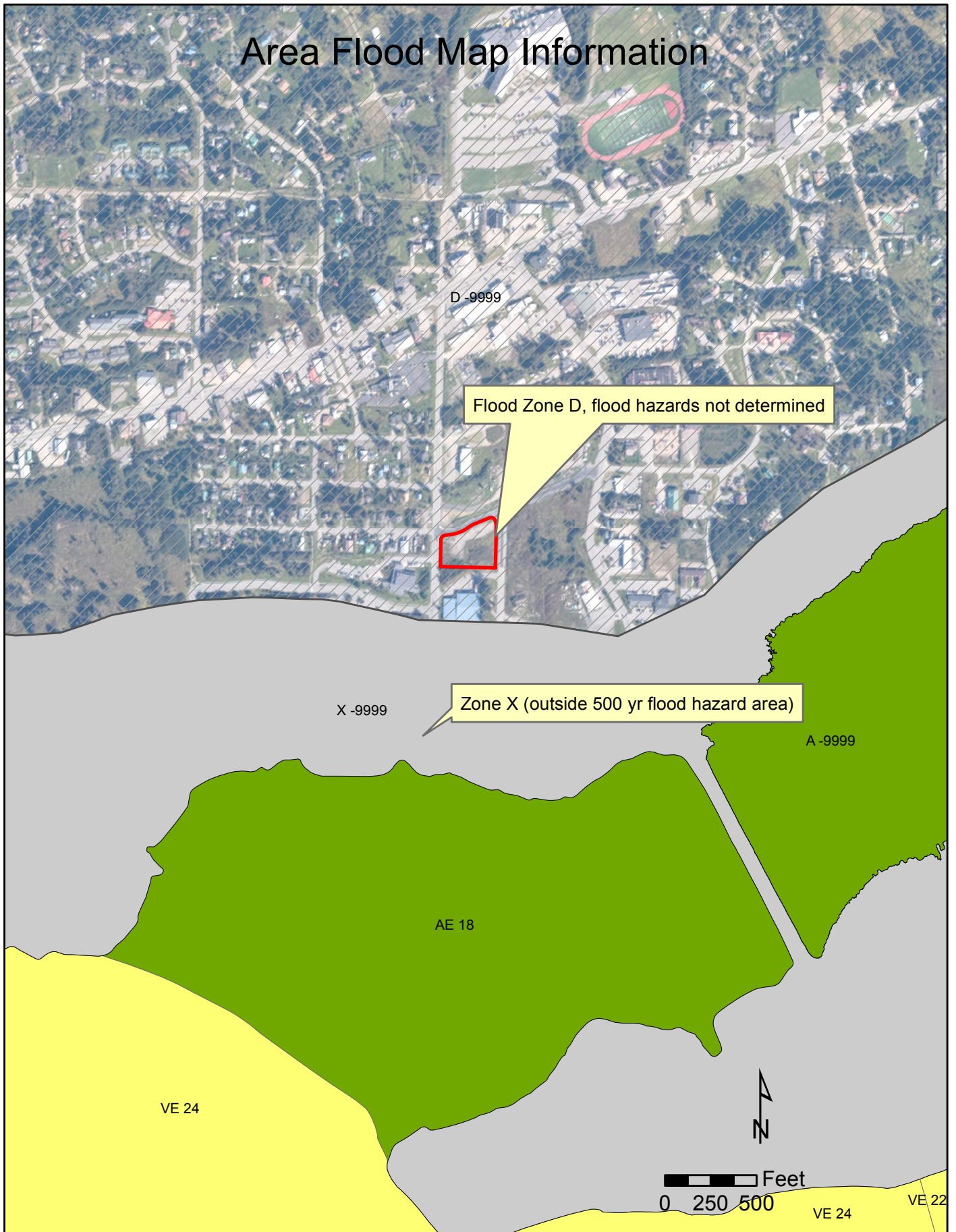
Task Force members Walker and Singleton requested financial information on the status of funds expended and remaining for the Public Safety Building

Pages 6-11

Conceptual Drawings and Floor Plans Public Safety Building – June 2016

Separate Documents

Area Flood Map Information



2016 photo



2016 photo



Heath St

Grubstake Ave

Snowbird



0 50 100 Feet

2016 photo

NOTES

1. BASIS OF BEARING FOR THIS SURVEY WAS DETERMINED BY A HIGH PRECISION GPS SURVEY USING TOPCON DUAL-FREQUENCY HIPER V RECEIVERS, DIFFERENTIALLY COLLECTED AND PROCESSED WITH MAGNET OFFICE VERSION 1.2.1 SOFTWARE. NAD83 ALASKA STATE PLANE GRID COORDINATES (U.S. SURVEY FEET) OBTAINED FROM THE GPS OBSERVATIONS WERE BASED ON THE NGS PUBLISHED VALUES FOR FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" (PID T10155).

2. TRUE BEARINGS AND DISTANCES WERE DETERMINED BY ROTATING AND SCALING FROM GRID USING FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" AS A SCALING POINT. TRUE BEARINGS WERE DETERMINED BY ROTATING GRID INVERSE AZIMUTHS $-1^{\circ}17'13.4''$. TRUE DISTANCES WERE OBTAINED BY DIVIDING GRID INVERSE DISTANCES BY 0.999986696.

3. THE RESULTING SCALED COORDINATES WERE TRANSLATED TO A LOCAL COORDINATE SYSTEM BASED ON FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" N=100,000 E=100,000. ALL COORDINATE VALUES REPRESENT GROUND DISTANCES IN U.S. SURVEY FEET ORIENTED TO TRUE NORTH.

4. THE BASIS OF BEARING FOR THIS REPLAT IS N $00^{\circ}02'04''$ W 1322.02' (RECORD) 1321.91' (FIELD) AS PER PLAT 2000-20 HRD, ALONG THE CENTERLINE HEATH STREET, FROM THE C1/4 COR SEC 20 TO THE CN1/16 COR SEC 20.

5. NO PERMANENT STRUCTURES SHALL BE CONSTRUCTED OR PLACED WITHIN AN EASEMENT WHICH WOULD INTERFERE WITH THE ABILITY OF A UTILITY TO USE SAID EASEMENT.

6. ALL WASTEWATER DISPOSAL SYSTEMS SHALL COMPLY WITH EXISTING APPLICABLE LAWS AT THE TIME OF CONSTRUCTION.

7. THERE IS A 15' UTILITY EASEMENT FRONTING ON ALL STREET RIGHT OF WAYS, EXTENDING TO 20' WITHIN 5' OF SIDE LOT LINES.

8. THESE LOTS ARE SERVED BY THE CITY OF HOMER SEWER AND WATER.

9. THIS SUBDIVISION MAY CONTAIN WETLANDS. CONTACT THE CORPS OF ENGINEERS PRIOR TO DEVELOPMENT.

10. THESE LOTS ARE SUBJECT TO THE ZONING LAWS AND REGULATIONS OF THE CITY OF HOMER.

11. NO DIRECT ACCESS TO STATE MAINTAINED RIGHTS-OF-WAY IS PERMITTED UNLESS APPROVED BY THE STATE OF ALASKA DEPARTMENT OF TRANSPORTATION.

12. THE RIGHT TO CONSTRUCT A "SKYWALK" FROM TRACT 2-A-1 ACROSS SNOWBIRD STREET TO TRACT 3-A-1, SUBJECT TO MINIMUM CROSSING AND MAXIMUM BUILDING HEIGHTS, IS HEREBY RESERVED (#87-27 HRD).

13. A 20' EASEMENT EXISTS ALONG EXISTING DRAINAGE ON LOT 2-A-1 UNTIL SUCH TIME IT IS RELOCATED.

14. AN EXCEPTION TO KPB 20.30.120 STREET WIDTH WAS APPROVED AT THE 2/8/16 PLANNING COMMISSION MEETING.

15. AN EXCEPTION TO KPB 20.30.240 BUILDING SETBACK WAS APPROVED AT THE 2/8/16 PLANNING COMMISSION MEETING.

16. THERE IS A BLANKET EASEMENT GRANTED TO HEA BK 27 PAGE 26 HRD AFFECTING LOT 2-A-1 AND LOT 3-A-1.

17. THERE IS A BLANKET EASEMENT GRANTED TO HEA BK 19 PAGE 8 HRD AFFECTING LOT 1-A-1, 2-A-1 AND 3-A-1.

18. THERE IS A BLANKET EASEMENT GRANTED TO GLACIER STATE TELEPHONE COMPANY BK 129 PAGE 340 HRD AFFECTING LOT 1-A-1.

19. THE RIGHT OF WAY DEPICTED AS VACATED ON THIS PLAT WAS APPROVED AT THE JANUARY 25, 2016 MEETING OF THE KENAI PENINSULA BOROUGH PLANNING COMMISSION.

20. THERE IS AN INGRESS, EGRESS AND MAINTENANCE EASEMENT GRANTED TO ETHEL A. WADDELL BK 302 PG 720 HRD AFFECTING LOT 2-A-1.

21. THERE IS AN EASEMENT AND RIGHT-OF-WAY GRANTED TO THE CITY OF HOMER BK 186 PG 423 HRD AFFECTING LOT 1-A-1.

22. THE EASEMENT GRANTED TO THE STATE OF ALASKA BOOK 264 PAGE 330 HRD AFFECTING LOT 1-A-1 HAS BEEN OUTCLAIMED BY THE STATE OF ALASKA. (SERIAL # 2016-002407-0 HRD.)

23. THERE IS AN EASEMENT GRANTED TO THE STATE OF ALASKA BOOK 264 PAGES 330-333 HRD AFFECTING LOT 1-A-1.

24. RECORD DATA FROM PLAT 87-27 HRD WAS USED TO ESTABLISH ROW ALONG LAKE ST.

25. THE 40' TEMPORARY WORKING EASEMENT ON THE EAST SIDE OF HEATH ST. CENTERLINE THAT IS INCLUDED IN THE PUBLIC USE EASEMENT RECORDED BK 60 PG 439 HRD AFFECTING LOT 1-A-1 EXPIRED AT THE TERMINATION OF HEATH STREET RE-CONSTRUCTION.

26. THE LAKE STREET RIGHT OF WAY DEPICTED ON THIS PLAT IS TIED TO THE C/L MONUMENTS SHOWN, ALONG WITH THE RELATIVE STATION AND OFFSETS AS PORTRAYED IN THE HOMER LAKE STREET REHABILITATION STP-0001(73) SHEET 3 OF 5.

EASEMENTS AND RIGHTS OF WAY

THE CITY OF HOMER HEREBY ACCEPTS THE GRANT OF EASEMENTS AND DEDICATION OF RIGHTS OF WAY DEPICTED OR NOTED ON THIS PLAT.

Katie Koester
KATIE KOESTER, CITY MANAGER

10-3-16
DATE

WASTEWATER DISPOSAL

PLANS FOR WASTEWATER DISPOSAL, THAT MEET REGULATORY REQUIREMENTS ARE ON FILE AT THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION.

LEGEND

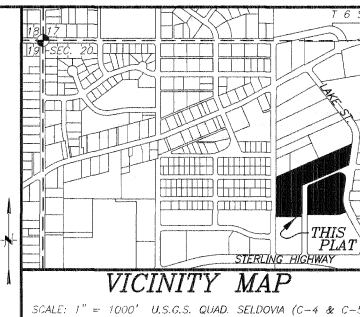
- INDICATES PRIMARY MONUMENT RECOVERED THIS SURVEY AS DESCRIBED
- ⊗ INDICATES 3/4" ALUM. PIPE RECOVERED THIS SURVEY AS DESCRIBED
- INDICATES 5/8" X 30" REBAR WITH 2" ALUM. CAP (7968-S 2016) SET THIS SURVEY
- (R) RECORD DATA
- (M) MEASURED DATA

PLAT APPROVAL

THIS PLAT WAS APPROVED BY THE KENAI PENINSULA BOROUGH PLANNING COMMISSION AT THE MEETING OF FEBRUARY 8, 2016

BY: *Mark Burt*
AUTHORIZED OFFICIAL
KENAI PENINSULA BOROUGH

OCT. 28, 2016
DATE



CERTIFICATE OF OWNERSHIP

WE HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE REAL PROPERTY SHOWN AND DESCRIBED HEREON, THAT WE HEREBY ADOPT THIS PLAT OF SUBDIVISION, AND BY OUR FREE CONSENT DEDICATE ALL RIGHTS OF WAY AND PUBLIC AREAS TO PUBLIC USE, AND GRANT ALL EASEMENTS TO THE USE SHOWN HEREON.

Katie Koester
LOT 3-A-1 (FORMER TRACT 2-A)
KATIE KOESTER, CITY MANAGER
CITY OF HOMER
491 EAST PIONEER AVENUE
HOMER, AK 99603

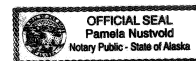
Brad Janorschke
LOT 1-A-1 (FORMER LOT E)
LOT 2-A-1 (FORMER LOT 2)
BRAD JANORSCHKE, GENERAL MANAGER
HOMER ELECTRIC ASSOCIATION, INC.
3977 LAKE ST.
HOMER, AK 99603

NOTARY'S ACKNOWLEDGMENT

FOR: *Katie Koester*
ACKNOWLEDGED BEFORE ME THIS 3rd
DAY OF October, 2016
G. Munn
NOTARY PUBLIC FOR ALASKA
MY COMMISSION EXPIRES 1/05/20

NOTARY'S ACKNOWLEDGMENT

FOR: *Homer Electric Assoc, Inc.*
ACKNOWLEDGED BEFORE ME THIS 28th
DAY OF SEPTEMBER, 2016
Pamela Nustvold
NOTARY PUBLIC FOR ALASKA
MY COMMISSION EXPIRES 2/1/2017



HOMER RECORDING DISTRICT KPB FILE NO. 2016-004

WADDELL PARK 2016 REPLAT

A REPLAT OF LOT E HEATH ST. REPLAT HM 90-58, TRACT 2-A WADDELL PARK SUBD. 1985 REPLAT HM 87-27, AND LOT 2 WADDELL PARK 2000 HM 2000-20, LOCATED WITHIN THE NE 1/4 SEC 20, T. 6 S., R. 13 W., S.M., WITHIN THE CITY OF HOMER, KENAI PENINSULA BOROUGH, THIRD JUDICIAL DISTRICT, ALASKA CONTAINING 11.378 ACRES

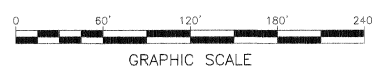
SEABRIGHT SURVEY + DESIGN

KENTON T. BLOOM, P.L.S.
1044 EAST ROAD, SUITE A
HOMER, ALASKA 99603
(907) 235-4247

DRAWN BY: SCS CHKD BY: KB JOB #2015-43
DATE: 3/2016 SCALE: 1"=60' SHEET #1 OF 1

CURVE TABLE

CURVE	DELTA	RADIUS	LENGTH	CHORD BRNG	CHORD DIST
C1	37°11'18"	289.09'	189.32'	S 10°16'24" E	185.96'
C2	65°57'10"	25'	28.78'	N 33°02'49" E	27.21'
C3	76°37'32"	30'	40.12'	S 75°39'51" E	37.20'
C4	45°50'20"	70'	56.00'	S 14°25'55" E	54.52'
C5	86°34'25"	25'	37.77'	N 43°16'39" E	34.28'
C6	31°29'15"	230'	126.40'	N 70°49'15" E	124.81'
C7	10°56'46"	170'	32.48'	N 60°33'01" E	32.43'
C8	99°03'52"	25'	43.22'	S 24°26'51" E	38.04'
C9	14°59'19"	170'	44.47'	S 7°25'25" E	44.35'
C10	96°02'00"	25'	41.90'	N 48°01'33" W	37.17'
C11	28°52'50"	170'	85.69'	S 69°31'02" W	84.79'
C12	10°56'46"	230'	43.94'	S 60°33'01" W	43.87'
C13	65°14'17"	170'	20.36'	S 57°13'12" W	20.35'
C14	24°42'29"	230'	99.18'	S 66°08'56" W	98.42'
C15	70°00'35"	30'	36.66'	S 43°29'33" W	34.42'



C1/4 SEC. 20
FIND UNMARKED 3.25" BRONZE CAP
ON 2" STEEL PIPE BURIED 0.5'
N=101,207.6407
E=92,891.8885

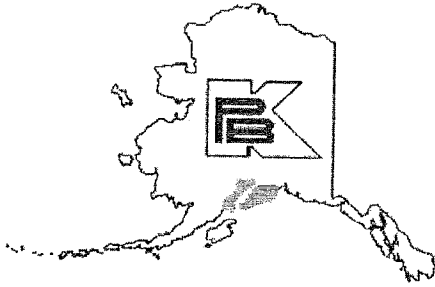
S 89°56'42" E 1320.88' (87-27 HRD)
S 89°55'37" E 1320.78'

FOUND 3" BRASS CAP 3686-S
C1/16 SEC. 20
PER PLAT 2000-20 HRD
N=101,205.9544
E=94,212.6708

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 55°04'37" E	11.27'
L2	N 66°01'24" E	89.21'
L3	S 55°04'37" W	11.27'
L4	S 0°04'14" W	2.69'
L5	S 53°47'21" W	21.39'





*Home Recording District
PL 2016-24*

KENAI PENINSULA BOROUGH

144 North Binkley Street • Soldotna, Alaska 99669-7520

Toll-free within the Borough: 1-800-478-4441

PHONE: (907) 262-4441 • FAX: (907) 714-2376

www.kpb.us

**MIKE NAVARRE
BOROUGH MAYOR**

CERTIFICATE OF TAX DEPARTMENT

I, Rhonda Krohn, Property Tax and Collections Manager for the Kenai Peninsula Borough, do hereby certify that all real property taxes levied by the Kenai Peninsula Borough through December 31, 2015 have been paid for the area(s) described as:

Subdivision: WADDELL PARK 2016 REPLAT

Parcel # 17711012

T 6S R 13W SEC 20 Seward Meridian HM 0900058 HEATH STREET REPLAT LOT E

Parcel # 17712029

T 6S R 13W SEC 20 Seward Meridian HM 2000020 WADDELL PARK 2000 LOT 2

Parcel # 17712027

T 6S R 13W SEC 20 Seward Meridian HM 0870027 WADDELL PARK SUB 1985 REPLAT TRACT 2-A

Effective January 1, 2016, estimated taxes of EXEMPT were paid on the above property(s). However, if the estimated taxes are less than the actual taxes levied on July 1, 2016, the difference is a lien against the property(s) until paid.

Witness my hand and seal this 7th day of April, 2016.

Rhonda Krohn
Property Tax and Collections Manager

Public Safety Bldg

City of Homer

Detail Ledger - 2016-Detail General Ledger
Period: 00/13 - 04/17

Page: 1
Apr 17, 2017 01:26PM

Report Criteria:

Actual Amounts
Accounts With Balances Or Activity
Summarize Payroll Detail
Print Period Totals
Print Grand Totals
Page and Total by Fund
All Segments Tested for Total Breaks
Account.Account Number = "15603774610"-"15603775990"

Date	Journal	Reference Number	Payee or Description	Account Number	Debit Amount	Credit Amount	Balance				
Transfer from			12/31/2012 (14/12) Balance	156-0377-4990			.00				
12/31/2013	JE	77	Trsf from Depreciation Reserves To fund Public Saf			300,000.00-					
			12/31/2013 (12/13) Period Totals and Balance		.00 *	300,000.00- *	300,000.00-				
12/31/2015	JE	24	Ordinance 15-18(S2)			355,000.00-					
			12/31/2015 (13/15) Period Totals and Balance		.00 *	355,000.00- *	355,000.00-				
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	.00				
YTD Encumbrance		.00	YTD Actual	.00	Total	.00	YTD Budget	.00	Unearned	.00	
Wages - Regular			12/31/2012 (14/12) Balance	156-0377-5101			.00				
02/28/2014	PC	242	PAYROLL TRANS FOR 2/23/2014 PAY PERIOD		300.70						
			02/28/2014 (02/14) Period Totals and Balance		300.70 *	.00 *	300.70				
03/14/2014	PC	105	PAYROLL TRANS FOR 3/9/2014 PAY PERIOD		481.12						
03/28/2014	PC	260	PAYROLL TRANS FOR 3/23/2014 PAY PERIOD		300.70						
			03/31/2014 (03/14) Period Totals and Balance		781.82 *	.00 *	1,082.52				
04/11/2014	PC	140	PAYROLL TRANS FOR 4/6/2014 PAY PERIOD		90.21						
04/25/2014	PC	255	PAYROLL TRANS FOR 4/20/2014 PAY PERIOD		90.21						
			04/30/2014 (04/14) Period Totals and Balance		180.42 *	.00 *	1,262.94				
05/09/2014	PC	136	PAYROLL TRANS FOR 5/4/2014 PAY PERIOD		90.21						
05/23/2014	PC	264	PAYROLL TRANS FOR 5/18/2014 PAY PERIOD		60.14						
			05/31/2014 (05/14) Period Totals and Balance		150.35 *	.00 *	1,413.29				
06/06/2014	PC	138	PAYROLL TRANS FOR 6/1/2014 PAY PERIOD		270.63						
06/20/2014	PC	279	PAYROLL TRANS FOR 6/15/2014 PAY PERIOD		300.70						
			06/30/2014 (06/14) Period Totals and Balance		571.33 *	.00 *	1,984.62				
07/03/2014	PC	137	PAYROLL TRANS FOR 6/29/2014 PAY PERIOD		413.40						
07/18/2014	PC	273	PAYROLL TRANS FOR 7/13/2014 PAY PERIOD		254.40						
			07/31/2014 (07/14) Period Totals and Balance		667.80 *	.00 *	2,652.42				
08/01/2014	PC	103	PAYROLL TRANS FOR 7/27/2014 PAY PERIOD		318.00						
08/15/2014	PC	255	PAYROLL TRANS FOR 8/10/2014 PAY PERIOD		286.20						
08/29/2014	PC	386	PAYROLL TRANS FOR 8/24/2014 PAY PERIOD		190.80						
			08/31/2014 (08/14) Period Totals and Balance		795.00 *	.00 *	3,447.42				
09/12/2014	PC	140	PAYROLL TRANS FOR 9/7/2014 PAY PERIOD		636.00						
09/26/2014	PC	283	PAYROLL TRANS FOR 9/21/2014 PAY PERIOD		699.60						
			09/30/2014 (09/14) Period Totals and Balance		1,335.60 *	.00 *	4,783.02				
10/10/2014	PC	113	PAYROLL TRANS FOR 10/5/2014 PAY PERIOD		763.20						
10/24/2014	PC	249	PAYROLL TRANS FOR 10/19/2014 PAY PERIOD		954.00						
			10/31/2014 (10/14) Period Totals and Balance		1,717.20 *	.00 *	6,500.22				
11/07/2014	PC	123	PAYROLL TRANS FOR 11/2/2014 PAY PERIOD		826.80						
11/21/2014	PC	262	PAYROLL TRANS FOR 11/16/2014 PAY PERIOD		604.20						
			11/30/2014 (11/14) Period Totals and Balance		1,431.00 *	.00 *	7,931.22				
12/05/2014	PC	116	PAYROLL TRANS FOR 11/30/2014 PAY PERIOD		858.60						
12/19/2014	PC	263	PAYROLL TRANS FOR 12/14/2014 PAY PERIOD		349.80						
			12/31/2014 (12/14) Period Totals and Balance		1,208.40 *	.00 *	9,139.62				
12/31/2014	JE	66	2014 Accrued Wages		127.20						
			12/31/2014 (13/14) Period Totals and Balance		127.20 *	.00 *	9,266.82				
01/31/2015	JE	128	2014 Accrued Wages			127.20-					
01/02/2015	PC	104	PAYROLL TRANS FOR 12/28/2014 PAY PERIOD		127.20						

Date	Journal	Reference Number	Payee or Description	Account Number	Debit Amount	Credit Amount	Balance				
01/16/2015	PC	219	PAYROLL TRANS FOR 1/11/2015 PAY PERIOD		604.20						
01/30/2015	PC	325	PAYROLL TRANS FOR 1/25/2015 PAY PERIOD		667.80						
			01/31/2015 (01/15) Period Totals and Balance		1,399.20 *	127.20- *	1,272.00				
02/13/2015	PC	1231	Nelsen, Daniel E		604.20						
02/27/2015	PC	1636	PAYROLL TRANS FOR 2/22/2015 PAY PERIOD		381.60						
			02/28/2015 (02/15) Period Totals and Balance		985.80 *	.00 *	2,257.80				
03/13/2015	PC	120	PAYROLL TRANS FOR 3/8/2015 PAY PERIOD		445.20						
03/27/2015	PC	246	PAYROLL TRANS FOR 3/22/2015 PAY PERIOD		318.00						
			03/31/2015 (03/15) Period Totals and Balance		763.20 *	.00 *	3,021.00				
04/10/2015	PC	119	PAYROLL TRANS FOR 4/5/2015 PAY PERIOD		159.00						
			04/30/2015 (04/15) Period Totals and Balance		159.00 *	.00 *	3,180.00				
08/31/2016	JE	25	TO CORRECT PUBLIC SAFETY BLDG EXP PER C		3,090.56						
			08/31/2016 (08/16) Period Totals and Balance		3,090.56 *	.00 *	3,090.56				
01/13/2017	PC	61	PAYROLL TRANS FOR 1/8/2017 PAY PERIOD		98.02						
			01/31/2017 (01/17) Period Totals and Balance		98.02 *	.00 *	98.02				
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	98.02				
YTD Encumbrance		.00	YTD Actual	98.02	Total	98.02	YTD Budget	.00	Unexpended	(98.02)	
Fringe Benefits - Regular			12/31/2012 (14/12) Balance	156-0377-5102						.00	
02/28/2014	PB	138	PAYROLL TRANS FOR 2/23/2014 PAY PERIOD		97.36						
			02/28/2014 (02/14) Period Totals and Balance		97.36 *	.00 *				97.36	
03/14/2014	PB	71	PAYROLL TRANS FOR 3/9/2014 PAY PERIOD		91.26						
03/12/2014	PB	82	PAYROLL TRANS FOR 3/9/2014 PAY PERIOD		2.00						
03/14/2014	PB	94	PAYROLL TRANS FOR 3/9/2014 PAY PERIOD		11.55						
03/14/2014	PB	107	PAYROLL TRANS FOR 3/9/2014 PAY PERIOD		27.85						
03/14/2014	PB	120	PAYROLL TRANS FOR 3/9/2014 PAY PERIOD		21.09						
03/28/2014	PB	231	PAYROLL TRANS FOR 3/23/2014 PAY PERIOD		97.35						
			03/31/2014 (03/14) Period Totals and Balance		251.10 *	.00 *				348.46	
04/11/2014	PB	131	PAYROLL TRANS FOR 4/6/2014 PAY PERIOD		29.21						
04/25/2014	PB	209	PAYROLL TRANS FOR 4/20/2014 PAY PERIOD		29.21						
			04/30/2014 (04/14) Period Totals and Balance		58.42 *	.00 *				406.88	
05/09/2014	PB	84	PAYROLL TRANS FOR 5/4/2014 PAY PERIOD		29.21						
05/23/2014	PB	166	PAYROLL TRANS FOR 5/18/2014 PAY PERIOD		19.47						
			05/31/2014 (05/14) Period Totals and Balance		48.68 *	.00 *				455.56	
06/06/2014	PB	82	PAYROLL TRANS FOR 6/1/2014 PAY PERIOD		87.63						
06/20/2014	PB	199	PAYROLL TRANS FOR 6/15/2014 PAY PERIOD		97.40						
			06/30/2014 (06/14) Period Totals and Balance		185.03 *	.00 *				640.59	
07/03/2014	PB	92	PAYROLL TRANS FOR 6/29/2014 PAY PERIOD		133.60						
07/18/2014	PB	190	PAYROLL TRANS FOR 7/13/2014 PAY PERIOD		84.72						
			07/31/2014 (07/14) Period Totals and Balance		218.32 *	.00 *				858.91	
08/01/2014	PB	134	PAYROLL TRANS FOR 7/27/2014 PAY PERIOD		105.94						
08/15/2014	PB	236	PAYROLL TRANS FOR 8/10/2014 PAY PERIOD		95.32						
08/29/2014	PB	316	PAYROLL TRANS FOR 8/24/2014 PAY PERIOD		63.55						
			08/31/2014 (08/14) Period Totals and Balance		264.81 *	.00 *				1,123.72	
09/12/2014	PB	103	PAYROLL TRANS FOR 9/7/2014 PAY PERIOD		211.82						
09/26/2014	PB	260	PAYROLL TRANS FOR 9/21/2014 PAY PERIOD		233.03						
			09/30/2014 (09/14) Period Totals and Balance		444.85 *	.00 *				1,568.57	
10/10/2014	PB	108	PAYROLL TRANS FOR 10/5/2014 PAY PERIOD		254.22						
10/24/2014	PB	206	PAYROLL TRANS FOR 10/19/2014 PAY PERIOD		317.77						
			10/31/2014 (10/14) Period Totals and Balance		571.99 *	.00 *				2,140.56	
11/07/2014	PB	68	PAYROLL TRANS FOR 11/2/2014 PAY PERIOD		275.39						
11/21/2014	PB	159	PAYROLL TRANS FOR 11/16/2014 PAY PERIOD		201.25						
			11/30/2014 (11/14) Period Totals and Balance		476.64 *	.00 *				2,617.20	
12/05/2014	PB	71	PAYROLL TRANS FOR 11/30/2014 PAY PERIOD		285.98						
12/19/2014	PB	167	PAYROLL TRANS FOR 12/14/2014 PAY PERIOD		116.52						
			12/31/2014 (12/14) Period Totals and Balance		402.50 *	.00 *				3,019.70	

Date	Journal	Reference Number	Payee or Description	Account Number	Debit Amount	Credit Amount	Balance
01/02/2015	PB	67	PAYROLL TRANS FOR 12/28/2014 PAY PERIOD		42.45		
01/16/2015	PB	146	PAYROLL TRANS FOR 1/11/2015 PAY PERIOD		201.65		
01/30/2015	PB	221	PAYROLL TRANS FOR 1/25/2015 PAY PERIOD		217.62		
			01/31/2015 (01/15) Period Totals and Balance		461.72 *	.00 *	461.72
02/13/2015	PB	3905	Nelsen, Daniel E		30.21		
02/13/2015	PB	3925	Nelsen, Daniel E		17.91		
02/13/2015	PB	3945	Nelsen, Daniel E		10.03		
02/13/2015	PB	3965	Nelsen, Daniel E		1.33		
02/13/2015	PB	3985	Nelsen, Daniel E		73.45		
02/13/2015	PB	4005	Nelsen, Daniel E		35.88		
02/13/2015	PB	4025	Nelsen, Daniel E		8.39		
02/13/2015	PB	4045	Nelsen, Daniel E		4.75		
02/13/2015	PB	4065	Nelsen, Daniel E		19.70		
02/27/2015	PB	5365	PAYROLL TRANS FOR 2/22/2015 PAY PERIOD		127.35		
			02/28/2015 (02/15) Period Totals and Balance		329.00 *	.00 *	790.72
03/13/2015	PB	75	PAYROLL TRANS FOR 3/8/2015 PAY PERIOD		148.57		
03/27/2015	PB	153	PAYROLL TRANS FOR 3/22/2015 PAY PERIOD		106.15		
			03/31/2015 (03/15) Period Totals and Balance		254.72 *	.00 *	1,045.44
04/10/2015	PB	77	PAYROLL TRANS FOR 4/5/2015 PAY PERIOD		52.45		
			04/30/2015 (04/15) Period Totals and Balance		52.45 *	.00 *	1,097.89
11/06/2015	PB	81	PAYROLL TRANS FOR 11/1/2015 PAY PERIOD		7.55		
11/20/2015	PB	214	PAYROLL TRANS FOR 11/15/2015 PAY PERIOD		11.34		
			11/30/2015 (11/15) Period Totals and Balance		18.89 *	.00 *	1,116.78
12/04/2015	PB	79	PAYROLL TRANS FOR 11/29/2015 PAY PERIOD		3.78		
12/31/2015	PB	234	PAYROLL TRANS FOR 12/27/2015 PAY PERIOD		52.88		
12/31/2015	PB	378	PAYROLL TRANS FOR 12/27/2015 PAY PERIOD		52.88		
12/31/2015	PB	379	PAYROLL TRANS FOR 12/27/2015 PAY PERIOD			52.88-	
			12/31/2015 (12/15) Period Totals and Balance		109.54 *	52.88- *	1,173.44
01/15/2016	PB	83	PAYROLL TRANS FOR 1/10/2016 PAY PERIOD		26.43		
			01/31/2016 (01/16) Period Totals and Balance		26.43 *	.00 *	26.43
08/31/2016	JE	27	TO CORRECT PUBLIC SAFETY BLDG EXP PER C		819.03		
			08/31/2016 (08/16) Period Totals and Balance		819.03 *	.00 *	845.46
01/13/2017	PB	37	PAYROLL TRANS FOR 1/8/2017 PAY PERIOD		25.21		
			01/31/2017 (01/17) Period Totals and Balance		25.21 *	.00 *	25.21
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	25.21
YTD Encumbrance		.00 YTD Actual	25.21 Total	25.21 YTD Budget	.00 Unexpended	(25.21)	
Wages - Part Time			12/31/2012 (14/12) Balance	156-0377-5103			.00
11/06/2015	PC	142	PAYROLL TRANS FOR 11/1/2015 PAY PERIOD		69.24		
11/20/2015	PC	294	PAYROLL TRANS FOR 11/15/2015 PAY PERIOD		103.86		
			11/30/2015 (11/15) Period Totals and Balance		173.10 *	.00 *	173.10
12/04/2015	PC	125	PAYROLL TRANS FOR 11/29/2015 PAY PERIOD		34.62		
12/31/2015	PC	361	PAYROLL TRANS FOR 12/27/2015 PAY PERIOD		484.68		
			12/31/2015 (12/15) Period Totals and Balance		519.30 *	.00 *	692.40
01/15/2016	PC	120	PAYROLL TRANS FOR 1/10/2016 PAY PERIOD		242.34		
01/29/2016	PC	253	PAYROLL TRANS FOR 1/24/2016 PAY PERIOD		311.58		
			01/31/2016 (01/16) Period Totals and Balance		553.92 *	.00 *	553.92
04/22/2016	PC	267	PAYROLL TRANS FOR 4/17/2016 PAY PERIOD		138.48		
			04/30/2016 (04/16) Period Totals and Balance		138.48 *	.00 *	692.40
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	.00
YTD Encumbrance		.00 YTD Actual	.00 Total	.00 YTD Budget	.00 Unexpended	.00	
Fringe Benefits - Part Time			12/31/2012 (14/12) Balance	156-0377-5104			.00
01/29/2016	PB	484	PAYROLL TRANS FOR 1/24/2016 PAY PERIOD		34.00		
			01/31/2016 (01/16) Period Totals and Balance		34.00 *	.00 *	34.00

Date	Journal	Reference Number	Payee or Description	Account Number	Debit Amount	Credit Amount	Balance
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			04/30/2016 (04/16) Period Totals and Balance		15.10 *	.00 *	49.10
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	.00
YTD Encumbrance		.00 YTD Actual	.00 Total	.00 YTD Budget	.00 Unexpended	.00	
Food and Staples			12/31/2012 (14/12) Balance	156-0377-5206			.00
09/10/2014	AP	661	SAFEWAY		75.78		
			10/31/2014 (10/14) Period Totals and Balance		75.78 *	.00 *	75.78
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	.00
YTD Encumbrance		.00 YTD Actual	.00 Total	.00 YTD Budget	.00 Unexpended	.00	
Engr/Arch/Design			12/31/2012 (14/12) Balance	156-0377-5212			.00
06/18/2014	AP	115	USKH, INC		41,145.52		
			07/31/2014 (07/14) Period Totals and Balance		41,145.52 *	.00 *	41,145.52
07/24/2014	AP	255	USKH, INC		26,678.00		
			08/31/2014 (08/14) Period Totals and Balance		26,678.00 *	.00 *	67,823.52
09/23/2014	AP	131	USKH, INC		6,071.82		
10/20/2014	AP	863	STANTEC ARCHITECTURE INC		90,099.57		
			10/31/2014 (10/14) Period Totals and Balance		96,171.39 *	.00 *	163,994.91
11/26/2014	AP	242	STANTEC ARCHITECTURE INC		10,399.05		
01/16/2015	AP	1408	STANTEC ARCHITECTURE INC		15,484.50		
			12/31/2014 (12/14) Period Totals and Balance		25,883.55 *	.00 *	189,878.46
01/31/2015	JE	198	TO RECORD PW DIG TEST HOLES @ HERC		490.20		
			01/31/2015 (01/15) Period Totals and Balance		490.20 *	.00 *	490.20
02/05/2015	AP	535	GOLDER ASSOCIATES INC		5,104.12		
			02/28/2015 (02/15) Period Totals and Balance		5,104.12 *	.00 *	5,594.32
02/06/2015	AP	94	STANTEC ARCHITECTURE INC		6,941.00		
02/25/2015	AP	501	STANTEC ARCHITECTURE INC		2,388.00		
03/12/2015	AP	532	GOLDER ASSOCIATES INC		1,416.40		
			03/31/2015 (03/15) Period Totals and Balance		10,745.40 *	.00 *	16,339.72
03/25/2015	AP	82	STANTEC ARCHITECTURE INC		25,800.80		
03/12/2015	AP	623	GOLDER ASSOCIATES INC		1,416.40		
04/24/2015	CR	1122623	Refund of Posting Error - City of Colleg			1,416.40-	
			04/30/2015 (04/15) Period Totals and Balance		27,217.20 *	1,416.40- *	42,140.52
04/15/2015	AP	455	STANTEC ARCHITECTURE INC		8,880.00		
04/13/2015	AP	568	GOLDER ASSOCIATES INC		480.00		
			05/31/2015 (05/15) Period Totals and Balance		9,360.00 *	.00 *	51,500.52
05/28/2015	AP	442	STANTEC ARCHITECTURE INC		4,587.06		
			06/30/2015 (06/15) Period Totals and Balance		4,587.06 *	.00 *	56,087.58
06/22/2015	AP	549	STANTEC ARCHITECTURE INC		1,858.49		
			07/31/2015 (07/15) Period Totals and Balance		1,858.49 *	.00 *	57,946.07
09/28/2015	AP	793	SAFEWAY		74.88		
08/21/2015	AP	800	STANTEC ARCHITECTURE INC		1,936.00		
09/04/2015	AP	801	STANTEC ARCHITECTURE INC		1,670.00		
			10/31/2015 (10/15) Period Totals and Balance		3,680.88 *	.00 *	61,626.95
10/22/2015	AP	150	STANTEC ARCHITECTURE INC		18,188.36		
11/10/2015	AP	674	BANK OF AMERICA		178.00		
			11/30/2015 (11/15) Period Totals and Balance		18,366.36 *	.00 *	79,993.31
12/15/2015	AP	931	STANTEC ARCHITECTURE INC		30,851.43		
12/15/2015	AP	932	STANTEC ARCHITECTURE INC		21,212.70		
			12/31/2015 (12/15) Period Totals and Balance		52,064.13 *	.00 *	132,057.44
01/19/2016	AP	253	STANTEC ARCHITECTURE INC		8,132.00		
			01/31/2016 (01/16) Period Totals and Balance		8,132.00 *	.00 *	8,132.00
02/26/2016	AP	454	STANTEC ARCHITECTURE INC		7,204.83		
03/30/2016	AP	812	STANTEC ARCHITECTURE INC		179.00		
			03/31/2016 (03/16) Period Totals and Balance		7,383.83 *	.00 *	15,515.83

Date	Journal	Reference Number	Payee or Description	Account Number	Debit Amount	Credit Amount	Balance
04/14/2016	AP	417	STANTEC ARCHITECTURE INC		1,370.75		
			04/30/2016 (04/16) Period Totals and Balance		1,370.75 *	.00 *	16,886.58
05/24/2016	AP	301	STANTEC ARCHITECTURE INC		17,852.27		
			05/31/2016 (05/16) Period Totals and Balance		17,852.27 *	.00 *	34,738.85
06/28/2016	AP	632	DISCOVERY DRILLING		2,040.00		
			06/30/2016 (06/16) Period Totals and Balance		2,040.00 *	.00 *	36,778.85
07/05/2016	AP	25	STANTEC ARCHITECTURE INC		18,103.00		
07/18/2016	AP	229	STANTEC ARCHITECTURE INC		15,049.25		
			07/31/2016 (07/16) Period Totals and Balance		33,152.25 *	.00 *	69,931.10
08/17/2016	AP	411	STANTEC ARCHITECTURE INC		18,069.25		
08/31/2016	JE	29	TO CORRECT PUBLIC SAFETY BLDG EXP PER C		979.51		
			08/31/2016 (08/16) Period Totals and Balance		19,048.76 *	.00 *	88,979.86
10/19/2016	AP	276	STANTEC ARCHITECTURE INC		11,015.50		
			10/31/2016 (10/16) Period Totals and Balance		11,015.50 *	.00 *	99,995.36
02/07/2017	AP	574	STANTEC ARCHITECTURE INC		17,600.00		
			01/31/2017 (01/17) Period Totals and Balance		17,600.00 *	.00 *	17,600.00
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	17,600.00
YTD Encumbrance		.00	YTD Actual	17,600.00 Total	17,600.00 YTD Budget	.00 Unexpended	(17,600.00)
Advertising			12/31/2012 (14/12) Balance	156-0377-5227			.00
08/31/2014	AP	984	BANK OF AMERICA		113.43		
08/31/2014	AP	985	BANK OF AMERICA		113.43		
08/31/2014	AP	986	BANK OF AMERICA		113.43		
08/31/2014	AP	987	BANK OF AMERICA		157.90		
08/31/2014	AP	988	BANK OF AMERICA		113.43		
08/31/2014	AP	996	BANK OF AMERICA		48.80		
			08/31/2014 (08/14) Period Totals and Balance		660.42 *	.00 *	660.42
09/10/2014	AP	528	HOMER TRIBUNE		180.00		
			09/30/2014 (09/14) Period Totals and Balance		180.00 *	.00 *	840.42
09/04/2014	AP	87	HOMER NEWS		109.20		
10/31/2014	AP	1040	BANK OF AMERICA		24.00		
10/31/2014	AP	1045	BANK OF AMERICA		48.00		
			10/31/2014 (10/14) Period Totals and Balance		181.20 *	.00 *	1,021.62
09/21/2016	AP	498	PRINT WORKS		1,414.00		
09/22/2016	AP	663	ALASKA MEDIA LLC		224.00		
09/23/2016	AP	665	AC PRODUCTIONS		600.00		
			09/30/2016 (09/16) Period Totals and Balance		2,238.00 *	.00 *	2,238.00
09/29/2016	AP	60	ALASKA MEDIA LLC		224.00		
09/29/2016	AP	61	ALASKA MEDIA LLC		70.00		
10/04/2016	AP	62	ALASKA MEDIA LLC		125.40		
09/30/2016	AP	336	K-WAVE FM RADIO		234.00		
09/30/2016	AP	337	K-WAVE FM RADIO		234.00		
09/30/2016	AP	338	K-WAVE FM RADIO		234.00		
09/19/2016	AP	882	WELLS FARGO COMMERCIAL CARD EXP		297.00		
09/28/2016	AP	888	WELLS FARGO COMMERCIAL CARD EXP		25.05		
			10/31/2016 (10/16) Period Totals and Balance		1,443.45 *	.00 *	3,681.45
10/03/2016	AP	680	WELLS FARGO COMMERCIAL CARD EXP		7.11		
			11/30/2016 (11/16) Period Totals and Balance		7.11 *	.00 *	3,688.56
09/22/2016	AP	208	HOMER NEWS		504.98		
10/04/2016	AP	209	HOMER NEWS		120.00		
11/30/2016	AP	457	K-WAVE FM RADIO		78.00		
11/30/2016	AP	458	K-WAVE FM RADIO		78.00		
11/30/2016	AP	459	K-WAVE FM RADIO		78.00		
			12/31/2016 (12/16) Period Totals and Balance		858.98 *	.00 *	4,547.54
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	.00
YTD Encumbrance		.00	YTD Actual	.00 Total	.00 YTD Budget	.00 Unexpended	.00

Date	Journal	Reference Number	Payee or Description	Account Number	Debit Amount	Credit Amount	Balance
Transfers To			12/31/2012 (14/12) Balance	156-0377-5990			.00
04/30/2016	JE	28	ORD 16-16A XFER FROM PUBLIC SAFETY TO FI		80,000.00		
			04/30/2016 (04/16) Period Totals and Balance		80,000.00 *	.00 *	80,000.00
03/31/2017	JE	22	ORD 17-12 XFER FROM PUBLIC SAFETY TO POL		110,000.00		
			03/31/2017 (03/17) Period Totals and Balance		110,000.00 *	.00 *	110,000.00
			04/30/2017 (04/17) Period Totals and Balance		.00 *	.00 *	110,000.00
YTD Encumbrance		.00	YTD Actual	110,000.00	Total	110,000.00	YTD Budget
					.00	Unexpended	(110,000.00)

Number of Transactions: 163 Number of Accounts: 9

Total General Fund Depreciation Res:

Number of Transactions: 163 Number of Accounts: 9

Grand Totals:

Debit	Credit	Proof
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Debit	Credit	Proof
658,905.79	656,596.48-	2,309.31

Report of Investigations 2005-2

TSUNAMI HAZARD MAPS OF THE HOMER AND SELDOVIA AREAS, ALASKA

by

E.N. Suleimani, R.A. Combellick, D. Marriott,
R.A. Hansen, A.J. Venturato, and J.C. Newman



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2005

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2005

This DGGS Report of Investigations is a final report of scientific research.
It has received technical review and may be cited as an agency publication.



STATE OF ALASKA
Frank Murkowski, *Governor*

DEPARTMENT OF NATURAL RESOURCES
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TSUNAMI HAZARD MAPS OF THE HOMER AND SELDOVIA AREAS, ALASKA

by

E.N. Suleimani¹, R.A. Combellick², D. Marriott¹, R.A. Hansen¹, A.J. Venturato³, and J.C. Newman³

Abstract

The purpose of this study is to evaluate a potential tsunami risk for communities of Homer and Seldovia in the Kachemak Bay area, Alaska. This report will provide guidance to the local emergency managers in tsunami hazard assessment. We used a numerical modeling method to estimate the extent of inundation due to tsunami waves generated by earthquake sources. Our tsunami scenarios included a repeat of the tsunami of the 1964 great Alaska earthquake, as well as a hypothetical tsunami wave generated by a local fault source. We didn't consider landslide-generated tsunamis in this study. Results of numerical modeling combined with historical observations in the region are intended to help local emergency services officials with evacuation planning and public education for reducing risk from future tsunamis.

INTRODUCTION

Alaska has the greatest earthquake and tsunami potential in the entire United States. Figure 1 shows one of the most seismically active regions of the state where the Pacific Plate is subducting under the North American Plate. This subduction zone, the Alaska–Aleutian megathrust zone, makes the adjacent coastal areas especially hazardous with regard to tsunami exposure. The coseismic crustal movements that characterize this area have a high potential for producing vertical sea floor displacements, which are highly tsunamigenic. Historic tsunamis that were generated by earthquakes on the Alaska–Aleutian subduction zone have resulted in widespread damage and loss of life along the Alaskan Pacific coast and other exposed locations around the Pacific Ocean. Large seismic events occurring in the vicinity of the Alaska Peninsula, Aleutian Islands, and Gulf of Alaska have a very high potential for generating both local and Pacific-wide tsunamis. Tsunamis originating in Alaska can travel across the Pacific and destroy coastal towns hours after they are generated. However, they are considered to be a near-field hazard for Alaska, and can reach Alaskan coastal communities within minutes after the earthquake. Therefore, saving lives and property depends on how well a community is prepared, which makes it essential to estimate the potential flooding area of the coastal zones in case of a local or distant tsunami.

To help mitigate the risk these earthquakes and tsunamis pose to Alaskan coastal communities, the Alaska Tsunami Mapping Team (ATMT) was created. It consists of Geophysical Institute (GI) of the University of Alaska Fairbanks and the State of Alaska Division of

Geological & Geophysical Surveys (ADGGS). The ATMT participates in the National Tsunami Hazard Mitigation Program (NTHMP) by evaluating and mapping potential inundation of selected parts of Alaska coastlines using numerical modeling of tsunami wave dynamics. The communities are selected for inundation modeling in coordination with the Division of Homeland Security and Emergency Management (DHSEM) with consideration to location, infrastructure, availability and quality of bathymetric and topographic data, and community involvement.

Kachemak Bay, home to the communities of Homer and Seldovia, is one of the high-priority regions for Alaska inundation mapping. It has several communities with significant population and extensive fishing resources. Homer and Seldovia were chosen by DHSEM and Kenai Peninsula local government officials as preferred sites for runup modeling. Emergency managers need tsunami evacuation maps for these communities, showing the extent of inundation with respect to human and cultural features, and evacuation routes.

The production of tsunami evacuation maps consists of several stages. First, hypothetical tsunami scenarios are constructed based on the parameters of potential underwater earthquakes. Then, model simulations are performed for each of the earthquake source scenarios. The results are compared with any observations from historical tsunamis in the region, if such data exist. Finally, numerical results and historical observations are combined in order to develop a “worst case scenario for a tectonically generated tsunami” for every community on a map. The inundation line produced by this scenario

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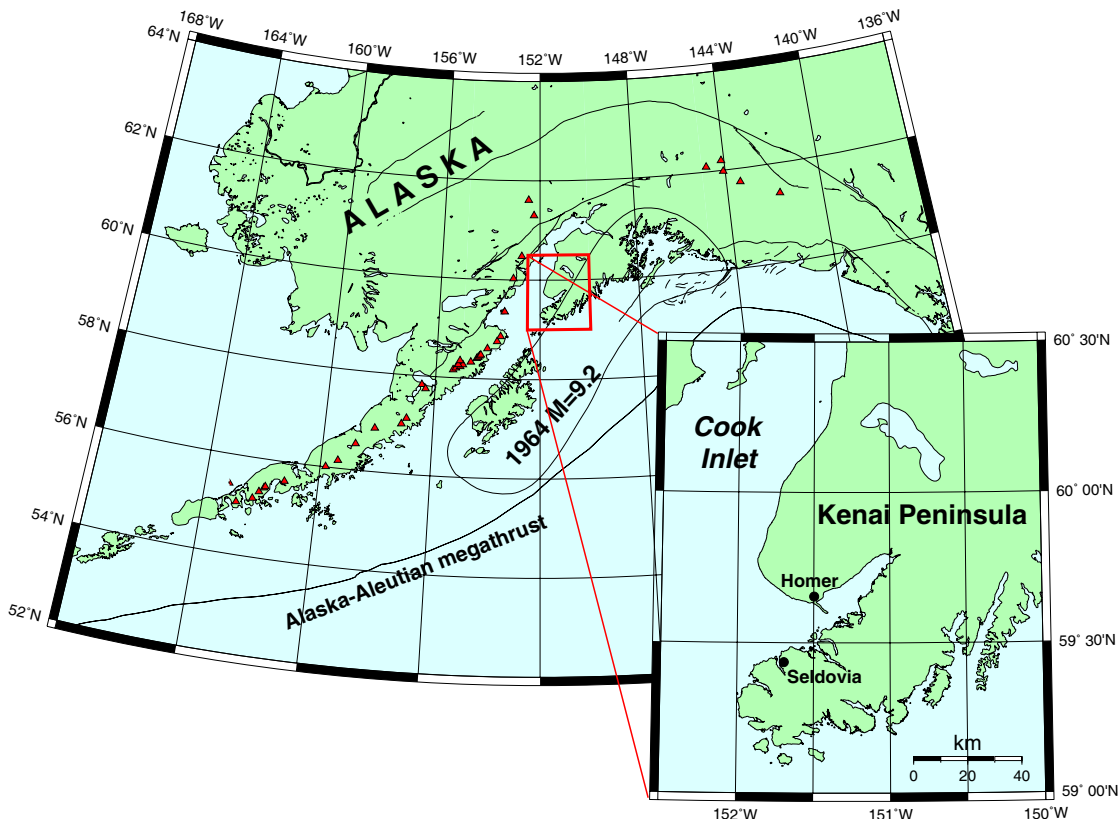


Figure 1. Map of southcentral Alaska with major faults and rupture zone of the 1964 earthquake (black lines). Red triangles indicate active volcanoes. Inset figure shows communities of Homer and Seldovia in Kachemak Bay.

becomes a basis for local tsunami hazard planning and construction of evacuation maps. Our analysis did not include waves produced from submarine landslides.

The tsunami hazard maps of Homer and Seldovia described in this report represent the results of continuous effort of state and federal agencies to produce inundation maps for many Alaskan coastal communities. The inundation lines calculated for two different tsunami scenarios are shown in sheet 1 for the city of Homer. Sheet 2 shows the extent of inundation in the same community resulting from the “worst case scenario,” which is the maximum inundation of the modeled scenarios. Seldovia inundation maps are included as figures in this report.

In this report, we generally provide both metric and English units of measure. However, where we quote existing data, we report the data in the original units of measure without conversion. To convert kilometers to miles, multiply by 0.6214.

REGIONAL SEISMICITY

Kachemak Bay is located in an area of very high seismic activity (fig. 2). The tectonics of the region is dominated by the convergence of the Pacific and North

American Plates, which interact along the Aleutian Megathrust (Page and others, 1991). The convergence rate is approximately 56 mm/yr (2.2 in/yr) (DeMets and others, 1990). The Kenai Peninsula is located close to the northeast end of the Aleutian Megathrust, where the megathrust is strongly coupled and has a shallow dip angle of about 7 degrees. This zone has the potential to produce some of the largest earthquakes in the world, as demonstrated by the great Alaska earthquake of 1964 (moment magnitude 9.2). These plate motions also have the potential to drive significant seismicity within both the overriding plate and the subducting slab (Doser and Brown, 2001).

Frey Mueller and others (2000) used GPS measurements of the crustal motions to study the deformation of the region and model the plate interactions. They found that under the eastern portion of the Kenai Peninsula and in Prince William Sound, the plates are nearly completely locked, while under the western portion of the Kenai Peninsula the plates are freely slipping. This correlates with Doser and Brown’s findings (2001) that the central and southern Kenai Peninsula have been seismically quiet at the $M_w > 5$ level since the 1964 event, while the Prince William Sound area has continued to

have seismic activity similar to that occurring before the 1964 earthquake.

Figure 2 plots seismicity in southcentral Alaska with locations taken from the Alaska Earthquake Information Center catalog. The events with the moment magnitude less than 6 are shown as small dots and color-coded according to depth, and the red box indicates the location of the region of interest. Previous to the installation of seismic network in Alaska in the early 1970s, only relatively larger events were reliably located ($M_w \approx 6$). After installation of the network, events of much smaller sizes were regularly located. After the 1964

event the rate of seismic moment release was significantly reduced in the region surrounding Kachemak Bay (Doser and others, 2004). Figure 2 demonstrates this fact by showing earthquakes with $M_w \geq 6$ that occurred before and after the 1964 event as big circles, with symbol size proportional to the magnitude of the event. The main shock and aftershocks of the 1964 event are not included in this plot.

Combellick (1997) presented geologic evidence of prehistoric great earthquakes in the Cook Inlet region, where he estimates between six and nine 1964-style ($M_w \approx 9$) earthquakes during the past 5,000 yr, with an average recurrence interval of 600 to 800 yr.

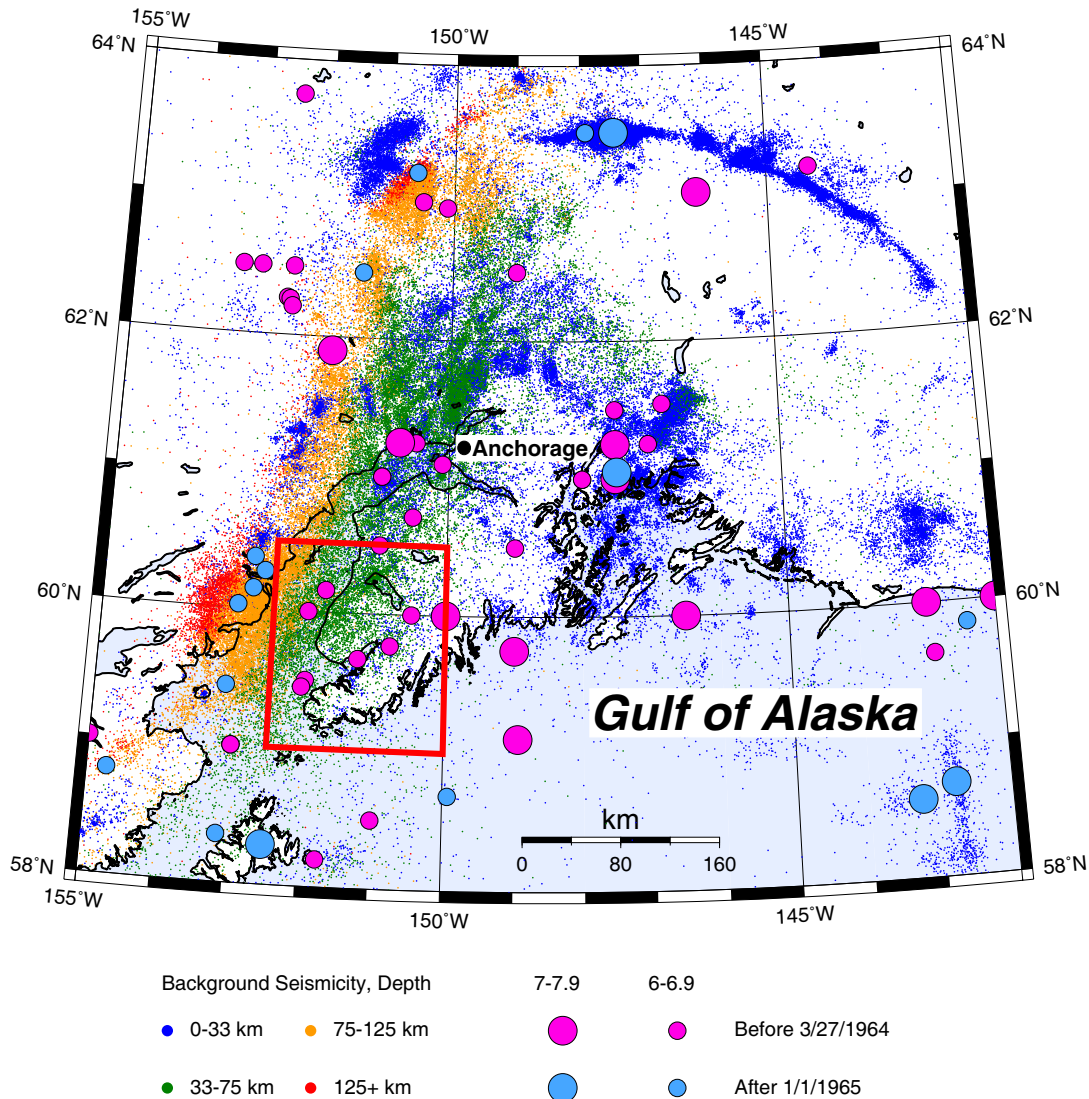
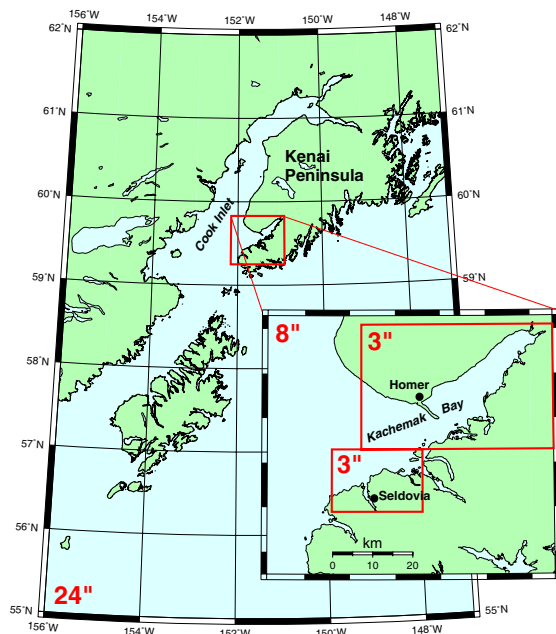


Figure 2. Earthquakes in southcentral Alaska, from the Alaska Earthquake Information Center catalog. The red rectangle is the same area as the inset in figure 1. Small dots correspond to earthquakes with magnitude 5.9 and smaller. Large circles show significant earthquakes (magnitude 6 and greater) before (purple) and after (light blue) the great Alaska earthquake of March 27, 1964. The main shock and aftershocks of this event are not included in the plot.

COMMUNITIES OF KACHEMAK BAY

Kachemak Bay is located in the southeastern part of Cook Inlet (fig. 3). The Bay is very rich in natural resources. For decades, commercial fishing has been the major source of income for residents of Kachemak Bay. Tourism also plays a very important role in the local economy. The community of Homer and the rest of the Kachemak Bay area have been one of the earliest areas of southcentral Alaska to develop a significant visitor industry. Thousands of people come to sightsee, fish, hike, and view wildlife, mostly during the summer months. Homer (population approx. 4,000) is the largest of the Kachemak Bay communities. The Homer small boat harbor is home to more than 700 charter and commercial boat operations year round, growing to 1,500 in the summer months. Local, state, and federal government offices are located in downtown Homer, at elevations well above the reach of tsunamis. The Homer Spit is a narrow glacial feature extending approximately 7.2 km (4.5 mi) from the town of Homer into Kachemak Bay. The commercial and industrial center of the community is located on the Spit. It enjoys heavy summer recreational use and is especially vulnerable to large sea waves. Severe storms accompanied by high water levels and waves have occasionally overtopped the roadway on the Homer Spit, causing the road to close. Seldovia (population 300) is located 27 km (17 mi) across Kachemak Bay from Homer (fig. 1). Commercial fishing and shellfish processing are local economic activities. There are timber operations in Seldovia Bay and nearby Jakolof Bay, and tourism is increasing.



Effects of the Great Alaska Earthquake of March 27, 1964, on the communities of Homer and Seldovia included severe shaking, ground fissuring, landslides, submarine landslides, subsidence, and seismically induced waves (Waller, 1966). The damage was relatively light compared to other Alaskan communities. The primary effect on the Homer Spit was land subsidence that caused much of the spit to be submerged during the next high tide. The subsidence was partially tectonic, and partially due to compaction of unconsolidated gravel. Average subsidence along the spit was 5.3 ft (1.6 m) (Waller, 1966). The area of greatest subsidence of about 10 ft (3 m) was at the end of the spit where a soil pile was formed by excavation of the harbor. Tectonic subsidence accounted for about 2 ft (0.6 m) of the total subsidence along the entire spit.

Several unusual sea waves were observed within minutes of the onset of shaking, from both the Kachemak Bay side and the Cook Inlet side of Homer Spit. These were probably from seiche action and small local submarine landslides. Two submarine landslides occurred at the end of Homer Spit (Waller, 1966). One of them destroyed the small-boat harbor breakwater. The second slide caused an area west of the Salty Dawg Saloon to collapse about 10 ft (3 m), with several buildings slumping into the collapse. The Seldovia area subsided with a vertical drop of 6 ft (1.8 m), which completely changed its waterfront. Long-term damage at Seldovia caused by subsidence was much greater than that caused by tsunami waves. At Homer, the destructive power of the tectonic tsunamis was limited due to the fact that the largest waves arrived at low tide, and a 20-ft (6-m) tidal freeboard protected the town (Waller, 1966).

In November 2001, site visits and exploratory meetings were conducted in Homer for the purpose of evaluating Kachemak Bay regional needs for tsunami inundation maps. This activity was a component of the NTHMP that is intended to provide assistance to coastal communities with tsunami hazard assessment. As a result, communities of Homer and Seldovia were selected for inundation modeling out of several Kachemak Bay communities.

NUMERICAL MODEL AND GRIDS

We calculate the extent of inundation caused by tsunami waves using numerical modeling of tsunami wave runup. The model is based on the vertically integrated nonlinear shallow water equations of motion and continuity with friction and Coriolis force (Murty, 1984). We

Figure 3. The grid area of 24-arc-second resolution. The red rectangle delineates the 8-second grid that covers Kachemak Bay. Inset figure shows two 3-second grids for Homer and Seldovia.

apply a space-staggered grid, which requires either sea level or velocity as a boundary condition. The first order scheme is applied in time and the second order scheme is applied in space. Integration is performed along the north–south and west–east directions separately as described by Kowalik and Murty (1993).

In order to propagate the wave from a source to various coastal locations we use embedded grids, placing a large, coarse grid in deep water and coupling it with smaller, finer grids in shallow water areas. We use an interactive grid splicing, therefore the equations are solved on all grids at each time step, and the values along the grid boundaries are interpolated at the end of every time step (Troshina, 1996). The radiation condition is applied at the open (ocean) boundaries (Reid and Bodine, 1968). At the water–land boundary, the moving boundary condition is used in those grids that cover areas selected for inundation mapping (Kowalik and Murty, 1993). In all other grids, the velocity component normal to the coastline is assumed to be zero.

The region shown in figure 1 (Gulf of Alaska) is covered by the largest grid of 2-arc-minute resolution. We use four embedded grids in order to increase resolution from 2 arc minutes (2 km x 3.7 km at 55°N latitude) in the Gulf of Alaska to 1 arc second (15.7 m x 30.8 m at 59°35' latitude) in the two grids that cover the communities of Homer and Seldovia. The embedded grids are shown in figure 3. The first grid of 24-second resolution covers the lower part of Cook Inlet and waters around Kodiak Island. The 8-second grid covers Kachemak Bay, and there are two 3-second grids that cover waters around Homer Spit and Seldovia Bay. Inside each of the 3-second grids we placed a 1-second resolution grid where runup calculations are performed. The 1-second grids for Homer and Seldovia are shown in figures 4 and 5, respectively. In these grids, the combined bathymetric and topographic data allow for application of the moving boundary condition as well as calculating the runup heights and extent of the inundation.

In the output of the numerical model, each of the grid points has either a value of 0 where no inundation occurs, or 1 if seawater reaches the grid point at any time during any tsunami wave. The inundation line approximately follows the 0.5 contour between these 0 and 1 point values but was adjusted visually to accommodate obstacles or local variations in topography that are not represented by the DEM. Although the location of the inundation line has an accuracy of approximately plus or minus 25 m horizontally relative to the grid spacing, the true location accuracy is unknown because the lines are the result of a complex modeling process whose accuracy depends on many factors. These factors include correctness of the earthquake source model, accuracy of the bathymetric and topographic data, and the adequacy of the numerical model in representing the

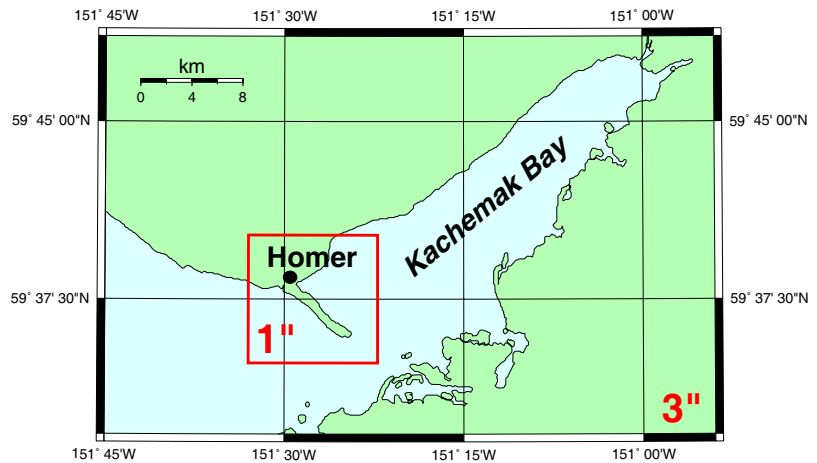


Figure 4. Homer 1-second grid area for inundation modeling

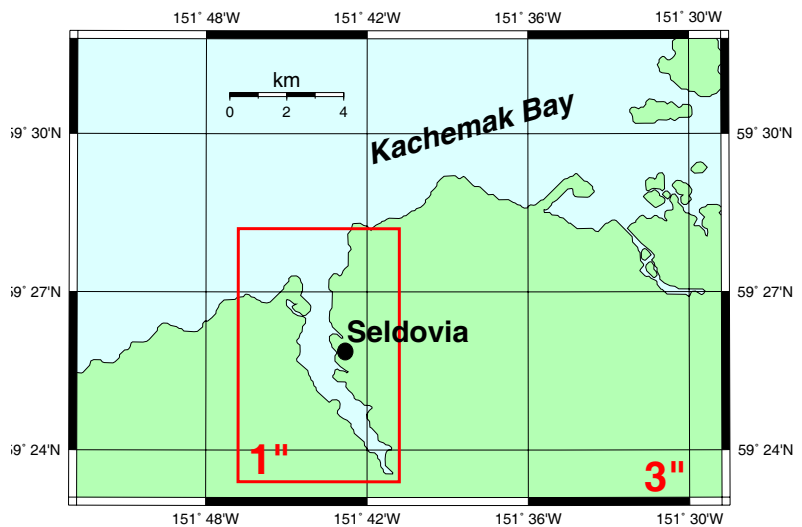


Figure 5. Seldovia 1-second grid area for inundation modeling.

generation, propagation, and run-up of tsunami waves. We did not attempt to adjust the modeled inundation limits to account for these uncertainty factors.

There are several limitations of the model. It does not take into account the periodical change of sea level due to tides. We conducted all model runs using bathymetric data that correspond to Mean Higher High Water (MHHW). For the generation mechanism, we model only earthquakes as potential sources of tsunami waves. Landslide wave sources are not considered within the scope of this generation model.

GRID DEVELOPMENT

The Center for Tsunami Inundation Mapping Efforts (TIME), National Oceanic & Atmospheric Administration, created seven data grids (figs. 3-5) for the Kachemak Bay region using the best available bathymetry and topography. TIME developed data grids using the following five-step process of (1) data assessment, (2) data collection, (3) grid computation, (4) grid assessment and (5) product delivery. The best available bathymetric and topographic data, including LIDAR, were obtained from government and private industries, as well as from local sources. These data were converted into a usable format and then analyzed for quality using ArcView and ArcInfo software packages. Data sources were selected based on several factors, including availability, cost, resolution, and accuracy. Refer to the Data Sources section for a list of the selected sources used in the data grids. The data were converted to meet the following parameters requested by ATMT:

- Coordinate System: Geographic
- Horizontal Datum: North American Datum 1927 (NAD27)
- Horizontal Units: decimal degrees
- Vertical Datum: Mean Higher High Water (MHHW)
- Vertical Units: meters

Refer to Appendix I for a description of vertical datum conversions. Data conversion and quality analysis were conducted using ESRI ArcView 3.2 and ArcInfo 8.0.2. Some datasets were digitized from GeoTiff images or scanned photos. Bathymetric and topographic grids were created using various ArcInfo scripts. For high-resolution grids, bathymetric and topographic grids were merged using the coastline as the zero contour (bathymetric values are negative; topographic values are positive). Low-resolution grids contained only bathymetric values; null data points were assigned a value of -9999. The metadata report delivered by TIME for each grid provides details of the grid computation process.

Each grid went through two quality control checks. TIME made comparisons between the original datasets and the grid. The nested grids were also compared to each other to verify continuity and accuracy. Datums were verified and blunders were removed. The preliminary grids were distributed to ATMT for a second quality analysis. ATMT reviewed each grid and TIME made modifications based on their analyses and other modeler requests.

DATA SOURCES

The final data sources used for the grids are described in table 1.⁴ Many data sources were in different formats, which introduces a small conversion error. The vertical accuracy of the data is based on the root mean square error: approximately 5 percent of depth for bathymetry and one-half the contour interval for topography. The metadata report delivered with each grid contains accuracy statistics.

⁴Note: New data sources were added to improve the grids over the grid development period. The data sources listed in table 1 represent the sources used in the final products. Refer to the metadata reports of each grid for more information about previous sources and their replacements.

Table 1. *Data sources used for grid development*

Media Source	Dataset	Resolution	Description
National Geodetic Data Center	Hydrographic surveys, marine tracklines	10-500 meters	Bathymetric data
U.S. Geological Survey (USGS)	Digital raster graphics, digital elevation models	10- and 20-meter contours	1:24,000 topographic contours digitized from raster graphics
U.S. Army Corps of Engineers	Hydrographic surveys	10-30 meters	Bathymetric and topographic data
Walker and Associates, Inc.	Analog photogrammetry	2-foot contours	Topographic data digitized from 62 images for Homer
Aeromap, U.S.	LIDAR data	4 meters	Topographic data for Homer

GRID PRODUCTS

Seven grids were delivered to ATMT. Each grid is described in table 2. All grids were delivered in xyz and ArcInfo exchange formats.

SOURCE MODEL FOR THE 1964 TSUNAMI

We initiated this project with the modeling of the Alaska 1964 tsunami because this event is probably the worst-case scenario of an earthquake-generated tsunami for Kachemak Bay communities. The 1964 Prince William Sound earthquake generated one of the most destructive tsunamis observed in Alaska and the west coast of the U.S. and Canada. This major tectonic tsunami was generated in the trench and upper plate fold and thrust belt area of the subduction zone (Plafker and others, 2000) and affected many communities in Alaska. The 1964 tsunami was studied in depth by several investigators (e.g. Kachadoorian and Plafker, 1967; Wilson and Torum, 1968), and their observed inundation patterns are available for calibration of the model. We use output of a submarine seismic source model as an initial condition for ocean surface displacement that then propagates away from the source. The amplitude of this initial disturbance is one of the major factors that affect the resulting runup amplitudes along the shoreline. Here we use an algorithm developed by Okada (1985) to calculate the distribution of coseismic uplift and subsidence resulting from the motion of the buried fault. The fault parameters that are required to compute the deformation of the ocean bottom are location of the epicenter, area of the fault, dip, rake, strike, and amount of slip on the fault. However, the rupture area of the 1964 earthquake was too large to be adequately described by a

simple one-fault model. It was demonstrated by Christensen and Beck (1994) that there were two areas of high moment release, representing the two major asperities of the 1964 rupture zone: the Prince William Sound asperity and the Kodiak Island asperity. A detailed analysis of the 1964 rupture zone was presented by Johnson and others (1996) through joint inversion of the tsunami waveforms and geodetic data. These authors derived a detailed slip distribution for the 1964 earthquake, which is shown in figure 6.

To construct a source function for the 1964 event, we used the fault dislocation model developed by Johnson and others (1996), which has eight subfaults representing the Kodiak asperity, and nine subfaults in the Prince William Sound asperity. The authors didn't include the Patton Bay fault on Montague Island in the source mosaic, because the contribution of this fault to the tsunami waveforms was negligible. However, they removed the effect of this fault by subtracting the deformation due to the fault from all geodetic observations. We used the equations of Okada (1985) to calculate the distribution of coseismic uplift and subsidence resulting from the given slip distribution (fig. 7). Then, the derived surface deformation was used as the initial condition for tsunami propagation. During a model run, the initial topography was modified to account for residual seismic deformation of land due to the earthquake.

HYPOTHETICAL TSUNAMI SCENARIOS

We considered two hypothetical earthquake scenarios as potential sources of tsunami waves that can affect the Kachemak Bay communities. These scenarios represent both distant and local sources, and we model them using

Table 2. *Summary of delivered grids*

Region	Name	Resolution	Extents	Delivery Date
Southcentral Alaska	bathy2min	2 arc-minutes	SW: -169.000000, 52.000000 NE: -140.000000, 62.000000	01/16/2002
Cook Inlet	bathy24sec	24 arc-seconds	SW: -156.000000, 55.000000 NE: -147.000000, 62.000000	01/16/2002
Kachemak Bay	homer8sec	8 arc-seconds	SW: -152.166667, 59.253333 NE: -150.906667, 59.793333	01/16/2002
Homer and surroundings	homer3sec	2.66 arc-seconds	SW: -151.751111, 59.533333 NE: -150.907407, 59.792593	03/25/2002
Seldovia and surroundings	seld3sec	2.66 arc-seconds	SW: -151.882222, 59.391111 NE: -151.475556, 59.533333	03/07/2002
Homer	homer1sec	0.88 arc-seconds	SW: -151.558518, 59.583703 NE: -151.366667, 59.667407	12/18/2002
Seldovia	seld1sec	0.88 arc-seconds	SW: -151.782222, 59.391852 NE: -151.683704, 59.474815	07/30/2002

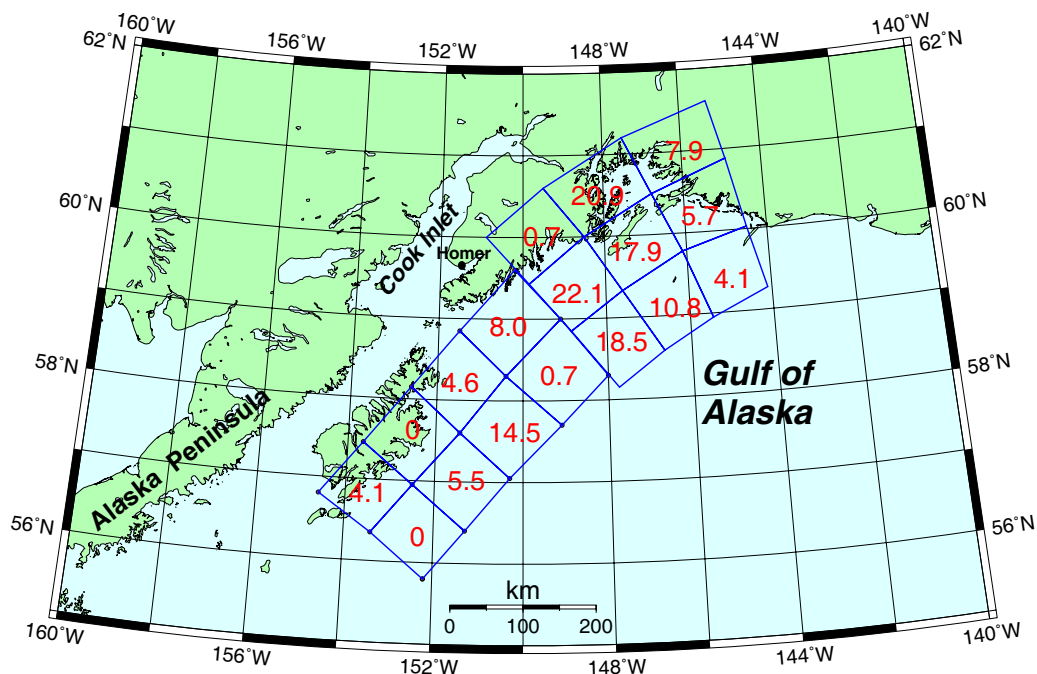


Figure 6. Slip distribution of the 1964 earthquake, from Johnson and others (1996). Numbers represent slip in meters on each subfault.

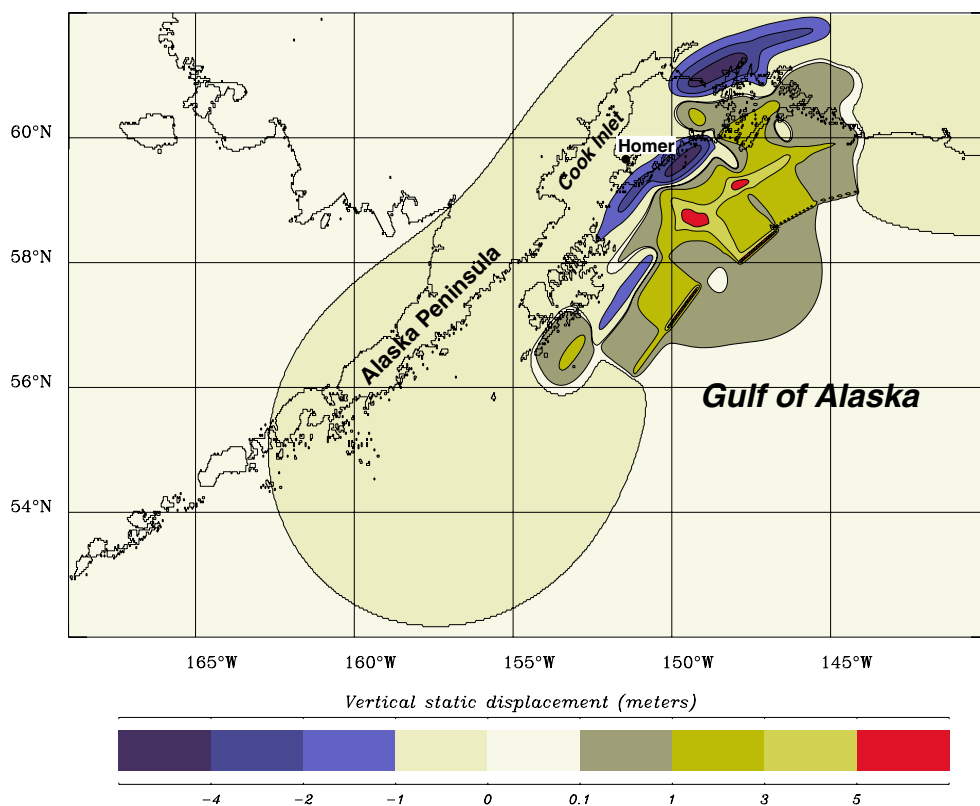


Figure 7. Surface deformation of the 1964 earthquake, calculated from the slip distribution given in figure 6.

the multiple fault approach. There are two tsunami inundation limits on sheet 1 and in figure 14 that correspond to the tsunami scenarios described below.

SCENARIO 1. REPEAT OF 1964 EVENT: 17 SUBFAULTS

We modeled the 1964 tsunami wave using the source function described above. It consists of 17 subfaults, each having its own parameters (fig 6.). We assume that the initial displacement of the ocean surface from the equilibrium position is equal to vertical displacement of the ocean floor due to the earthquake rupture process. The model doesn't take into account the propagation of the moving rupture along the fault. We assume here that the bottom movement was instantaneous. Then, the model propagates this initial displacement from the source to coastal locations through the set of embedded grids of increasing resolution.

We tested this source function by modeling the 1964 tsunami inundation in the Kodiak Island communities. The results are described in Suleimani and others (2002). The comparison analysis of two different source models for the 1964 tsunami has shown that the wave generated by the complex source model with detailed

slip distribution produces the inundation zone closest to that observed in 1964. Paleoseismic evidence indicates that 1964-style ($M_w \approx 9$) events have an average recurrence interval of 600-800 yr in the Cook Inlet region (Combellick, 1997).

SCENARIO 2. HYPOTHETICAL EVENT: BORDER RANGES FAULT RUPTURE

This is a hypothetical earthquake that ruptures the section of the Border Ranges fault that crosses Kachemak Bay to the southwest of Homer (Bradley and others, 1999; Haeussler and Saltus, in review). The Border Ranges fault is a major fault of southern Alaska. It extends eastward from Kodiak Island to the St. Elias Mountains (MacKevett and Plafker, 1974). It defines the western front of the Kenai Mountains where they rise more than 1,300 m. The hypothetical earthquake with moment magnitude of 7.5 was modeled using three subfaults (fig. 8); parameters are given in table 3. The resulting surface deformation (fig. 9) was computed using the Okada (1985) algorithm. This event has a very low probability of occurrence; there is no historic evidence of earthquakes on the Border Ranges fault, and no geologic evidence of activity since Tertiary time.

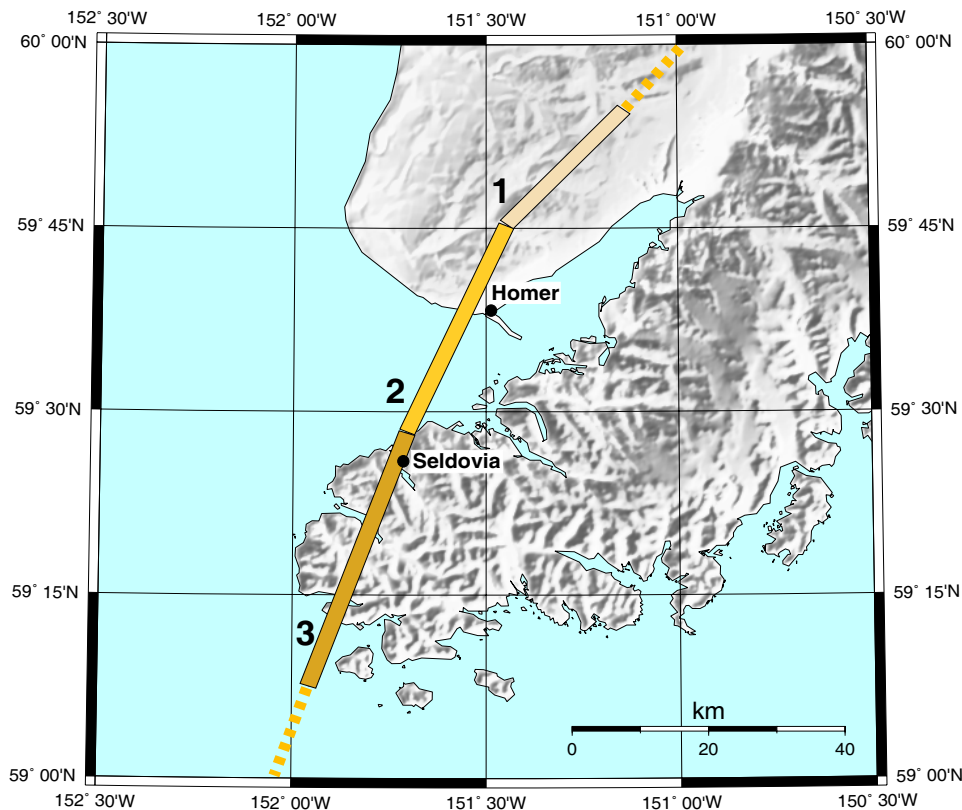


Figure 8. Rupture area of the Border Ranges fault divided into three subfaults. Parameters of the subfaults are presented in table 3.

OTHER HYPOTHETICAL SOURCE SCENARIOS NOT MODELED

We have not modeled as part of this study the inundation by waves that might be generated by local submarine or subaerial landslides, nor have we modeled inundation from a debris avalanche generated by eruption of nearby Augustine Volcano, an island in Cook Inlet. In Troshina's (1996) study of tsunami waves generated by the 1883 eruption of Augustine Volcano, results of runup computations at English Bay (Nanwalek) confirm the historic observations, suggesting that the numerical model described the runup process adequately. Additionally, she showed that risk for Homer Spit from

a volcanic tsunami is strongly determined by the landslide volume, the speed of the slide when it enters the water, and the direction of the slide motion. All these parameters are unknown at this time, making it difficult to realistically estimate the volcanogenic tsunami hazard. The potential hazard from volcanogenic tsunamis from Augustine Volcano was questioned by Waythomas (2000). He concluded that only a very large, rapidly moving debris avalanche that occurs at high tide could generate a potentially damaging wave. According to Waythomas, the lack of geologic evidence of tsunamis from two known large debris avalanches during the past 500 years suggests that the hazard from such events is low.

Table 3. *Subfault parameters for the Border Ranges fault scenario. Displacement is up on the east side (normal).*

	Length, km	Width, km	Strike, degrees	Dip, degrees	Rake, degrees	Slip, m
Subfault 1	25.28	20	223.8	80 west	-90	3
Subfault 2	33.78	20	204.5	80 west	-90	3
Subfault 3	41	20	201	80 west	-90	3

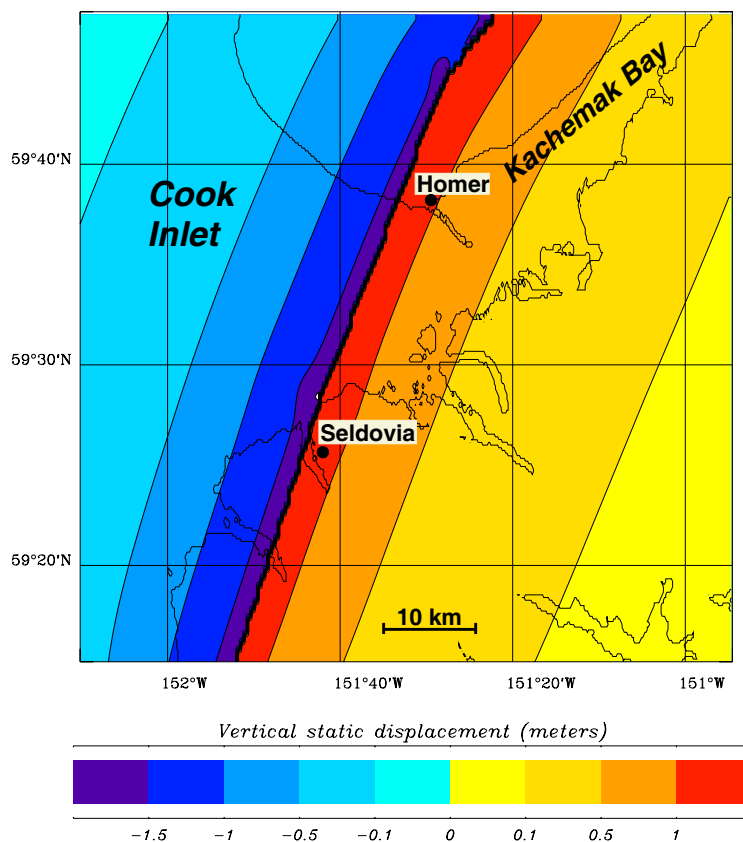


Figure 9. Surface deformation of the Border Ranges fault scenario, calculated from the slip distribution given in table 3.

INUNDATION MODELING RESULTS

We performed numerical calculations for the two scenarios described above. In every case, the initial water disturbance propagated through the set of embedded grids of increasing resolution. In the two final grids of 15.7 m x 30.8 m resolution, where bathymetric and topographic data are combined in a continuous data set, we computed the extent of inundation using the moving boundary condition. The combined bathymetry and topography data sets for Homer and Seldovia runup grids are shown in figures 10 and 11, respectively. The Homer grid has larger area at lower elevations compared to the Seldovia grid, where the slopes are relatively steep. Homer Spit, the low-lying, mostly submerged glacial

moraine extending approximately 7.2 km (4.5 mi) from the town of Homer into Kachemak Bay, is especially vulnerable to large sea waves. In 1964, the entire spit subsided an average of 5.3 ft (1.6 m). Part of the subsidence was tectonic, and part was due to compaction of the unconsolidated gravel (Waller, 1966). We accounted for tectonic subsidence in the tsunami model by calculating the tectonic deformation patterns shown in Figures 7 and 9 for the high-resolution grid that includes Homer Spit. To take into account the part of the subsidence due to compaction, we introduced additional subsidence in the model along the Homer Spit by increasing subsidence linearly from zero at the head of the spit to 6 ft (1.8 m) at the end of the spit.

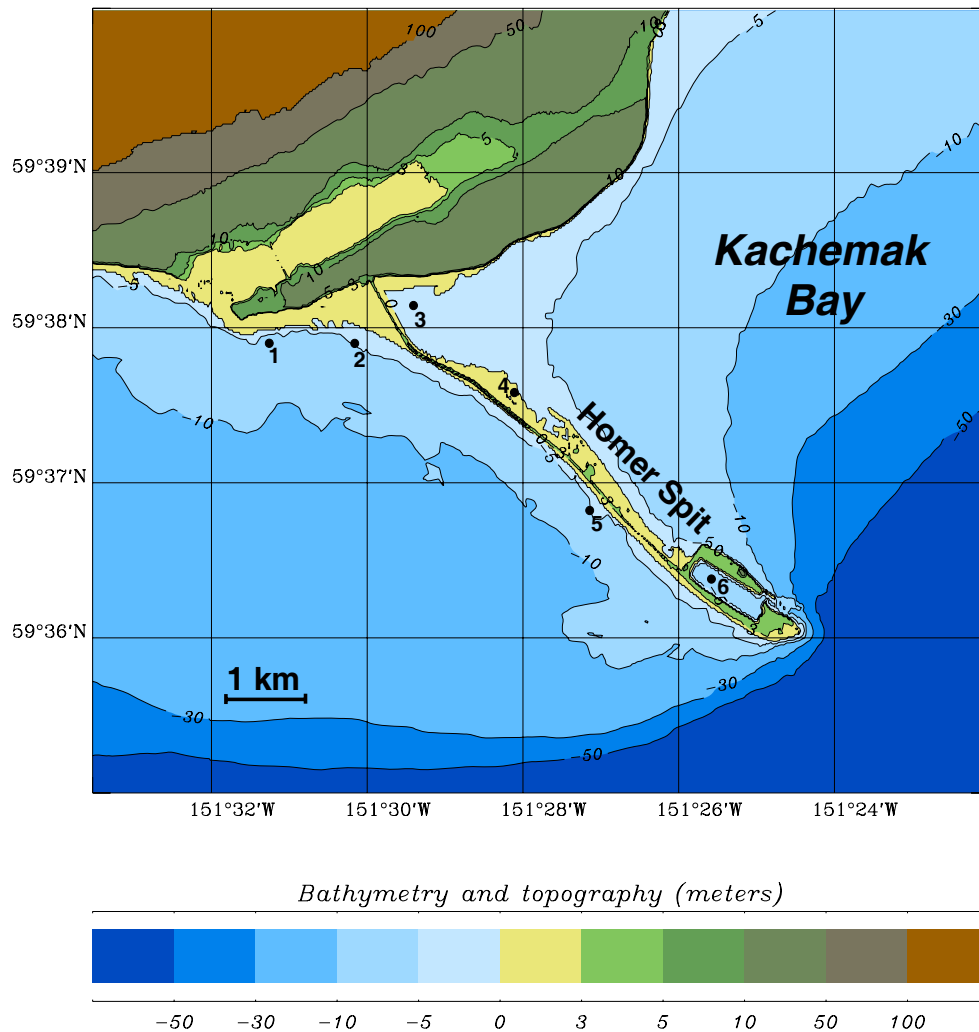


Figure 10. Depths and elevations for the Homer 1-second resolution grid. Depths are negative, land elevations are positive. Points 1–6 indicate locations of time-history measurements shown in figures 16 and 17.

The numerical modeling results for the Homer grid show that the two tsunami scenarios produce, on average, comparable inundation. In the marsh west of Beluga Lake, the inundation zone due to the Border Ranges fault scenario is much smaller than the inundation zone due to the 1964 scenario (map sheet 1). It is explained by the Border Ranges fault orientation with respect to this area. The wetlands are located in the region of maximum vertical displacement due to the Border Ranges fault rupture (fig. 9), and the same area has subsided according to the 1964 earthquake scenario surface deformation pattern (fig. 7). The maximum depths of inundation on dry land are shown in figures 12 and 13 for scenarios 1 and 2, respectively. At each grid point that corresponds to initially dry land, the depth of inundation is computed at every time step during the tsunami propagation time interval (10 hours), and the maximum value is kept. Depths of inundation on dry land are greater for the Border Ranges fault scenario, because the earthquake source is very close and there was not enough time for wave energy to dissipate.

The inundation at Seldovia is not substantial for both scenarios. The low-lying areas to the west from Trena Lake, the tip of the Watch Point, and sparse locations along Seldovia slough are the only places inundated as a result of the 1964 scenario tsunami wave (fig. 14). For the Border Ranges fault scenario, there is an additional flooded area at Watch Point with depths of inundation less than 2 m. For these reasons we did not produce maps of inundation depths for Seldovia. Figure 15 shows the maximum worst-case inundation from both modeled scenarios at Seldovia.

The results of the inundation modeling imply that the local offshore earthquake of a smaller magnitude can generate a wave comparable to that produced by a great megathrust earthquake.

TIME HISTORIES

In order to provide more accurate assessment of tsunami hazard for any particular community, we have supplemented the inundation maps with information about the time history of the wave action in the region.

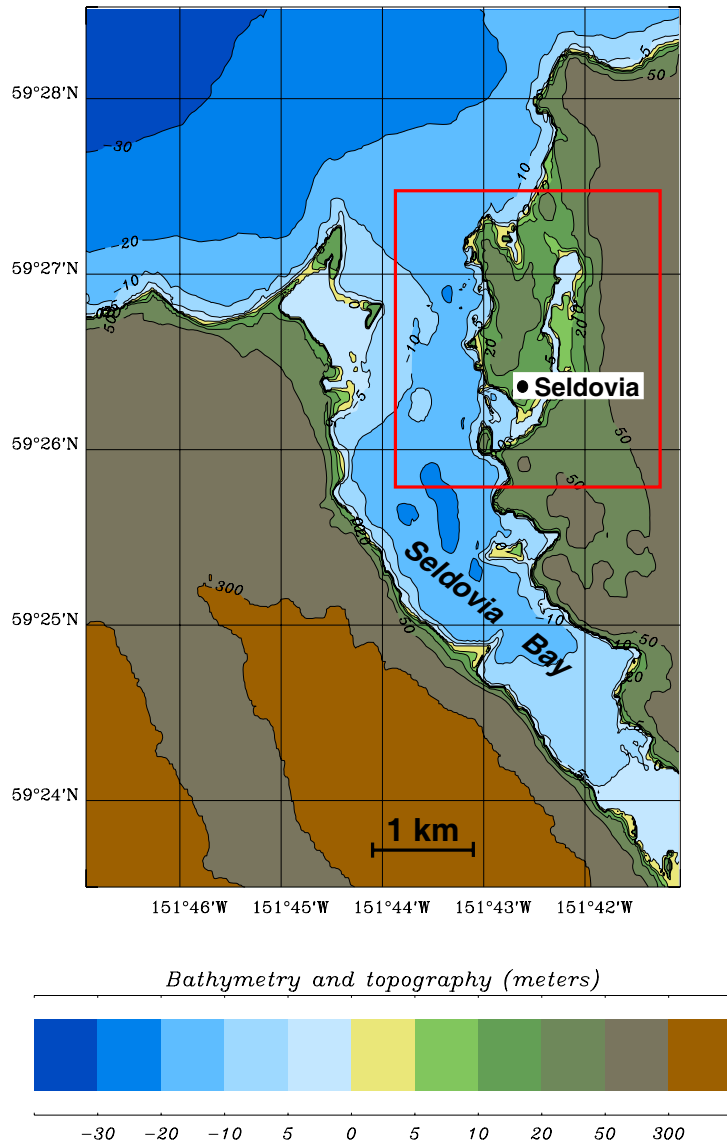


Figure 11. Depths and elevations for the Seldovia 1-second resolution grid. Depths are negative, land elevations are positive. Rectangle indicates area of tsunami inundation maps in figures 14 and 15.

The time of arrival of the first wave, the wave with the maximum amplitude, and duration of the wave action are important factors that have to be considered by emergency managers during evacuation planning. We computed time histories of tsunami waves at six locations in the Homer grid and at five locations in the Seldovia grid for both tsunami scenarios. These locations are shown in figure 10 and on sheet 1 for Homer, and in figure 14 for Seldovia. The zero time corresponds to the epicenter origin time, and the zero water level

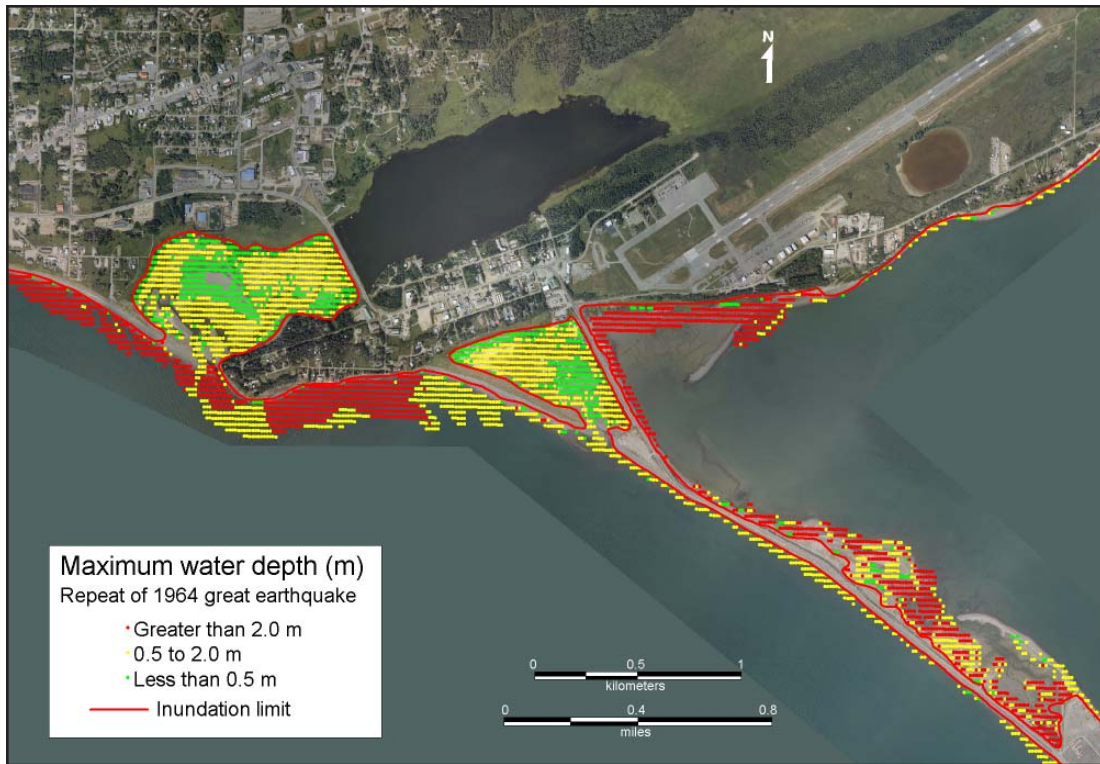


Figure 12. Depths of inundation near the head of Homer spit for scenario 1.

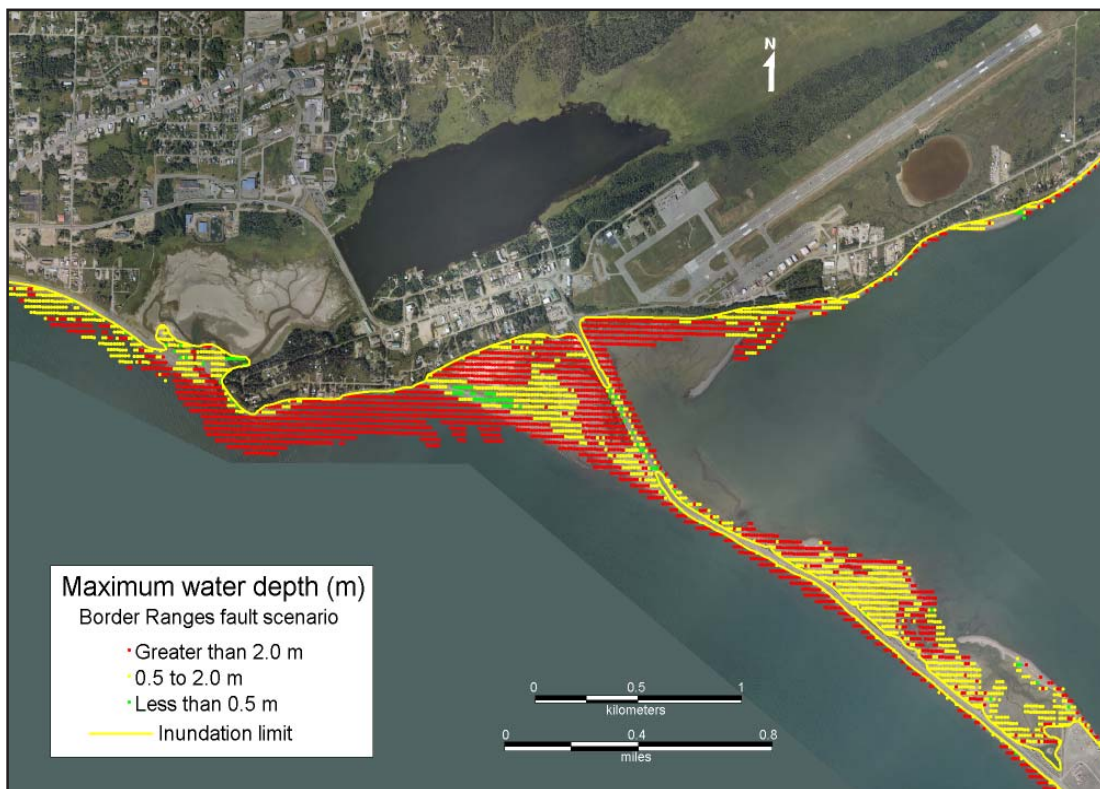


Figure 13. Depths of inundation near the head of Homer spit for scenario 2.

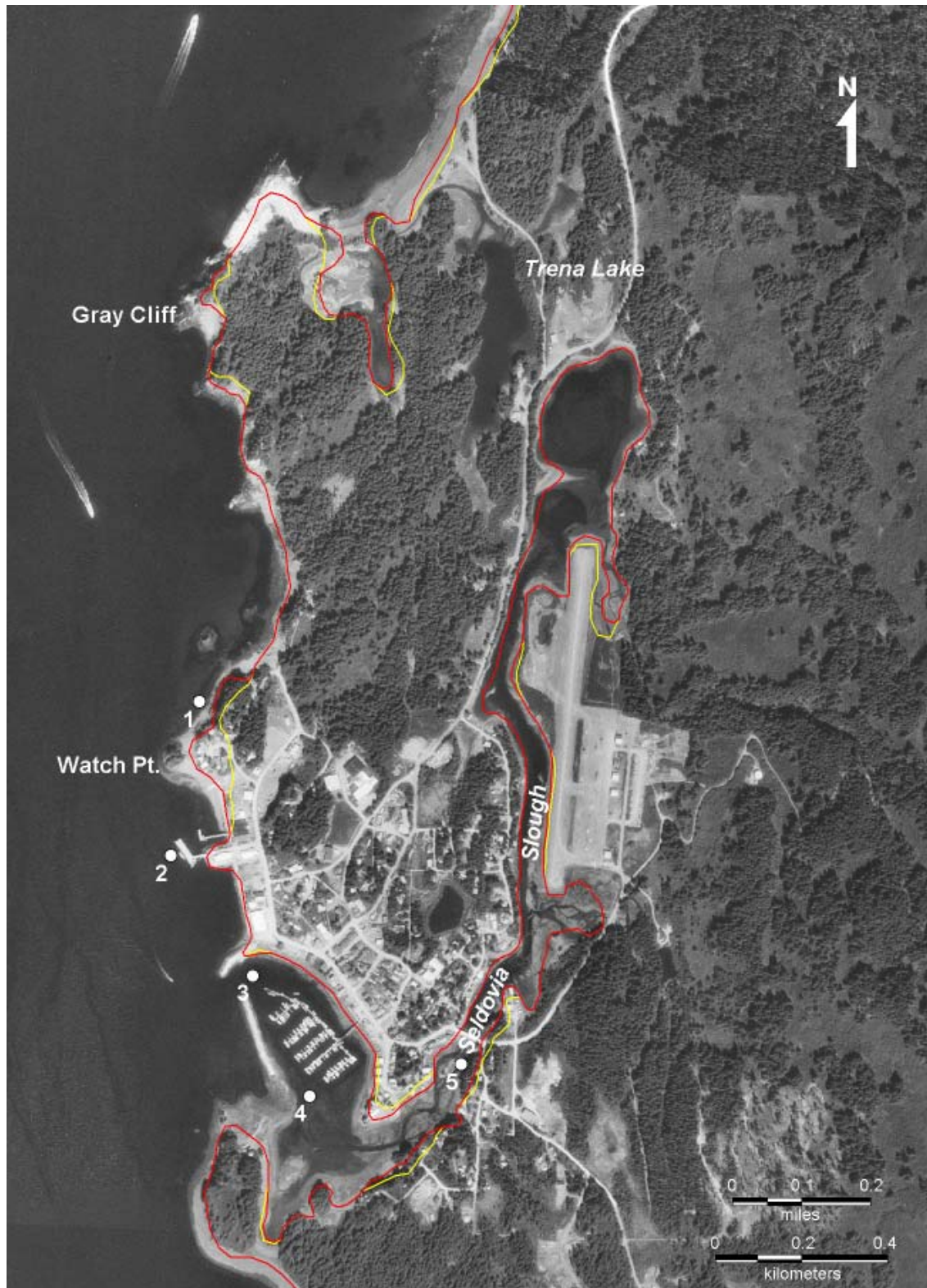


Figure 14. Tsunami inundation scenarios for Seldovia. Red line indicates maximum inundation for a repeat of the 1964 M9.2 earthquake. Yellow line indicates maximum inundation for a hypothetical M7.5 earthquake on the Border Ranges fault. Where no yellow line is visible, it is coincident with the red line. Numbered dots are locations of time-history measurements for figures 18 and 19.

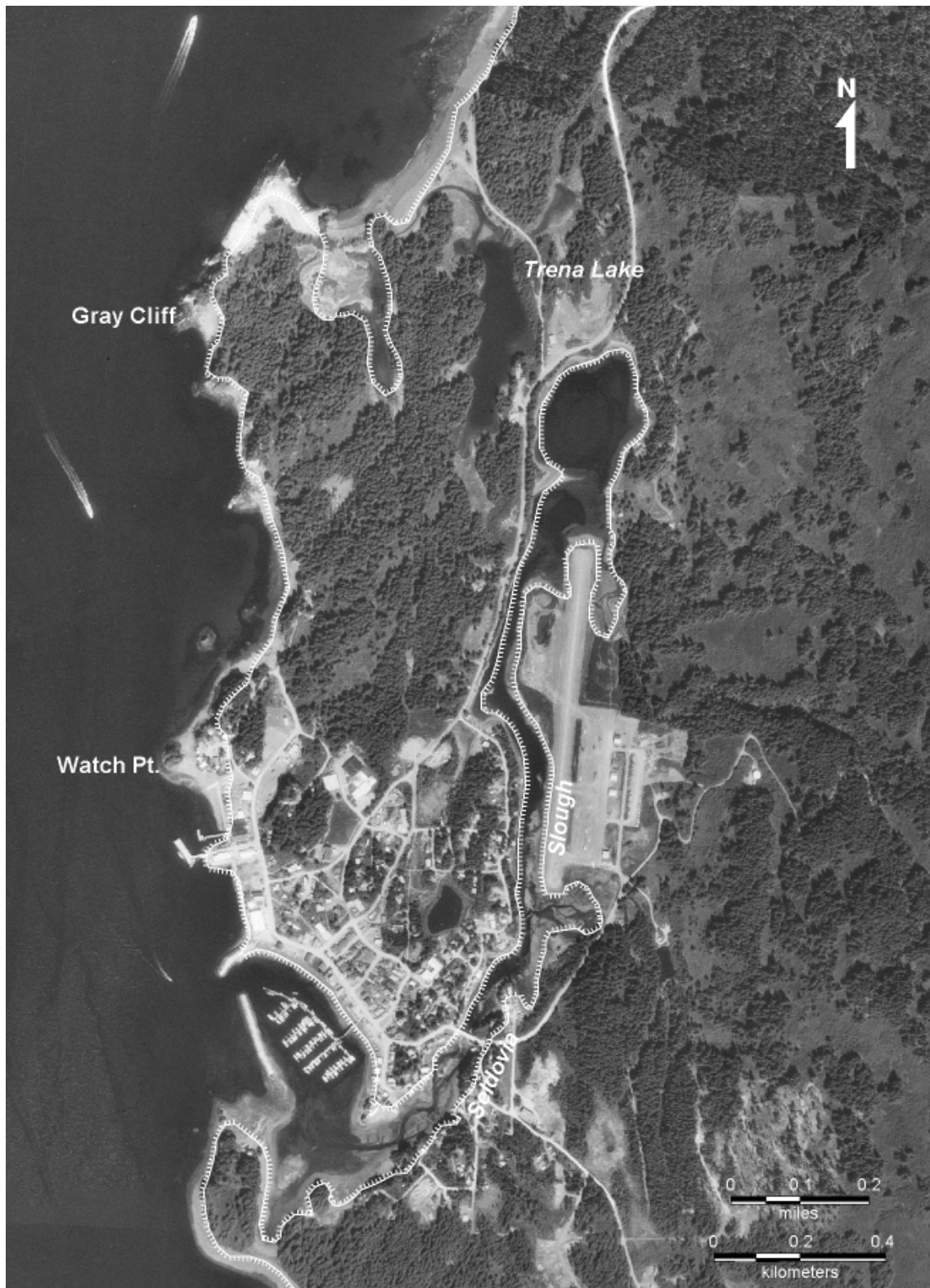


Figure 15. Tsunami hazard map of Seldovia. Hachured line indicates maximum estimated tsunami inundation based on both scenarios depicted in figure 14. Hachures are on water side of line.

corresponds to the post-earthquake MHHW level. Figure 16 shows change in sea level at six locations offshore the Homer Spit for the modeled 1964 event and for the Border Ranges fault scenario. The computed velocity time histories for the same locations are shown in figure 17. The Border Ranges fault scenario produces, on average, greater amplitudes and velocities in Homer than the 1964 tsunami scenario. The velocity plots demonstrate that current speed could be relatively high and change rapidly. The sea level and velocity time histories at Seldovia locations are represented in figures 18 and 19, respectively. Both Homer and Seldovia time series for the 1964 scenario show wave action within minutes after the earthquake. These waves could not have originated near the epicenter, which was approximately 260 km (160 mi) away. This result agrees with observations of waves in Cook Inlet and Kachemak Bay that were seen by several observers within 5-10 minutes after the quake (Waller, 1966). These seiche waves probably were generated by tectonic subsidence of Kachemak Bay.

The tsunami generated by the 1964 earthquake was recorded on a number of tide gauges around the Pacific Ocean. Many of these records are from Spaeth and Berkman (1972). Also, Lander (1996) gives marigrams from Alaska tide stations for the 1964 tsunami event. Wilson and Torum (1968) constructed the hypothetical marigrams based on eyewitness observations for several locations along the affected coastline.

SOURCES OF ERROR

The source mechanism remains the biggest unknown in the problem of tsunami modeling. Since the initial condition for the modeling is determined by the displacement of the ocean bottom, the largest source of errors is the earthquake model. When the tsunami is generated in the vicinity of the coast, the direction of the incoming waves, their amplitudes, and times of arrival are determined by the initial displacements of the ocean surface in the source area, because the distance to the shore is too small for the waves to disperse. Therefore, the near-field inundation modeling results are especially sensitive to the fine structure of the tsunami source. It is much easier to introduce errors in the modeling process when the complexity of the source function is combined with the proximity of the coastal zone.

Another source of error is bathymetric and topographic data used in the model. High-resolution and up-to-date bathymetric data are not available for Homer and Seldovia, as well as for many other Alaska communities. The source for Homer topography was the high-resolution digital elevation model (DEM) derived from LIDAR measurements taken in 2002. This high-quality data set does not include Seldovia area. The

topographic data used for Seldovia modeling are the non-standard 10-meter DEMs that were derived by digitizing the existing USGS map products. Data points that fall between elevation contours are interpolated using different algorithms. As a result, the elevation data points that are closer to the contour lines have higher level of vertical accuracy, with the points in the middle having the lowest accuracy of half the contour interval. Unfortunately, we were not able to acquire digital topographic data for Seldovia of a higher level of resolution and accuracy. On the other hand, in order to take advantage of higher resolution topographic data, we would need to splice them with the bathymetric data of the same level of resolution and accuracy. That imposes a limit on the quality of the combined data set, because a new bathymetric survey must be completed in order to substantially improve the resolution of bathymetric data.

The resolution of the grids that are used for inundation modeling is 15.7 m by 30.8 m (at 59°35' latitude). It is limited by the resolution of the topographic and bathymetric data used for the grid construction. This resolution is high enough to describe major relief features, although there are some important structures that cannot be resolved by this grid. For example, we modeled breakwaters as artificial walls between two adjacent grid points. Obviously, buildings and other facilities also cannot be accurately resolved by the existing model.

Myers (1998) has shown that the effect of grid refinement leads to energy loss in numerically propagated waves. To test the energy conservation properties of the numerical algorithm, we replaced the open boundaries of the 2-minute grid that covers the Gulf of Alaska with closed land boundaries. This way, energy generated by the initial disturbance of the ocean surface ideally cannot radiate out of the domain and will be conserved. Since the closed land boundaries are not totally reflective, small energy leaks are expected in the system. At every grid point, we calculated the total energy of the water column, and integrated over the entire domain. After 5 hours of tsunami propagation, the energy conservation error remained within 6 percent. When the major tectonic wave reaches Kachemak Bay in about 2 hours after the earthquake, the energy loss is within 3 percent. Myers (1998) also points out that other factors contribute to energy loss in numerical models, such as shallow water assumptions, selection of numerical parameters, and truncation errors.

SUMMARY

We present the results of numerical modeling of tsunami waves for the Kachemak Bay communities of Homer and Seldovia. We considered two earthquake scenarios and provided an estimate of maximum credible tsunami

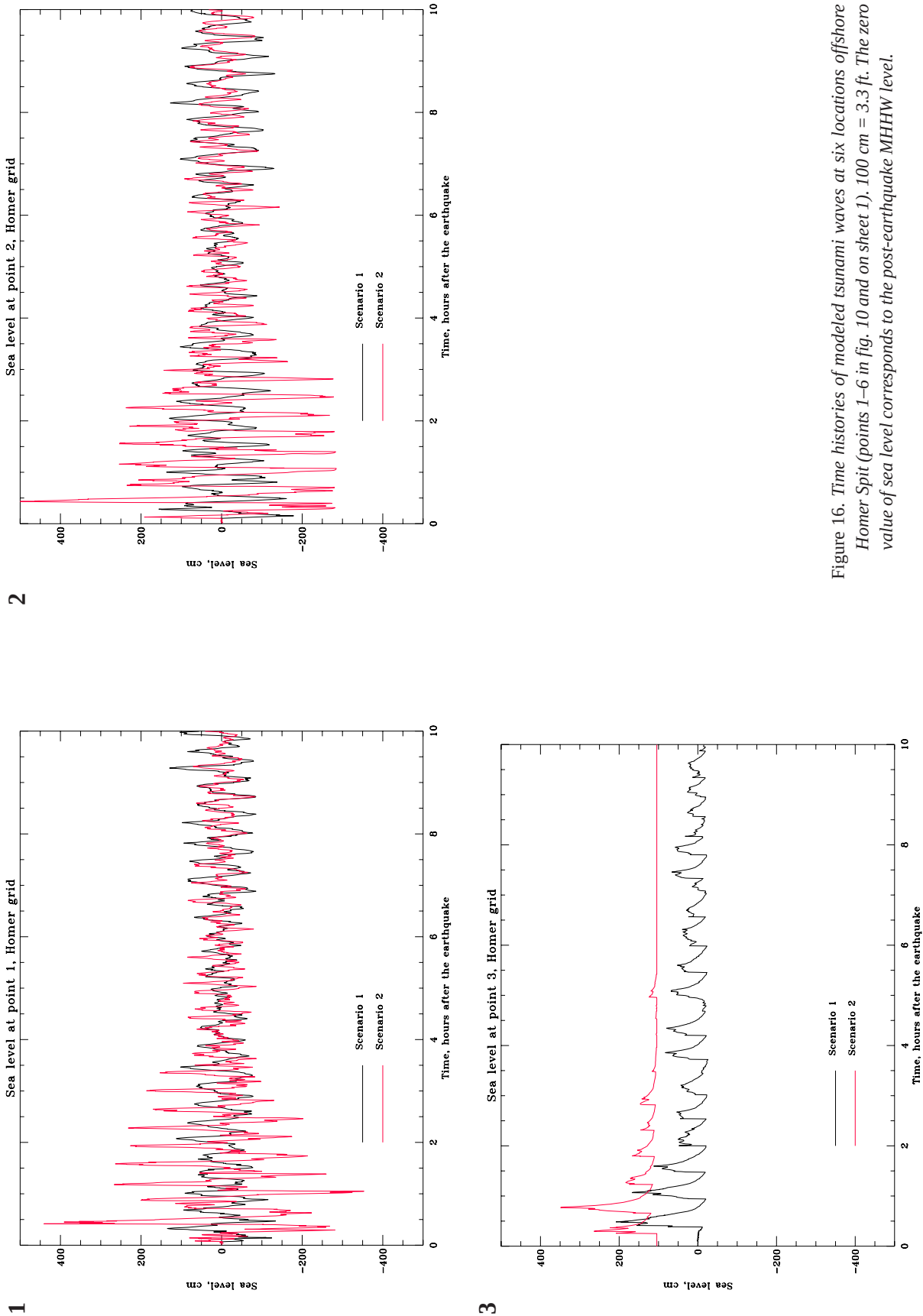


Figure 16. Time histories of modeled tsunami waves at six locations offshore Homer Spit (points 1–6 in fig. 10 and on sheet 1). 100 cm = 3.3 ft. The zero value of sea level corresponds to the post-earthquake MHHW level.

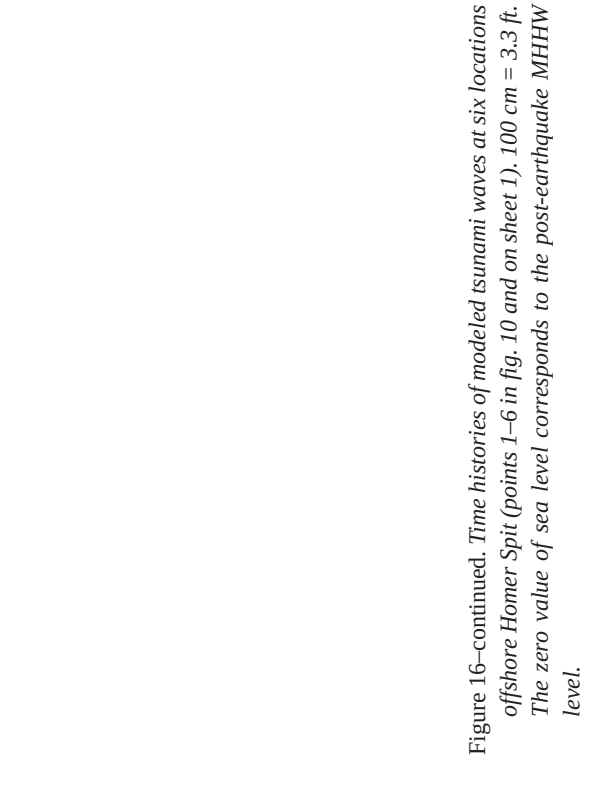
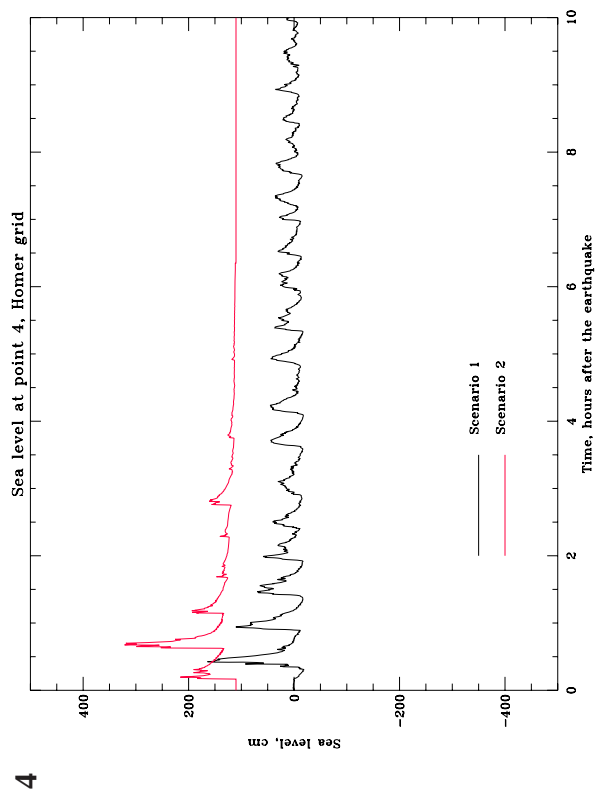
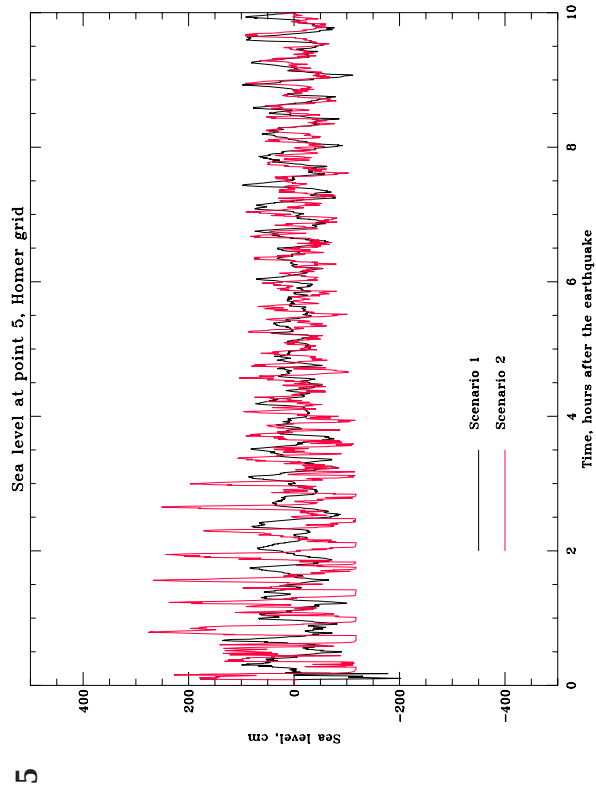


Figure 16—continued. Time histories of modeled tsunami waves at six locations offshore Homer Spit (points 1–6 in fig. 10 and on sheet 1). 100 cm = 3.3 ft. The zero value of sea level corresponds to the post-earthquake MHHW level.

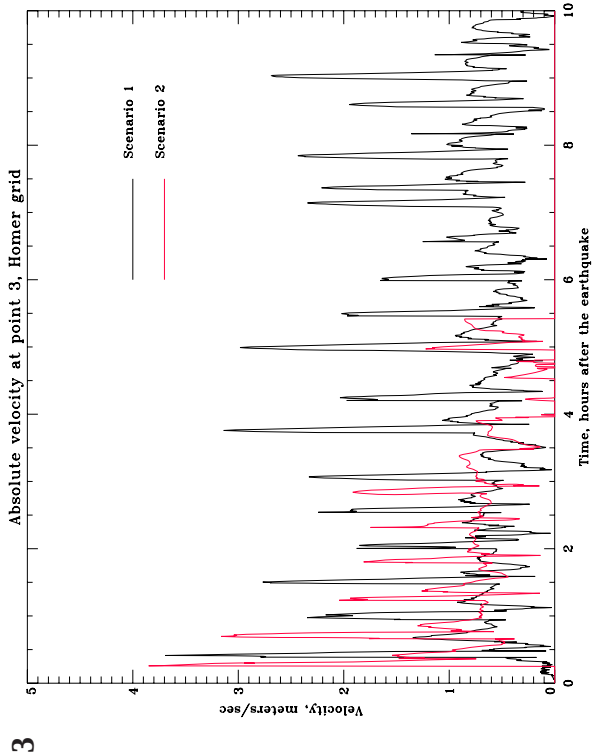
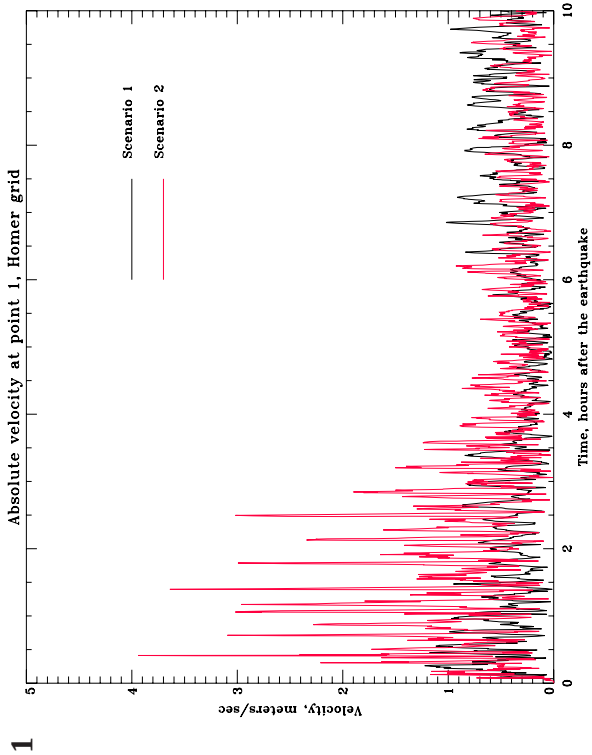
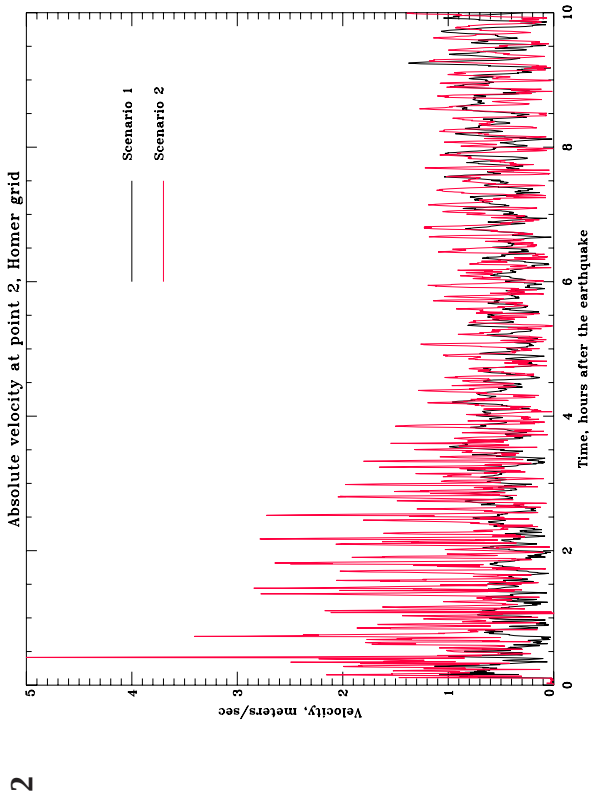


Figure 17. Velocity time histories at six locations offshore Homer Spit (points 1–6 in fig. 10 and on sheet 1). 1 m/sec = 1.94 knots.

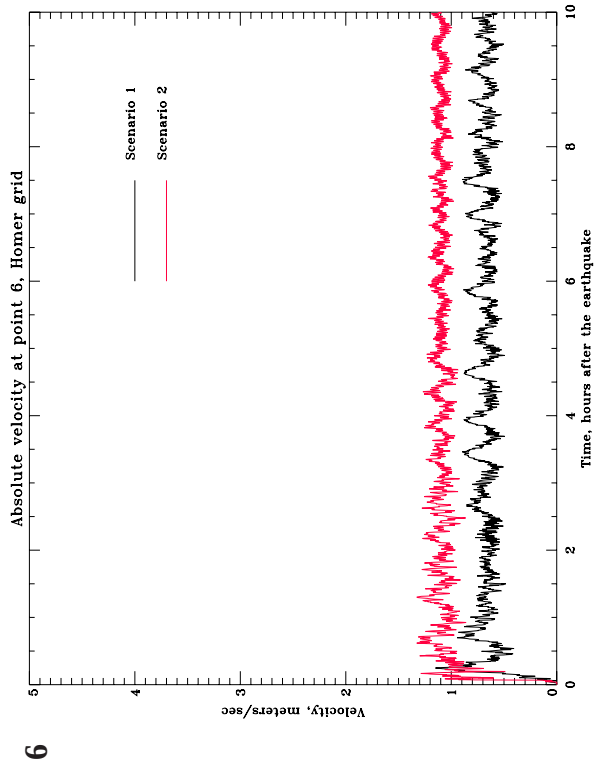
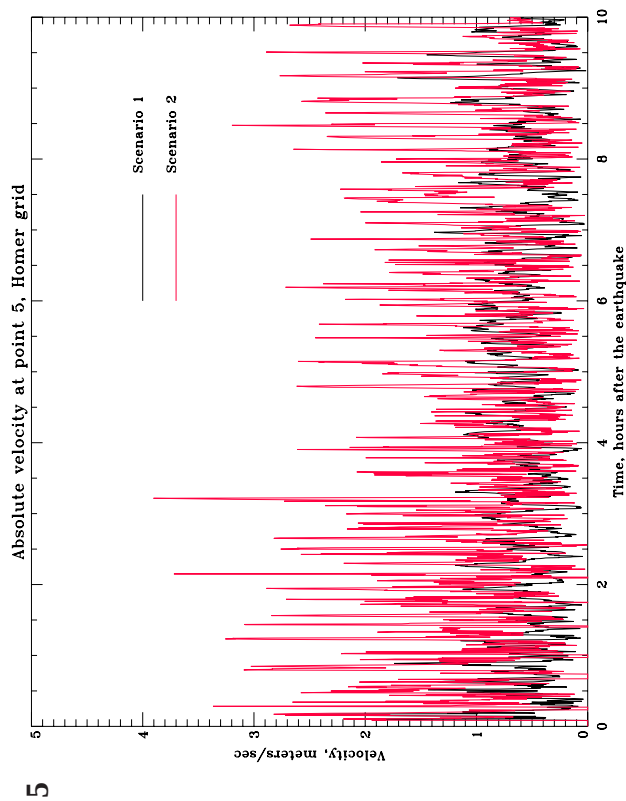
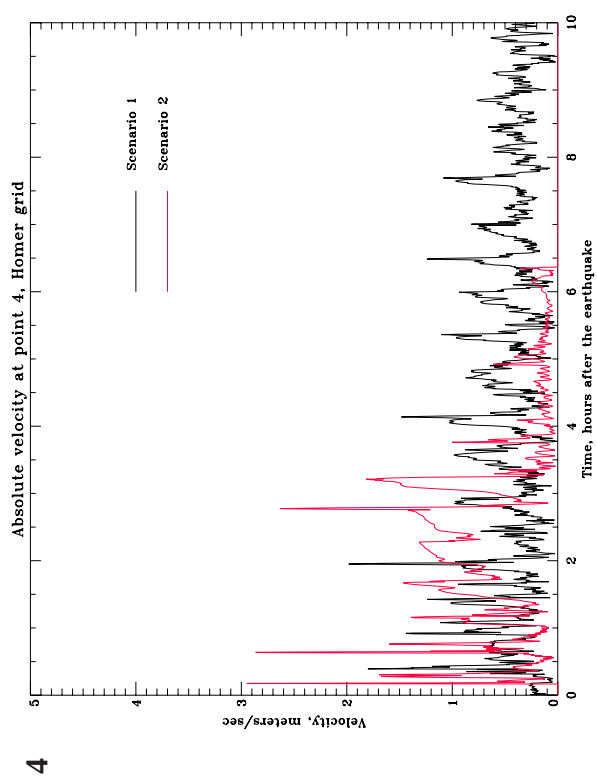
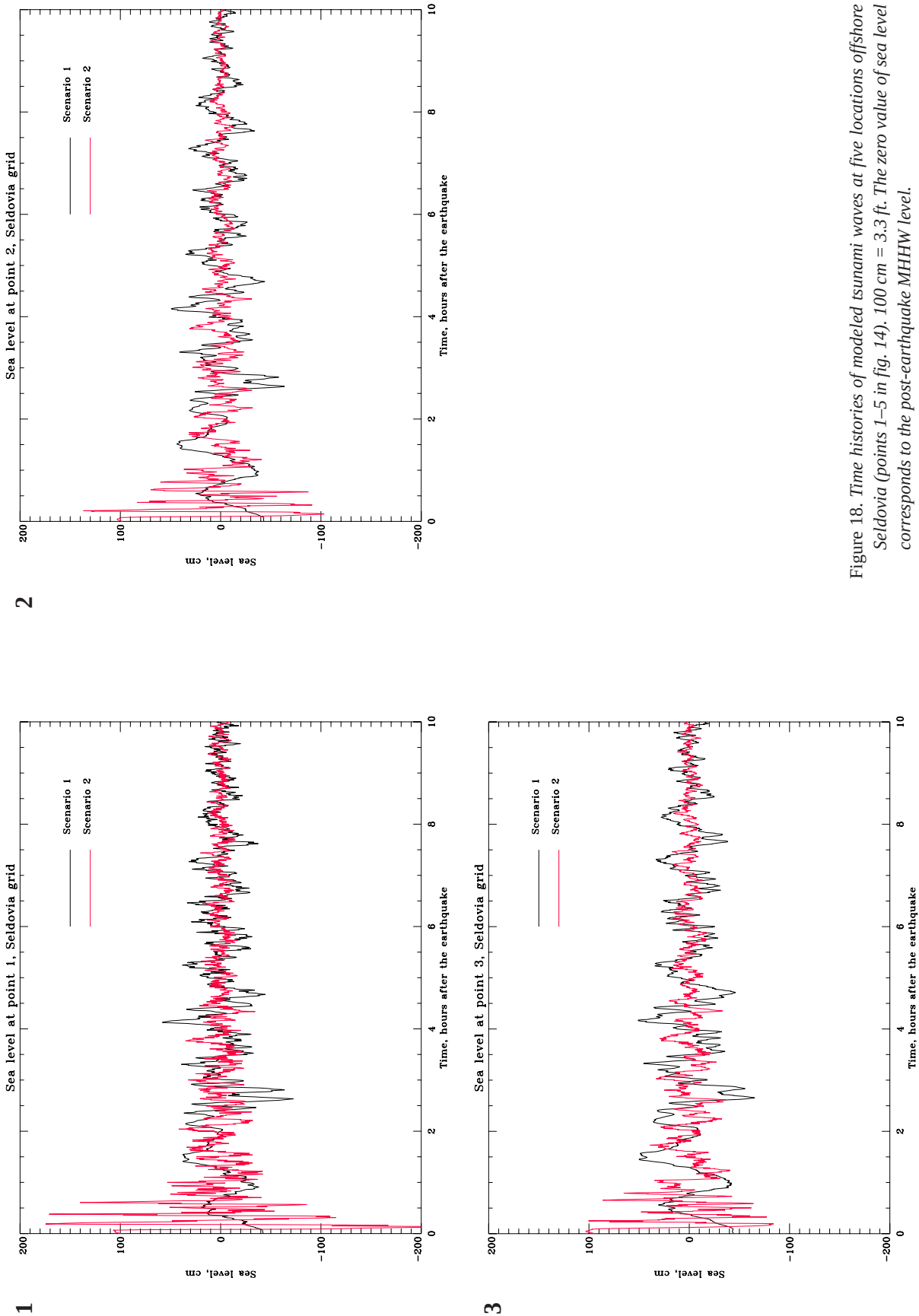


Figure 17—continued. Velocity time histories at six locations offshore Homer Spit (points 1–6 in fig. 10 and on sheet 1). 1 m/sec = 1.94 knots.



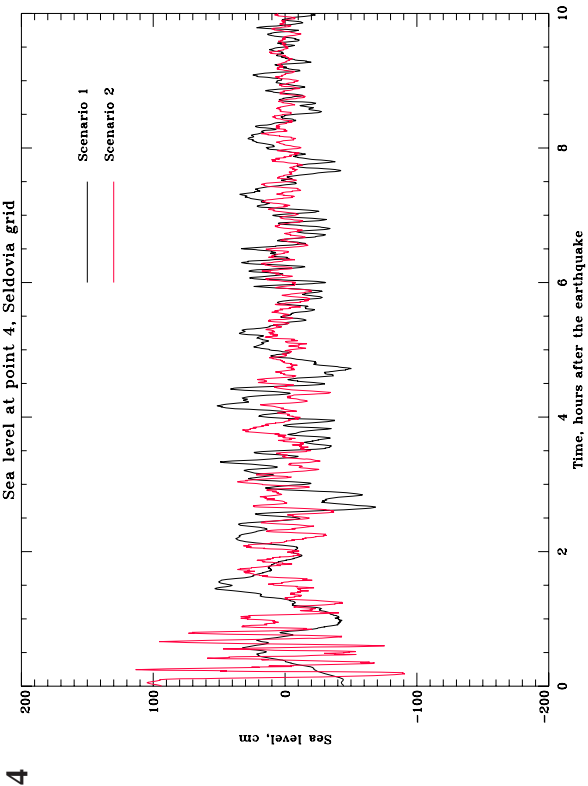
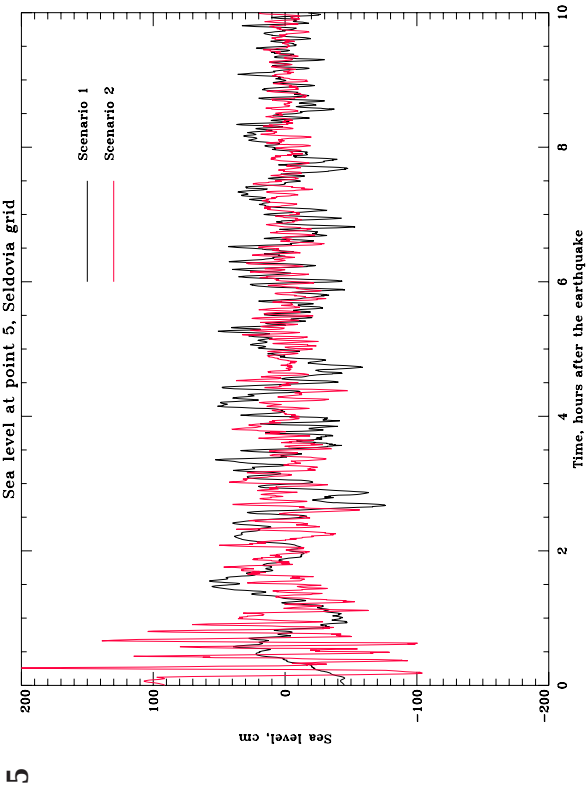
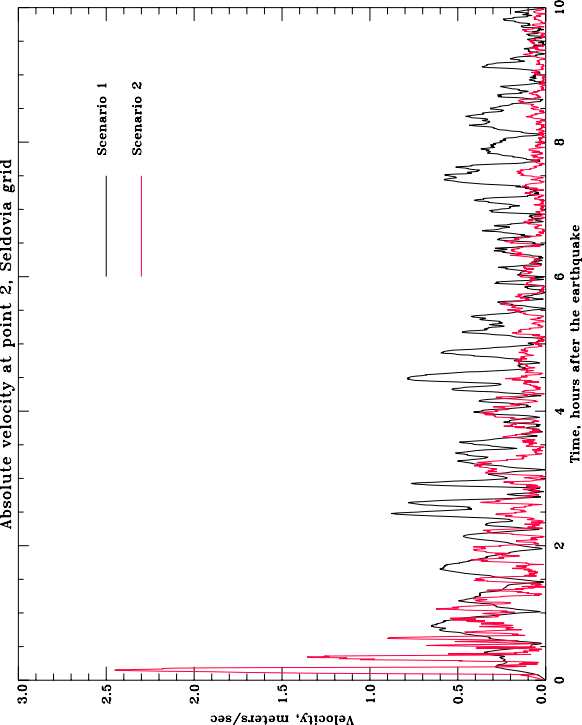
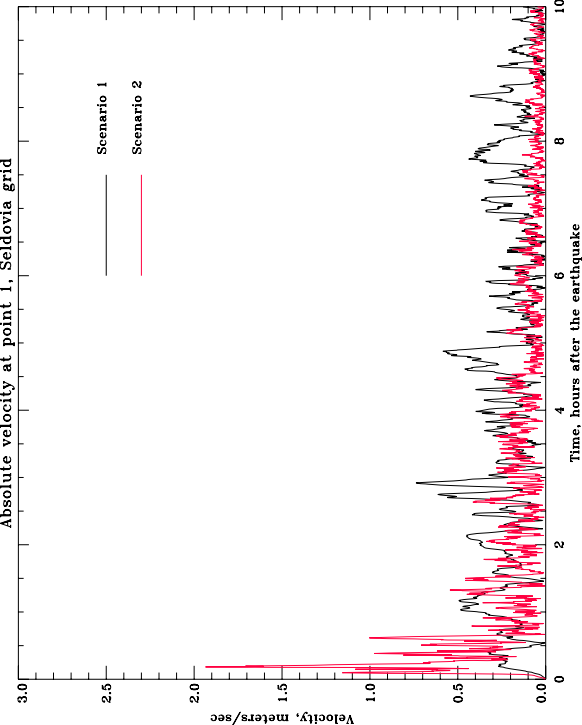


Figure 18—continued. Time histories of modeled tsunami waves at five locations offshore Seldovia (points 1–5 in fig. 14). The zero value of sea level corresponds to the post-earthquake MHHW level.

2



1



3

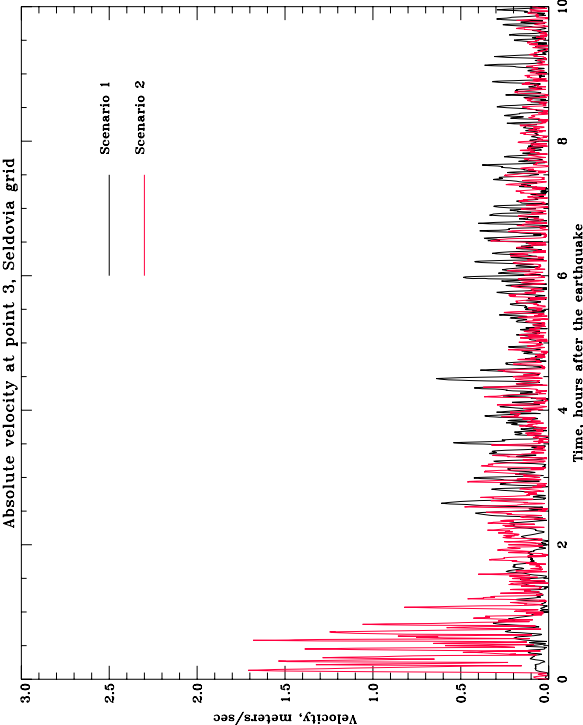


Figure 19. Velocity time histories at five locations offshore Seldovia (points 1–5 in fig. 14). 1 m/sec = 1.94 knots.

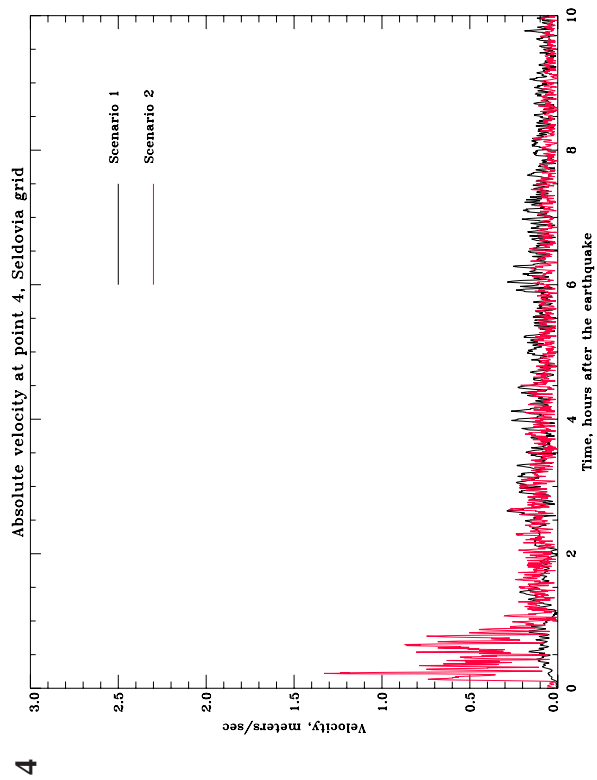
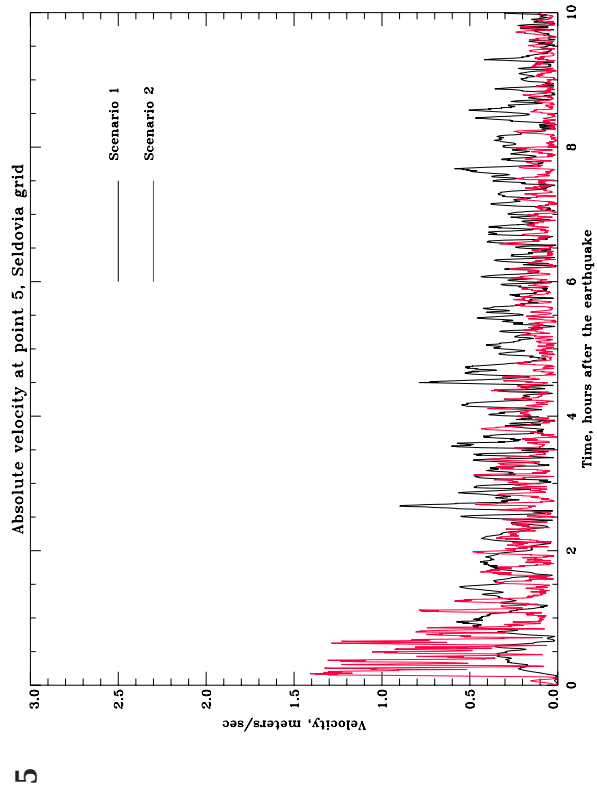


Figure 19—continued. Velocity time histories at five locations offshore Seldovia (points 1–5 in fig. 14). 1 m/sec = 1.94 knots.

inundation. We did not model as part of this study the inundation by waves that might be generated by local submarine or subaerial landslides, nor did we model inundation from a debris avalanche generated by eruption of nearby Augustine Volcano.

Neither of the modeled scenarios results in inundation of the entire Homer Spit. However, it is important to note that the Border Ranges fault scenario results in flooding of a portion of the spit and the road for a distance of approximately 0.3 mi (0.5 km) near the head of the spit. Because this flooding may occur repeatedly during a tsunami, it is possible that the road may be washed out, cutting off the evacuation route from the spit. Even though our numerical modeling does not show inundation of the entire spit for the scenarios we used, we recommend that evacuation of the spit be a mandatory part of any tsunami evacuation plan.

These results are useful for state and local emergency managers to identify areas that should be evacuated in the event of a major tsunamigenic earthquake. Because of the uncertainties inherent in this type of modeling, these results are not intended for land-use regulation.

ACKNOWLEDGMENTS

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Data used for the bathymetric and topographic grids are credited to the following sources:

National Oceanic and Atmospheric Administration, National Geodetic Database Centers. Hydrographic Surveys and Marine Geophysics Tracklines, GEODAS Version 4.0 Software. Boulder, Colorado. Website reference:

<http://www.ngdc.noaa.gov/mgg/bathymetry/relief.html>.

U.S. Geological Survey, National Mapping Division. Topographic Digital Elevation Models and Digital Raster Graphics. Reston, Virginia. Website reference: <http://mapping.usgs.gov/>.

U.S. Army Corps of Engineers – Alaska District. Hydrographic Surveys for Homer and Seldovia. Anchorage, Alaska. Website reference: <http://www.poa.usace.army.mil/>.

Walker and Associates, Inc. Analog Photogrammetry of Homer. Homer, Alaska. Website reference: <http://publicworks.ci.homer.ak.us/>.

Aeromap, U.S. Homer LIDAR Grid, used with permission. Anchorage, Alaska. Website reference: <http://www.aeromap.com/>.

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Appendix I

Vertical Datum Conversions for Homer and Seldovia, Alaska

The following table provides a listing of the available benchmarks in the Homer and Seldovia area that have been referenced to one or more datums by the National Geodetic Survey (NGS) and the Center for Operational Oceanographic Products and Services (CO-OPS). This information was used to convert various data sources to a single vertical datum for grid computation and was gathered from the NGS and CO-OPS websites: <http://www.ngs.noaa.gov/> and <http://www.co-ops.nos.noaa.gov/>.

945-5500 Seldovia, Cook Inlet, AK

59 26.4' N, 151 43.2' W

NOAA Chart: 16646

USGS Quad: Seldovia B-5

Publication Date: 11/02/99

Tidal datum of Seldovia, Cook Inlet based on:

Length of Series: 5 yr

Time Period: January 1994-1998

Tidal Epoch: 1960-1978

Control Tide Station: SELDOVIA

CO-OPS Benchmarks			PID#	Benchmark	in meters above:	
					MLLW	MHW
HOWL (10/15/1966)	7.647	meters		BM 19 1967	9.043	3.807
MHHW	5.480			NO 13 1964	8.209	2.973
MHW	5.236			NO 20 1968	9.012	3.776
MSL	2.899			PM-2 1967	8.942	3.706
MTL	2.874			TIDAL BM 30	10.011	4.775
MLW	0.512			5500 A 1982	11.109	5.873
MLLW	0.000			5500 B 1982	11.113	5.877
LOWL (01/29/1979)	-1.830			5500 C 1982	9.620	4.384
				5500 D 1982	9.613	4.377
				5500 E 1987	8.943	3.707

Seldovia tidal datum does not have connection to Geodetic datum

945-5557 Homer, Cook Inlet, AK

59 36.2' N, 151 25.2' W

NOAA Chart: 16640

USGS Quad: Seldovia C-4

Publication Date: 11/01/84

Tidal datum of Homer, Cook Inlet based on:

Length of Series: 2 yr

Time Period: 1966-1967

Tidal Epoch: 1960-1978

Control Tide Station: SELDOVIA (9455500)

CO-OPS Benchmarks			PID#	Benchmark	in meters above:	
					MLLW	MHW
HOWL (10/15/1966)	7.681	meters		5557 A 1979	7.934	2.618
MHHW	5.566			5557 B 1979	7.964	2.649
MHW	5.316		TT0174	B 103 1965	7.934	2.618
MTL	2.905			BM 6 1965	8.056	2.740
MLW	0.497			BM 7 1973	9.565	4.249
MLLW	0.000		TT0175	C 103 1965	7.952	2.637
LOWL (04/25/1967)	-1.859		TT0171	HOMER EAST B	9.190	3.874

NGS Data Sheets

TT0171	59° 36' 02" N, 151 25' 00" W (NAD83)	NAVD88 NGVD29	7.950 meters 6.215 meters
TT0174	59° 36' 06" N, 151 24' 42" W (NAD83)	NAVD88 NGVD29	6.706 meters 4.971 meters
TT0175	59° 36' 00" N, 151 24' 36" W (NAD83)	NAVD 88 NGVD29	6.743 meters 5.008 meters

NGS data sheet	TT0171	TT0174	TT0175	AVG
MHHW	5.566	5.566	5.566	5.566
MHW	5.316	5.316	5.316	5.316
NGVD29	2.975	2.963	2.944	2.961
MTL	2.905	2.905	2.905	2.905
NAVD88	1.240	1.228	1.209	1.226
MLW	0.497	0.497	0.497	0.497
MLLW	0.000	0.000	0.000	0.000

Apply Homer average to Seldovia w/ comparison**Homer/Seldovia Comparison**

	Seldovia (1999)	0.080 (MHW Comparison)
MHHW	5.480	
MHW	5.236	
MSL	2.899	
NGVD29	2.881	
MTL	2.874	
NAVD88	1.146	

END OF REPORT

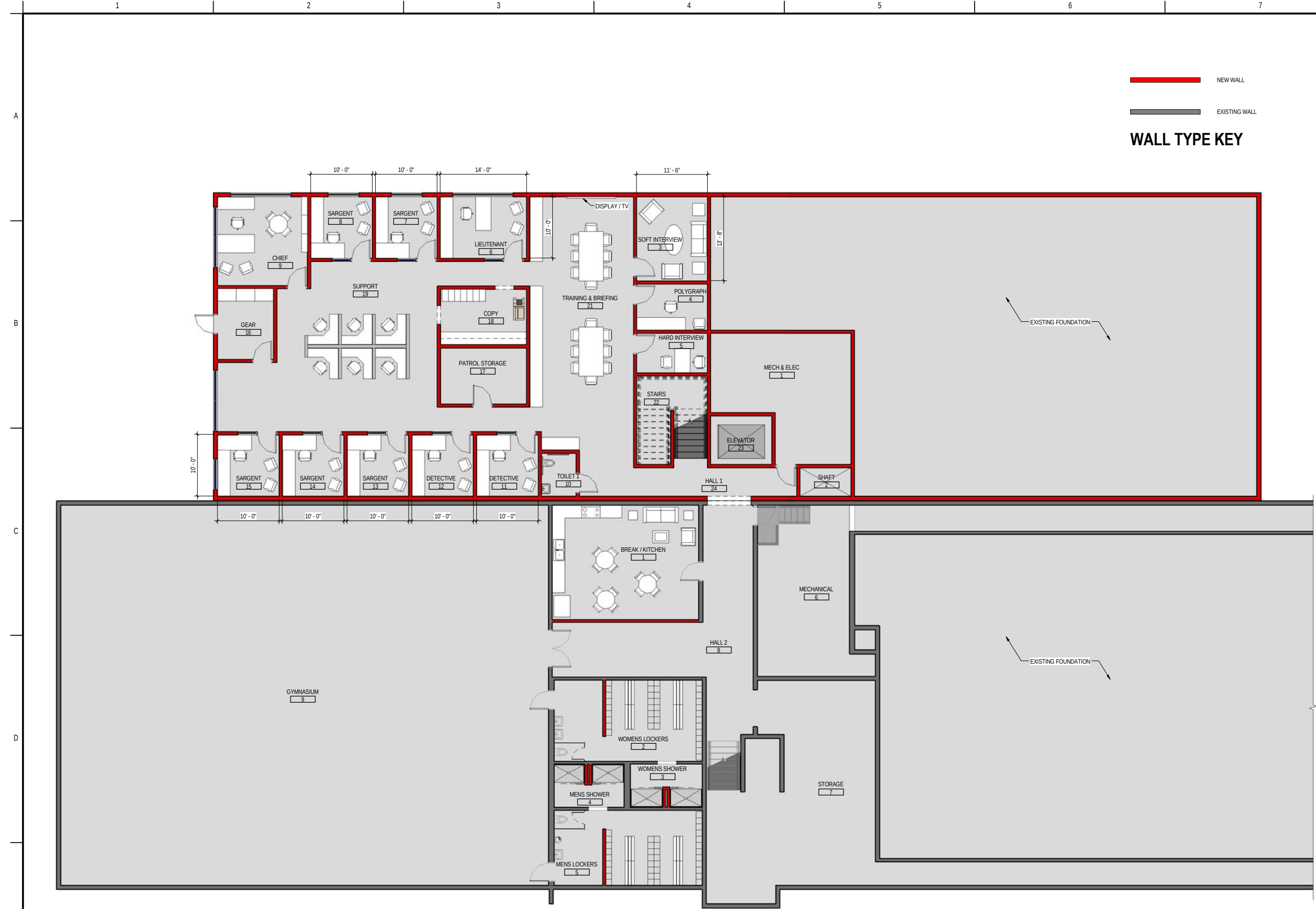




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BOOKING	1111 SF
CONTROL	360 SF
FILES	108 SF
FOOD PREP	111 SF
HALL 4	555 SF
HARD INTERVIEW 2	102 SF
JANITOR	34 SF
LAUNDRY	119 SF
REPORT INTOX	203 SF
SALLY PORT	439 SF
STRIP SEARCH	173 SF
TOILET 2	53 SF
VISIT	118 SF
	3604 SF

JAIL SUPPORT	
Name	Area
BEDDING UNIFORMS	119 SF
BOOKING	1111 SF
CONTROL	360 SF
FILES	108 SF
FOOD PREP	111 SF
HALL 4	555 SF
HARD INTERVIEW 2	102 SF
JANITOR	34 SF
LAUNDRY	119 SF
REPORT INTOX	203 SF
SALLY PORT	439 SF
STRIP SEARCH	173 SF
TOILET 2	53 SF
VISIT	118 SF
	3604 SF





NEW WALL
EXISTING WALL

WALL TYPE KEY



1 FIRST FLOOR PLAN
A-101 1/8" = 1'-0"



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PACKAGE G			
PACKAGE F			
PACKAGE E			
PACKAGE D			
PACKAGE C			
PACKAGE B			
PACKAGE A			

Issued	By	Appd	YYYY.MM.DD
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Permit-Seal

Client/Project
City of Homer

Homer Public Safety Building

Homer Alaska

Title
FIRST FLOOR PLAN

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Revision	Drawing No.

A-101

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6/14/2016 11:51:02 AM

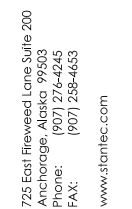
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PACKAGE F			
PACKAGE E			
PACKAGE D			
PACKAGE C			
PACKAGE B			
PACKAGE A			
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NEW WALL
EXISTING WALL
WALL TYPE KEY



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1/8" = 1'-0"

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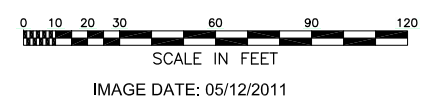
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Project Mgr.	DRS	
Drawn		
Checked		
Date	06/03/2016	

Sheet No.:

L1.2

Project Number: 204600234



THIS DRAWING IS HALF-SIZE AT 11"x17"