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POWERLINE WASH AND TANK WASH FLOOD DELINEATION STUDY

(FCD 92-09)

FEMA APPLICATION/CERTIFICATION FORMS

POWERLINE WASH AND TANK WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY
CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER
AND/OR LAND SURVEYOR FORM

O.M.B. Burden No. 3067-0148
Expires July 31, 1994

FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average .23 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

- 1. This certification is in accordance with 44 CFR Ch. I, Section 65.2
- 2. I am licensed with an expertise in HYDROLOGY, HYDRAULICS
[example: water resources (hydrology, hydraulics, sediment transport, interior drainage)* structural, geotechnical, land surveying.]
- 3. I have 17 years experience in the expertise listed above.
- 4. I have prepared reviewed the attached supporting data and analyses related to my expertise.
- 5. I have have not visited and physically viewed the project.
- 6. In my opinion, the following analyses and /or designs, is/are being certified:
HYDRAULIC ANALYSIS
- 7. Base upon the following review, the modifications in place have been constructed in general accordance with plans and specifications.

Basis for above statement: (check all that apply)

- a. Viewed all phases of actual construction.
- b. Compared plans and specifications with as-built survey information.
- c. Examined plans and specifications and compared with completed projects.
- d. Other N/A

8. All information submitted in support of this request is correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: George Scott Buchanan
(please print or type)

Title: Senior Hydrologist
(please print or type)

Registration No. 26837 Expiration Date: 3-31-96

State AZ

Type of License Professional Engineer

G Scott Buchanan
Signature

12-4-93
Date



Seal
(Optional)

*Specify Subdiscipline

Note: Insert not applicable (N/A) when statement does not apply.

PUBLIC BURDEN DISCLOSURE NOTICE

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1. This certification is in accordance with 44 CFR Ch. I, Section 65.2
2. I am licensed with an expertise in Land Surveying
[example: water resources (*hydrology, hydraulics, sediment transport, interior drainage*)* structural, geotechnical, land surveying.]
3. I have 18 years experience in the expertise listed above.
4. I have prepared reviewed the attached supporting data and analyses related to my expertise.
5. I have have not visited and physically viewed the project.
6. In my opinion, the following analyses and /or designs, is/are being certified:
Horizontal Mapping Control
7. Base upon the following review, the modifications in place have been constructed in general accordance with plans and specifications. N/A
Basis for above statement: (check all that apply)
 - a. Viewed all phases of actual construction.
 - b. Compared plans and specifications with as-built survey information.
 - c. Examined plans and specifications and compared with completed projects.
 - d. Other _____
8. All information submitted in support of this request is correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: Larry Maldonado
(please print or type)

Title: President
(please print or type)

Registration No. 16863 Expiration Date: 1994

State Arizona

Type of License Land Surveyor

Larry Maldonado
Signature

12-8-93
Date



Seal
(Optional)

*Specify Subdiscipline

Note: Insert not applicable (N/A) when statement does not apply.

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1. This certification is in accordance with 44 CFR Ch. I, Section 65.2
2. I am licensed with an expertise in LAND SURVEYING & PHOTOGRAMMETRY
[example: water resources (*hydrology, hydraulics, sediment transport, interior drainage*)* structural, geotechnical, land surveying.]
3. I have _____ years experience in the expertise listed above.
4. I have prepared reviewed the attached supporting data and analyses related to my expertise.
5. I have have not visited and physically viewed the project.
6. In my opinion, the following analyses and /or designs, is/are being certified:
OF PHOTOGRAMMETRY ARE BEING CERTIFIED
7. Base upon the following review, the modifications in place have been constructed in general accordance with plans and specifications. N.A.
Basis for above statement: (check all that apply)
 - a. Viewed all phases of actual construction.
 - b. Compared plans and specifications with as-built survey information.
 - c. Examined plans and specifications and compared with completed projects.
 - d. Other _____
8. All information submitted in support of this request is correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Name: ROBERT WILLIAMS
(please print or type)

Title: VICE PRESIDENT-SURVEYS
(please print or type)

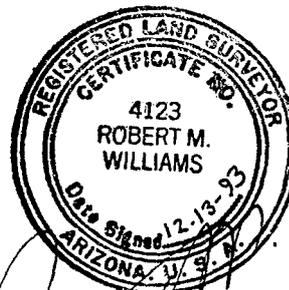
Registration No. NO 4123 Expiration Date: 1995

State ARIZONA

Type of License REG. LAND SURVEYOR

Robert M. Williams
Signature

12-13-93
Date



*Specify Subdiscipline

Note: Insert not applicable (N/A) when statement does not apply.

POWERLINE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY
REVISION REQUESTOR AND COMMUNITY OFFICIAL FORM

O.M.B. Burden No 3067-0148
 Expires July 31, 1994

FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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1. OVERVIEW

1. The basis for this revision request is (are): (check all that apply)

- Physical change
 - Existing
 - Proposed
- Improved methodology
- Improved data
- Floodway revision

Other NEW DELINEATION FOR POWERLINE WASH

Explain NEW STUDY

2. Flooding Source: POWERLINE WASH

3. Project Name/Identifier: POWERLINE WASH AND TANK WASH FLOOD DELINEATION STUDY

4. FEMA zone designations affected: B

(example: A, AH, AO, A1-A30, A99, AE, V, V1-30, VE, B, C, D, X)

5. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	County	State	Map No.	Panel No.	Effective Date
EX: 480301	Katy, City	Harris, Fort Bend	TX	480301	0005D	02/08/83
480287	Harris County	Harris	TX	48201C	0220G	09/28/90
<u>040037</u>	<u>MARICOPA CO.</u>	<u>MARICOPA</u>	<u>AZ</u>	<u>04013C</u>	<u>1075D</u>	<u>4-15-88</u>
<u>11</u>	<u>11</u>	<u>11</u>	<u>11</u>	<u>11</u>	<u>1050</u>	<u>(NOT PRINTED)</u>

6. The area of revision encompasses the following types of flooding, structures, and associated disciplines: (check all that apply)

- | | | |
|--|--|--|
| <p>Types of Flooding</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Riverine <input type="checkbox"/> Coastal <input type="checkbox"/> Alluvial Fan <input type="checkbox"/> Shallow Flooding (e.g. Zones AO and AH) <input type="checkbox"/> Lakes <p>Affected by wind/wave action</p> <ul style="list-style-type: none"> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <p>Structures</p> <ul style="list-style-type: none"> <input type="checkbox"/> Channelization <input type="checkbox"/> Levee/Floodwall <input type="checkbox"/> Bridge/Culvert <input type="checkbox"/> Dam <input type="checkbox"/> Coastal <input type="checkbox"/> Fill <input type="checkbox"/> Pump Station <input checked="" type="checkbox"/> None <input type="checkbox"/> Channel Relocation <input type="checkbox"/> Excavation <input type="checkbox"/> Other (describe) | <p>Disciplines*</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Water Resources <ul style="list-style-type: none"> <input type="checkbox"/> Hydrology <input checked="" type="checkbox"/> Hydraulics <input type="checkbox"/> Sediment Transport <input type="checkbox"/> Interior Drainage <input type="checkbox"/> Structural <input type="checkbox"/> Geotechnical <input checked="" type="checkbox"/> Land Surveying <input type="checkbox"/> Other (describe) |
|--|--|--|

Other (describe) _____

* Attach completed "Certification by Registered Professional Engineer and/or Land Surveyor" Form for each discipline checked. (Form 2)

2. FLOODWAY INFORMATION

7. Does the affected flooding source have a floodway designated on the effective FIRM or FBFM? Yes No
8. Does the revised floodway delineation differ from that shown on the effective FIRM or FBFM? Yes No
- If yes, give reason: N/A

Attach copy of either a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions. **SEE SECTION 1 OF TDW FOR AFFIDAVIT OF PUBLICATION**

9. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP? Yes No

If yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

3. PROPOSED ENCROACHMENTS

10. With floodways:

1A. Does the revision request involve fill, new construction, substantial improvement, or other development in the floodway? Yes No

1B. If yes, does the development cause the 100-year water surface elevation to increase at any location by more than 0.000 feet? Yes No

11. Without floodways: N/A

2A. Does the revision request involve fill, new construction, substantial improvement, or other development in the 100-year floodplain? Yes No

2B. If yes, does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the 100-year water surface elevation to increase at any location by more than one foot (or other surcharge limit if community or state has adopted more stringent criteria)? Yes No

If the answer to either Items 1B or 2B is yes, please provide documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

4. REVISION REQUESTOR ACKNOWLEDGMENT

12. Having read NFIP Regulations, 44 CFR Ch. I, parts 59, 60, 61, and 72, I believe that the proposed revision is is not in compliance with the requirements of the aforementioned NFIP Regulations.

5. COMMUNITY OFFICIAL ACKNOWLEDGMENT

13. Was this revision request reviewed by the community for compliance with the community's adopted floodplain management ordinances? Yes No

14. Does this revision request have the endorsement of the community? Yes No

If no to either of the above questions, please explain: _____

Please note that community acknowledgment and /or notification is required for all requests as outlined in Section 65.4 (b) of the NFIP Regulations.

6. OPERATION AND MAINTENANCE

15. Does the physical change involve a flood control structure (e.g., levees, floodwalls, channelization, basins, dams)? Yes No N/A

If yes, please provide the following information for each of the new flood control structures:

A. Inspection of the flood control project will be conducted periodically by _____ entity
_____ with a maximum interval of _____ months between inspections.

B. Based on the results of scheduled periodic inspections, appropriate maintenance of the flood control facilities will be conducted by _____ (entity)

to ensure the integrity and degree of flood protection of the structure.

C. A formal plan of operation, including documentation of the flood warning system, specific actions and assignments of responsibility by individual name or title, and provisions for testing the plan at intervals not less than one year, has has not been prepared for the flood control structure.

D. The community is willing to assume responsibility for performing overseeing compliance with the maintenance and operation plans of the _____

(Name)

N/A
flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Attach operation and maintenance plans

7. REQUESTED RESPONSE FROM FEMA

16. After examining the pertinent NFIP regulations and reviewing the document entitled "Appeals, Revisions, and Amendments to Flood Insurance Maps: A guide for Community Officials," dated January 1990, this request is for a:

- a. CLOMR A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision (LOMR or PMR), or proposed hydrology changes (see 44 CFR Ch. I, Parts 60, 65, and 72).
- b. LOMR A letter from FEMA officially revising the current NFIP map to show changes to floodplains, floodways, or flood elevations. LOMRs typically depict decreased flood hazards. (See 44 CFR Ch. I Parts 60 and 65.)
- c. PMR A reprinted NFIP map incorporating changes to floodplains, floodways, or flood elevations. Because of the time and cost involved to change, reprint, and redistribute an NFIP map, a PMR is usually processed when a revision reflects increased flood hazards or large-scope changes. (See 44 CFR Ch. I, Parts 60 and 65.)
- d. Other: Describe _____

8. FORMS INCLUDED

17. Form 2 entitled, "Certification By Registered Professional Engineer and/or Land Surveyor" must be submitted.

The following forms should be included with this request if (check the included forms):

- Hydrologic analysis for flooding source differs from that used to develop FIRM Hydrologic Analysis Form (Form 3)
- Hydraulic analysis for riverine flooding differs from that used to develop FIRM Riverine Hydraulic Analysis Form (Form 4)
- The request is based on updated topographic information or a revised floodplain or floodway delineation is requested Riverine/Coastal Mapping Form (Form 5)
- The request involves any type of channel modification Channelization Form (Form 6)
- The request involves new bridge or culvert or revised analysis of an existing bridge or culvert Bridge/Culvert Form (Form 7)
- The request involves a new revised levee/floodwall system Levee/Floodwall System Analysis Form (Form 8)
- The request involves analysis of coastal flooding Coastal Analysis Form (Form 9)
- The request involves coastal structures credited as providing protection from the 100-year flood Coastal Structures (Form 10)
- The request involves an existing, proposed, or modified dam Dam Form (Form 11)
- The request involves structures credited as providing protection from the 100-year flood on an alluvial fan Alluvial Fan Flooding Form (Form 12)

9. INITIAL REVIEW FEE

18. The minimum initial review fee for the appropriate request category has been included. Yes No

Initial fee amount: \$ _____

METHOD OF PAYMENT (Check one box)

PAYMENT ENCLOSED VISA MASTERCARD

CARD NUMBER

Check or money order only.
Make payable to
National Flood Insurance Program

<input type="checkbox"/>																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

EXP. Date

Signature

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

or

19. This request is for a project that is for public benefit and is intended to reduce the flood hazard to existing development in identified flood hazard areas as opposed to planned floodplain development. Yes No

or

20. This request is to correct an error or to include the effects of natural changes within the areas of special flood hazards. Yes No

Note: I understand that my signature indicates that all information submitted in support of this request is correct.

Scott Buchanan

Signature of Revision Requester

SCOTT BUCHANAN, SENIOR HYDROLOGIST

Printed Name and Title of Revision Requester

STANLEY CONSULTANTS, INC

Company Name

12-4-93

Date

Note: Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.

Ron Nevitt

Signature of Community Official

RON NEVITT, Floodplain Rep.

Printed Name and Title of Community Official

Maricopa County, Arizona

Community Name

12-22-93

Date

Does this request impact any other communities? Yes No

If yes, attach letters from all affected jurisdictions acknowledging revision request and approving changes to floodway, if applicable.

Note: Although a photograph of physical changes is not required, it may be helpful for FEMA's review.

TANK WASH

PUBLIC BURDEN DISCLOSURE NOTICE

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1. OVERVIEW

1. The basis for this revision request is (are): (check all that apply)

- Physical change
 - Existing
 - Proposed
- Improved methodology
- Improved data
- Floodway revision

Other NEW DELINEATION FOR TANK WASH

Explain NEW STUDY

2. Flooding Source: TANK WASH AND SOUTH BRANCH TANK WASH

3. Project Name/Identifier: POWERLINE WASH AND TANK WASH FLOOD DELINEATION STUDY

4. FEMA zone designations affected: B
 (example: A, AH, AO, A1-A30, A99, AE, V, V1-30, VE, B, C, D, X)

5. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	County	State	Map No.	Panel No.	Effective Date
EX: 480301	Katy, City	Harris, Fort Bend	TX	480301	0005D	02/08/83
480287	Harris County	Harris	TX	48201C	0220G	09/28/90
<u>040037</u>	<u>Maricopa Co.</u>	<u>Maricopa</u>	<u>AZ</u>	<u>04013C</u>	<u>1075D</u>	<u>4-15-88</u>
<u>11</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>1050</u>	<u>(NOT PRINTED)</u>

6. The area of revision encompasses the following types of flooding, structures, and associated disciplines: (check all that apply)

- | Types of Flooding | Structures | Disciplines* |
|--|---|--|
| <input checked="" type="checkbox"/> Riverine
<input type="checkbox"/> Coastal
<input type="checkbox"/> Alluvial Fan
<input type="checkbox"/> Shallow Flooding (e.g. Zones AO and AH)
<input type="checkbox"/> Lakes

Affected by wind/wave action
<input type="checkbox"/> Yes
<input checked="" type="checkbox"/> No

<input type="checkbox"/> Other (describe) _____ | <input type="checkbox"/> Channelization
<input type="checkbox"/> Levee/Floodwall
<input type="checkbox"/> Bridge/Culvert
<input type="checkbox"/> Dam
<input type="checkbox"/> Coastal
<input type="checkbox"/> Fill
<input type="checkbox"/> Pump Station
<input checked="" type="checkbox"/> None
<input type="checkbox"/> Channel Relocation
<input type="checkbox"/> Excavation
<input type="checkbox"/> Other (describe) _____ | <input checked="" type="checkbox"/> Water Resources
<input checked="" type="checkbox"/> Hydrology
<input checked="" type="checkbox"/> Hydraulics
<input type="checkbox"/> Sediment Transport
<input type="checkbox"/> Interior Drainage
<input type="checkbox"/> Structural
<input type="checkbox"/> Geotechnical
<input checked="" type="checkbox"/> Land Surveying
<input type="checkbox"/> Other (describe) _____ |

* Attach completed "Certification by Registered Professional Engineer and/or Land Surveyor" Form for each discipline checked. (Form 2)

2. FLOODWAY INFORMATION

7. Does the affected flooding source have a floodway designated on the effective FIRM or FBFM? Yes No
8. Does the revised floodway delineation differ from that shown on the effective FIRM or FBFM? Yes No
- If yes, give reason: N/A

Attach copy of either a public notice distributed by the community stating the community's intent to revise the floodway or a statement by the community that it has notified all affected property owners and affected adjacent jurisdictions. **SEE SECTION 1 OF TDN FOR AFFIDAVIT OF PUBLICATION**

9. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP? Yes No

If yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

3. PROPOSED ENCROACHMENTS

10. With floodways:

1A. Does the revision request involve fill, new construction, substantial improvement, or other development in the floodway? Yes No

1B. If yes, does the development cause the 100-year water surface elevation to increase at any location by more than 0.000 feet? Yes No

11. Without floodways: N/A

2A. Does the revision request involve fill, new construction, substantial improvement, or other development in the 100-year floodplain? Yes No

2B. If yes, does the cumulative effect of all development that has occurred since the effective SFHIA was originally identified cause the 100-year water surface elevation to increase at any location by more than one foot (or other surcharge limit if community or state has adopted more stringent criteria)? Yes No

If the answer to either Items 1B or 2B is yes, please provide documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

4. REVISION REQUESTOR ACKNOWLEDGMENT

12. Having read NFIP Regulations, 44 CFR Ch. I, parts 59, 60, 61, and 72, I believe that the proposed revision is is not in compliance with the requirements of the aforementioned NFIP Regulations.

5. COMMUNITY OFFICIAL ACKNOWLEDGMENT

13. Was this revision request reviewed by the community for compliance with the community's adopted floodplain management ordinances? Yes No

14. Does this revision request have the endorsement of the community? Yes No

If no to either of the above questions, please explain: _____

Please note that community acknowledgment and /or notification is required for all requests as outlined in Section 65.4 (b) of the NFIP Regulations.

6. OPERATION AND MAINTENANCE

15. Does the physical change involve a flood control structure (e.g., levees, floodwalls, channelization, basins, dams)? Yes No N/A

If yes, please provide the following information for each of the new flood control structures:

A. Inspection of the flood control project will be conducted periodically by _____ entity
_____ with a maximum interval of _____ months between inspections.

B. Based on the results of scheduled periodic inspections, appropriate maintenance of the flood control facilities will be conducted by _____ (entity)
to ensure the integrity and degree of flood protection of the structure.

C. A formal plan of operation, including documentation of the flood warning system, specific actions and assignments of responsibility by individual name or title, and provisions for testing the plan at intervals not less than one year, has has not been prepared for the flood control structure.

D. The community is willing to assume responsibility for performing overseeing compliance with the maintenance and operation plans of the _____

N/A

(Name)

flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Attach operation and maintenance plans

7. REQUESTED RESPONSE FROM FEMA

16. After examining the pertinent NFIP regulations and reviewing the document entitled "Appeals, Revisions, and Amendments to Flood Insurance Maps: A guide for Community Officials," dated January 1990, this request is for a:

- a. CLOMR A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision (LOMR or PMR), or proposed hydrology changes (see 44 CFR Ch. I, Parts 60, 65, and 72).
- b. LOMR A letter from FEMA officially revising the current NFIP map to show changes to floodplains, floodways, or flood elevations. LOMRs typically depict decreased flood hazards. (See 44 CFR Ch. I Parts 60 and 65.)
- c. PMR A reprinted NFIP map incorporating changes to floodplains, floodways, or flood elevations. Because of the time and cost involved to change, reprint, and redistribute an NFIP map, a PMR is usually processed when a revision reflects increased flood hazards or large-scope changes. (See 44 CFR Ch. I, Parts 60 and 65.)
- d. Other: Describe _____

8. FORMS INCLUDED

17. Form 2 entitled, "Certification By Registered Professional Engineer and/or Land Surveyor" must be submitted.

The following forms should be included with this request if (check the included forms):

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- Hydraulic analysis for riverine flooding differs from that used to develop FIRM Riverine Hydraulic Analysis Form (Form 4)
- The request is based on updated topographic information or a revised floodplain or floodway delineation is requested Riverine /Coastal Mapping Form (Form 5)
- The request involves any type of channel modification Channelization Form (Form 6)
- The request involves new bridge or culvert or revised analysis of an existing bridge or culvert Bridge/Culvert Form (Form 7)
- The request involves a new revised levee/floodwall system Levee/Floodwall System Analysis Form (Form 8)
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- The request involves an existing, proposed, or modified dam Dam Form (Form 11)
- The request involves structures credited as providing protection from the 100-year flood on an alluvial fan Alluvial Fan Flooding Form (Form 12)

9. INITIAL REVIEW FEE

18. The minimum initial review fee for the appropriate request category has been included. Yes No

Initial fee amount: \$ _____

METHOD OF PAYMENT (Check one box)

PAYMENT ENCLOSED VISA

MASTERCARD

CARD NUMBER

Check or money order only.

Make payable to

National Flood Insurance Program

<input type="checkbox"/>															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

EXP. Date

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

Signature _____

or

19. This request is for a project that is for public benefit and is intended to reduce the flood hazard to existing development in identified flood hazard areas as opposed to planned floodplain development. Yes No

or

20. This request is to correct an error or to include the effects of natural changes within the areas of special flood hazards. Yes No

Note: I understand that my signature indicates that all information submitted in support of this request is correct.

Scott Buchanan

Signature of Revision Requester

SCOTT BUCHANAN, SENIOR HYDROLOGIST

Printed Name and Title of Revision Requester

STANLEY CONSULTANTS, INC

Company Name

12-4-93

Date

Note: Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.

Ron Nevitt

Signature of Community Official

RON NEVITT, Floodplain Rep.

Printed Name and Title of Community Official

Maricopa County, Arizona

Community Name

12-22-93

Date

Does this request impact any other communities? Yes No

If yes, attach letters from all affected jurisdictions acknowledging revision request and approving changes to floodway, if applicable.

Note: Although a photograph of physical changes is not required, it may be helpful for FEMA's review.

POWERLINE WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDRAULIC ANALYSIS FORM

O.M.B. Burden No. 3067-0148
Expires July 31, 1994

FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: MARICOPA COUNTY, ARIZONA

Flooding Source: POWERLINE WASH
(One form for each flooding source)

Project Name/Identifier: POWERLINE WASH AND TANK WASH FLOOD DELINEATION STUDY

1. REACH TO BE REVISED

Downstream limit: RIVER MILE 1.113

Upstream limit: RIVER MILE 10.424

2. EFFECTIVE FIS

Not studied

Studied by approximate methods

Downstream limit of study _____

Upstream limit of study _____

Studied by detailed methods

Downstream limit of study _____

Upstream limit of study _____

Floodway delineated

Downstream limit of Floodway _____

Upstream limit of Floodway _____

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM. *(Check all that apply)*

Not studied in FIS (ZONE B)

Improved hydrologic data/analysis. Explain: _____

Improved hydraulic analysis. Explain: _____

Flood control structure. Explain: _____

Other. Explain: _____

3. RIVERINE HYDRAULIC ANALYSIS FORM

Models Submitted

Full input and output listings along with files on diskette (if available) for each of the models listed below and summary of the source of input parameters used in the models must be provided. The summary must include a complete description of any changes made from model to model (e.g. duplicate effective model to corrected effective model). Only the Duplicate Effective and the Revised or Post-Project Conditions models must be submitted. See instructions for directions on when other models may be required. Only the 100-year flood profile is required for SFHAs with a Zone A designation. For areas which do not have detailed flooding, a hydraulic model is not required; however BFE's may not be added to the revised FIRM.

Duplicate Effective Model

Natural

Floodway

Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models (10-, 50-, 100-, and 500-year multi-profile runs and the floodway run) must be obtained and then reproduced on the requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

Corrected Effective Model

Natural

Floodway

The corrected effective model is the model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the currently effective model. The corrected effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

Existing or Pre-Project Conditions Model

Natural

Floodway

The duplicate effective or corrected model is modified to produce the existing or pre-project conditions model to reflect any modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective or duplicate effective model.

Revised or Post-Project Conditions Model

Natural

Floodway

The existing or pre-project conditions model (or duplicate effective or corrected effective model, as appropriate) is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for proposed project this model should reflect proposed conditions.



Other: Please attach a sheet describing all other models or calculations submitted.

Natural

Floodway

SEE TDW FOR DESCRIPTION

4. MODEL PARAMETERS (from model used to revise 100-year water surface elevation)

1. Discharges:	Upstream Limit	Downstream Limit
10-year	_____	_____
50-year	_____	_____
100-year	<u>5700 CFS</u>	<u>5100 CFS</u>
500-year	_____	_____

Attach diagram showing changes in 100-year discharge SEE TDN

2. Explain how the starting water surface elevations were determined STARTING WS TAKEN FROM WOOD/PATEL STAR WASH STUDY FOR BOTH NATURAL AND ENCROACHMENT RUNS

3. Give range of friction loss coefficients (Manning's "N") Channel 0.040 - 0.050
 Overbanks 0.045 - 0.055

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

<u>Location</u>	<u>FIS</u>	<u>Revised</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Explain: N/A

4. Describe how the cross section geometry data were determined (e.g., field survey, topographic map, taken from previous study) and list cross sections that were added.

HYDRAULIC SECTIONS DIGITIZED FROM
AERIAL PHOTOGRAPHY.

4. MODEL PARAMETERS (Cont'd)

Explain how reach lengths for channel and overbanks were determined:

SCALED FROM AERIAL MAPPING

5. RESULTS (from model used to revise 100-year water surface elevations)

1. Do the results indicate:

- a. Water surface elevations higher than end points of cross sections? Yes No
- b. Supercritical depth? Yes No
- c. Critical depth? Yes No
- d. Other unique situations Yes No

If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps. SEE SPECIAL PROBLEMS SECTION OF TDN

2. What is the maximum change in energy gradient between cross-sections? 4.13'
Specify location XSECTN 4.494-4.592

3. What is the distance between the cross-sections in 2 above? 515'
Specify location XSECTN 4.494-4.592

4. What is the maximum distance between cross-sections? 810
Specify location XSECTN 1.400-1.553

5. Floodway determination

a. What is the maximum surcharge allowed by the community or State? 1.00 foot

b. What is the maximum surcharge for the revised conditions? N/A foot

Specify location N/A

c. What is the maximum velocity? 11.43 fps

Specify location XSECTN 5.910

Explain:

d. Are there any negative surcharge values at any cross-section Yes No

If yes, the floodway may need to widen. If it is not widened, please explain and indicate the maximum negative surcharge. MAX NEG SURCHARGE IS -0.17 FT @ XSECTN 5.589

5. RESULTS (Cont'd)

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood-elevations? Yes No

If Yes, explain:

7. Do 100-year water surface elevations increase at any location? N/A Yes No

If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases.

Please attach a completed comparison table entitled: Water Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model (10-, 50-, 100-, and 500-year), downstream of the project at cross-section N/A within N/A feet and upstream of the project at cross section N/A within N/A feet.

B. The revised floodway elevations tie into those computed by the effective FIS model, downstream of the project at cross section N/A within N/A feet and upstream of the project at cross section N/A within N/A feet.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studied (without encroachment). Also, label all cross sections, road crossings (including low chord and top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets. N/A (SEE TDN FOR PROFILES)

D. Attach a Floodway Data Table showing data for each cross section listed in the published Floodway Data Table in the FIS report. SEE TDN

Proceed to Riverine /Coastal Mapping Form

TANK WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDRAULIC ANALYSIS FORM

O.M.B. Burden No. 3067-0148
Expires July 31 1994

FEMA USE ONLY

PUBLIC BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 2.25 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden, to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington, DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

Community Name: MARICOPA COUNTY, ARIZONA

Flooding Source: TANK WASH
(One form for each flooding source)

Project Name/Identifier: POWERLINE WASH AND TANK WASH FLOOD DELINEATION STUDY

1. REACH TO BE REVISED

Downstream limit: RIVER MILE 0.980

Upstream limit: RIVER MILE 6.625

2. EFFECTIVE FIS

Not studied

Studied by approximate methods

Downstream limit of study _____

Upstream limit of study _____

Studied by detailed methods

Downstream limit of study _____

Upstream limit of study _____

Floodway delineated

Downstream limit of Floodway _____

Upstream limit of Floodway _____

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM. (Check all that apply)

Not studied in FIS (ZONE B)

Improved hydrologic data/analysis. Explain: _____

Improved hydraulic analysis. Explain: _____

Flood control structure. Explain: _____

Other. Explain: _____

3. RIVERINE HYDRAULIC ANALYSIS FORM

Models Submitted

Full input and output listings along with files on diskette (if available) for each of the models listed below and summary of the source of input parameters used in the models must be provided. The summary must include a complete description of any changes made from model to model (e.g. duplicate effective model to corrected effective model). Only the Duplicate Effective and the Revised or Post-Project Conditions models must be submitted. See instructions for directions on when other models may be required. Only the 100-year flood profile is required for SFIIAs with a Zone A designation. For areas which do not have detailed flooding, a hydraulic model is not required; however BFE's may not be added to the revised FIRM.

Duplicate Effective Model

Natural

Floodway

Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models (10-, 50-, 100-, and 500-year multi-profile runs and the floodway run) must be obtained and then reproduced on the requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

Corrected Effective Model

Natural

Floodway

The corrected effective model is the model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the currently effective model. The corrected effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

Existing or Pre-Project Conditions Model

Natural

Floodway

The duplicate effective or corrected model is modified to produce the existing or pre-project conditions model to reflect any modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective or duplicate effective model.

Revised or Post-Project Conditions Model

Natural

Floodway

The existing or pre-project conditions model (or duplicate effective or corrected effective model, as appropriate) is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for proposed project this model should reflect proposed conditions.



Other: Please attach a sheet describing all other models or calculations submitted.

Natural

Floodway

SEE TDW FOR DESCRIPTION

4. MODEL PARAMETERS (from model used to revise 100-year water surface elevation)

1. Discharges:	Upstream Limit	Downstream Limit
10-year	_____	_____
50-year	_____	_____
100-year	3400 CFS	6600 CFS
500-year	_____	_____

Attach diagram showing changes in 100-year discharge SEE TDW

2. Explain how the starting water surface elevations were determined STARTING WS TAKEN FROM WOOD/PATEL STAR WASH STUDY FOR BOTH NATURAL AND ENCRUSTED RUNS

3. Give range of friction loss coefficients (Manning's "N") Channel 0.040 - 0.050
 Overbanks 0.045 - 0.055

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

<u>Location</u>	<u>FIS</u>	<u>Revised</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Explain: N/A

4. Describe how the cross section geometry data were determined (e.g., field survey, topographic map, taken from previous study) and list cross sections that were added.

HYDRAULIC SECTIONS DIGITIZED FROM AERIAL PHOTOGRAPHY.

4. MODEL PARAMETERS (Cont'd)

Explain how reach lengths for channel and overbanks were determined:

SCALED FROM AERIAL MAPPING

5. RESULTS (from model used to revise 100-year water surface elevations)

1. Do the results indicate:

- a. Water surface elevations higher than end points of cross sections? Yes No
- b. Supercritical depth? Yes No
- c. Critical depth? Yes No
- d. Other unique situations Yes No

If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps. SEE SPECIAL PROBLEMS SECTION OF TDW

2. What is the maximum change in energy gradient between cross-sections? 3.61'
Specify location XSECTION 5.283-5.381

3. What is the distance between the cross-sections in 2 above? 515'
Specify location XSECTION 5.283-5.381

4. What is the maximum distance between cross-sections? 650'
Specify location XSECTION 3.880-4.003

5. Floodway determination

a. What is the maximum surcharge allowed by the community or State? 1.00 foot

b. What is the maximum surcharge for the revised conditions? N/A foot

Specify location N/A

c. What is the maximum velocity? 8.54 fps

Specify location XSECTION 3.785

Explain:

d. Are there any negative surcharge values at any cross-section Yes No

If yes, the floodway may need to widen. If it is not widened, please explain and indicate the maximum negative surcharge. MAX NEG SURCHARGE IS -0.17' @ XSECTION 5.187

5. RESULTS (Cont'd)

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood-elevations? Yes No

If Yes, explain:

SEE TDN SPECIAL PROBLEMS SECTION

7. Do 100-year water surface elevations increase at any location? N/A Yes No

If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases.

Please attach a completed comparison table entitled: Water Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model (10-, 50-, 100-, and 500-year), downstream of the project at cross-section N/A within N/A feet and upstream of the project at cross section N/A within N/A feet.

B. The revised floodway elevations tie into those computed by the effective FIS model, downstream of the project at cross section N/A within N/A feet and upstream of the project at cross section N/A within N/A feet.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studied (without encroachment). Also, label all cross sections, road crossings (including low chord and top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets. N/A (SEE TDN FOR PROFILES)

D. Attach a Floodway Data Table showing data for each cross section listed in the published Floodway Data Table in the FIS report. SEE TDN

Proceed to Riverine/Coastal Mapping Form

FEDERAL EMERGENCY MANAGEMENT AGENCY
 WATER SURFACE ELEVATION CHECK

COMMUNITY NAME

MARICOPA COUNTY, ARIZONA

FLOODING SOURCE

TANK WASH

PROJECT NAME /IDENTIFIER

EFFECTIVE

DUPLICATE EFFECTIVE

CORRECTED EFFECTIVE

EXISTING/PRE-PROJECT

REVISED/PROJECT

SECNO

NCWSEL¹

FCWSEL²

SURC.³

NEW

STUDY

COMMENTS:

1 100-year (natural) Water Surface Elevation

2-Encroachment (floodway) Water Surface Elevation

3-Surcharge Value

Include all cross sections in the models between tie-in points. Any interpolated values should be indicated in parentheses.

Sheet _____ of _____

SOUTH BRANCH TANK WASH

FEDERAL EMERGENCY MANAGEMENT AGENCY RIVERINE HYDRAULIC ANALYSIS FORM	O.M.B. Burden No. 3067-0148 Expires July 31, 1994	FEMA USE ONLY
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PUBLIC BURDEN DISCLOSURE NOTICE

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Community Name: MARICOPA COUNTY, ARIZONA

Flooding Source: SOUTH BRANCH TANK WASH
(One form for each flooding source)

Project Name/Identifier: POWERLINE WASH AND TANK WASH FLOOD DELINEATION STUDY

1. REACH TO BE REVISED

Downstream limit:	<u>RIVER MILE 0.176</u>
Upstream limit:	<u>RIVER MILE 0.872</u>

2. EFFECTIVE FIS

Not studied

Studied by approximate methods
 Downstream limit of study _____
 Upstream limit of study _____

Studied by detailed methods
 Downstream limit of study _____
 Upstream limit of study _____

Floodway delineated
 Downstream limit of Floodway _____
 Upstream limit of Floodway _____

3. HYDRAULIC ANALYSIS

Why is the hydraulic analysis different from that used to develop the FIRM. (Check all that apply)

Not studied in FIS (ZONE B)

Improved hydrologic data/analysis. Explain: _____

Improved hydraulic analysis. Explain: _____

Flood control structure. Explain: _____

Other. Explain: _____

3. RIVERINE HYDRAULIC ANALYSIS FORM

Models Submitted

Full input and output listings along with files on diskette (if available) for each of the models listed below and summary of the source of input parameters used in the models must be provided. The summary must include a complete description of any changes made from model to model (e.g. duplicate effective model to corrected effective model). Only the Duplicate Effective and the Revised or Post-Project Conditions models must be submitted. See instructions for directions on when other models may be required. Only the 100-year flood profile is required for SFHAs with a Zone A designation. For areas which do not have detailed flooding, a hydraulic model is not required; however BFE's may not be added to the revised FIRM.

Duplicate Effective Model

Natural

Floodway

Copies of the hydraulic analysis used in the effective FIS, referred to as the effective models (10-, 50-, 100-, and 500-year multi-profile runs and the floodway run) must be obtained and then reproduced on the requestor's equipment to produce the duplicate effective model. This is required to assure that the effective model input data has been transferred correctly to the requestor's equipment and to assure that the revised data will be integrated into the effective data to provide a continuous FIS model upstream and downstream of the revised reach.

Corrected Effective Model

Natural

Floodway

The corrected effective model is the model that corrects any errors that occur in the duplicate effective model, adds any additional cross sections to the duplicate effective model, or incorporates more detailed topographic information than that used in the currently effective model. The corrected effective model must not reflect any man-made physical changes since the date of the effective model. An error could be a technical error in the modeling procedures, or any construction in the floodplain that occurred prior to the date of the effective model but was not incorporated into the effective model.

Existing or Pre-Project Conditions Model

Natural

Floodway

The duplicate effective or corrected model is modified to produce the existing or pre-project conditions model to reflect any modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the corrected effective or duplicate effective model.

Revised or Post-Project Conditions Model

Natural

Floodway

The existing or pre-project conditions model (or duplicate effective or corrected effective model, as appropriate) is revised to reflect revised or post-project conditions. This model must incorporate any physical changes to the floodplain since the effective model was produced as well as the effects of the project. When the request is for proposed project this model should reflect proposed conditions.



Other: Please attach a sheet describing all other models or calculations submitted.

Natural

Floodway

SEE TDN FOR DESCRIPTION

4. MODEL PARAMETERS (from model used to revise 100-year water surface elevation)

Discharges:	Upstream Limit	Downstream Limit
10-year	_____	_____
50-year	_____	_____
100-year	<u>2300 CFS</u>	<u>2300 CFS</u>
500-year	_____	_____

Attach diagram showing changes in 100-year discharge SEE TDN

2. Explain how the starting water surface elevations were determined STARTING WS FOR NATURAL RUN BASED ON SLOPE-AREA OPTION. ENCROACHED STARTING WS = NATURAL + 1.00 FT.

3. Give range of friction loss coefficients (Manning's "N") Channel 0.040 - 0.050
 Overbanks 0.045 - 0.055

If friction loss coefficients are different anywhere along the revised reach from those used to develop the FIRM, give location, value used in the effective FIS, and revised values and an explanation as to how the revised values were determined.

<u>Location</u>	<u>FIS</u>	<u>Revised</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Explain: N/A

4. Describe how the cross section geometry data were determined (e.g., field survey, topographic map, taken from previous study) and list cross sections that were added.
HYDRAULIC SECTIONS DIGITIZED FROM AERIAL PHOTOGRAPHY.

4. MODEL PARAMETERS (Cont'd)

Explain how reach lengths for channel and overbanks were determined:

SCALED FROM AERIAL MAPPING

5. RESULTS (from model used to revise 100-year water surface elevations)

1. Do the results indicate:

- a. Water surface elevations higher than end points of cross sections? Yes No
- b. Supercritical depth? Yes No
- c. Critical depth? Yes No
- d. Other unique situations Yes No

If yes to any of the above, attach an explanation that discusses the situation and how it is presented on the profiles, tables, and maps. SEE SPECIAL PROBLEMS SECTION OF TDW

2. What is the maximum change in energy gradient between cross-sections? 3.65'
Specify location XSECTN 0.279-0.381

3. What is the distance between the cross-sections in 2 above? 540'
Specify location XSECTN 0.279-0.381

4. What is the maximum distance between cross-sections? 555'
Specify location XSECTN 0.573-0.678

5. Floodway determination

a. What is the maximum surcharge allowed by the community or State? 1.00 foot

b. What is the maximum surcharge for the revised conditions? N/A foot

Specify location N/A

c. What is the maximum velocity? 7.50 fps

Specify location XSECTN 0.872

Explain: _____

d. Are there any negative surcharge values at any cross-section Yes No

If yes, the floodway may need to widen. If it is not widened, please explain and indicate the maximum negative surcharge. MAX NEG SURCHARGE = -0.10 @ XSECTN 0.381

5. RESULTS (Cont'd)

6. Is the discharge value used to determine the floodway anywhere different from that used to determine the natural 100-year flood-elevations? Yes No
If Yes, explain:

7. Do 100-year water surface elevations increase at any location? N/A Yes No

If yes, please attach a list of the locations where the increases occur, state whether or not the increases are located on the requestor's property, and provide an explanation of the reason for the increases.

Please attach a completed comparison table entitled: Water Surface Elevation Check (See page 6)

6. REVISED FIRM/FBFM AND FLOOD PROFILES

A. The revised water surface elevations tie into those computed by the effective FIS Model (10-, 50-, 100-, and 500-year), downstream of the project at cross-section N/A within N/A feet and upstream of the project at cross section N/A within N/A feet.

B. The revised floodway elevations tie into those computed by the effective FIS model, downstream of the project at cross section N/A within N/A feet and upstream of the project at cross section N/A within N/A feet.

C. Attach profiles, at the same vertical and horizontal scale as the profiles in the effective FIS report, showing stream bed and profiles of all floods studied (without encroachment). Also, label all cross sections, road crossings (including low chord and top-of-road data), culverts, tributaries, corporate limits, and study limits. If channel distance has changed, the stationing should be revised for all profile sheets. N/A (SEE TDN FOR PROFILES)

D. Attach a Floodway Data Table showing data for each cross section listed in the published Floodway Data Table in the FIS report. SEE TDN

Proceed to Riverine /Coastal Mapping Form

