

Maryland Department of Transportation

State Highway Administration

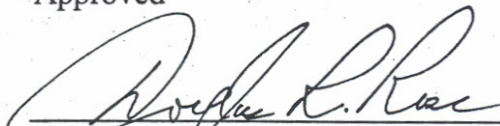
Utility Procedure Manual

Issued: June 1999

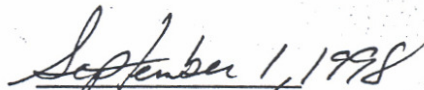
UTILITY PROCEDURE MANUAL
MARYLAND STATE HIGHWAY ADMINISTRATION

Prepared by the Construction Division
September 1998

Approved



Chief Engineer
Maryland State Highway Administration



Date

UTILITY PROCEDURE MANUAL

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Prepared by the Utilities Team, Office of Construction

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TABLE OF CONTENTS

	<u>SECTION</u>
PRELIMINARY UTILITY ACTIVITY	1
SHA CONSTRUCTION PLANS REACH DESIGN P.I. STAGE	2
SHA CONSTRUCTION PLANS REACH UTILITY P.I. STAGE	3
SHA CONSTRUCTION PLANS REACH FINAL REVIEW STAGE	4
CONSTRUCTION PHASE	5
FINAL BILLING PHASE	6
UTILITY PERMITS	7
EXCEPTIONS TO SHA'S UTILITY POLICY	8
RESOURCE SHARING PROJECTS	9

SECTION I

PRELIMINARY
UTILITY ACTIVITY

- 1-1 **UTILITIES TEAM SENDS COPIES OF CONSOLIDATED TRANSPORTATION PROGRAM TO EACH DISTRICT UTILITY ENGINEER.**
 - 1-1A *The District Utility Engineer distributes the Consolidated Transportation Program to the utility companies in their area.*
 - 1-1B *For District projects and informal projects not listed in the Consolidated Transportation Program, it is the District Utility Engineer's responsibility to keep the Utilities informed so that the Utilities can plan their work with minimum interference and damage to SHA highways.*
 - 1-1C *District Utilities Engineers receive copies of the SHA Monthly Advertisement Schedule. Utilities should be made aware of selected information from this schedule to help in their planning.*

- 1-2 **PROJECT DEVELOPMENT AND HIGHWAY DESIGN ANNUALLY REQUEST UTILITY COST ESTIMATES FOR ALL PROJECTS LISTED IN THE SIX YEAR CONSOLIDATED TRANSPORTATION PROGRAM.**
 - 1-2A *The planning and design offices shall provide the District Utility Engineer with alignment data.*

- 1-3 **THE DISTRICT UTILITY ENGINEER RESPONDS TO THE 1-2 REQUEST.**
 - 1-3A *Both preliminary engineering and construction costs for each Utility or Railroad affected must be sent, in memorandum form, to the originating office. The Utility may be helpful in generating estimates.*
 - 1-3B *The requesting party will use these utility estimates in his preparation of forms 61.3-1 through 61.3-9.*

- 1-4 **THE DESIGN PROJECT ENGINEER OR RESPONSIBLE PARTY SUBMITTING FORM 42-25C REQUESTS IN WRITING UTILITY PRELIMINARY COST ESTIMATES AND UTILITY CONSTRUCTION COST ESTIMATES FROM THE DISTRICT UTILITY ENGINEER.**

- 1-5 **THE DISTRICT UTILITY ENGINEER RESPONDS TO THE 1-4 REQUEST.**
 - 1-5A *It will be necessary to use 10% of the utility construction cost for the P.E. cost in most cases because Utilities are not equipped to estimate P.E. costs separately.*

- 1-6 **UPON RECEIPT OF THE DISTRICT UTILITY ENGINEER 1-5 RESPONSE, THE DESIGN PROJECT ENGINEER SHALL COMPLETE LINE 20 OF THE FORM 42-25C.**

- 1-7 **THE SHA ASSUMES A RESPONSIBLE POSITION RELATIVE TO CERTAIN UTILITY COSTS.**

1-7A *In conversations between the District Utility Engineer and the Utility, it should be clearly stated that the SHA is responsible for preliminary engineering and construction costs accrued by the Utility to the degree indicated by the Utility's prior rights. If the project is canceled, the proper portion of the Utility's preliminary engineering and construction costs will be paid provided only that the SHA District has authorized this preliminary engineering and, or construction in writing.*

1-8 *TO FACILITATE UTILITY RELOCATION WORK:*

1. *The Utilities Team will conduct monthly meetings with the metropolitan District Utility Engineers, Highway Design and Bridge Design to discuss all projects that require utility relocations.*
2. *When needed, the Utilities Team and District Utility Engineers will conduct meetings with the appropriate utility companies to review upcoming projects shown on the Ad Schedule.*
3. *All District Utility Engineers will forward a utility status report to the Utilities Team for every project on their respective District Ad Schedule. The Utility Status Reports will be updated on a monthly basis and are to be forward by the 15th of each month. When a project has had a report submitted with the months required prior to SHA notice to proceed of zero, a monthly update will no longer be necessary.*

DISTRICT - 1
UTILITY STATUS REPORT

Contract No. _____ PDMS No. _____ Rte. No. _____

Description: _____

1. Type of facilities impacted and status of relocations:

2. Estimated costs / federal PS&E requirements:

3. Right of way needs in advance of construction:

4. Utility work incorporated in SHA contract:

5. Months required prior to SHA notice to proceed:

SECTION 2

SHA CONSTRUCTION
PLANS REACH DESIGN PRELIMINARY
FIELD INVESTIGATION (P.I. STAGE)

- 2-1 *INITIAL CONTACT IS MADE WITH THE UTILITY COMPANIES IN ORDER TO ASCERTAIN THE LOCATION OF THEIR FACILITIES.*
- 2-1A *For roadway projects designed by consultant, the consultant will make the initial contact with the utility company to obtain existing and planned utility information and will be responsible for placing that data on SHA's preliminary plans. After obtaining the information, this action shall be documented by the consultant by written notification to the appropriate Design Division (s) with a carbon to the District Utility Engineer. All future contact with the utility companies beyond that state shall be handled via the lead design division and the District Utility Engineer.*
- 2-1B *For the non-consultant case, the Division sends a pre-determined number of plan sets to the District Utility Engineer who, in turn, sends two sets to each Utility. Each Utility is requested to plot and identify on the plans any facilities not already on the plans. The plans are then to be returned to the District Utility Engineer and forwarded to the Design Division.*
- 2-2 *THE DISTRICT UTILITY ENGINEER INITIATES THE PRIOR RIGHTS PROCEDURE BY MEASURING ALL AFFECTED UTILITY FACILITIES.*
- 2-2A *Each pole, manhole, underground service (pipe, cable, etc.), or other utility structure will be measured by a distance right or left of an established baseline, traverse line or centerline station if that facility or structure is likely to be affected by roadway construction or safety improvements. If no survey line can be established then all measurements must be taken from the centerline of the existing roadway. The station and distance, right or left, will be recorded on a SHA Utility Tabulation Form - 57. All entries on the Form - 57 will be plotted onto the construction plans. The form must be signed and dated by both the District Utility Engineer, or his assistant, and utility representative. Facilities of different types can be recorded on separate forms.*
- 2-2B *Method for locating existing facilities may be initiated by securing a copy of the survey topographical field book or CADD files relevant to the specific area of construction. Transfer all utility facilities located in the survey book onto the Form - 57 a distance right or left of a baseline, construction line or traverse line station. After recording all utility facility locations from the field book, the District Utility Engineer will make a field inspection to verify the locations of the existing facilities. At this time he will add any utility facilities to the Form - 57 not shown in the survey field book and delete all utility facilities that have been removed. The original and a copy of the Form R/W 57 is then sent to the respective utility companies for concurrence and signature. Facilities of different types can be recorded on separate forms. The use of subsurface engineering consultant contracts is another alternating method for completing the Form-57.*
- 2-2C *The signed Utility Tabulation Form - 57 can be typed later, if desired, to improve its appearance, but the original signed forms must be retained in the District files. Identify signers if typed or rewritten.*
- 2-2D *The District Utility Engineer forwards the signed Utility Tabulation Form - 57 to each utility. Each utility will identify its facilities and enter the R.W information. The utility will return the completed form to the District Utility Engineer.*
- 2-2E *Later, before billing time, the District Utility Engineer will delete or add to the list of structures as designs are refined. Any added structures must be processed as explained in section 2-2.*

- 2-3 *THE DISTRICT UTILITY ENGINEER FORWARDS A UTILITY TABULATION FORM - 57 FOR EACH UTILITY AND THE PLATS OR PLANS TO THE RECORDS AND RESEARCH SECTION.*
- 2-4 *THE RECORDS AND RESEARCH SECTION REVIEWS THE MATERIAL RECEIVED FROM 2-3 AND SENDS A REPORT TO THE DISTRICT UTILITY ENGINEER CONCERNING THE PRIOR RIGHTS OF THE EXISTING FACILITIES.*
- 2-5 *UPON RECEIPT, THE DISTRICT UTILITY ENGINEER SENDS A COPY OF EACH PRIOR RIGHTS REVIEW TO THE APPROPRIATE UTILITY.*
- 2-6 *THE UTILITY RESPONDS TO THE PRIOR RIGHTS REVIEW IF IT DISAGREES WITH ANY OF THE DECISIONS.*

STATE HIGHWAY ADMINISTRATION
 OFFICE OF REAL ESTATE
 PUBLIC UTILITY SECTION
 707 N. CALVERT STREET
 BALTIMORE, MARYLAND 21202

S.H.A. 63.39-57 4/12/79

UTILITY TABULATION FORM

NAME OF UTILITY _____ ADDRESS _____
 CONTRACT NUMBER _____ FILE NUMBER _____

POLE NUMBER	DISTANCE L--LEFT R--RIGHT	STATION	DATE OF GRANT TO UTILITY	UTILITY TITLE ACQUIRED FROM	TITLE REFERENCE	→	LOCATION			SHA RESPON- SIBILITY	REMARKS
							In	On	Out		
						→					
						A					
						D					
						J					
						U					
						S					
						T					
						M					
						E					
						N					
						T					
						S					
						E					
						C					
						T					
						I					
						O					
						N					
						O					
						N					
						L					
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						→					

SECTION 3

SHA CONSTRUCTION PLANS
REACH UTILITY PRELIMINARY
FIELD INVESTIGATION STAGE

- 3-1 *THE RESPONSIBLE DESIGN DIVISION SENDS A FORM LETTER TO THE DISTRICT UTILITY ENGINEER TO SCHEDULE THE UTILITY PRELIMINARY INVESTIGATION MEETING (UPI).*
- 3-1A *The number of plans, cross-section plans, and plats to be forwarded to the District will be determined by telephone coordination with the District Utility Engineer by the Project Engineer.*
- 3-1B *Plans shall have denoted R/W lines, R/W lines of Through Highway, all known utility locations obtained from P.I. coordination, and final line and grade. Drainage facilities may not be complete.*
- 3-2 *DISTRICT UTILITY ENGINEER, UPON RECEIPT OF PLANS AND PLATS, WILL FORWARD THESE TO THE UTILITIES AND SCHEDULE THE UPI MEETING APPROXIMATELY 45 DAYS FROM THIS TIME.*
- 3-2A *Utilities should have no less than 30 days to review plans prior to UPI.*
- 3-2B *Attendees will include the appropriated Utility company representatives, the Assistant District Engineer - Construction or Area Engineer, the Resident Maintenance Engineer, SHA Design personnel, and the Areawide Utility Coordinator.*
- 3-3 *THE DISTRICT UTILITY ENGINEER CHAIRS THE UPI MEETING.*
- 3-3A *The District Utility Engineer will ensure that the following subjects are discussed:*
1. *Technical Issues*
 2. *Coordination Issues*
 3. *SHA Utility Policy*
 4. *Each Utility will be directed to submit to the District Utility Engineer preliminary design plans i.e. proposed location on 1" = 50' scale within the 45 day period following the UPI meeting.*
 5. *At this meeting, each Utility shall be advised that the SHA may include the necessary utility work in the SHA construction contract if requested. The utility will submit the request to the lead designer. The lead designer prepares a letter of approval/denial for the Statewide Utility Engineer's signature. Lead designer sends letter of approval/denial to the Utility. If approved by carbon copy of this letter to the District Utility Engineer, the lead designer requests the District Utility Engineer to execute an agreement (see 4-58, 4-5C, and 4-5D) and submit a RW-57 Form (see 2-2).*
 6. *Schedules: Request the submission date of the plans, specification, and estimate. Also request an estimate for completion of all work in field.*
- 3-4 *THE DISTRICT UTILITY ENGINEER PREPARES A WRITTEN REPORT TO THE STATEWIDE UTILITY ENGINEER SUMMARIZING THE UPI MEETING..*

3-4A The report will address significant problems and possible solutions brought up during the meeting. A schedule will be included showing the dates by which each Utility feels it can complete its design. If any Utility is not cooperating, report the situation in detail and suggest a solution. The report will be due 20 days after the meeting.

3-4b All attendees of the UPI are to be sent a copy of the UPI report.

SECTION 4

SHA CONSTRUCTION
PLANS REACH FINAL REVIEW STAGE

- 4-1 *DESIGN DIVISION SENDS FINAL REVIEW CONSTRUCTION PLANS AND REQUEST FOR UTILITY SPECIAL PROVISIONS LETTER TO DISTRICT UTILITY ENGINEER.*
- 4-1A *Final drainage facilities have been determined at semi final stage.*
- 4-2 *DISTRICT UTILITY ENGINEER SENDS ONE SET OF CONSTRUCTION PLANS TO EACH UTILITY AND REQUESTS SPECIAL PROVISIONS DATA.*
- 4-3 *UTILITY PROVIDES UTILITY STRUCTURES DATA TO DISTRICT UTILITY ENGINEER.*
- 4-4 *DISTRICT UTILITY ENGINEER SENDS UTILITY SPECIAL PROVISIONS LETTER TO APPROPRIATE DESIGN DIVISION.*
- 4-5 *DISTRICT UTILITY ENGINEER OBTAINS UTILITY PLANS, COST ESTIMATE, AND AGREEMENT FROM UTILITY.*
- 4-5A *If the Utility has been granted permission from the SHA Statewide Utility Engineer to include its utility work in the SHA contract, the lead designer will obtain utility plans, cost estimate and special provisions from the utility.*

The Utility Plans are to be submitted on standard 22" X 34" sheet soft linen, linen reproduction or plastic drafting film and will become the property of the SHA. Sepias or vellum are acceptable for PS&E submission only. Reproduction of inferior quality are subject to rejection.

Standard identification blocks 10 1/8" X 2-0" and 3 13/16" X 7/8" shall appear in the lower and upper right hand corners respectively and shall indicate the sheet number, total number of sheets, SHA contract number, title, description, FAP number and revision block. Identification and signature requirements of others can appear elsewhere on the sheet. The size of all lettering and dimensioning shall be a minimum height of 1/8" and the spacing between lines shall be a minimum of 1/16". If datum is other than North American Datum 83/91 and north American Vertical Datum 88, the datum used shall be indicated as a prominent note on each applicable sheet. Other utilities or underground work (such as bridge footings, drainage systems, etc.) in close proximity to the proposed utility work shall be shown on both plan and profile views.

The Utility Special Provisions shall be submitted on 8 1/2" X 11" white bond paper or good quality reproductions. If governing specifications are other than those of the State Highway Administration, they must be included as part of the Special Provisions and be in generic form.

Engineer's estimate shall be typed and include the appropriate pay item, quantity, and cost in accordance with the standard procedures of the SHA. In addition, the nomenclature of all items on the computer input form must be the same as that shown on the plans and Special Provisions and shall be submitted to the responsible design division for approval not less than two (2) weeks prior to the Construction PS&E submission. To meet this schedule the Utility must submit these items to the lead designer not less than three (3) weeks prior to the PS&E submission.

PROCEDURES FOR UTILITY WORK INCLUDED IN SHA CONTRACTS

For work incorporated, the Utility will be billed in accordance with the prior-rights percentage and any credits applicable to either party. To ensure this, the following procedures must be followed:

1. *The District Utility Engineer will perform field measurements of existing facilities and complete the prior-rights report prior to the submission of the utility company engineer's estimate. (Reference is made to section 2-2). The District Utility Engineer should initiate the utility agreement at this time. (Reference is made to Section 4-5B, 4-5C, and 4-5D)*
 2. *As part of the utility PS&E submission, the utility company will list each pay item showing quantity, estimated cost and what existing facility on the prior-rights report is requiring this item. This will be coordinated with the Lead Designer.*
 3. *The Lead Designer will review the utility PS&E submittal. Upon approval, the lead designer will forward a copy of the utility PS&E to the Utilities Team, Office of Construction and to the District Utility Engineer. The PS&E will include a partially completed UC-10 form showing item descriptions and quantities required to do the utility work.*
 4. *The Utilities Team will perform an engineering review of the utility PS&E submittal and determine cost responsibility for the UC-10 items. Upon approval the Utilities Team will return the UC-10 to the lead designer. The lead designer will complete the UC-10 by entering the item numbers and attaching a billing address. The UC-10 will then be returned to the Utilities Team. The Utilities Team will prepare and forward a UC-11 to the Receipts & Disbursements Control Section for billing purposes.*
 5. *The Receipts & Disbursements Section will bill the utility on a monthly basis; and copies of the billings will be sent to the District Utility Engineer and the Utilities Team. The utility's percentage of cost, based on the UC-10 information, for items covered in the contractor's monthly estimate will be issued to the utility at the time final payment is made to the SHA contractor.*
- 4-5B *The agreement can be initiated by either party. If initiated by the SHA, the District Utility Engineer will be responsible for the writing of the agreement. If initiated by the Utility, the District Utility Engineer will review the agreement and seek correction if required.*

An agreement may be made in the form of letters between parties, a single document signed by all parties, or a master agreement used with assignment forms. The minimum requirements for a utility agreement follow. Agreements for more complex work may require additional statements.

1. *Identification of parties*
2. *Location and description of the utility work to be performed*
3. *Estimated cost of the work*
4. *Method of accounting used by the Utility*
5. *Statement that work and record keeping will be performed in accordance with FAPG sub chapter G Part 645*
6. *Details relative to betterment, material credits, method of recording labor hours, and similar special requirements.*
7. *Signatures*

All utility agreements will incorporated the following clause:

Utility personnel will report to the SHA Project Engineer on days when work is to be performed.

List of Master Agreements:

<u>UTILITY</u>	<u>MASTER AGREEMENT DATE</u>
<i>American Telephone & Telegraph</i>	<i>(July 23, 1968)</i>
<i>Baltimore Gas & Electric Company</i>	<i>(December 28, 1967)</i>
<i>Bell Atlantic</i>	<i>(March 1, 19968)</i>
<i>Colonial Pipeline Company</i>	<i>(December 29, 1966)</i>
<i>Conowingo Power Company</i>	<i>(January 9, 19967)</i>
<i>Choptank Electric Cooperative</i>	<i>(December 19, 1966)</i>
<i>Delmarva Power & Light Company</i>	<i>(March 3, 1967)</i>
<i>Columbia Gas of MD, Inc.</i>	<i>(April 23, 1996)</i>
<i>Southern MD Electric Coop, Inc.</i>	<i>(December 1, 1996)</i>
<i>Washington Gas Light Company</i>	<i>(January 30, 1967)</i>
<i>Washington Sanitary Suburban Comm.</i>	<i>(January 1, 1958)</i>
<i>WSSC/Prince George's County</i>	<i>(April 2, 1969)</i>
<i>Columbia Gas Transm. Corp.</i>	<i>(December 10, 1980)</i>

4-5C In the formal or informal communications relative to plan/estimate preparation by the Utility, it may be wise to stress certain requirements which Utilities frequently forget.

Specifically:

- 1. Facilities are not allowed inside controlled access areas except for crossings and telecommunication facilities which qualify under SHA "Resource Sharing" Program. Any crossings allowed will have severe limitations relative to installation and maintenance.*
- 2. When estimates are made, and later at billing time, the Utility must separate certain replacement costs if more than one type of facility is being used as a prior rights indicator. This is a common problem where one Utility handles both electricity and gas or conduit and aerial, or transmission and distribution.*

4-6 DISTRICT UTILITY ENGINEER REVIEWS UTILITY PLANS AND COMPLETES THE AGREEMENT OR ASSIGNMENT FORM BY HAVING THE DISTRICT ENGINEER SIGN THE DOCUMENT.

4-6A This District Utility Engineer portion of the review can be guided by SHA Form 72.3-UC-7A. In order to properly respond to the UC-7A. items, the following procedure is required.

Whenever possible, review all utility plans involved in the contract concurrently so that the proposed systems of the different utilities will be coordinated. Changes in joint usage can be questioned.

Obtain SHA construction plans. Plot utility system components onto the construction plans as necessary to determine if locations and depths are acceptable and optimized in terms of SHA utility policy.

Question the necessity of the utility work and study the proposal to see if the Utility's needs for betterment have complicated the design of the relocation. If so, or if the Utility has elected to go underground or do a more costly configuration, a "Replacement-In-Kind" will consist of plans, estimates and agreement to reflect a minimum cost relocation with no betterment and similar to the existing system. Request the "Replacement In Kind" and review it just as you review the Actual" plans & estimate. Eventually, the SHA will pay for the "Replacement In Kinds" or the "Actual", depending on which has the lowest audit cost.

Check the right-of-way form (usually Utility Tabulation Form-57) to make sure all facilities requiring adjustment are listed. For railroads and some specially arranged utility work, it will be necessary to examine the agreement to be certain that proper cost responsibility has been determined and is being applied.

Prepare a written list of questions for the Utility representatives at the upcoming Plan Review Meeting. Consider probable answers and plan possible responses.

4-7 DISTRICT UTILITY ENGINEER FORWARDS THE COMPLETED UC-7A FORM, WITH THREE COPIES OF THE PS&E PACKAGE TO THEN STATEWIDE UTILITIES TEAM FOR ADDITIONAL REVIEW.

4-7A Each PS&E package will include:

1. A cost estimate
2. An agreement or contract assignment Form
3. A description of the proposed work
4. A right-of-way statement
5. Plans
6. A copy of the proposed utility permit

4-7B

1. *The cost estimated should cover major materials, labor, engineering, costs, and credits. Sufficient detail is required for a reviewer to determine that the quantities and costs are reasonable for the work being proposed. If more than one Federal funding category is involved, the cost estimate must be broken down by Federal Project number. The estimated prior rights percentage should be included. A UC-4 form is convenient for estimate use.*
2. *The agreement can be a simple UC-5 form if a Master Agreement exists. Otherwise, a two-letter agreement or a specific single document agreement will be used. The parties involved must each sign the agreement. An agreement between a County and a Utility, which is required for FHWA-County contracts, must also be signed by the SHA District Engineer.*
3. *The description or statement of work should be brief. A UC-6 form is usually used.*
4. *The right-of-way statement is the Utility Tabulation Form-57 for most jobs. FHWA-County jobs usually have the right-of-way statement in the first agreement letter or the single document agreement. The statement must clearly establish cost responsibility for each facility major item.*

5. *Utility plans have the District Engineer's approval signature. FHWA-County jobs require the additional approval signature of the County authority. In the case of "Replacement In Kind" plans, the plans shall be clearly identified so as to not get mixed with the "Actual:" plans.*
- 4-8 *DISTRICT UTILITY ENGINEER FORWARDS A COMPLETED FORM-30 TO THE CHIEF OF THE PROGRAM CONTROL SECTION, OFFICE OF FINANCE PROGRAM MANAGEMENT.*
- 4-8A *The Program Control Section will process the Form-30 and send a copy of the Form-30 to the External Auditors and to the District Utility Engineer.*
- 4-9 *THE UTILITIES TEAM IS ASSIGNED THE RESPONSIBILITY OF COMPLETING THE REMAINDER OF THE UTILITIES PLAN REVIEW.*
- 4-9A *The Areawide Utilities Engineer shall Color code the existing and proposed utility facilities on the utility plans. Use RED for existing facilities to be removed, GREEN for proposed facilities PURPLE for existing poles worked on, but not relocated, and YELLOW for controlled access lines.*
- 4-9B *SHA 72.3 UC-7B Form is used to establish the format of this part of the review. Each item must be addressed, even if only to state that it is not applicable in this case.*
- 4-9C *Definitions of the credits listed on the UC-7B are available in 23 CFR.*
- 4-9D *The Areawide Utilities Engineer will prepare a written list of questions, as was done by the District Utility Engineer. Again, probable answers and possible counter questions should be considered.*
- 4-10 *THE AREAWIDE UTILITIES ENGINEER PREPARES A UTILITY PS&E PACKAGE (TWO COPIES) FOR FEDERAL PARTICIPATION.*
- 4-10A *A utility PS&E package will consist of:*
1. *A cost estimate (UC-4)*
 2. *An agreement or contract assignment form (UC-5)*
 3. *A description of the proposed work (UC-6)*
 4. *District Utility Engineer Review (UC-7A)*
 5. *Utility Team Review (UC-7B)*
 6. *A right-of-way statement (RW-57)*
 7. *A copy of the proposed utility permit*
(The above items will be bound together into booklet form along with cover for the booklet titled Utilities PS&E, Proposal Form with contract numbers, description of construction work, and space for approval stamp must also be included on the cover.)
 8. *Plans (The plans must be stapled together. The top plan sheet must contain the name of the Utility, SHA contract number, and FAP number.*
 9. *A memorandum to route the PS&E to the Federal Aid Programming Section*

- 4-11 *THE AREAWIDE UTILITIES ENGINEER REQUESTS THAT THE DISTRICT UTILITY ENGINEER SET UP A FIELD MEETING WITH THE UTILITIES TO DISCUSS THE PROPOSED UTILITY WORK.*
- 4-12 *THE DISTRICT UTILITY ENGINEER ARRANGES A FIELD MEETING AND CO-CHAIRS THE MEETING ALONG WITH THE AREAWIDE UTILITIES ENGINEER.*
- 4-13 *THE AREAWIDE UTILITIES ENGINEER COMPLETES HIS REVIEW AND SENDS TO THE DISTRICT UTILITY ENGINEER.*
- 4-13A *Copies are sent as noted on the UC-7A/B Forms*
- 4-14 *THE PS&E IS SENT TO THE FEDERAL AID PROGRAMMING SECTION. THE FEDERAL AID PROGRAMMING SECTION CHECKS THE PS&E FOR FORM AND CORRECTNESS. PS&Es SUBJECT TO CERTIFICATION ACCEPTANCE/EXEMPT PROCEDURES ARE FORWARDED TO THE SHA DEPUTY ADMINISTRATOR FOR APPROVAL. ALL OTHER PS&Es ARE SENT TO THE FHWA ADMINISTRATOR FOR APPROVAL.*
- 4-15 *THE DEPUTY ADMINISTRATOR OR FHWA AREA ENGINEER, IF APPROVED, SIGNS ON THE FRONT COVER OF EACH PS&E BOOKLET AND RETURNS BOTH COPIES OF THE PS&E TO THE FEDERAL AID PROGRAMMING SECTION.*
- 4-16 *THE FEDERAL AID PROGRAMMING SECTION RETURNS ONE APPROVED COPY TO THE UTILITIES TEAM.*
- 4-16A *The Federal Aid Programming Section requests a form PR-1240, letter of authorization, or a modified form PR-1240 authorizing the utility work from the FHWA. The form PR-1240 distribution list includes the Utilities Team and the appropriate District Engineers.*
- 4-17 *THE DISTRICT UTILITY ENGINEER SENDS EACH UTILITY A LETTER OF AUTHORIZATION TO PROCEED AND A COPY OF THE PERMIT. THE UTILITIES ARE ASKED TO NOTIFY THE DISTRICT UTILITY ENGINEER 48 HOURS BEFORE THEY START WORK. A COPY OF THE FULLY EXECUTED AGREEMENT IS INCLUDED IN THE MAILING IF THIS DOCUMENT HAS NOT BEEN GIVEN TO THE UTILITY EARLIER. A COPY OF THE UTILITY PLAN REVIEW IS ALSO INCLUDED.*
- 4-18 *DESIGN DIVISION SENDS SIGNED CONSTRUCTION PLANS TO DISTRICT UTILITY ENGINEER.*
- 4-19 *DISTRICT UTILITY ENGINEER SENDS ONE SET OF SIGNED CONSTRUCTION PLANS TO EACH UTILITY WITH A REQUEST TO CHECK THEM TO SEE IF ANY CHANGES AFFECT THE UTILITY'S DESIGN. IF SO, THE UTILITY IS TO NOTIFY THE DISTRICT UTILITY ENGINEER IMMEDIATELY.*
- 4-20 *THE APPROPRIATE DIVISION ADVERTISES THE CONSTRUCTION CONTRACT AND A PRE-BID MEETING IS COORDINATED THROUGH THE DEPUTY CHIEF ENGINEER-CONSTRUCTION OFFICE.*
- 4-21 *THE DESIGNER, WITH AID OF THE DISTRICT ENGINEER, CHAIRS A PRE-BID MEETING AT WHICH UTILITIES AND POTENTIAL CONTRACTORS DISCUSS CONSTRUCTION - UTILITY COORDINATION ISSUES WITH THE SHA AND WITH EACH OTHER.*
- 4-22 *THE DISTRICT UTILITY ENGINEER ADVISES UTILITIES OF THE CONTRACTOR'S NAME AND ADDRESS UPON AWARD OF THE CONTRACT*

Utility Name _____

**COST ESTIMATE FOR RELOCATING FACILITIES
DUE TO STATE HIGHWAY IMPROVEMENTS**

Route No. _____ State Contract No. _____

FAP No. _____

Drawing Nos. _____

Description of Adjustments

A. Preliminary Engineering

Salaries and Wages	\$ _____	
Additives	_____	
Supplies	_____	
Transportation	_____	
Consultant	_____	
TOTAL (A)		\$ _____

B. Right of Way

Acquisition Cost		
Salaries	_____	
Expenses	_____	
_____	_____	
Purchase Price	_____	
TOTAL (B)		_____

C. Temporary Construction (Installation and Removal)

Labor		
_____ Hours (Productive) @ _____	_____	
Contract	_____	
Material		
New Material	_____	
(List of Principal Items Attached)		
Handling	_____	
Transportation and Equipment	_____	
Miscellaneous Expense	_____	
Salvage Credit (List of Items Attached)	(_____)	
TOTAL (C)		_____

D. Permanent Construction

Removal of Existing Facilities

Labor

_____ Hours (Productive) @ _____

Contract _____

Transportation and Equipment _____

Miscellaneous Expense _____

Installation of New Facilities

Labor

_____ Hours (Productive) @ _____

Contract _____

Material _____

New Material _____

(List of Principal Items Attached)

Handling _____

Transportation and Equipment _____

Miscellaneous Construction Cost _____

TOTAL (D) _____

E. Transfers or Relocation of Facilities, Not Replaced _____

F. Construction Engineering and Supervision (Statement Showing the Factors That Will be Included in This Overhead is Attached) _____

G. Credit for Betterments Installed in New Facilities (Detail Record Attached) (_____)

H. Credit for Salvage Value of Existing Facilities Removed (List of Principal Items Attached) (_____)

I. Credit for Expired Service Live of Existing Facilities Removed (List of Principal Items Attached) (_____)

J. Net Estimated Cost (A to I) \$ _____

K. State Participation (_____ % of J) \$ _____

L. Federal Participation (_____ % of K) (If Less Than 100% of K, Explanation is Attached) \$ _____

Prepared By _____ Date _____

MARYLAND STATE HIGHWAY ADMINISTRATION

UC-5 CONTRACT ASSIGNMENT FORM

An Assignment in conformance with the terms of the Master Agreement executed as of (DATE) _____ by and between _____ (Utility), and the Maryland State Highway Administration (State), for relocation and adjustment of facilities owned by the Utility,

Contract No. _____
FAP No. _____
Route No. _____

Project Description:

Description of proposed adjustments to Utility facilities, by Drawing Number,

Total Estimated Cost of Adjustment of Utility Facilities \$ _____

Estimated Cost of Reimbursement by MD State Highway Administration \$ _____

Relocation work to be performed (check method applicable).

By contract based on bid (), By Utility forces ().
Under existing written continuing contract ().

All plans, specifications and estimates for work covered by this assignment are included herewith.

Prepared by _____ Date _____
Utility Representative

Approved by _____ Date _____
SHA District Engineer

STATEMENTS IN REGARD TO THE ARRANGEMENTS FOR COORDINATION
AND COMPLETION OF UTILITY ADJUSTMENTS

CONTRACT NO. _____

F.A.P. NO. _____

ROUTE NO. _____

COMPANY _____

Description of the proposed adjustments:

Work to be completed in advance of construction:

Work to be coordinated with the physical construction schedule. (Describe need for such items as grading or clearing, necessity for maintaining existing facilities in service, and when work can start and time required to complete.)

=====

COMPANY _____

Description of the proposed adjustments:

Work to be completed in advance of construction:

Work to be coordinated with the physical construction schedule. (Describe need for such items as grading or clearings, necessity for maintaining existing facilities in service, and when work can start and time required to completed.)

UTILITY PLAN REVIEW

Date _____ Page 1 of _____

TO: Chief, Utilities Section

FROM: District Utility Engineer, District #__

SUBJECT: Contract No. _____

FAP No. _____

Utility _____

SHA Construction Description _____

Districts comments are attached for the following aspects of this plan review.

1. Agreement Status
2. FAP Programming Status
3. Right-of-Way Report Status
4. Necessity of Utility Work
5. Safety and Conformance to SHA/FHWA regulations
6. Replacement-in-Kind
7. Sequence of Utility work relative to SHA work & other Utility Work
8. Status of other Utility work on this contract
9. PS&E Status
10. Form 30 Status
11. Additional notes

For additional information, please contact

District Utility Engineer

Telephone

cc: SHA Project Engineer-Construction
Chief, Public Utility Adjustment Unit

SHA 72.3 UC-7A 6-15-84

UTILITY PLAN REVIEW

Date _____ Page 1 of _____

TO: District Utility Engineer, District #__

FROM: Chief, Utilities Section

SUBJECT: SHA Contract No. _____

FAP No. _____

Utility _____

SHA Construction Description _____

Comments #1 through #11 have been received from the District and are attached.
Additional comments by the Utilities Section follow:

- 12. Materials Removed
- 13. Materials Installed
- 14. Materials Transferred
- 15. Replacement-In-Kind
- 16. Betterment
- 17. Expired Life
- 18. Unexpired Life
- 19. Salvage
- 20. PS&E Status
- 21. Field Meeting
- 22. Additional notes

The above aspects are approved by this office. For additional information, please contact

Areawide Utilities Engineer

Telephone

cc: Utility (c/o District Utility Engineer)
SHA Project Engineer (c/o District Utility Engineer)
Chief, Public Utility Adjustment Unit

SHA 72.3 UC-7B 6-15-84

STATE HIGHWAY ADMINISTRATION

TO: Ms. Patty Rae Code:
Chief, Program Coordinator Date:

FROM: Joseph Bissett
Chief, Utilities Section
Office of Construction

SUBJECT: Contract No.
Fap No.
PDMS No.

Company:

This office has completed an engineering review of _____ proposed utility work to be incorporated into the above-referenced project.

The utility plans and UC-10 form, "Cost Responsibility Summary of Estimate Quantities" are approved from the standpoint of engineering.

Based on the information outlined in the UC-10 form, please bill _____ for their cost responsibility in this work. Listed below is the name and billing address.

If you have any questions, just call. Thank you for your cooperation.

JFB:ds

cc: District Utility Engineer
Highway Design Utility Coordinator
Utility Company
Receipts & Disbursements Section

SHA 72.0 UC-11 10-15-91

Maryland Department of Transportation



*State Highway Administration
Baltimore, Maryland*

UTILITIES P. S. & E.

Proposal Form

STATE HIGHWAY ADMINISTRATION

March 1, 1996

MEMORANDUM

**TO: Mr. Gary Gray
Chief, Federal Aid Programming Section**

**FROM: Joseph F. Bissett
Chief, Utilities Section
Office of Construction**

**SUBJECT: SHA Contract No. B-115-501-476
FAP No. NH-G-281-1(17) C
US 1 - South of Joppa/Ebenezer Roads to North of Cliffvale Road
Baltimore Gas & Electric Company (Distribution)
Job #15R5807 Phase III**

We are submitting a \$83,865.00 Utility PS&E for your review and processing to FHWA. This PS&E is for Phase III of BG&E's Distribution work. PS&E's for Phase IV will be submitted at a later date. Please request a form PR-1240, letter of authorization or a modification to the existing PR-1240 from the FHWA authorizing the utility work described in the attached utility PS&E. Approval of this is needed by 03-22-96.

If you have any questions, please call me at 545-5547. Thank you for your cooperation.

**JFB:ds
Enclosures**

SECTION 5

CONSTRUCTION PHASE

5-1 *ALL INSPECTION WORK WILL BE ARRANGED FOR AND ACCOMPLISHED IN ACCORDANCE WITH THE MOST RECENT REVISION OF CONSTRUCTION DIRECTIVE 07220.800.01.*

5-2 *THE UTILITY SENDS PARTIAL BILLINGS TO THE DISTRICT ENGINEER.*

5-2A *The Utility partial bill from the Utility shall be accompanied by the following items and must be labeled PARTIAL and contain the sequence number.*

1. *A copy of the labor hours for the particular State contract for the billing period covered.*
2. *A list of the major expensive materials used such as poles, main wire, and ducts.*
3. *Billing detail for any sub-contractor billing included in the partial bill.*
4. *An estimate of the percentage of work completed during the billing period.*
5. *The prior-rights percentage used in the partial billing.*

5-3 *THE DISTRICT UTILITY ENGINEER SUBMITS A COPY OF EACH PARTIAL BILL TO THE SHA UTILITY INSPECTOR WITH A REQUEST THAT THE INSPECTOR COMPARE THE BILLED PROJECT HOURS TO THE SUM OF THE DAILY HOURS RECORDED BY THE INSPECTOR DURING THE BILLING PERIOD AND RESPOND IN WRITING TO THE DISTRICT UTILITY ENGINEER.*

5-4 *THE UTILITY INSPECTOR RESPONDS IN WRITING TO THE DISTRICT UTILITY ENGINEER. IF THE BILL IS FAIR AND IN LINE WITH THE UTILITY PLAN REVIEW, ELIGIBLE FOR REIMBURSEMENT IN ACCORDANCE WITH THE AGREEMENT, AND THE DISTRICT UTILITY ENGINEER APPROVES OF THE BILL, HE REQUESTS THE DISTRICT ENGINEER OR HIS DESIGNEE TO SIGN TWO COPIES OF THE ORIGINAL BILL.*

5-4A *If a bill is considered unacceptable by the District Utility Engineer, he will return the bill to the Utility with a letter of explanation. The letter and its response should be made a part of subsequent submissions.*

Note: The Utilities Team and the External Auditors are not in a position to verify hours worked by Utility personnel or materials used. These functions can only be performed by SHA field personnel.

5-5 *THE DISTRICT UTILITY ENGINEER OR HIS DESIGNEE PROCESSES THE BILL THROUGH FMIS FOR PAYMENT. THE DISTRICT UTILITY ENGINEER SENDS TWO COPIES OF THE BILL WITH THE DISTRICT ENGINEER'S OR HIS DESIGNEE'S ORIGINAL SIGNATURE TO VOUCHERS IN THE APPROVED SEALED BAG.*

5-6 *THE DISTRICT UTILITY ENGINEER PREPARES AND SENDS A PARTIAL BILL PACKAGE TO THE UTILITIES TEAM.*

5-6A *The partial bill package sent to the Utilities Team shall include:*

1. *One copy of the partial bill.*
2. *A copy of any pertinent communication relative to the particular relocation work including the Utility Inspectors response to the accuracy of the partial bill, but not Inspector's Daily Reports(IDRs).*
3. *Form UC-8 and its attachments.*

5-6B *If a partial bill is considered unacceptable by the Utilities Team personnel, the Utilities Team will request a meeting with the Utility Company and the District Utility Engineer to resolve the problems with the partial bill prior to the final bill.*

5-7 *THE CONSTRUCTION PROJECT ENGINEER, WHEN THE UTILITY'S WORK IS COMPLETED, SUBMITS THE FOLLOWING MATERIAL TO THE DISTRICT UTILITY ENGINEER;*

1. *As Built Plans*
2. *IDRs*
3. *Brief written summary*

5-7A *The As Built Plans are not to be confused with the As Built Plans provided by the Utility at final billing time.*

5-8 *CONSTRUCTION CHANGE ORDERS RELATIVE TO UTILITY WORK*

The following procedure is required when Construction Change Orders, involve any extra utility work on State Highway Administration construction projects:

1. *The SHA construction personnel in conjunction with the Utility Company's field inspector will determine and identify all utility work required in SHA construction projects.*
2. *The Project Engineer, Area Engineer, or the ADE - Construction shall notify the District Utilities Engineer (DUE) with regard to the scope of any extra utility work included in SHA construction projects.*
3. *The DUE shall contact the affected Utility Company for concurrence of the proposed extra utility work and to get the Utility Company involved in the review process. The DUE shall conduct a cost responsibility review with the utility company representative.*
4. *Upon the Utility Company's documented concurrence, the District Engineer, or designee, shall prepare the Change Order, and issue the DUE a copy. All Change Orders for utility work shall include a statement or UC-10 from the DUE which addresses the State Highway Administration's and the Utility Company's cost responsibility, the DUE shall transmit a copy of the Change Order to the Statewide Utility Engineer, Office of Construction.*

Note: For specific guidelines in the preparation of Change Orders, refer to CONSTRUCTION DIRECTIVE 07220.100.23.

5. *The Utilities Team will review the Change Order to insure that the cost responsibility statement has been addressed.*
6. *Upon payment for the extra utility work performed by the contractor, the Receipts and Disbursement Section will bill the Utility Company based upon the Utility Company's cost responsibility for the extra work. The Receipts and Disbursement Section will also distribute copies of the Utility Company billing to the DUE and the Utilities Team.*

PARTIAL BILL REVIEW

Date _____
Page 1 of _____

TO: Statewide Utility Engineer, OOC

FROM: District Utility Engineer, District # _____

SUBJECT: SHA Contract No. _____

FAP No. _____

SHA Construction Description _____

Utility _____ Partial bill # _____

Comments are attached relative to the following aspects of this partial bill review.

- 23. Verification of labor hours by SHA Project Engineer or SHA Utility Inspector.
- 24. Date Form 30 sent to Program Control Section.
- 25. Percentages used by Utility for prior rights; work completion, and retention.
- 26. Comments on materials only if obviously incorrect. Utilities Team will review.
- 27. Additional notes.
- 28. For additional information, please contact

District Utility Engineer

cc: SHA Project Engineer
Utility Company

CONSTRUCTION DIRECTIVE 07220.800.01

SUBJECT: Inspection and Documentation Pertaining to Utility/Railroad Forces

NOTE: All references to Utility in this Directive shall also apply to Railroads.

GENERAL:

The following procedure is necessary to assure sufficient documentation in project records with regard to:

- a. Utility Forces used for protection and relocation of facilities.
- b. Materials salvaged from facilities removed and considered by utility to be unusable.
- c. Measurements of Utility underground and above ground installations.
- d. Inspection of completed Utility installations.

PURPOSE:

To verify Utility time and material charges to State.

PROCEDURE:

Work described above is usually initiated prior to commencement of actual Construction Contract and requires a two phase inspection procedure that delegates an area of responsibility for each phase. They are designated "Prior to Construction" and "During Construction".

Phase I - Prior to Construction

District Utilities Engineer requests District Engineer to assign Personnel to inspect work done by Utility.

CONSTRUCTION DIRECTIVE 07220.800.01

Phase II - During Construction

Project Engineer will assign Inspection Personnel to inspect work done by Utility. In this case, Inspector may be assigned to their activities, but with primary duty being daily visits to utility work site. In all cases Project Engineer will be responsible for providing adequate inspection exceeding minimum daily visits to Utility worksite when necessary.

A. Inspection and Control of Work:

1. Plans and Documents: District Utilities Engineer will forward these Documents to project Engineer:
 - a. Two (2) sets of Plans for Utility Work.
 - b. One (1) copy of Work Order.
 - c. One (1) copy of permit, when applicable.
 - d. One (1) of Utility's Notice to Proceed.
 - e. One (1) copy of all other pertinent Documents indicating the description of work, pay methods and Representative to contact for each Utility.
2. Scheduling: Project Engineer will review work schedules with Utility Representative and Prime Contractor to coordinate progress of work to the extent that both parties are able to complete their work in an expeditious manner. Utility Representative will notify Project Engineer as to dates and locations of work to be performed and Project Engineer will notify Utility Representative of any changes in Contractor's progress that may affect work of Utility.
3. Plans: As work progresses, one set of plans furnished by Utilities Engineer will be used by Inspector as a Field Copy. Inspector will transfer changes and comments to office Copy which will become the "As Built" Plans to be forwarded to District Utilities Engineer upon completion of work. All deviations must be shown on "As Built" Plans.
4. Inspector's Daily Report: A separate Inspector's Daily Report (IDR) will be completed each day for each Work Order No. and will be completed in same manner as any other IDR with following exceptions:
 - a. The work Order No. and State Highway Administration (SHA) Contract No. will both be used.

CONSTRUCTION DIRECTIVE 07220.800.01

- b. Normal pay quantities will not apply, but indications of materials and quantities used as well as salvaged material are to be entered.
 - c. Filing - IDR's will be filed according to Work Order No. and a separate file is to be used for each Work Order. These files will be forwarded to District Utilities Engineer upon completion of work.
- 5. Daily Log: Indicate under "Remarks" names of Utility Companies on days they are actually working.
 - 6. Bills: When either partial or final bills are received from Utility, Project Engineer will check billing against Project Records and will report any discrepancies to District Utilities Engineer.
 - 7. Summary of Work Done: Upon completion of work, Project Engineer will submit to District Utility Engineer the "As Built" Utility Plans and Utility File, including IDR's. The Project Diary will be available at the District Office with the other project records if needed. A brief Written Summary is to be submitted to attest work was satisfactorily completed in conformance with Utility Documents, and explain any deviations or problems related to work.

B. Summary of Duties and Responsibilities:

- 1. Documentation - IDR's: IDR's are vital to verify man-hours, equipment and materials used and salvaged. These Records are used to substantiate payment to Utility and must be kept as accurately as possible. Whenever there are problems obtaining this information, document details in Project Diary and on IDR's and notify District Utilities Engineer.
 - a. The SHA Inspector will verify labor hours on railroad forms, if requested, provided the SHA Inspector has knowledge that the hours are correct. Note, in the case of travel time, or other unusual circumstances, the SHA Inspector will sign "for receipt only" and indicate the reason for this signature.
- 2. Inspection of the work: Generally, this type of work is not included in State Specifications, but the following procedures do apply:
 - a. Locations are to be checked.

CONSTRUCTION DIRECTIVE 07220.800.01

- b. Excavation and Backfill within SHA Right-of-Way are to be done according to SHA Specifications.
- c. Traffic Control on, or adjacent to, State highways is to be in accordance with SHA Specifications.
- d. All work done is to be checked for conformity to SHA Approved Plans. No deviation from or revisions to these Plans may be permitted without prior approval of District Utilities Engineer.

If any Problems or Conditions arise that are not covered by Utility Procedures or this Directive, the Project Engineer/Inspector will immediately contact District Utilities Engineer. Log time of contact in Project Diary.

Chief Construction Inspection Division _____

APPROVED:

Deputy Chief Engineer-Construction

CONSTRUCTION DIRECTIVE 07220.100.23

SUBJECT: Change Order Authorization for Construction Contracts

PURPOSE:

To provide standard for preparation of Change Order Authorizations by showing flow sequence of the process with references to other documents.

REFERENCE:

Standard Specifications, and subsequent revision:
Certification Acceptance Operating Procedures; SHA Directives; D.O.T. Policy; D.O.T. Contract Processing Guidelines.

PROCEDURE:

Construction Change Order Relative to Utility Work:

1. The District Engineer, or designee, shall notify the District Utilities Engineer (DUE) with regard to the scope of the additional.
2. The DUE shall contact the affected Utility Company for concurrence of the proposed extra utility work. Upon the Utility Company's documented concurrence, the District Engineer, or designee, shall prepare the Change Order (C.O.), and issue the DUE a copy. All C.O. for utility work shall include a statement from the DUE which addresses the State Highway Administration's and the Utility Company's cost responsibility statement, the DUE shall transmit a copy of the C.O. to the Chief of the Utilities Section, Office of Construction.
3. The Utilities Section will review the C.O. to insure that the cost responsibility statement has been addressed.
4. Upon execution of the C.O., the Utilities Section will forward a copy of the C.O. to the Receipts and Disbursements Section for billing purposes.
5. Upon payment for the additional work performed by the Contractor, the Receipts and Disbursement Section will bill the Utility company based upon the Utility Company's cost responsibility for the additional work.

CONSTRUCTION DIRECTIVE 07220.100.23

The Receipts and Disbursement section will also distribute copies of the Utility Company billing to the DUE and the Utilities section.

PROCEDURE:

ALL Construction Change Orders:

1. District Engineer establishes need for additional work Authorization.
2. District Engineer or his delegate negotiates with the Contractor for a price of the work if required and computes extension of time if applicable.
3. On Non/CA Projects, the District Engineer should obtain Federal Highway concurrence by coordinating with them prior to, during and after the negotiation process.
4. If total of all Change Order Authorizations, including proposed one for Contract under consideration, exceeds District Engineer's approval authority, approval of the Deputy Chief Engineer - Construction is required prior to execution by Contractor.

Listed below is the new delegation of authority as approved by the Memorandum dated May 27, 1986 from SHA Administrator to Secretary MDOT.

- A. District Engineer - Up to 10% or 25 days/\$250,000 whichever is less. The Deputy Chief Engineer - Construction must approve any change which cumulatively exceeds the above and each \$50,000 increment thereafter.
- B. Deputy Chief Engineer - Construction - Up to 25% or 60 days/\$500,000 whichever is less. The Chief Engineer must approve any change which cumulatively exceeds the above and each multiple of \$50,000 thereafter.

CONSTRUCTION DIRECTIVE 97220.100.23

- C. Chief Engineer - Over 25% or up to 100 days/\$1,000,000 whichever is less. The Administrator must approve any single authorization over \$250,000 and any change which cumulatively exceeds the above and each multiple \$500,000 thereafter.

- 5. Prior approval should be recorded on Change Order (C.O.) Form and submitted with the Change Order Authorization any time when the levels in Step #3 are exceeded. Concurrence by FHWA should be noted on this form.

- 6. District Engineer completes Change Order Authorization obtains signature of Contractor or Authorization Agent (including title of person signing and name of firm), signs, and transmits to Deputy Chief Engineer-Construction. Included with transmittal should be the following.
 - A. Explanation/Justification of time extension

 - B. Explanation/Justification of all items with indication that supporting Documentation is on file at the District Office.

 - C. Prior approval form as indicated in Procedure #4 (if required).

 - D. Federal Aid Project not under certification acceptance will require that a letter of transmittal accompany the C.O. The District will fill in the subject information except the date for transmittal to FHWA

The District will be responsible for obtaining FHWA concurrence on ALL Non/CA C.O.'s.

 - E. Federal Aid Projects under certification acceptance (CA) will not require FHWA approval except under the following conditions:
 - 1) C.O.'s Requiring the Chief Engineer's signature.
 - 2) C.O.'s on Major Bridge Projects.

CONSTRUCTION DIRECTIVE 97220.100.23

- 3) Claims,
- 4) Negotiated settlements
- 5) C.O.'s that change the scope, character and/or termini of the project.

When processing C.O.'s that will ultimately be processed to FHWA, a Transmittal Letter and (five) 5 white copies of the C.O.'s must be attached. The District will fill in the subject information except the date and authorization number and must clearly indicate number approved under certification acceptance procedures as per FHPM 6-5-2".

All C.O.'s falling in these categories should be discussed with FHWA prior to processing.

- F. All authorization should be sent directly to the Deputy Chief Engineer - Construction. Each C.O. must be a combination of both additional and Extensions of Time. In cases where there is no extension for this particular C.O. but previous C.O.'s did extend the time, both sections should be completed.
- G. All C.O.'s and overruns of a substantial amount of bid items are to be cleared through the Chief Engineer's Office Prior to authorizing the Contractor to proceed. The Chief Engineer will expect careful screening of all C.O.'s and overruns with only those essential to the project being submitted for approval.
- H. The District Engineer must maintain a file which includes his prior estimate of costs, price negotiations, and final agreed prices.
- I. Any C.O.'s involving Design Errors or Omissions should contain a statement to that effect, and the criteria as noted in CD 7220.100.24 should be followed.
- J. All C.O.'s exceeding \$100,000 or 100 days must be accompanied by a memo to the Administrator. These same C.O.'s will also be reviewed by an Independent Consultant.

CONSTRUCTION DIRECTIVE 97220.100.23

7. Deputy Chief Engineer-Construction reviews and signs Change Order Authorizations as required, (Delegation of Authority, Memorandum May 27, 1986 from SHA Administrator to Secretary MDOT) and transmits Extra Change Orders to:
 - A. Office of Finance or
 - B. Chief Engineer with supporting documentation for review and approval, and transmittal to:
 1. Office of Finance - (Non-C/A Projects)
 2. Federal Highway Administrations Division Administrator for review (C/A Projects) or
 - C. Chief Engineer with supporting documentation and memorandum of transmittal to the Administrator for review and approval and transmittal to Office of Finance
8. Office of Finance audits Change Order Authorization for correctness and arithmetic, item numbers, and approval signatures certifies to availability of funds, assigns an Change Order Authorization number, and distributes copies to each Responsibility Unit involved.
9. For Federal Aid Projects not under certification acceptance, Asst. Deputy Chief Engineer-Construction assembles copies of Change Order Authorization and supporting documents with letter of transmittal to Federal Highway Administration's Division Administrator requesting approval and forwards through office of Chief Engineer.
10. For Federal Aid Projects under certification acceptance, Asst. Deputy Chief Engineer-Construction will obtain the Administrator's signature (if needed) after Federal Review, and transmit to Office of Finance.
11. Asst. Deputy Chief Engineer-Construction - Distributes copies of Change Orders Authorization showing Federal Highway Administration approval.
12. The District Engineer will provide the total number of C.O.'s (including total amounts and days) District Engineers Certificate of Completion of Work" when final package is submitted.

Chief Construction Inspection Division

APPROVED:

Deputy Chief Engineer-Construction

SECTION 6

FINAL BILLING PHASE

6-1 *UTILITY SENDS TO THE DISTRICT TWO COPIES OF THE FINAL BILL, A TOTAL SUMMARY OF THE BILLINGS, TWO SETS OF AS BUILT PLANS, AND AN EXPLANATION OF ANY CHANGES WHICH AFFECTED THE BILLING.*

6-2 *THE DISTRICT UTILITY ENGINEER PERFORMS THE FIRST PART OF A UTILITY REVIEW.*

6-2A *The District part of the final bill review should be guided by items 28 through 36 on the UC-9A form. For each item a comment will be prepared, even if that comment is only "not applicable".*

Item 30 is included because engineering costs are not easily verified and controlled. Noting these charges as a percentage of the total bill will eventually provide a statistical base which will be helpful in evaluating future engineering costs.

6-3 *THE DISTRICT UTILITY ENGINEER SENDS A COPY OF THE BILL, THE BACK-UP INFORMATION, AND THE UC-9A TO THE UTILITIES TEAM.*

6-3A *Backup information will include the following items in addition to the one copy of the bill with the billing details:*

1. *The Summary written by the Construction Project Engineer.*
2. *One set of As-Built plans.*
3. *A copy of the Notice To Proceed.*
4. *Any pertinent communications.*

6-4 *AN AREAWIDE UTILITY ENGINEER IN THE UTILITIES TEAM REVIEWS THE FINAL BILLING FROM THE VIEWPOINT OF MATERIALS, CREDITS, AND PRIOR RIGHTS.*

6-4A *This portion of the review should be guided by items 37 through 49 on the UC-9B form. The Areawide Utility Engineer's comments are attached to the form. The form is signed by the Areawide Utility Engineer, initialed by the Statewide Utility Engineer.*

6-5 *THE UTILITIES TEAM SENDS THE UC-9B REVIEW TO THE DISTRICT UTILITY ENGINEER APPROVING PAYMENT OF THE BILL.*

6-5A *If a bill is considered unacceptable by the Utilities Team personnel, refer to section 5-6B.*

6-6 *IF THE DISTRICT UTILITY ENGINEER IS SATISFIED THAT THE WORK HAS BEEN COMPLETED IN SUBSTANTIAL COMPLIANCE WITH THE PLANS AND THAT THE FINAL BILL IS FAIR, HE REQUESTS THAT THE DISTRICT ENGINEER OR HIS DESIGNEE SIGN THE TWO COPIES OF THE FINAL BILL.*

6-7 *THE DISTRICT UTILITY ENGINEER OR HIS DESIGNEE PROCESSES THE BILL THROUGH FMIS FOR PAYMENT. THE DISTRICT UTILITY ENGINEER SENDS TWO COPIES OF THE BILL WITH THE DISTRICT ENGINEER'S OR HIS DESIGNEE'S ORIGINAL SIGNATURE TO VOUCHERS IN THE APPROVED SEALED BAG.*

6-8 *AN EXTERNAL AUDITOR AUDITS THE BILL AND ITS BACK-UP MATERIAL.*

6-8A *The Audit consists of:*

1. *Check of arithmetic.*
2. *Review of labor rates, additives, and material costs.*
3. *A check of travel times and travel costs for the final bill and all partial billing.*
4. *Review to ensure that proper documentation is present.*

Note: An audit at the Utility's headquarters may be scheduled on a sampling basis or if a particular problems encountered.

6-8B *Items received by the District Utility Engineer will be filed in the files of the District Utility Engineer, but will be made available to the Utilities Team and/or the Bureau of Audits and Federal Aid for their review.*

6-8C *Back-up material will include the following items in addition to the signed copies of the bills.*

1. *The Summary written by the Construction Project Engineer.*
2. *A copy of the Utility Tabulation Form-57 or equivalent.*
3. *A copy of the Agreement, Assignment or UC-5.*
4. *A copy of any pertinent communication relative to the particular relocation work, but not Inspector's Daily Reports(IDRs).*
5. *A copy of the Utility Plan Review (UC-7A & UC-7B).*
6. *A copy of each partial bill and a copy of final bill, each signed by the District Engineer.*
7. *A copy of the Notice to Proceed.*
8. *A copy of each of the 5-2A items.*
9. *A copy of the Estimate.*
10. *Form UC-8 and its attachments for each partial bill.*
11. *A copy of the Final Bill Review (UC-9A & UC-9B).*

6-9 *THE EXTERNAL AUDITOR NOTIFIES THE UTILITIES TEAM AND THE DISTRICT UTILITY ENGINEER IN WRITING IF CITATIONS ARE NECESSARY, THE EXTERNAL AUDITOR SENDS COPIES OF THE CORRESPONDENCE TO THE UTILITIES TEAM.*

6-10 *THE STATEWIDE UTILITY ENGINEER, UTILITIES TEAM, PROVIDES THE TECHNICAL LIAISON NECESSARY TO RESOLVE THE CITATION PROBLEM.*

UTILITY FINAL BILL REVIEW

Date _____

Page 1 of

TO: Statewide Utility Engineer, OOC

FROM: District Utility Engineer, District #____

SUBJECT: SHA Contract No. _____

FAP # _____

Utility _____

SHA Construction Description _____

Utility _____ Final bill # _____

District comments are attached for the following aspects of this final bill review.

- 28. As Built Plans from Utility.
- 29. Verification of labor hours by SHA Project Engineer or SHA Utility Inspector.
- 30. Determination of engineering cost percentage.
- 31. Documents from the SHA Project Engineer.
- 32. Overrun or underrun.
- 33. Previous billing and Form 30 status.
- 34. Replacement-in-kind
- 35. Deletions or Additions to Prior Rights list.
- 36. Additional notes

Aspects 28 through 36 are approved by this District.

For additional information, please contact

District Utility Engineer

cc: SHA Project Engineer
Utility Company
SHA 72.3 UC-9A 6-15-84

UTILITY FINAL BILL REVIEW

Date _____

Page 1 of

TO: *District Utility Engineer*

FROM: *Statewide Utility Engineer, OOC*

SUBJECT: *SHA Contract # _____*
FAP# _____

SHA Construction Description _____

Utility _____ Final Bill# _____

Comments 28 through 36 have been received from the District and are hereby made a part of this review. Additional comments by the Utilities Team follow:

- 37. Partial billings*
- 38. Materials removed*
- 39. Materials installed*
- 40. Materials transferred*
- 41. Replacement-in-kind*
- 42. Betterment*
- 43. Expired life*
- 44. Unexpired life*
- 45. Salvage*
- 46. Plans Review and Utility As Builts*
- 47. PS&E approval date*
- 48. Prior rights %*
- 49. Additional notes*

The above aspects of the Final Review are approved by this office. For additional information, please contact

Areawide Utility Engineer

cc: *SHA Project Engineer*
Utility Company
External Audits
SHA 72.3 UC-9B 6/15/84

PARTIAL BILL REVIEW

Date _____

Page 1 of

TO: Statewide Utility Engineer, OOC

FROM: District Utility Engineer, District # _____

SUBJECT: SHA Contract No. _____

FAP No. _____

SHA Construction Description _____

Utility _____ Partial bill # _____

Comments are attached relative to the following aspects of this partial bill review.

23. Verification of labor hours by SHA Project Engineer or SHA Utility Inspector.
24. Date Form 30 sent to Program Control Section.
25. Percentage used by Utility for prior rights; work completion, and retention.
26. Comments on materials only if obviously incorrect. Utilities Team will review.
27. Additional notes.
28. For additional information, please contact

District Utility Engineer

cc: SHA Project Engineer
Utility Company

SECTION 7

UTILITY PERMITS

7-1 *UTILITY REQUESTS A PERMIT TO DO CERTAIN WORK IN OR ALONG A STATE ROAD.*

7-1A *Permits are required for all of the utility relocation work described in this manual. However, these relocations account for only a small percentage of the permits issued. Section 8-646 of Title 8 of the Annotated Code of Maryland requires that a permit be obtained whenever work other than State Highway work is performed within the right-of-way or from the right-of-way.*

7-1B *In its permit request, the Utility must describe the proposed utility work and provide a drawing or sketch showing the exact location of the new facility relative to the existing one or relative to State Highway landmarks. A traffic control plan must also be included if applicable.*

7-2 *OTHER DISTRICT UTILITY ENGINEER ISSUES A PERMIT TO THE UTILITY.*

7-2A *Master Permit Provisions are sent to public utilities, municipalities, and local governments who currently submit requests to work on State Highway Administration property. These provisions govern the work restrictions and requirements as established by this Administration. The Master Permit Provisions must be placed in all utility construction vehicles and contractor vehicles performing work within the rights-of-way or properties of the Administration. These provisions are updated and sent annually.*

7-2B *A single page Utility Permit is issued by the District Utility Engineer's office upon receipt of written request, plans and traffic control plan. Someone from this office visits the site of the proposed work and aids in preparing of the permit. The single page Utility Permit addresses any special provisions, exceptions, restrictions, or waivers that apply to the requested utility work and provides a description of the requested work. The permit must be signed by the SHA District Engineer or his authorized representative.*

7-2C *There is no permit fee nor any charge for the review and preparation of the permit. The SHA reserves the right to assign inspection forces while work is being accomplished within the rights-of-way at the expense of the Permittee.*

SECTION 8

EXCEPTIONS TO
SHA'S
UTILITY POLICY

EXCEPTIONS TO SHA'S UTILITY POLICY

8-1 UTILITY REQUESTS AN EXCEPTION TO THE UTILITY POLICY

8-1A Requests for an exception to the Utility Policy must be filed through the District Engineer. The request must be documented to our satisfaction:

- A. That the accommodation will not adversely affect highway and traffic safety.*
- B. That alternate locations are not available or cannot be implemented without placing a hardship on the Utility/State from a cost standpoint.*
- C. That the accommodation will not adversely affect the design, construction, and maintenance of the highway.*
- D. That the accommodation meets SHA policy for access for construction and/or servicing facilities.*
- E. Submit plans showing their existing and/or proposed facilities. Whenever possible, the utility should be required to color code and plot their facilities on SHA construction plans.*

8-2 THE DISTRICT UTILITY ENGINEER REVIEWS THE REQUEST.

8-2A District Utility Engineer prepares a memorandum for the District Engineer's signature forwarding the request to the Chief Engineer. The memorandum will make recommendations as to why the district is in support of or against the exception request.

8-3 THE CHIEF ENGINEER WILL HAVE THE REQUEST REVIEWED BY THE APPROPRIATE OFFICE AND BY MEMORANDUM TO THE DISTRICT ENGINEER APPROVE OR DENY THE REQUEST.

8-3a The office that reviews the request for the Chief Engineer will obtain concurrence from the Federal Highway Administration if necessary.

SECTION 9

RESOURCE SHARING
PROJECTS

- 9.1 *UTILITY COMPANIES REQUEST TO PLACE TELECOMMUNICATIONS FACILITIES WITHIN SHA RIGHT-OF-WAY.*
- 9.1.A *The utility company submits proposals to the Department of Budget and Management responding to the Request for Proposals for the use of State of Maryland property to place telecommunication facilities.*
- 9.1.B *The Department of Budget and Management (DBM) submits the proposals to the SHA Resource Sharing Coordinator which involves SHA right-of-way. The SHA Resource Sharing Coordinator is the Statewide Utility Engineer.*
- 9.2 *THE SHA RESOURCE SHARING COORDINATOR KEEPS DISTRIBUTION LOG AND INITIATES THE ENGINEERING REVIEW.*
- 9.3 *THE AREAWIDE UTILITY ENGINEER SETS UP AND CONDUCTS A FIELD REVIEW OF EACH SITE PROPOSED BY THE UTILITY TO PLACE THEIR FACILITIES.*
- 9.3.A *The field review consists of the Areawide Utility Engineer, the District Utility Engineer, and the Utility Company representatives. A Federal Highway representative may also be invited to the meeting if FHWA comments are required for a particular site.*
- 9.3.B *At the field review, the criteria for placement of the proposed utility facilities shall be evaluated as per the MSHA Utility Policy, Section 3.01, Utility Accommodation - Expressway, Subsection F, Expressway - Resource Sharing Projects. Additional criteria may be considered depending on the type of facilities proposed and on site conditions.*
- 9.3.C *The Areawide Utility Engineer requests the District Utility Engineer and the FHWA representative (if they were in attendance) to prepare written comments for the Statewide Utility Engineer. The Areawide Utility Engineer prepares a written summary for the Statewide Utility Engineer.*
- 9.3D *If the initial review is unfavorable, the Utility may submit an alternate site for review to the Resource Sharing Coordinator. Refer to 9.2*
- 9.4 *THE STATEWIDE UTILITY ENGINEER CONTINUES THE REVIEW PROCESS IF THE INITIAL REVIEW IS FAVORABLE*
- 9.4.A *The Statewide Utility Engineer reviews the comments from the District Utility Engineer, the FHWA, and the written summary from the Areawide Utility Engineer.*

- 9.4.B *The Areawide Utility Engineer requests that Office of Real Estate (ORE), Office of Preliminary Planning and Engineering (OPPE), Office of Highway Development (OHD) and CHART review and comment on the proposed sites.*
- 9.4.C *When underground telecommunication facilities (conduit and cable) are involved, the Areawide Utility Engineer may need to conduct additional coordination / review activities with Survey, Highway and Bridge Development. Any attachments to structures must be reviewed and approved by Bridge Development.*
- 9.4D *The Statewide Utility Engineer sends a summary of the comments of the initial review to the Utility. The Statewide Utility Engineer also informs the Utility that they have 6 months to provide technical plans for review or notify the SHA of their intentions for the proposed site.*

9.5 **THE AREAWIDE UTILITY ENGINEER INITIATES THE TECHNICAL REVIEW**

- 9.5.A *The Areawide Utility Engineer receives the technical plans from the Utility Company and submits them to the Office of Traffic and Safety and C.H.A.R.T. for their review and comment for wireless facilities. The Areawide Utility Engineer will submit the technical plans to the Office of Bridge Design and C.H.A.R.T. for underground facilities.*
- 9.5.B *If the Office of Traffic and Safety, Office of Bridge Design, or C.H.A.R.T. require any changes to the Utility Company's plans, the Areawide Utility Engineer will have the Utility Company submit revised plans showing the required changes.*

Note: The public notification portion of these procedures described in Section 9.8 may be performed concurrently with the technical review initiated by the Areawide Utility Engineer.

9.6 **THE STATEWIDE UTILITY ENGINEER SUMMARIZES THE REVIEWS AND MAKES RECOMMENDATIONS**

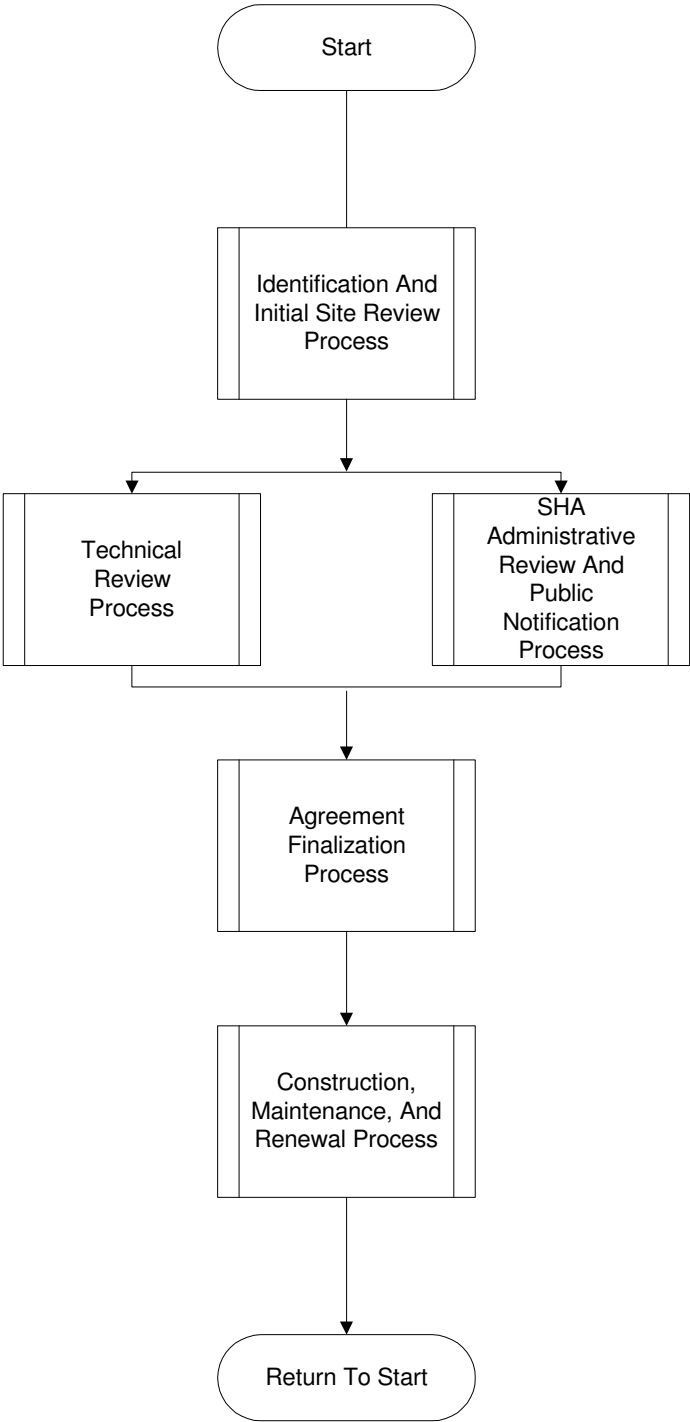
- 9.6.A *The Statewide Utility Engineer reviews the comments from O.R.E., O.P.P.E., CHART and the technical reviews of the Areawide Utility Engineer. The Statewide Utility Engineer then summarizes all of the reviews and prepares recommendations for the Chief Engineer.*

9.7 **THE CHIEF ENGINEER APPROVES THE SITE FROM AN ENGINEERING STANDPOINT**

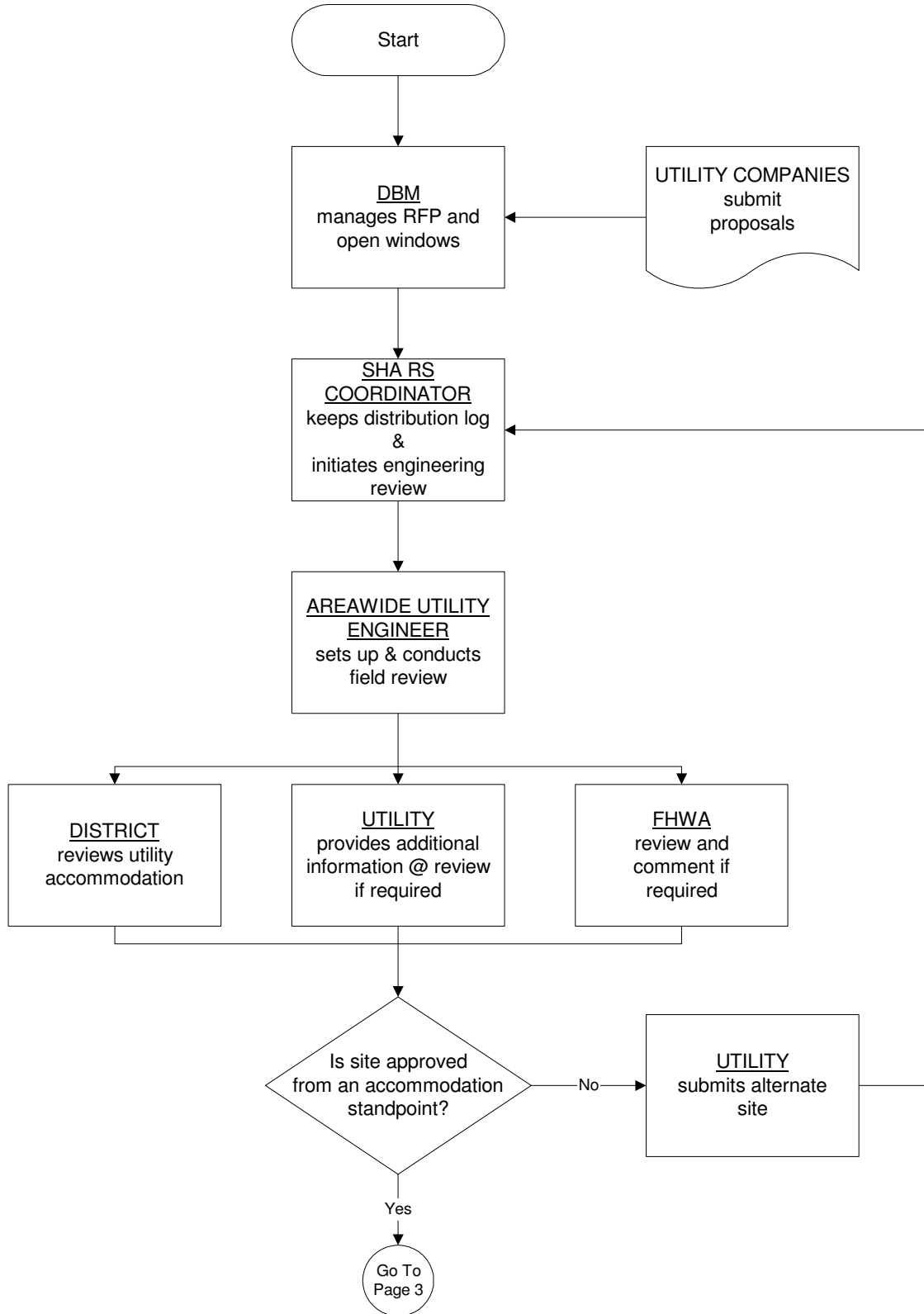
- 9.8 *THE UTILITY COMPANY AND DBM NOTIFY THE PUBLIC*
- 9.8.A *The Utility Company at DBM's direction sends letters to Officials and the local community groups notifying them of the proposed placement of the telecommunications facilities.*
- 9.8.B *The Utility Company schedules and chairs a public meeting to discuss local concerns and provide information on the proposed site. The DBM, the District will attend the public meeting and the District will provide a written summary of the meeting for the Statewide Utility Engineer. The Statewide Utility Engineer shall attend the meeting when necessary.*
- 9.9 *THE UTILITY COMPANY, DBM, & THE DISTRICT WILL ADDRESS AND RESOLVE ANY ISSUES, IF ANY, BROUGHT UP AT THE PUBLIC MEETING.*
- 9.10 *DBM & THE DEPARTMENT OF LEASE AND PROCUREMENTS MANAGEMENT WILL WRITE AND ASSEMBLE THE DRAFT AGREEMENT*
- 9.11 *THE SHA REVIEWS AND COMMENTS ON THE DRAFT AGREEMENT*
- 9.11.A *The Statewide Utility Engineer sends a copy of the draft agreement to the Chief Engineer's Office for review and comments*
- 9.11.B *If for any reason the SHA determine that the agreement is not acceptable, the Statewide Utility Engineer will return the draft agreement to DBM along with comments as to what needs to be modified in the agreement. DBM will then work with the Utility Company to make the necessary changes.*
- 9.12 *DBM, SHA, & THE UTILITY COMPANY SIGNS THE AGREEMENT*
- 9.12.A *When all parties have agreed to the final draft agreement, DBM will send to the Utility Company for signature. DBM will send the signed agreement to the SHA coordinator for execution by the Deputy Administrator. The SHA coordinator will return the signed agreement to DBM.*
- 9.13 *DBM SENDS THE SIGNED AGREEMENT TO THE BOARD OF PUBLIC WORKS FOR FINAL APPROVAL.*
- 9.13.A *If for any reason the Board of Public Works denies the agreement, it will be returned to DBM to renegotiate with the Utility Company to resolve any issues of the Board.*
- 9.13.B *DBM will then send a copy of the executed agreement to the Statewide Utility Engineer.*
- 9.13C *The Statewide Utility Engineer forwards a copy of the agreement to the District Utility Engineer.*

- 9.14 *THE STATEWIDE UTILITY ENGINEER SENDS A COPY OF THE EXECUTED AGREEMENT TO THE OFFICE OF FINANCE AND INFORMATION TECHNOLOGY (OFIT) TO MONITOR PAYMENTS.*
- 9.14.A *OFIT will monitor the monthly payments and annual cost increases as per the agreement. If for any reason, the Utility Company fails to comply with the agreement, OFIT will notify the Statewide Utility Engineer. The Statewide Utility Engineer will then contact DBM and the Utility Company to resolve the matter. OFIT will also verify that the payments are placed into the Information Technology Investment Fund as specified in the agreement.*
- 9.15 *THE UTILITY COMPANY APPLIES FOR A UTILITY PERMIT TO INSTALL THEIR FACILITIES*
- 9.15.A *The District issues a utility permit to place the telecommunication facilities within SHA right-of-way upon receipt of all the necessary plans and information from the Utility Company. The District Utility Engineer forwards a copy of the executed permit to the Statewide Utility Engineer.*
- 9.15B *The Utility Company will construct their system after the permit has been issued.*
- 9.15C *The district will be responsible for inspection during the construction of the Utility's facilities.*
- 9.16 *THE UTILITY COMPANY WILL MAINTAIN THEIR FACILITIES IN ACCORDANCE WITH THE AGREEMENT AND THE DISTRICT WILL MONITOR THE UTILITY AND THE FACILITIES TO ENSURE COMPLIANCE WITH THE AGREEMENT AND THE PERMIT*
- 9.16.A *If for any reason the Utility Company does not comply with the agreement or permit, the SHA may terminate the agreement for the Utility to use the SHA right-of-way.*
- 9.17 *AT THE END OF THE AGREEMENT PERIOD, DBM, SHA, AND THE UTILITY COMPANY WILL DECIDE TO EITHER TERMINATE THE AGREEMENT OR RENEGOTIATE THE AGREEMENT FOR ANOTHER TERM*

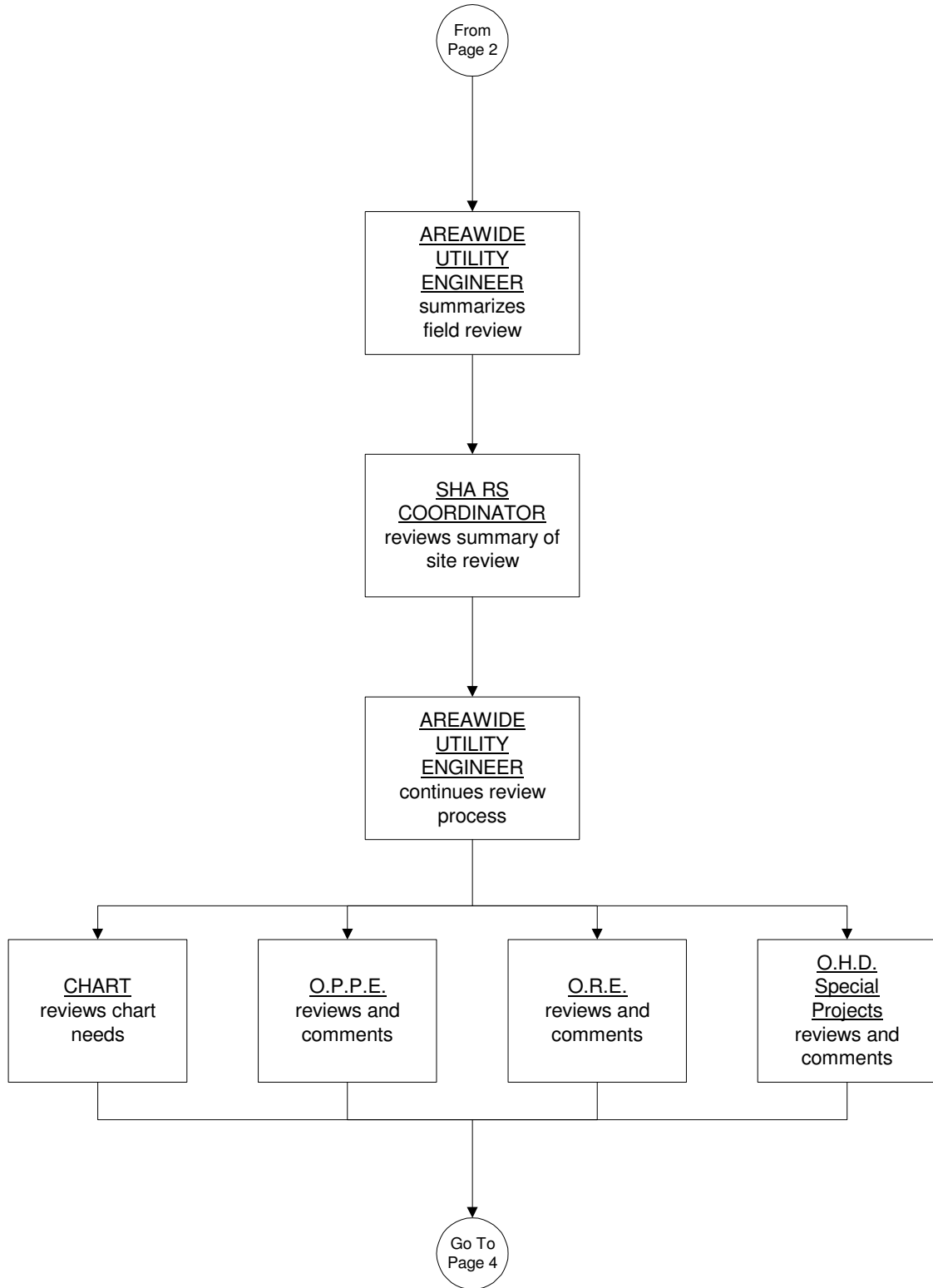
SHA RESOURCE SHARING PROCESS



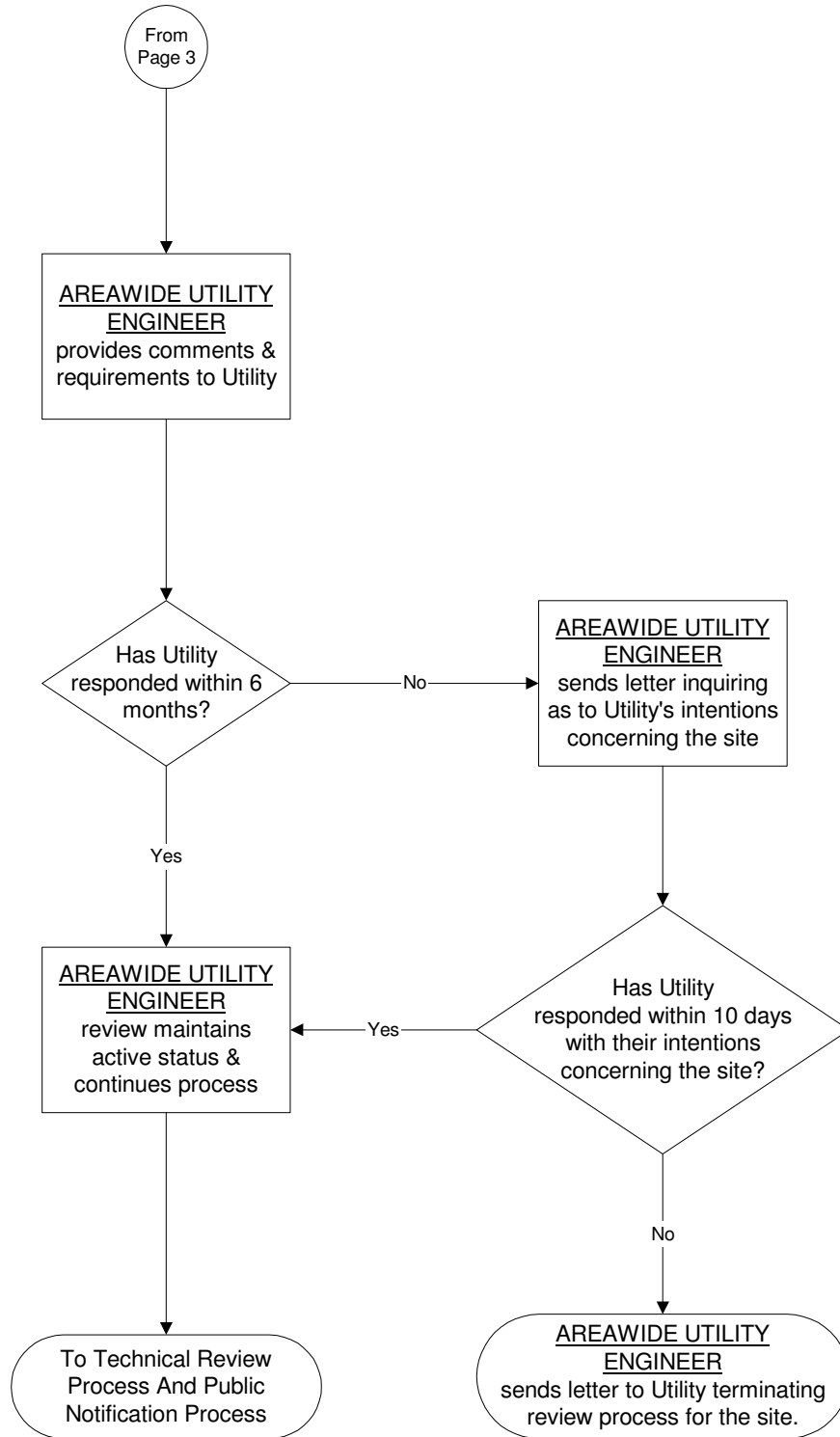
IDENTIFICATION AND INITIAL SITE REVIEW PROCESS



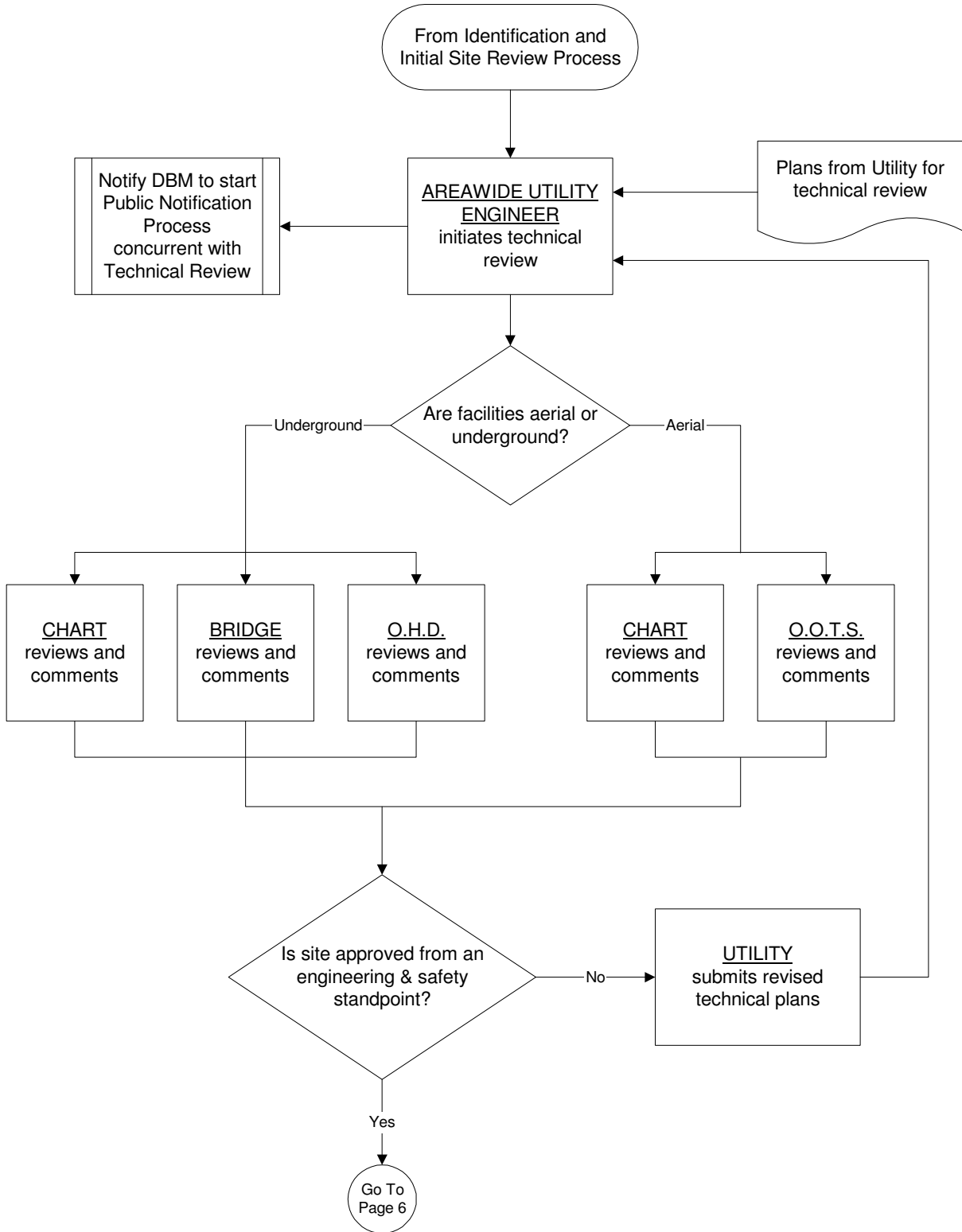
IDENTIFICATION AND INITIAL SITE REVIEW PROCESS



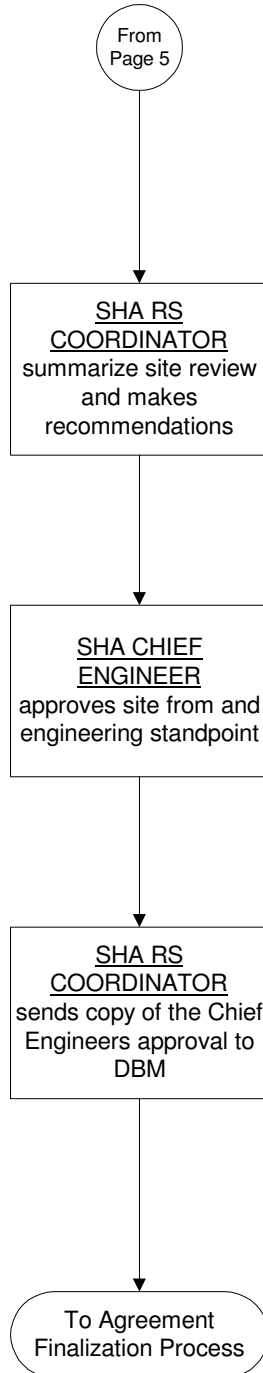
IDENTIFICATION AND INITIAL SITE REVIEW PROCESS



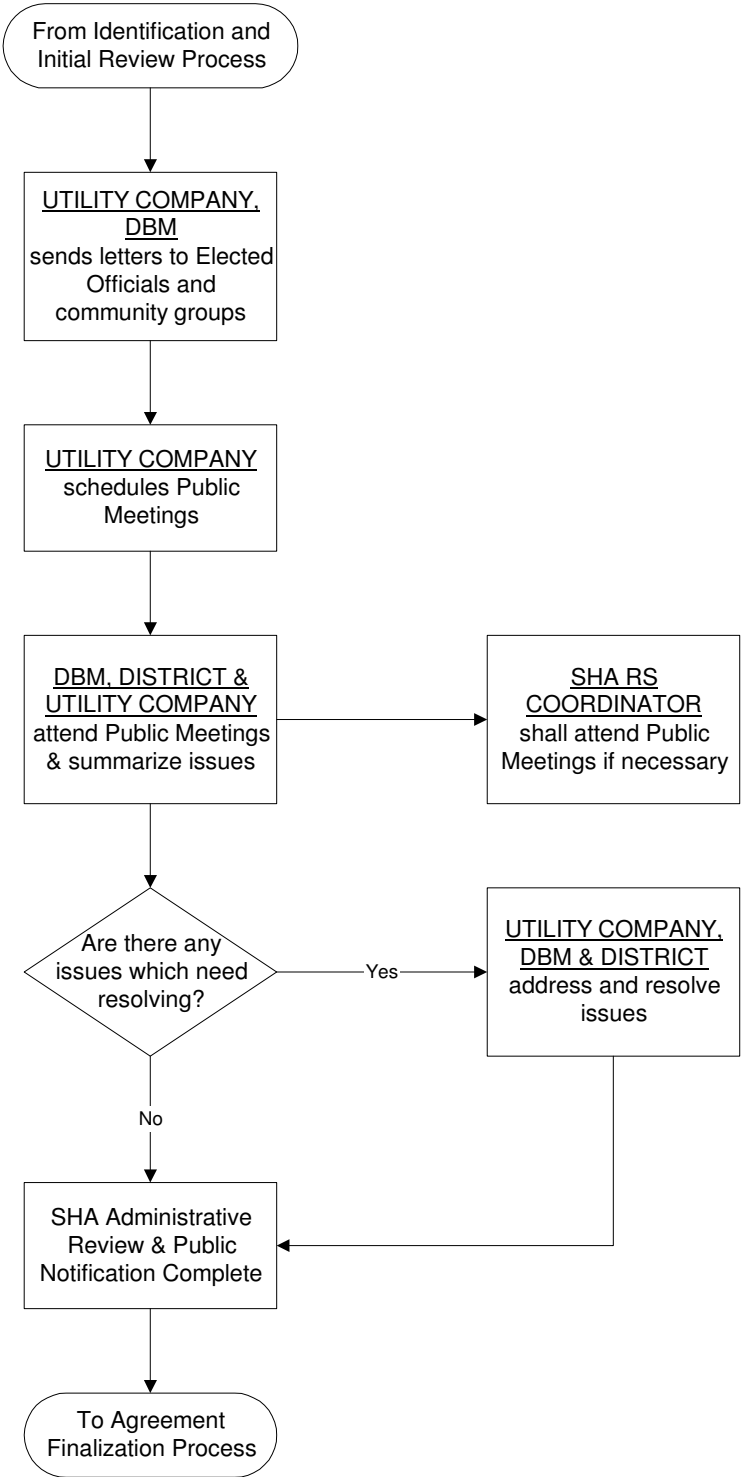
TECHNICAL REVIEW PROCESS



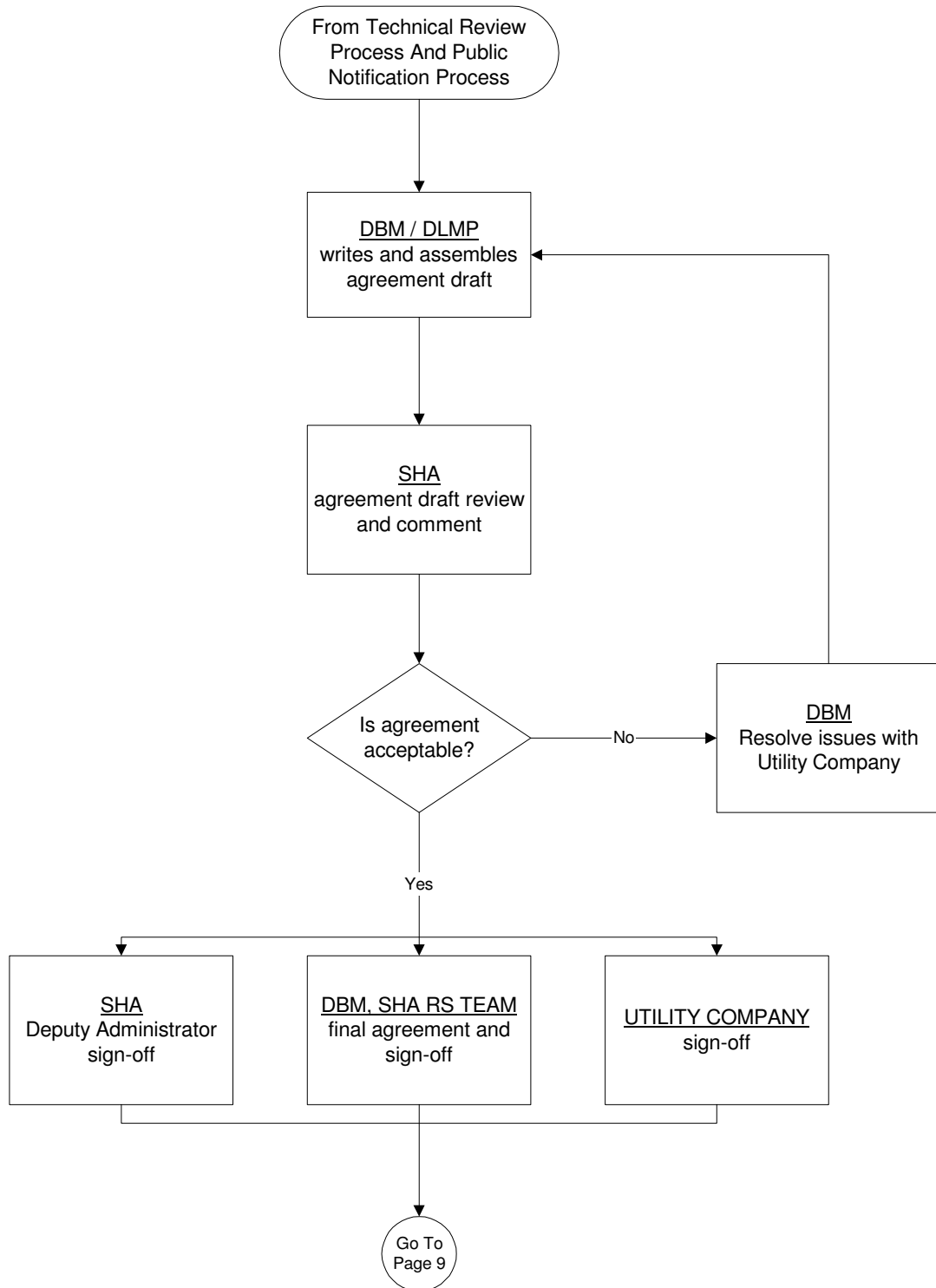
TECHNICAL REVIEW PROCESS



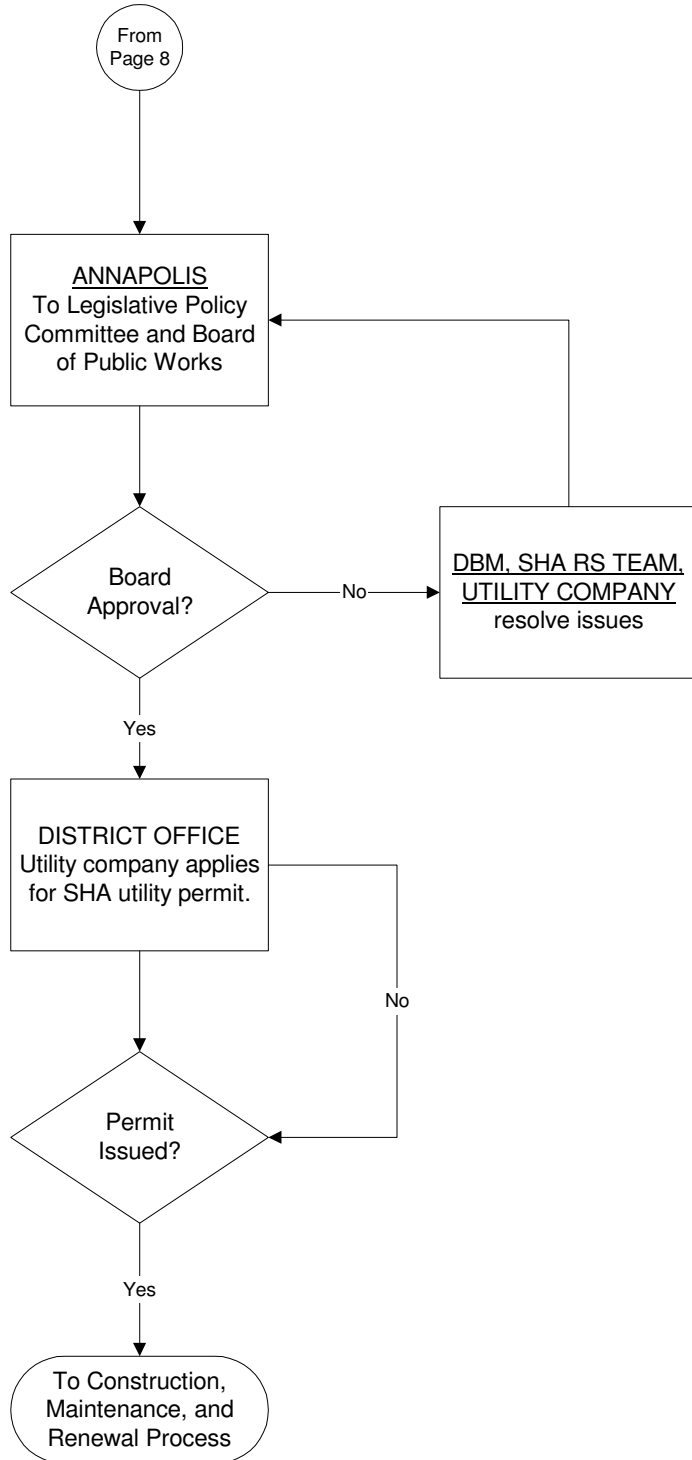
SHA ADMINISTRATIVE REVIEW AND PUBLIC NOTIFICATION PROCESS (Required For Wireless Sites Only)



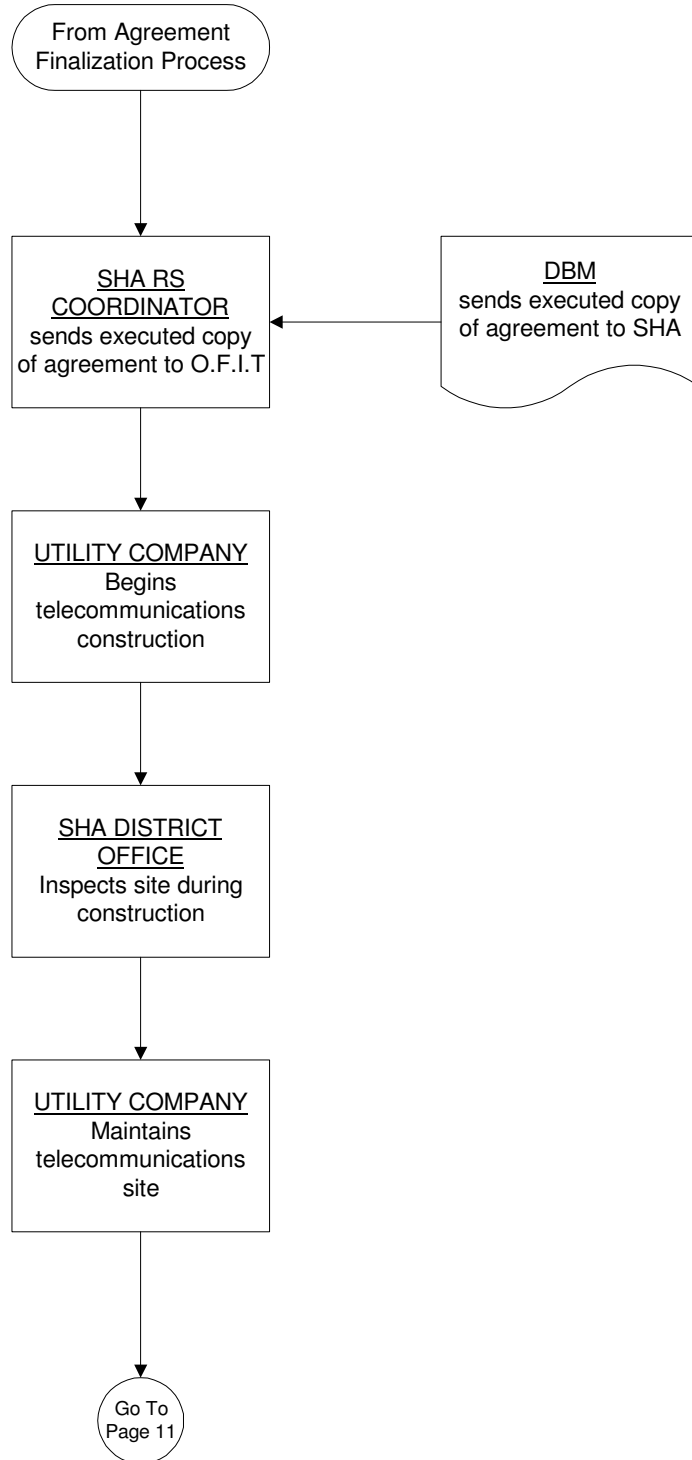
AGREEMENT FINALIZATION PROCESS



AGREEMENT FINALIZATION PROCESS



CONSTRUCTION, MAINTENANCE, AND RENEWAL PROCESS



CONSTRUCTION, MAINTENANCE, AND RENEWAL PROCESS

