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REPUBLIC OF THE PHILIPPINES  
PAMBANSANG PANGASIWAAN NG PATUBIG  
(National Irrigation Administration)  
Lungsod ng Quezon

MEMORANDUM CIRCULAR

MC # 71, s. 1991

TO : ALL REGIONAL IRRIGATION MANAGERS, PROJECT MANAGERS,  
OPERATION MANAGERS, IRRIGATION SUPERINTENDENTS,  
DISTRICT CHIEFS AND ALL OTHER CONCERNED  
National Irrigation Administration

SUBJECT : GENERAL GUIDELINES AND PROCEDURES FOR UTILIZATION  
OF THE PARCELLARY MAPS

Parcellary survey and mapping activities under the on-going Irrigation Operation Support Project (IOSP) is basically geared to firmup the service areas of national irrigation systems (NIS). The parcellary division/sheet maps together with updated data from the division masterlist and the Irrigation Fee Register (IFR) would allow effective monitoring and verification of seasonal irrigation service fee (ISF) billings. These documents would further permit NIA to adopt strong management actions and sanctions for concerned staff responsible for not billing irrigated/planted lots.

The attached implementing guidelines and procedures are to be strictly complied with in all NISs insofar as the use of parcellary maps is concerned.

This MC does not totally amend MC No. 52, s. 1982 "Billing and Collection Manual for Irrigation Service Fee" except for some minor operational details. Further, the new MC is relevant to the utilization of parcellary maps only. MC #52 is still very much in effect.

This memorandum supersedes all other MCs and other Office Orders pertaining to the use of parcellary maps and shall take effect during the first cropping season of Calendar Year 1992.

(SGD.) JCSE B. DEL ROSARIO, JR.  
Administrator

October 14, 1991

## IMPLEMENTING GUIDELINES AND PROCEDURES FOR UTILIZATION OF PARCELLARY MAPS

### 1.0 INTRODUCTION

- 1.1 Rationale. "To provide adequate level of and timely service to, the beneficiaries of irrigation systems and in order to promote the farmer's capacity to pay and willingness to pay irrigation service fee (ISF) which is the main source of corporate income."<sup>1/</sup>
- 1.2 Strategy. An estimated 20% of reported irrigated/planted farm lots are found not billed in a typical cropping season. In most instances, billing is often delayed. In 1989 alone, about 53% of current ISF billings were not collected.

To address these problems, every National Irrigation System (NIS) is being provided with parcellary maps through the Irrigation Operation Support Project (IOSP). By using the parcellary maps in monitoring and evaluation of system operation, it is anticipated that the present ISF billing process can be improved.

### 2.0 PARCELLARY SURVEY AND MAPPING ACTIVITIES

- 2.1 Purpose. The following are the objectives of parcellary survey and mapping activities:
- a) Firmup service areas of NISs by surveying areas without parcellary maps and updating existing parcellary maps;
  - b) Provide accurate records of individual irrigated landholdings through a masterlist of beneficiaries of irrigation service;
  - c) Update current incomplete and outdated Irrigation Fee Register (IFR) records;
  - d) Allow effective monitoring and verification of seasonal ISF billings including enhancing NIA's ability to detect and remedy discrepancies;

<sup>1/</sup> Excerpts from the Strategies Paper prepared for the various operating units of NIA, January 7, 1991.

- e) Prepare ISF bills well ahead of the close of cropping season, based on field progress reports; thus improving collection efficiency, and;
- f) These procedural improvements are envisioned to provide the adoption of strong management actions and sanctions for personnel who are not (i) reporting irrigated/planted lots, (ii) billing irrigated farm lots, and (iii) collecting ISF from benefited lots. The system/scheme will also provide basis to reward efficient and effective performers.

2.2 Main Features and Characteristics. The output of the activities undertaken for parcellary survey and mapping includes the following:

a) Parcellary Division Map (PDM)

- 1. Scale 1:4,000. In case of NIS with majority of farm lot sizes below 500 sq n, a convenient and/or smaller scale is used.
- 2. Dimensions: width - 1 meter; length - variable, adjusted to accommodate one WRFT division with an area of 750-1,000 ha (Figure 1).
- 3. Information and details: contains (i) the Title Block (Figure 2); (ii) conventional legends to denote features/structures and landmarks of the whole area; (iii) unfixed North Arrow Point; (iv) Parcellary Sheet Map boundary lines; and (v) system's boundary limits.
- 4. NIA farm lots with their respective lot numbers, and/or cadastral lot numbers, name of land-owner/CLT holder/lot tiller/farmer, and gross area (to the nearest hundredth of a hectare),.

b) Parcellary Sheet Map (PSM)

- 1. Scale: 1:4,000. In case of NIS with majority of farm lot sizes below 500 sq n, a convenient and/or smaller scale is used.
- 2. Dimensions: Width - 50 cm, length - 94 cm (Figure 3).
- 3. Information and details: contains (i) the Title Block (Figure 4); (ii) conventional legends to denote features/structures and land marks of the whole area; (iii) North Arrow Point fixed due North; (iv) Index for adjoining sheets.

4. NIA farm lots with their respective lot numbers and/or cadastral lot numbers, name of landowner/CLT holder/lot tiller/farmer and gross area (to the nearest hundredth of a hectare).
5. Tabulated list indicating NIA lot numbers with their corresponding irrigated area (firmed-up) and name of landowner/CLT holder/lot tiller/farmer.

c) System's General Layout Map

1. Scale (dependent on service area):

<u>Service Area (ha)</u>	<u>Scale</u>
5,000 or less	1:7,500
5,001 - 10,000	1:10,000
10,001 - 25,000	1:20,000
above 25,000	1:25,000

2. Information and details: contains (i) the Title Block; (ii) conventional legends to denote features, irrigation structures, landmarks of the whole area; (iii) unfixed North Arrow Point; (iv) WRF division boundary lines; and (v) system's boundary limits of service area.

d) Division Masterlist

1. Numerical list containing lot numbers and/or cadastral lot numbers, names of landowner/CLT holder/lot tiller/farmer, and firmed-up service area.
2. Alphabetical list containing names of landowner/CLT holder/lot tiller/farmer, lot numbers and/or cadastral lot numbers, and firmed-up service area.

e) Irrigation Fee Register

1. Every individual NIA farm lot has its own IFR. However, this does not mean a new set of IFR but an updated IFR.





### 3.0 PROCEDURE IN USING THE PARCELLARY MAPS IN OPERATION MONITORING

#### 3.1 The overall process

The table below shows the general overview of the standard implementation strategy to be followed by NIS.

ACTIVITY/EVENT	SYMBOL	DATA SOURCE AND RESPONSIBILITY CENTER	COLOR	CODE 2/
			WET SEASON	DRY SEASON
1. Irrigated/ Planted Areas	slash /	WRFT's (Watermaster's) weekly report of irrigated and planted areas (LIPA) to the IS.	green slash /	red slash /
2. Billed Areas		A. Bills Prepared		
	1/2 back slash above 1	Bill Processor's (Billing Clerk's) Bill and Statement of Account on a per lot basis as approved by the IS.	1/2 green back slash	1/2 red back slash
	1/2 back slash below 1	B. Bills Served	1/2 green back slash	1/2 red back slash
		Collection Officer/Deputized Bill Collectors Summary List of Acknowledged Bill and Statement of Accounts	1/2 green back slash	1/2 red back slash
3. Collected/ Paid Areas	circle around 1 & 2	System Cashier's Weekly report of collection based from collection officer's/deputized Collection Officers' report.	green circle	red circle

2/ Using different colors, the process can be extended to accommodate the following year's activity depending on the space available in the individual lots.

ACTIVITY/EVENT	SYMBOL	DATA SOURCE AND RESPONSIBILITY CENTER	COLOR CODE 2/	
			WET SEASON	DRY SEASON
4. Exempted Areas		WRFT's report of List of Lots with Total Crop Failure (LLTCF) and Amended List of Lots Planted (AALP)		
a. Total Crop Failure	shaded: X		a.green: 	a. red: 
b. Partial crop failure	shaded: lower portion of X		b.green: 	b. red: 

### 3.2 The details

RESPONSIBILITY CENTER	PROCEDURE
	I. <u>IRRIGATED/PLANTED AREAS (Figure 5):</u>
WRFT (WATERMASTER)	1. Prepares/submits 2 copies of LIPA weekly (end of week) to IS.
	2. Reviews/approves original copy of LIPA and forwards to BP.
	3. Using LIPA copy No. 2 color codes irrigated/planted lots in the Parcellary Sheet Maps (PSM) with slash as shown in Item 3.1.
Irrigation Superintendent (IS)	4. Forwards LIPA copy No. 2 to BP.
	5. Field inspects unreported planted lots; resolves problems/issues and rectifies discrepancies between service area and irrigated/planted areas.
	II. <u>BILLED AREAS (Figures 6 &amp; 7):</u>
Bill Processor (BP)	A. Bills Prepared (Figure 6):
	6. Prepares Bills and Statement of Accounts (BSA) based on original LIPA.

RESPONSIBILITY CENTER	PROCEDURE
BP	7. Using LIPA copy No. 2, marks with a check the lot numbers where bills have been prepared and forwards to IS.
IS	8. Color codes lots with bills prepared with a 1/2 back slash above the slash symbol. 9. Ensures that irrigated/planted lots are properly billed; resolves problems/issues and rectifies discrepancies between planted and areas with bills prepared.
BP	B. Bills Served (Figure 7): 10. Corrects, adjusts and cancels BSAs based on approved LITCF and ALIP. Submits 2 copies of corrected BSAs to IS and a summary of approved exemptions for approval.
IS	11. Approves all BSAs on a per lot basis 12. Forwards 2 copies of BSAs to the Collection Officer/Deputized Bill Collector (CO/DBC).
CO/DBC	13. Distributes/gives original copy of BSA to the landowner or Farmer Tillor (FT). 14. Requests LO/FT to acknowledge receipt of BSA-1 by signing at the back of BSA-2.
LO/FT	15. Receives original BSA-1. 16. Acknowledges receipt of BSA-1 by signing at the back of BSA-2 and submits to CO/DBC.

RESPONSIBILITY CENTER	PROCEDURE
CO/DBC	17. Prepares summary list of acknowledged BSAs and submits to IS.
IS	18. Color codes lots with bills served with a 1/2 back slash below the slash symbol. 19. Ensures that all irrigated/planted lots are properly served with bills; resolves problems/issues and rectifies discrepancies between lots billed and served.
CO/DBC	III. <u>COLLECTED/PAID AREAS (Figure 8):</u> 20. Submits Weekly Report of Cash Collection (ROCC) with Official Receipt (OR) and Weekly Report of In-Kind Collection (ROIC) with Acknowledgement Receipt (AR) to the System's Cashier (SC).
SC	21. Prepares and submits Weekly Report of Collection to the IS.
IS	22. Color codes collected/paid lots with a circle. 23. Ensures that all irrigated, planted and billed lots are reported as paid; resolves problems/issues and rectifies discrepancies between billed and collected areas.
WRFT	IV. <u>EXEMPTED AREAS (Figure 9):</u> 24. Prepares and submits list of lots with Total Crop Failure (LTCF) to IS for approval. 25. On a later date, prepares and submits Amended List of Lots Planted (ALLP) to IS for approval.



RESPONSIBILITY CENTER	PROCEDURE
IS	26. Verifies and approves LLTCF and later the ALLP.
	27. Forwards approved LLTCF and ALLP to BP.
BP	28. Using the approved LLTCF and ALLP corrects, adjusts and cancels BSA accordingly.
	29. Prepares Summary of Approved Exemptions and submits to the IS.
IS	30. Color codes lots with exemptions:
	a. For lots with total crop failure shade all spaces of the symbol.
	b. For lots with partial crop failure shade only the lower portion of .
	31. Monitors and verifies areas reported for exemption or areas with crop damages.
	32. Recommends farmers' request for exemption to the Regional Office.
BP	33. Upon approval of Regional Office, distributes copies to the end-users and BP.
	34. Posts exemptions to IFR.

## 4.0 IMPLEMENTING GUIDELINES

### 4.1 Distribution List

The distribution of parcellary survey and mapping output is shown in the following table:

Output	Distribution						
	Kept in the ISO	SMD NIACO	RIO	IS	BP	SC	WRFT
1. PDMS							
a. Original	X						
White Prints		X	X				X
2. PSMS							
a. Original	X						
b. White Prints		X	X	X			X
3. System's Layout							
a. Original	X						
b. White Prints		X	X	X			
4. Division Masterlist (Numerical & Alpha- betical)							
a. Original	X						
b. Copies		X	X		X	X	X
5. Irrigation Fee Register							
a. Original					X		

Legend:

ISO	-	Irrigation System Office
SMD	-	Systems Management Department
RIO	-	Regional Irrigation Office
IS	-	Irrigation Superintendent
BP	-	Bill Processor
SC	-	System's Cashier
WRFT	-	Water Resources Facilities Technician

#### 4.2. Standardization of Methods/Approach

1. Only the parcellary sheet maps (PSM) shall be color coded and arranged accordingly on a per division basis.
2. The PSM may be: a) book bound; b) organized as a flip chart and/or c) displayed in the IS office depending on their number for easy and convenient monitoring and evaluation.
3. In the case of big systems where the data source and responsibility centers are not the same as those of the smaller systems as previously discussed, an equivalent or similar color coding scheme representing smaller areas either through the zone, working station, rotational area and other levels can be adopted.
4. The general procedure is for the Chief of the System to be able to detect easily gaps in service, irrigated/planted, billed, exempted and collected/paid areas as the farming activities progress.

#### 4.3. Future Updating of System's Record

The records of service area, individual irrigated landholdings as reflected in the parcellary maps, layout maps, division masterlist and the irrigation fee register shall be updated on an annual basis to reflect areas converted to residential, commercial and industrial lots and for any other causes that diminish original system's record. This updating also includes the generation of new areas.

#### 4.4. Monitoring, Evaluation and Report Submission

##### a) System Level

1. Based on the implementation of these guidelines and procedures, the following reports to the RIO on a monthly basis up to termination of each of the cropping seasons are required:
  - (i) Irrigated and Planted Areas, by division level with the corresponding firmed-up service area and summarized by system level.
  - (ii) Billed areas, by division level and summarized by system level.

(iii) Collected/Paid areas, by division level and summarized by system level.

(iv) Benefited areas.

b) Regional Level

1. Based on the reports coming from the Systems level the RIO are to submit on a monthly basis the following reports to SMD, NIACC.

(i) Irrigated/Planted Areas, by systems level with the corresponding firmed-up service area and summarized by regional level.

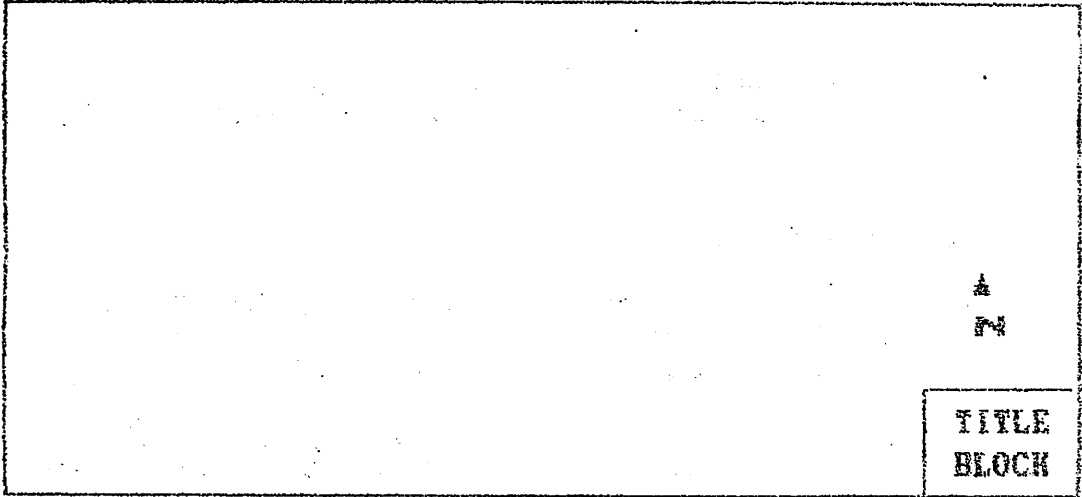
(ii) Billed areas, by systems level and summarized by regional level.

(iii) Collected/Paid areas, by systems level and summarized by regional level.

(iv) Benefited areas.

Item (i) is already being reported monthly thru the O & M of NIS (coded report). Therefore, items (ii) to (iv) should only be added to this monthly coded report being sent to SMD, NIACC.

FIG. 1. PARCELLARY DIVISION MAP (PDM) SPECIFICATIONS

	<p>100 CM</p> <p>STANDARD WIDTH OF MYLAR 42 INCHES</p>
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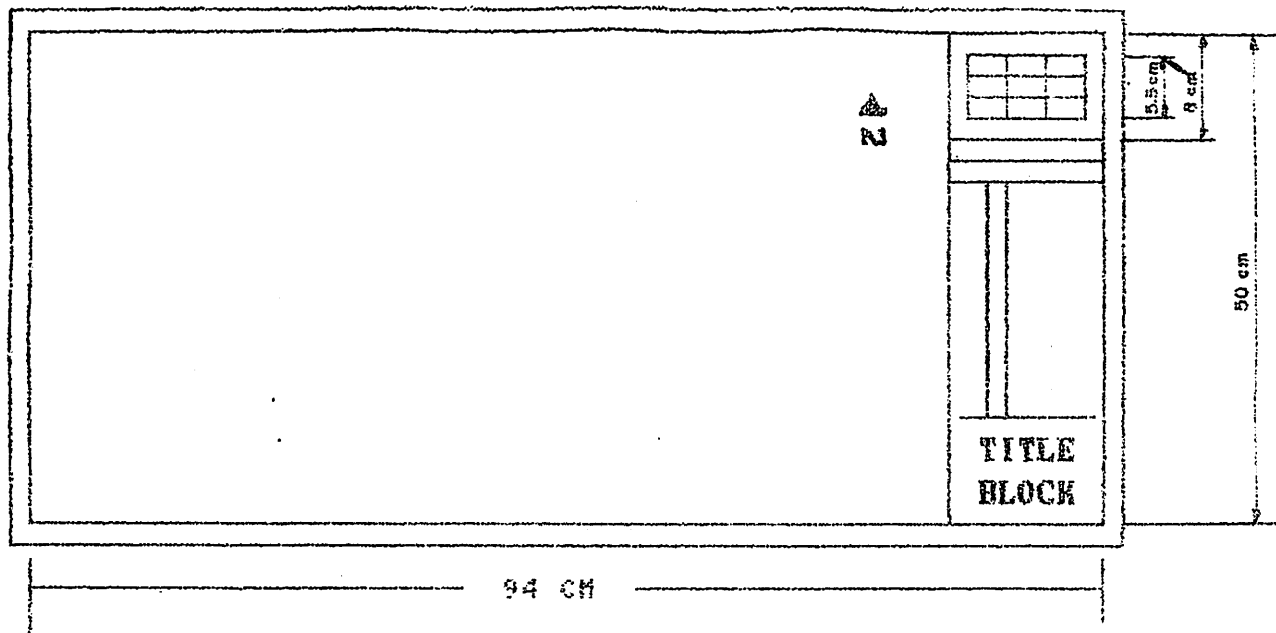
LENGTH VARIABLE (TO ACCOMMODATE A DIVISION)

TITLE BLOCK  
(STANDARD SIZE)

REPUBLIC OF THE PHILIPPINES NATIONAL IRRIGATION ADMINISTRATION REGION _____ ADDRESS OF REGION _____	
NAME OF SYSTEM / PROJECT _____ ADDRESS _____ DIVISION _____ PARCELLARY DIVISION MAP	
SCALE :	1:4000
SURVEYED: _____ UPDATED: _____ _____ WFT/WH/WAT	
IRRIGATION SUPERINTENDENT	CHIEF, CAN DIVISION
APPROVED: _____ REGIONAL IRRIGATION MANAGER	
SHEET _____ OF _____	PAGE NO. _____

Fig.2 SAMPLE PARCELLARY DIVISION MAP

**FIG. 3. PARCELLARY SHEET MAP (PSM) SPECIFICATIONS**



**TITLE BLOCK  
(STANDARD SIZE)**

REPUBLIC OF THE PHILIPPINES NATIONAL IRRIGATION ADMINISTRATION REGION	
ADDRESS OF REGION	
NAME OF SYSTEM / PROJECT PARCELLARY SHEET MAP	
SCALE : 1:4000	
SURVEYED: _____ UPDATED: _____	
_____ WRFT/WH/WRT	
IRRIGATION SUPERINTENDENT	CHIEF, O&M DIVISION
APPROVED: REGIONAL IRRIGATION MANAGER	
SHEET _____ OF _____	PAGE NO. _____

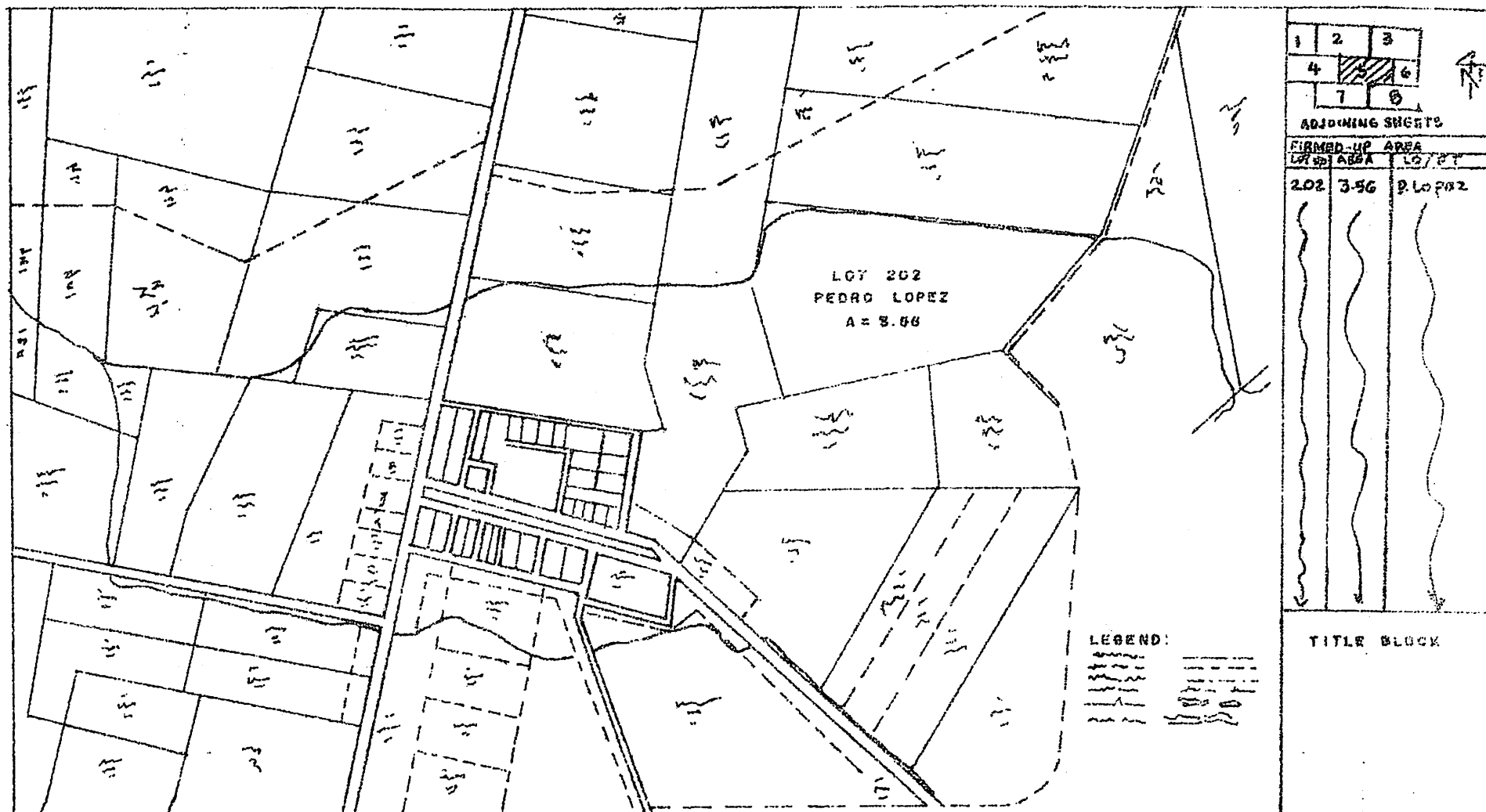


Fig. 4 SAMPLE PARCELLARY SHEET MAP



Fig.5 FLOW CHART: COLOR CODING IRRIGATED/PLANTED AREAS

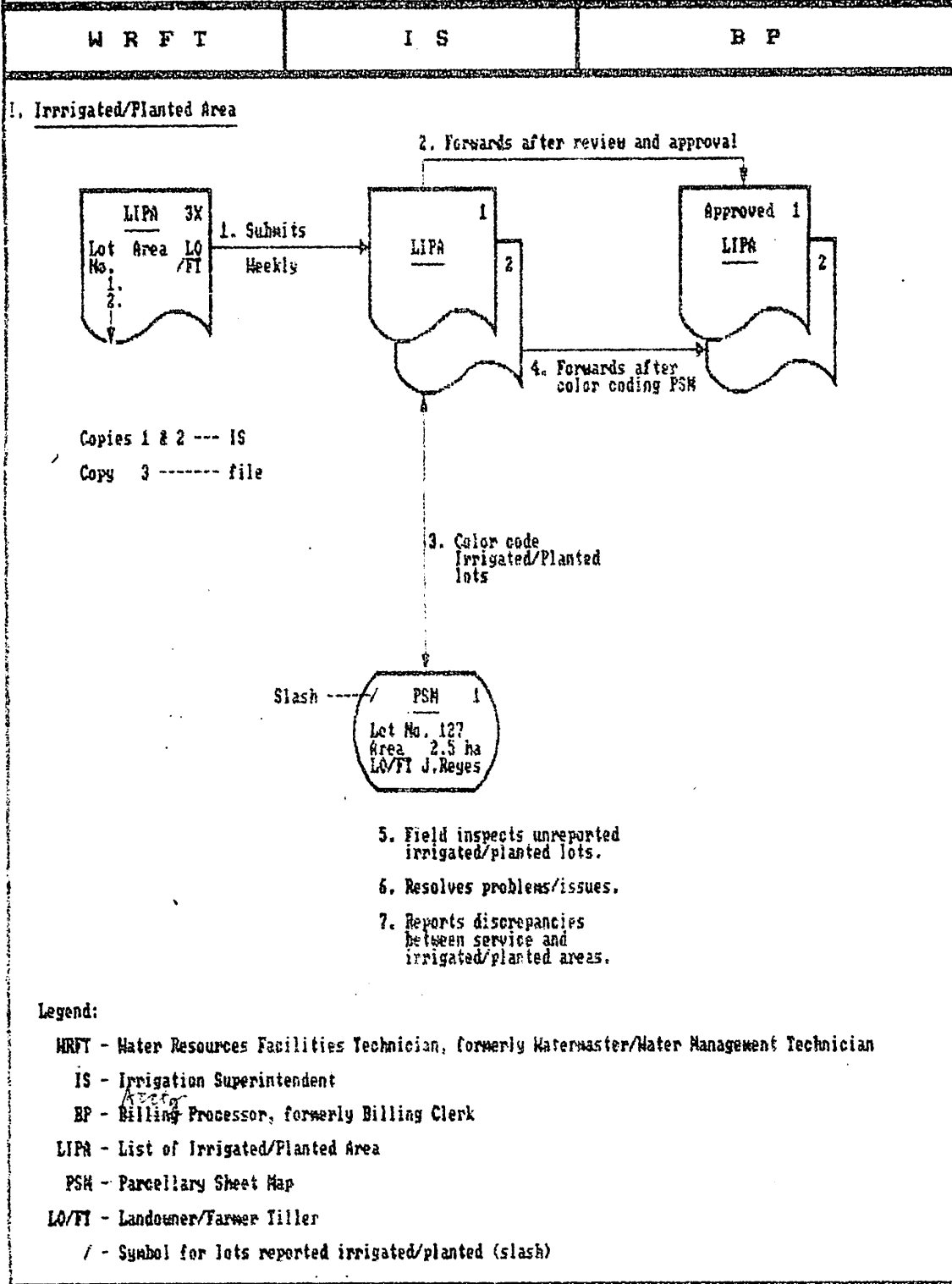


Fig. 6 FLOW CHART: COLOR CODING AREAS WITH PREPARED BILLS

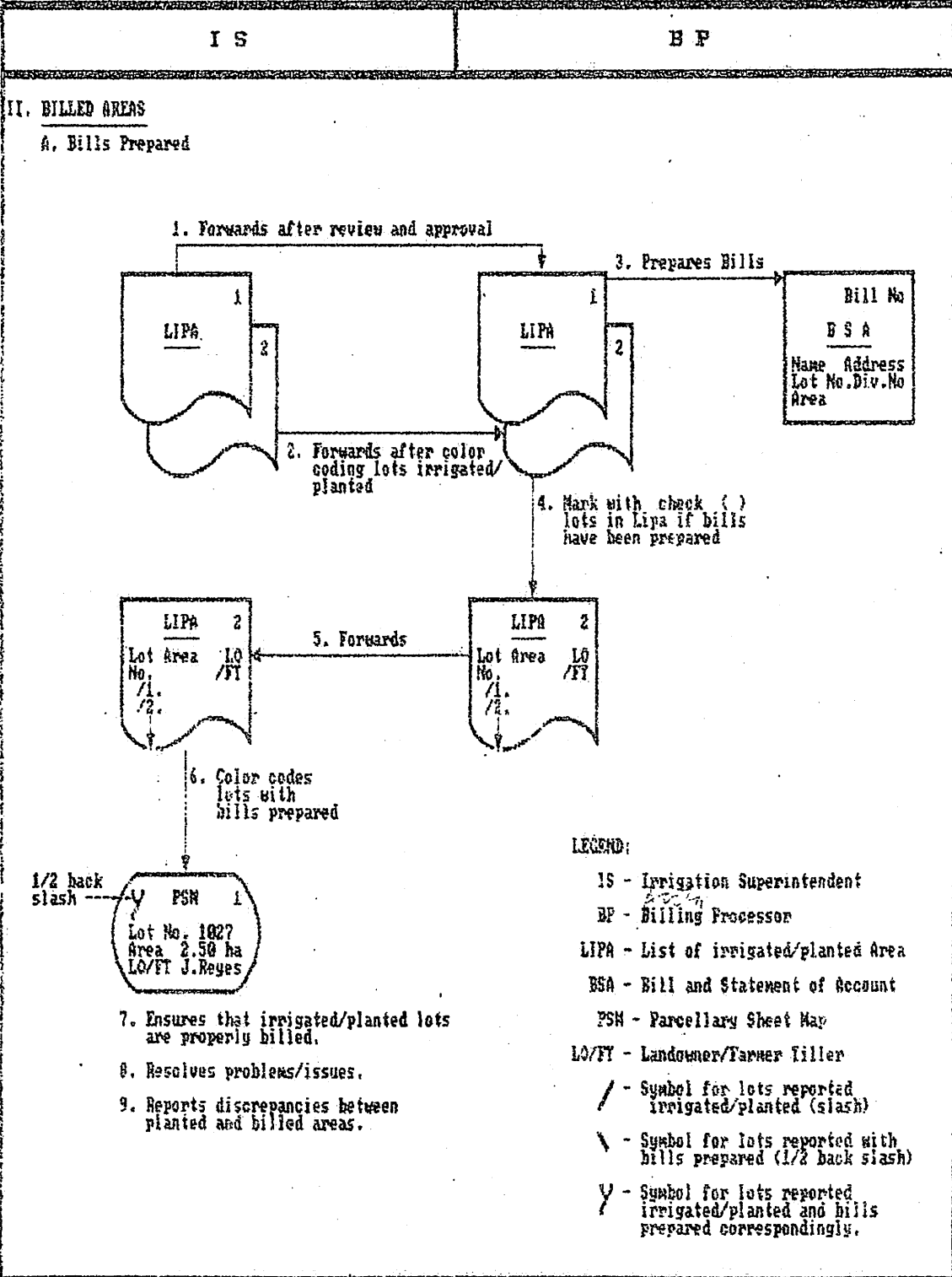


Fig. 7 FLOW CHART: COLOR CODING BILLS SERVED

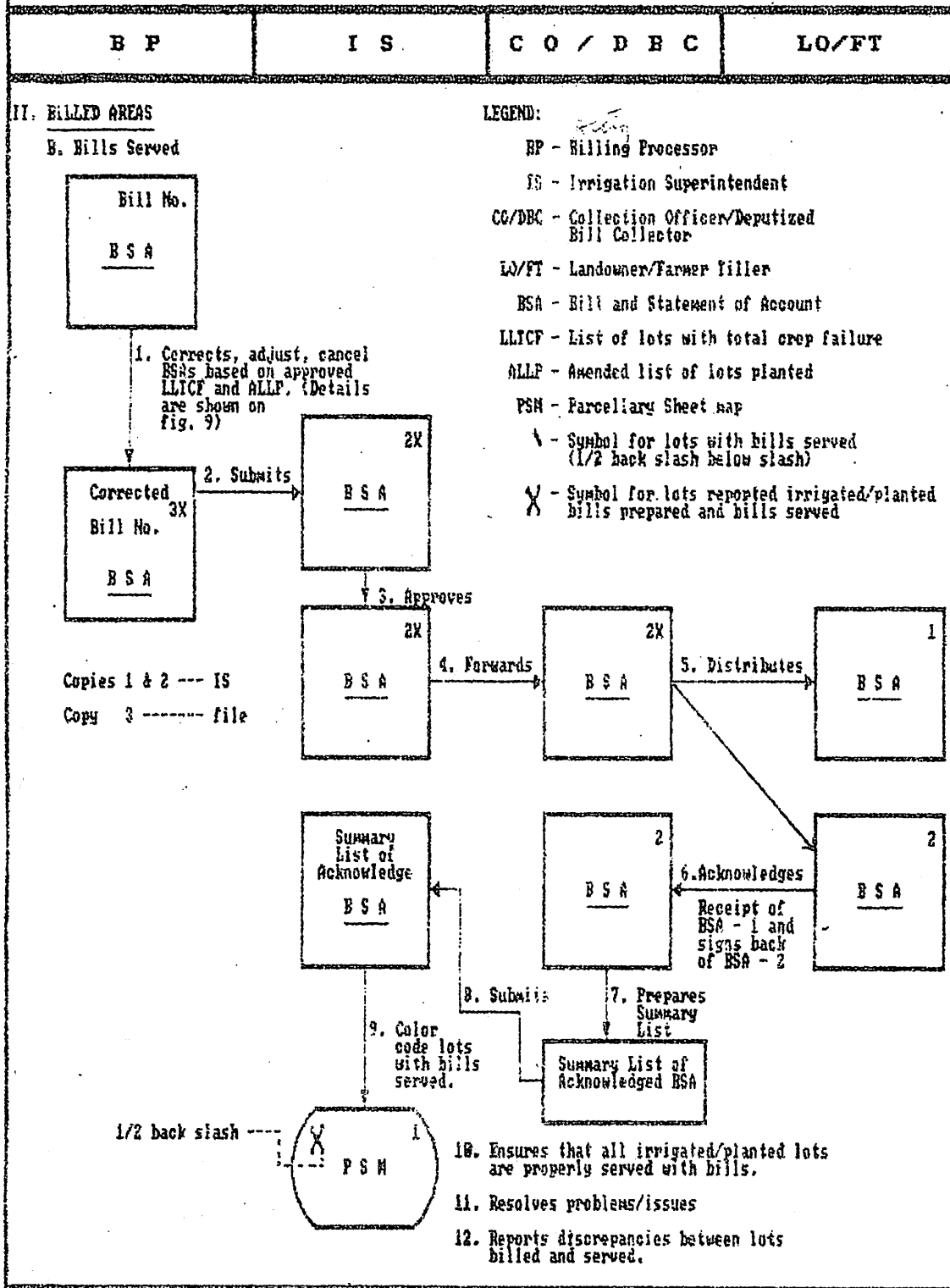


Fig. B FLOW CHART: COLOR CODING AREAS COLLECTED/PAID

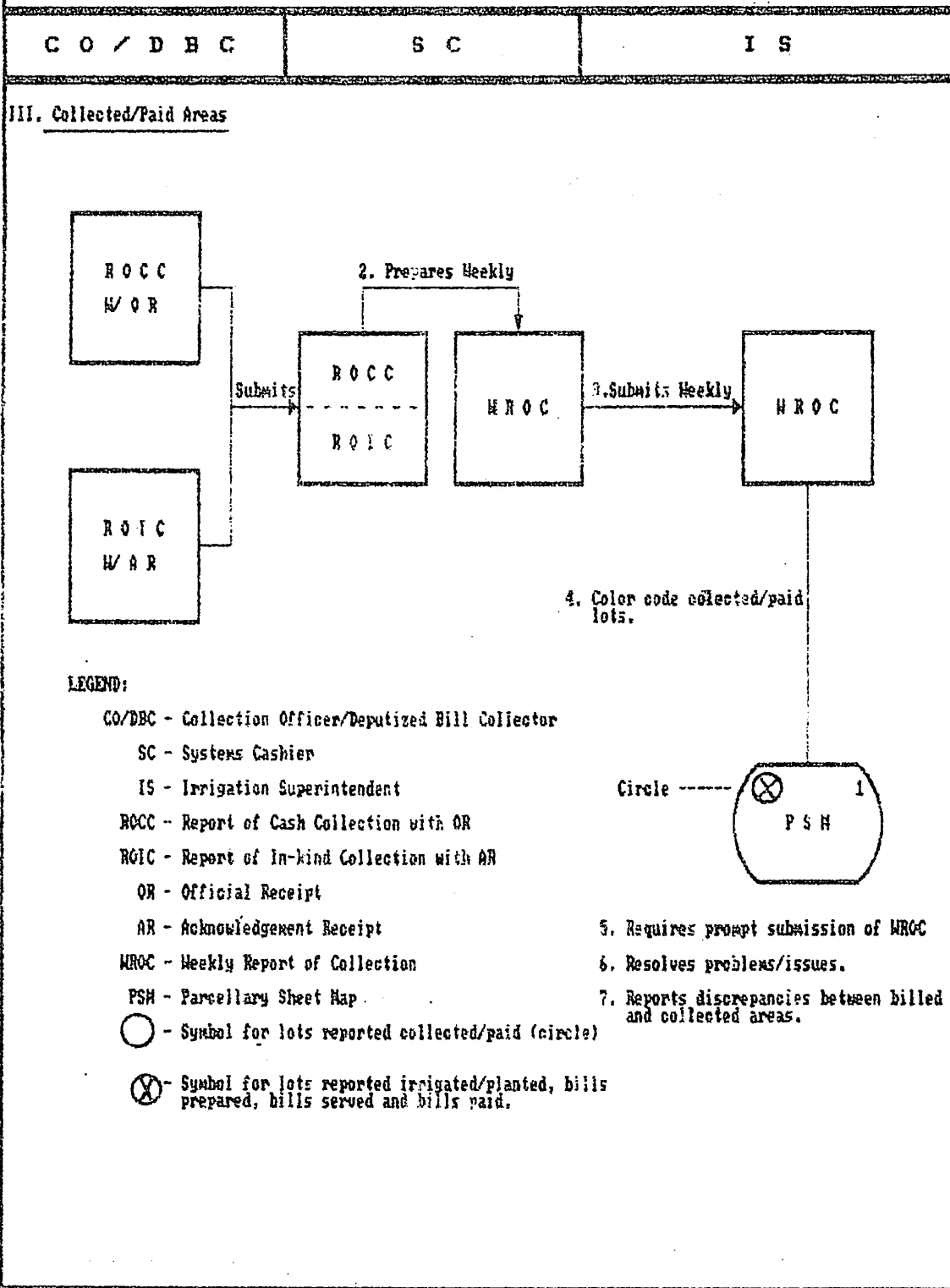


Fig. 9 FLOW CHART: COLOR CODING EXEMPTED AREAS

