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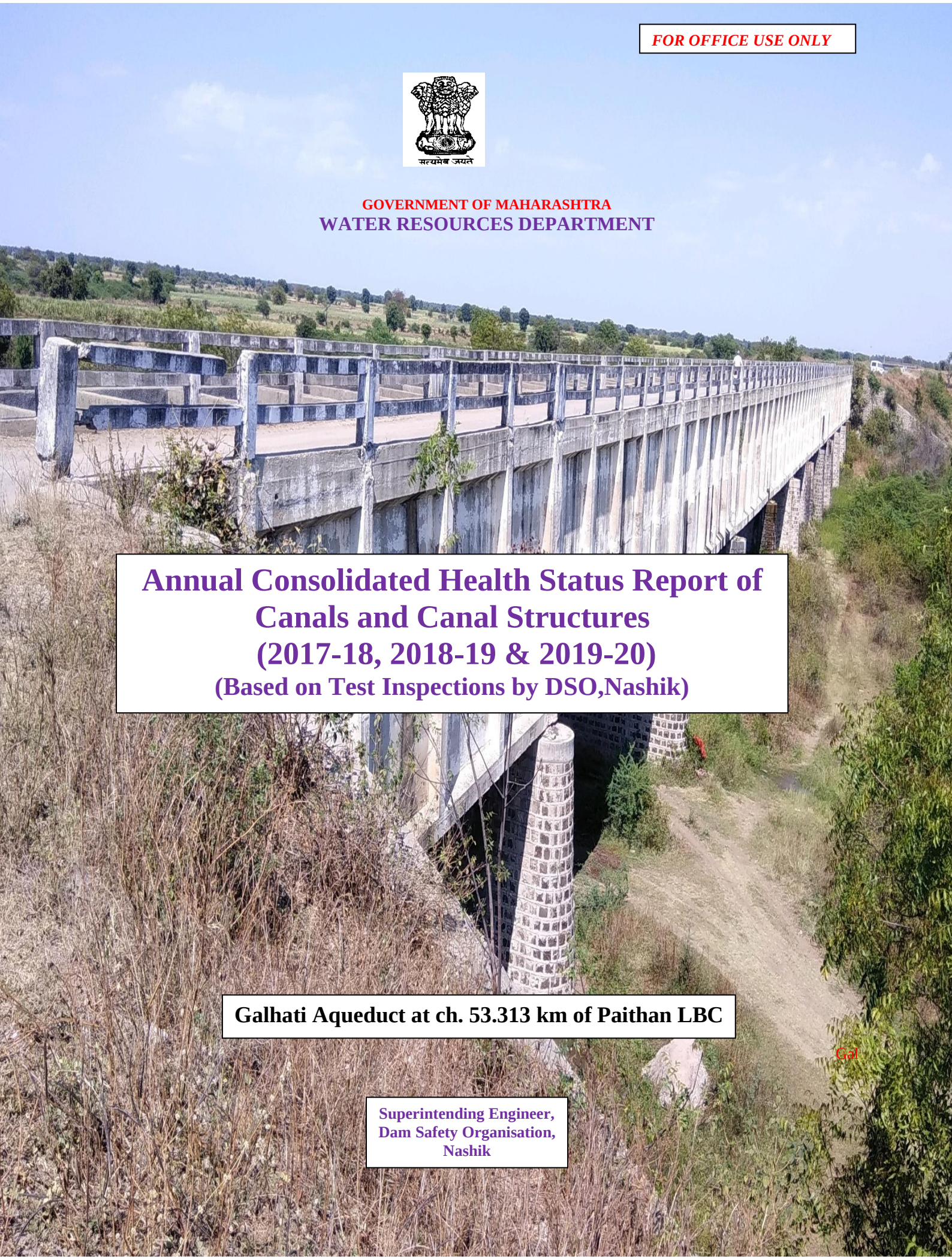
GOVERNMENT OF MAHARASHTRA

WATER RESOURCES DEPARTMENT



Annual Consolidated Health Status Report of Canals and Canal Structures (2017-18, 2018-19 & 2019-20)

(Based on Test Inspections by DSO,Nashik)

Galhati Aqueduct at ch. 53.313 km of Paithan LBC

Gal

Superintending Engineer,
Dam Safety Organisation,
Nashik

GOVERNMENT OF
MAHARASHTRA
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सत्यमेव जयते

महाराष्ट्र शासन
जलसंपदा विभाग
अधीक्षक अभियंता
धरण सुरक्षितता संघटना, नाशिक
दिंडोरी मार्ग, नाशिक-४
दूरध्वनी (कार्या.) 0253/2530030
फॅक्स : 0253/250030
ई-मेल :se.damsafety@gmail.com

फक्त ई-मेलद्वारे जा.क्र.धसुसं/कासुवि/प्रशा/(६१ /२०२०)२४८/सन २०२० दि.०८ /१२/२०२०

प्रति,
मा. मुख्य अभियंता,

विषय:- महाराष्ट्र राज्यातील कालवे व त्यावरील बांधकामांचा एकत्रित वार्षिक कालवा स्थिती अहवाल सन २०१७-१८, २०१८-१९ व सन २०१९-२०.

संदर्भ:- १) शासन, जलसंपदा विभाग, परिपत्रक क्र.संकीर्ण/२००२/(२०२/२००२)/सिंव्य(कामे), दिनांक २२/०७/२००३
२) शासन, जलसंपदा विभाग, पत्र क्र. एमआयएससी २००६/२०६०/(६०२/०६)/सिंव्य(कामे), दिनांक ३०/११/२००६
३) या कार्यालयाचे पत्र क्र. धसुसं/प्रशा/१४९१/२०१४ दिनांक २५/११/२०१४

संदर्भ क्र.१ च्या शासन परिपत्रकाच्या अनुषंगाने, प्रतिवर्षी क्षेत्रीय कार्यालयांमार्फत कार्यक्षेत्रातील कालवे व त्यावरील बांधकामांची सक्षम स्तरातील अधिकारी यांचे मार्फत तपासणी करून निरीक्षण अहवाल धरण सुरक्षितता संघटना, नाशिक यांना पाठविणे अपेक्षित आहे.

प्राप्त निरीक्षण अहवाल तसेच गतवर्षी प्रकाशित कालवा स्थिती अहवालाच्या अनुषंगाने उपस्थित त्रूटींचा पुर्तता अहवाल व कालवा सुरक्षा विभाग, धरण सुरक्षितता संघटना, नाशिक येथील अधिकारी वर्गाने केलेल्या निवडक निरीक्षण दौऱ्यांवरील नमुना तपासणीच्या अनुषंगाने "वार्षिक कालवा स्थिती अहवाल" प्रकाशित करणे अभिप्रेत आहे.

सन २०१७-१८ व २०१८-१९ या वर्षाचा वार्षिक कालवा स्थिती अहवाल प्रकाशित करण्यात आला होता. तथापि आजतागायत क्षेत्रिय स्तरावरून कालव्यांचे वार्षिक तपासणी अहवाल प्राप्त झालेले नाहीत व कालवा सुरक्षा विभागाच्या अधिकारी वर्गाने पाहणी करून निदर्शनास आणलेल्या त्रूटींचे पुर्तता अहवाल देखील अप्राप्तच राहिले आहेत. सदर बाब अत्यंत खेदजनक असून याबाबत पुरेश्या गांभीर्याने कार्यवाही अपेक्षित आहे.

आपणास कालवे देखभाल/दुरूस्तीच्या अनुषंगाने सहाय्यभूत व्हावे यादृष्टीने पुन:श्च सन २०१७-१८ व २०१८-१९ च्या अहवालांच्या अंतर्भावासह सन २०१९-२० मधील पाहणी दौऱ्यांच्या अनुषंगाने उपस्थित त्रूटींचा अंतर्भाव करून सन २०१७-१८ ते २०१९-२० असा तीन वर्षांचा एकत्रित कालवा स्थिती अहवाल मा. महासंचालक, सं.प्र.ज.सं.व सु. मेरी, नाशिक यांचे मार्फत प्रकाशित करण्यात येत आहे.

संदर्भ क्र.२ च्या शासन पत्रातील सुचनेनुसार पुढील तक्त्यात दर्शविल्याप्रमाणे त्रुटींचे वर्गीकरण केले आहे.

वर्गीकरण	क्षेत्रीय स्तरावरून अपेक्षित कार्यवाही
वर्ग अ	तातडीने उपाययोजना करावयाच्या गंभीर त्रुटी
वर्ग ब	विशेष दुरूस्ती अंतर्गत उपाययोजना करावयाच्या त्रुटी
वर्ग क	नियमित देखभाल व दुरूस्ती अंतर्गत करावयाची दुरूस्ती

तसेच संदर्भ क्र.३ च्या पत्रान्वये शासन निर्देशानुसार कळविलेल्या सुचनेनुसार वर्ग अ प्रकारातील त्रुटींच्या बाबत क्षेत्रीय मुख्य अभियंता/ अधीक्षक अभियंता यांनी वर्ग अ मधील त्रुटींची तपासणी करून निरीक्षण टिप्पणीद्वारे दृढीकरण करणे, तसेच वर्गीकरणात बदल संभावित असल्यास धरण सुरक्षितता संघटनेस तत्काळ कळविणे अभिप्रेत आहे.

धरण सुरक्षितता संघटनेने केलेल्या निवडक प्रकल्पांच्या कालवे व त्यावरील नमुना बांधकामांच्या तपासणीवरआधारीत एकत्रित वार्षिक कालवा स्थिती अहवालाची प्रत आपल्या माहितीसाठी सोबत सादर करीत आहे.

तरी संबंधित अहवालात निदर्शनास आलेल्या त्रुटींचा पूर्तता अहवाल (Action Taken Report) डिसेंबर २०२० अखेर पर्यंत तसेच सन २०२०-२१ चा कालवा व त्यावरील बांधकामांचा क्षेत्रीय स्तरावरील निरीक्षण अहवाल या कार्यालयास मार्च २०२१ पर्यंत ई-मेलने पाठविणे बाबत संबंधित क्षेत्रीय कार्यालयास सूचना देण्यात याव्यात.

हे माहितीस्तव व पुढील कार्यवाहीस्तव सादर.

7/12/2020

(य. का. भदाणे)
अधीक्षक अभियंता,
धरण सुरक्षितता संघटना,
नाशिक.

सहपत्र:- एकत्रित वार्षिक कालवा स्थिती अहवाल सन २०१७-१८, २०१८-१९ व २०१९-२०

सहपत्रासह प्रत :

१) मा. सचिव (जसंव्य व लाक्षेवि) जलसंपदा विभाग, मंत्रालय, मुंबई-३२
[लक्षवेध श्री वैजनाथ चिल्ले, उपसचिव सिं.व्य.]
२) मा. महासंचालक, सं.प्र.ज.सं. व सु. महाराष्ट्र अभियांत्रिकी संशोधन संस्था, नाशिक
३) मा. कार्यकारी संचालक, महाराष्ट्र कृष्णा खोरे, विकास महामंडळ, पुणे
४) मा. कार्यकारी संचालक, विदर्भ पाटबंधारे विकास महामंडळ, नागपूर
५) मा. कार्यकारी संचालक, गोदावरी पाटबंधारे विकास महामंडळ, औरंगाबाद
६) मा. कार्यकारी संचालक, तापी पाटबंधारे विकास महामंडळ, जळगांव
७) मा. कार्यकारी संचालक, कोंकण पाटबंधारे विकास महामंडळ, ठाणे

८) मुख्य अभियंता, जलविज्ञान व धरण सुरक्षितता, नाशिक
९) मुख्य अभियंता, जलसंपदा विभाग, पुणे
१०) मुख्य अभियंता, (विनिर्दिष्ट प्रकल्प), जलसंपदा विभाग, पुणे
११) मुख्य अभियंता, जलसंपदा विभाग, नागपूर
१२) मुख्य अभियंता, गोसीखुर्द प्रकल्प, जलसंपदा विभाग, नागपूर
१३) मुख्य अभियंता, जलसंपदा विभाग, अमरावती
१४) मुख्य अभियंता, (विशेष प्रकल्प), जलसंपदा विभाग, अमरावती
१५) मुख्य अभियंता व मुख्य प्रशासक, लाभक्षेत्र विकास प्राधिकरण, जलसंपदा विभाग, औरंगाबाद
१६) मुख्य अभियंता, जलसंपदा विभाग, औरंगाबाद
१७) मुख्य अभियंता, उत्तर महाराष्ट्र प्रदेश, जलसंपदा विभाग, नाशिक
१८) मुख्य अभियंता, तापी पाटबंधारे विकास महामंडळ, जलसंपदा विभाग, जळगांव
१९) मुख्य अभियंता, कोंकण प्रदेश, जलसंपदा विभाग, मुंबई
-/सहपत्रासह माहितीस्तव सादर.

२०) अधीक्षक अभियंता, ठाणे पाटबंधारे मंडळ, कोपरी वसाहत, ठाणे ३.
२१) अधीक्षक अभियंता, कोकण पाटबंधारे मंडळ, कुवारबांव, रत्नागिरी.
२२) अधीक्षक अभियंता, उत्तर कोकण पाटबंधारे प्रकल्प मंडळ, कळवा (प), ठाणे.
२३) अधीक्षक अभियंता, दक्षिण कोकण पाटबंधारे प्रकल्प मंडळ, सिंधुदूर्गनगरी, ओरोस
२४) अधीक्षक अभियंता, पुणे पाटबंधारे मंडळ, बारणे रोड, पुणे - ११.
२५) अधीक्षक अभियंता, कुकडी प्रकल्प मंडळ, पुणे.
२६) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, बारणे रोड, पुणे.
२७) अधीक्षक अभियंता, सातारा पाटबंधारे प्रकल्प मंडळ, सातारा.
२८) अधीक्षक अभियंता, कृष्णा खोरे उपसा सिंचन प्रकल्प मंडळ, सांगली
२९) अधीक्षक अभियंता, सांगली पाटबंधारे मंडळ, सांगली.
३०) अधीक्षक अभियंता, कोल्हापूर पाटबंधारे मंडळ, कोल्हापूर.
३१) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, सोलापूर.
३२) अधीक्षक अभियंता, भिमा कालवे मंडळ, सोलापूर.
३३) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, सिंचन भवन, त्रिंबक रोड, नाशिक
३४) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, सिंचन भवन,आकाशवाणी चौक, जळगांव.
३५) अधीक्षक अभियंता, जळगांव पाटबंधारे प्रकल्प मंडळ, आकाशवाणी चौक, जळगांव.
३६) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, सिंचन भवन, फकिरवाडा, अहमदनगर
३७) अधीक्षक अभियंता, धुळे.पाटबंधारे प्रकल्प मंडळ, सिंचन भवन, साक्री रोड, धुळे.

३८) अधीक्षक अभियंता,औरगाबाद पाटबंधारे मंडळ, जुन्या हायकोर्टाच्या पाठीमागे, अदालत रोड, स्नेहनगर, औरंगाबाद

३९) अधीक्षक अभियंता, बीड पाटबंधारे प्रकल्प मंडळ, सिंचन भवन, अंबेजोगाई रोड. परळी वैजनाथ, जि.बीड.

४०) अधीक्षक अभियंता, नांदेड पाटबंधारे मंडळ, सिंचन भवन, नांदेड ४३१६०५

४१) अधीक्षक अभियंता, उस्मानाबाद पाटबंधारे, पाटबंधारे वसाहत, उस्मानाबाद.

४२) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, गारखेडा परिसर, औरंगाबाद.

४३) अधीक्षक अभियंता, जायकवाडी प्रकल्प मंडळ, जुन्या हायकोर्टाच्या पाठीमागे, अदालत रोड, स्नेहनगर, औरंगाबाद

४४) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, जायकवाडी वसाहत, नगर रोड, बीड.

४५) अधीक्षक अभियंता, उर्ध्व पैनगंगा प्रकल्प मंडळ, सिंचन भवन, नांदेड ४३१६०५

४६) अधीक्षक अभियंता, उर्ध्व वर्धा प्रकल्प मंडळ, सिंचन भवन, शिवाजी नगर, अमरावती

४७) अधीक्षक अभियंता, यवतमाळ पाटबंधारे मंडळ, सिंचन भवन, यवतमाळ.

४८) अधीक्षक अभियंता, बुलडाणा पाटबंधारे प्रकल्प मंडळ, सिंचन भवन, बुलडाणा .

४९) अधीक्षक अभियंता, अकोला पाटबंधारे मंडळ, सिंचन भवन, अकोला.

५०) अधीक्षक अभियंता, वाशिम पाटबंधारे मंडळ, सिंचन भवन, वाशिम.

५१) अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, वैनगंगा नगर, अंजनी, नागपूर.

५२) अधीक्षक अभियंता, चंद्रपूर पाटबंधारे मंडळ, रेल्वे स्टेशन जवळ, चंद्रपूर.

५३) अधीक्षक अभियंता, नागपूर पाटबंधारे मंडळ, सिंचन सेवा भवन, जुने सचिवालय इमारत सिव्हिल लाईन्स नागपूर.

५४) अधीक्षक अभियंता, गोसीखूर्द प्रकल्प मंडळ, ३ रा मजला सिंचन भवन, आयुक्तांच्या इमारती शेजारी, जि.पी.ओ. चौक, नागपूर.

-/ सहपत्रासह माहितीस्तव अग्रेषित.

२/- आपल्या अधिपत्याखालील कार्यकारी अभियंता यांना सदर अहवाल पाठविण्यात यावा ही विनंती.

FOREWORD

Annual consolidated Health Status Report (AHSR) for Canals and Canal Structures in Maharashtra State for year 2017-18, 2018-19 & 2019-20 is prepared by Canal Safety Division, Nashik under Dam Safety Organisation, Nashik and is being published by Director General, DTHRS, MERI, Nashik.

Basically, Annual Health Status Report (AHSR) is expected to be based on Annual Inspection Reports received from field officers vide WRD, Circular No. MISC 2002/ (202/2002)/ IM (W), Dtd. 22/07/2003 and further instructions received vide WRD Letter No. Misc M(W)/ (06/602)/ 2060/2006 Dtd.30 /11/2006. And Test Inspections carried out by officers of Canal Safety Division, Dam Safety Organisation, Nashik as per DG, DTHRS, MERI's approved Inspection Programme. But reports from field offices are not received. Hence, reports on Test Inspections by Dam Safety Organisation are included.

As per above mentioned Government letter Dtd. 30/11/2006 deficiencies observed in inspection reports by field officers and inspections of Canal Safety Division Officers from Dam Safety Organisation, Nashik should be classified as tabulated below.

Category	**Action to be Taken**
Category A	Deficiencies to be rectified Immediately
Category B	Deficiencies to be rectified in Special Repairs
Category C	Deficiencies to be rectified in Annual Maintenance and Repairs

Ass per Superintending Engineer, Dam Safety Organisation, Nashik's letter No. DSO/PB/1491/2014, Dtd. 25/11/2014 as directed by Government, Field Chief Engineer/ Superintending Engineer must reconfirm Category A deficiency through Inspection Note for inclusion in Annual Health Status Report (AHSR). Reclassification if required may be communicated to Dam Safety Organisation immediately.

Annual Inspections Reports as expected vide above mentioned Government Circular Dtd. 22/07/2003 are not received from any field office. This Report is based on the Test Inspections of the structures by the Officers of Canal Safety Division, Dam Safety Organisation, Nashik as under.

Sr. No.	Region	Year 2017-18		Year 2018-19		Year 2019-20	
		No. of Canals	Test Inspection of Structures	No. of Canals	Test Inspection of Structures	No. of Canals	Test Inspection of Structures
1	**Konkan**	3	28	2	32	1	14
2	**Pune**	1	44	1	20	1	19
3	**Nashik**	2	28	2	39	1	10
4	**Aurangabad**	1	14	1	15	1	40
5	**Amravati**	1	11	1	23	Not Inspected	Not Inspected
6	**Nagpur**	2	30	1	17	Not Inspected	Not Inspected
	Total	**10**	**155**	**8**	**146**	**4**	**83**

This report comprises of following details.

Part 1 - Action Taken Report (ATR) on Annual Health Status Report (AHSR) of canals.

Part 2 - Annual Health Status Report of Canals & Canal Structures in Maharashtra.

Annual Health Status Report for 2016-17, 2017-18 & 2018-19 was published annually. However to give a new kick start this year, A consolidated Health Status Report of three years i.e. from 2017-18, 2018-19 & 2019-20 is being published.

As per Marathi Government Resolution Misc. 2016/(88/16)/IM(W) Dtd. 09/05/2016, Responsibility of Approval of M & R Work's Procurement List & Prioritisation of execution of work & its implementation is entrusted to Superintending Engineers. And Responsibility of Review & monitoring is in trusted to Chief Engineers.

Hence, It is expected that Superintending Engineers should verify whether Canal Safety Inspections are carried out & Reports are submitted to DSO while approving Procurement List of the M & R works of the Project. And Chief Engineers should monitor Progress of Canal Safety Inspection Reports submitted to DSO.

Action Taken Report for year 2016-17, 2017-18 & 2018-19 was not received from any field Offices. Also Category-A deficiency from **Bhatsa Project** for 2018-19 was not reconfirmed by field Chief Engineer, WRD, KR, Mumbai as expected by Government. Communicated vide DSO Letter Dtd. 25/11/2014.

Executive Directors of all the Irrigation Development Corporations and field Chief Engineers are requested to give due attention to the following issues in order to ensure safety of the canals on the projects in their respective jurisdiction.

1) To ensure and monitor that the canals are regularly inspected.

2) Inspection reports are regularly prepared & submitted to Dam Safety Organisation.

3) To comply the deficiencies reported in previous AHSR and send Action Taken Report to DSO.

Response from the field officers regarding canal inspections is not much encouraging. The hazard potential due to canal / canal structures may be much less as compared to that of dams. However safety of canals is also equally important for uninterrupted supply of water for irrigation. Also, it's important to note that the irrigation potential created by number of projects is not being fully utilized.

Field Offices neither submitted Inspections Reports nor Action Taken Report for the Test Inspections carried out by the Canal Safety Division, Dam Safety Organization, Nashik. Hence, no way this CAHSR (2017-18 to 2019-20) represents actual Health Status of Canal & Canal Structures of the State. It is expected that a serious note of this should be taken by Field Offices.

Keeping this in view, the planning of M & R on annual basis shall be taken on top priority, by all Executive Directors of Irrigation Development Corporations.

Let us monitor and do the things together, to achieve the goal of **"More Crop, per Drop."** Briefly, ***1) It is also noticed that deficiencies pointed out in inspection carried out by D.S.O. are either not attended or not submitted by way of Action Taken Report. In view of lack of seriousness from field officers regarding canal safety issues, the whole exercise done by Dam Safety Organisation tends to become futile.***

2) The Chief Engineers are requested to flag this issue and compel all canal officers to carry out periodic inspections and submit report to D.S.O.

Any errors, discrepancies and suggestions if any in the data incorporated and views expressed in this report may please be communicated, so that cognizance of the same will be taken in next AHSR

Any suggestions, comments regarding this report shall be highly appreciated.

(A. P. Kohirkar)
Director General
Design, Training, Hydrology, Research and Safety
M.E.R.I. Nashik

Place : Nashik
Date : 03/12/2020

INDEX

PART - 1

GENERAL

Part-1 General

1.1 Introduction:

Maharashtra Water & Irrigation Commission recommends Inspections of Canals & Canal Structures on the line of periodical inspections carried out for Dams of Major & Medium Projects.

Hence, Vide Government Resolution No. CDO/11/02/(655/2002)/MP-1, Dtd.30/11/2002, Design Division (P. L. No.3) under SE, CDO (Gates), Nashik was attached to SE, DSO, Nashik from 01/01/2003 for inspections of Canals & Canal Structures in the State.

In continuation to that vide GR No. Review - 2017/623/C.No.304/2017/Est. (Training), Dtd. 19/12/2017, the division was renamed as Canal Safety Division, Nashik from 01/01/2018.

The above division is entrusted the work of Test Inspections of Canals &Canal Structures on Irrigation projects in Maharashtra.

1.2 Inspection of Canal and Distribution System:

Govt. of Maharashtra issued instructions for inspection of the Canal & its Structures vide circular No. MISC 2002/(202/2002)/IM (W), Dtd. 22/07/2003. Cruxs of this GR are as follows:

1.2.1 Purpose

The purposes of Inspection of canals and distribution systems are as follows

- To carry out preventive maintenance and prepare the Irrigation system for the monsoon to minimize damages due to rains.
- To carry out corrective maintenance and prepare the efficient irrigation network for regular irrigation.

1.2.2 Inspection of Masonry works

As per above GR, following schedule to be followed for inspection of different categories of masonry works on canal and distribution system.

Canal Officer	Category of masonry works	frequency
Sectional Officer	Masonry works	Annual
Sub Divisional Officer S.D.E./A.E.I/Dy.E.E.	All masonry works up to distributaries having discharge of 0.7 cumecs (25 cusec) or above, all masonry works pointed out by sectional	Annual

	officer needing attention of S.D.O./ S.D.E./ AEI/ Dy. EE.	
Executive Engineer	All masonry works having abutment to abutment length of 30m or more, all syphons and all works pointed out by Sub- Divisional Officer needing attention of Executive Engineering.	Annual
Superintending Engineer	Selective works which they think necessary, selected from the inspection report received from Executive Engineer.	As per necessity.

The register of masonry work should be kept in the prescribed proforma A. The details of inspection should be entered in the prescribed proforma B. (Proforma A & B are enclosed in Annexure No. I)

The register of masonry works, and inspection should be maintained properly and produced during the inspection of the office by higher authority. The Superintending Engineer and other higher authorities are requested to carry out such inspection at random some time during their tours and should give their remarks in the register for compliance.

1.2.3 Inspection of Embankment

It is necessary to inspect periodically the embankment of canals and distribution system particularly high embankment. The embankment on the service roadside is easy to inspect but the upstream side of embankments generally remains uninspected. The inspection of embankment on both sides is necessary for its proper upkeep and to avoid likely mishaps.

The embankments having height of 3m or more should be treated as high embankments. Following schedule be treated as high embankment. Following schedule be followed for inspection of embankments on canal and distribution system.

Canal Officer/ Staff	Height of embankment in m	Frequency
Canal Inspector or Maistry	3 to 5 m	Twice in every month
Sectional Officer	3 to 5 m	Once in a month.
Sub-Divisional Officer	more than 5 m	Once in 3 months.
Executive Engineer	more than 8 m and those reported defective by the Sub-Divisional Officer	Once in 6 months.
Superintending Engineer		Random.

The embankments below 3 m height should be seen periodically during routine day to day work by canal inspectors, maistries and sectional officers and any defects

requiring attention should be reported in the prescribed Proforma C. (Proforma C is enclosed in Annexure No. I)

Last date of sending field inspection report in prescribed proforma to Dam Safety Organisation is 30th March of every year.

1.2.4 Role of Dam Safety Organisation

Canal Safety Division under Dam Safety Organization, Nashik excersies compilation of Annual Inspection Reports of Canal Network submitted by Field Offices as well as Test Inspection Reports of Selected Canal Networks carried out by Canal Safety Division, Dam Safety Organization, Nashik in the form of Annual Health Status Report.

Annual Health Status Reports (AHSR) of Canal and Canal Structures is published by Director General, DTHRS, MERI, Nashik and submitted to Govt. of Maharashtra and also circulated to all Field Offices ranging from Management Divisions to Corporations for information and carrying out remedial measures.

Field Officers should go through this Status Report scrupulously and attend remedial measures on priority basis and submit Action Taken Report (ATR) for reflecting necessary repairs & attention given for maintenance of Canal Network in the AHSR.

1.3 Standard Deficiencies of Canal and Canal Structures :

Compilation of deficiencies on the basis of priority of attending Remedial Measures, standardization of deficiencies is introduced. Deficiencies are grouped as Category 'A', Category 'B' and Category 'C'.

As per Government letter Dtd 30/11/2006 deficiencies observed in Inspection Reports by Field Officers and during Test Inspections of Canal Safety Division Officers Nashik are classified as below, from Dam Safety Organisation.

Category	**Action to be Taken**
Category A	Deficiencies to be rectified Immediately
Category B	Deficiencies to be rectified in Special Repairs.
Category C	Deficiencies to be rectified in Annual Maintenance and Repairs

1.3.1 Details of Category 'A'Deficiency

Category 'A' (Deficiencies which may lead to failure of Canal and canal structure)			
Sr. No.	**Structure**	**Deficiencies**	**Category - Identifier**
1	**Aqueduct**	1) Pier is crushed / settled down and hence Trough also get tilted or settled.	**AQ 1.1**
		2) Bottom slab of trough is sagged./ damaged.	**AQ 1.2**
2	**Syphon**	1) Pipe/ RCC Barrel gets chocked due to accumulation of debris and water flow is completely blocked.	**SY 1.1**
		2) Syphon structure is badly damaged.	**SY 1.2**
3	**Standing Waves Flume**	1) Structural wall badly damaged .	**SWF 1.1**
4	**Cross regulator Cum Escape**	1) Piers having series cracks/ badly damaged.	**CR 1.1**
5	**High Embankment**	1) Boils/ Leakages/ Seepage/ Wet patches / Slushiness in earthen embankment.	**HE 1.1**
6	**Deep Cut**	1) Accumulation of Boulders/ Silt/ Vegetation in canal which obstruct canal flow on large scale.	**DC-1.1**
7	**Tunnel**	1) Accumulation of Boulders/ Silt/ Vegetation in Tunnel which obstruct canal flow on large scale.	**TN 1.1**
8	**Super Passage**	1) Pier is crushed / settled down and hence Trough also get tilted or settled./ Structure damaged.	**SP 1.1**
		2) Bottom slab of trough is sagged./ damaged.	**SP 1.2**
9	**H.P. Drain**	1) Settlement/ Damage of Hume Pipe.	**HP 1.1**
		2) Major leakages through joints.	**HP 1.2**
10	**Head Regulator**	1) Structure is badly damaged.	**HR 1.1**
11	**Slab Culvert/ Box Culvert**	1) Slab is sagged/ damaged. /collapsed	**SC 1.1**
12	**Road Bridge**	1) Pier is crushed / settled down and hence bridge slab get tilted or settled.	**RB 1.1**
		2) Bridge slab is sagged	**RB 1.2**

1.3.2 Details of Category 'B'Deficiency

Category 'B' [Deficiencies required immediate remedial measures (A- First Priority, B- Second Priority)]			
Sr. No.	**Structure**	**Deficiencies** (A- First Priority, B- Second Priority.)	**Category - Identifier**
1	**Aqueduct**	1) Leakages through joints of trough, pier, abutment, wing wall	**AQ 2A.1**
		2) Pier/abutment foundation exposed/ erroded	**AQ 2A.2**
		3) Cracks/ damages at the bottom and vertical sides of trough, in UCR / Concrete - piers, abutments, wing walls, transition wall.	**AQ 2B.1**
		4) Steel reinforcement exposed/ rusted.	**AQ 2B.2**
		6) U/s & D/s transition lining damaged	**AQ 2B.3**
2	**Syphon**	1) Leakage through joints of RCC barrel, bottom slab, joint between embankment and wing /transition wall	**SY 2A.1**
		2) Reinforcement exposed/ Rusted.	**SY 2B.1**
		3) Cracks/ damages to RCC barrel, wing walls, transition wall/	**SY 2B.2**
		4) Trash rack/iron grill not provided/ damaged/ waterway blocked.	**SY 2B.3**
		5) U/s & D/s transition lining damaged	**SY 2B.4**
3	**Standing Waves Flume**	1) Proper functioning of SWF/ Jump formation not observed	**SWF 2A.1**
		2) SWF not calibrated & not in use	**SWF 2A.2**
		3) Hump portion damaged/ Bed erosion /silted /steel exposed	**SWF 2B.1**
		4) Cracks/ damages to transition wall./Guide wall	**SWF 2B.2**
		5) Gauge Chamber totally collapsed / Not observed	**SWF 2A.3**
		6) Gauge Chamber Silted	**SWF 2B.3**
		7) Inlet Pipe chock up.	**SWF 2B.4**
		8) Gauge plate not provided/ damaged.	**SWF 2B.5**
		9) U/s & D/s lining damaged	**SWF 2B.6**
4	**Cross regulator cum Escape**	1) Leakage through sill beam and edges of gates	**CR 2B.1**
		2) Steel reinforcement of foot bridge exposed	**CR 2B.2**
		3) Gates not in working condition/ steel parts/hoist/ rope damaged/rusted	**CR 2B.3**
		4) Cracks/ damages to stone masonry / concrete Masonry.	**CR 2B.4**
		5) Bed/ Berm erosion	**CR 2B.5**
		6) Working platform (Bridge) damaged./ No approach for gate operation.	**CR 2B.6**
		7) Escape channel choked up	**CR 2B.7**
		8) U/s & D/s lining damaged	**CR 2B.8**
5	**High Embankment/**	1)) Slushiness / water ponding along embankment	**HE 2A.1**

	Canal section	2) Boils, Leakage, Seepage, wet Patches in embankment.	**HE 2A.2**
		3) Section not as per design/ Earth work washed out	**HE 2B.1**
		4) Rain cuts/ Cracks are observed.	**HE 2B.2**
		5) Erosion of side slope./ canal lining damaged/banks damaged due to cattle moving	**HE 2B.3**
6	**Deep Cut**	1) Accumulation of debris which obstruct canal flow.	**DC 2B.1**
		2) Section not as per design	**DC 2B.2**
		3) Situation of land slide	**DC 2B.3**
		4) Silt trap not provided.	**DC 2B.4**
		5) Ramp not provided.	**DC 2B.5**
7	**Tunnel**	1) Situation of boulder collapsed. / Accumulation of silt	**TN 2B.1**
		2) U/s & D/s lining damaged	**TN 2B.2**
		3) Entry and exit Portal not constructed.	**TN 2B.3**
		4) Silt trap not provided.	**TN 2B.4**
		5) Approach road not provide.	**TN 2B.5**
8	**Super Passage**	1) Leakages through joints of slab, pier, abutment, wing wall, head wall/ structure damaged.	**SP 2B.1**
		2) Steel reinforcement exposed/ rusted.	**SP 2B.2**
		3) Cracks/ damages in UCR and concrete piers, abutments, wing walls, transition wall /head wall / Bank, Bed erosion	**SP 2B.3**
9	**H.P. Drain**	1) Leakage through pipes.	**HP 2A.1**
		2) Cracks/ damages to pipes , pipe joints.	**HP 2B.1**
		3) Cracks/ damages to head wall.	**HP 2B.2**
		4) Design flood not passing/ Pipes silted	**HP 2B.3**
		5) No approach for inspection	**HP 2B.4**
10	**Head Regulator**	1) Leakage through sill beam and edges of gates	**HR 2B.1**
		2) Gates not in working condition/ steel parts/hoist/ rope damaged/rusted	**HR 2B.2**
		3) Cracks/ damages to stone/ concrete masonry	**HR 2B.3**
11	**Slab Culvert/ Box Culvert**	1) Leakages through joints of slab, pier, abutment, wing wall	**SC 2A.1**
		2) Steel reinforcement exposed/ rusting	**SC 2B.1**
		3) Cracks/ damages in UCR /concrete piers, abutments, wing walls, transition wall / head wall	**SC 2B.2**
		4) Pier/abutment foundation exposed	**SC 2B.3**
		5) No approach for inspection	**SC 2B.4**
12	**Road Bridge**	1) Steel reinforcement exposed/ rusting	**RB 2B.1**
		2) Cracks/ damages in UCR/concrete piers, abutments, wing walls, transition wall /head wall	**RB 2B.2**

1.3.3 Details of Category 'C'Deficiency

Category 'C' (Deficiencies which are rectifiable during the year)			
Sr. No.	**Structure**	**Deficiencies**	**Category - Identifier**
1	**Aqueduct**	1) Railing/parapet damaged	**AQ 3.1**
		2) Approach Road damaged./erroded.	**AQ 3.2**
		3) Growth of trees, vegetation on the structure ./ Accumulation of silt	**AQ 3.5**
		4) Lower part of Pier could not be inspected due to water ponding / vegetation in nalla.	**AQ 3.6**
		5) Rubber seal damaged	**AQ 3.3**
		6) Steel trough rusted	**AQ 3.4**
2	**Syphon**	1) Accumulation of Silt/ debris in Barrel.	**SY 3.1**
		2) Growth of heavy vegetation.	**SY 3.2**
		3) Encroachment	**SY 3.3**
3	**Cross regulator cum Escape**	1) Greasing &oiling to Mechanical part of Gates/ Provision of rubber bush /Railing damaged.	**CR 3.1**
		2) Growth of trees, vegetation on the structure / near the structure/ in escape channel	**CR 3.2**
		3) Accumulation of debris near structure.	**CR 3.3**
4	**Standing Waves Flume**	1) Removal of mortar, plaster .	**SWF 3.1**
		2) Growth of trees, vegetation on the structure / near the structure.	**SWF 3.2**
		3) Debris/ Boulder in canal near structure.	**SWF 3.3**
5	**High Embankment/ Canal section**	1) Holes due to rodents.	**HE 3.1**
		2) Growth of trees, vegetation	**HE 3.2**
		3) Catch water drain silted/ not provided.	**HE 3.3**
6	**Deep Cut**	1) Lining damaged.	**DC 3.1**
		2) Growth of trees, vegetation	**DC 3.2**
7	**Tunnel**	1) Growth of trees, vegetation.	**TN 3.1**
8	**Super Passage**	1) Accumulation of silt./ debris	**SP 3.1**
		2) Growth of trees, vegetation.	**SP 3.2**
9	**H.P. Drain**	1) Siltation or blockage in pipes.	**HP 3.1**
		2) Encroachment	**HP 3.2**
10	**Head Regulator**	1) Accumulation of debris near Gate.	**HR 3.1**
		2) Growth of trees, vegetation	**HR 3.2**
11	**Slab Culvert/ Box Culvert**	1) Accumulation of silt / Regradation of nalla	**SC 3.1**
		2) Growth of trees, vegetation.	**SC 3.2**
12	**Road Bridge**	1) Railing/parapet damaged	**RB 3.1**
		2) Slab joints are open.	**RB 3.2**

1.3.4 Abbrevation used for Deficiency Classification

Sr. No.	Name of Structure	Abbreviations
1	Aqueduct	AQ
2	Syphon	SY
3	Standing Waves Flume	SWF
4	Cross regulator cum Escape	CR
5	High Embankment	HE
6	Deep Cut	DC
7	Tunnel	TN
8	Super Passage	SP
9	H.P. Drain	HP
10	Head Regulator	HR
11	Slab Culvert/ Box Culvert	SC
12	Road Bridge	RB

PART - 2

Action Taken Report (ATR) on Annual Health Status Report of Canal & Canal Structures for Years 2016-17, 2017-18 & 2018-19

(Based on Test Inspections by DSO, Nashik)

Part-2 Action Taken Report on Annual HSR

2.1 General :

Annual Health Status Reports (AHSR) of Canal and Canal Structures for Year 2016-17, 2017-18 & 2018-19 of the test inspectiions carried out by the Canal Safety Division, Dam Safety Organisation, Nashik of selected Canal Networks was published by Director General, DTHRS, MERI, Nashik at the end of respective years and submitted to Govt. of Maharashtra and also circulated to all Field Offices ranging from Management Divisions to Corporations for information and carrying out remedial measures.

It was always expected that Field Officers should inspect Canal and Canal Structures in their jurisdiction and submit "Canal Inspection Reports" to Dam Safety Organisation, Nashik annually for diagnosis and subsequent inclusion of Health Status of Canal & Canal Structures in the AHSR.

Also, Field Officers should go through this Status Report scrupulously and attend remedial measures on priority basis and submit Action Taken Report (ATR) for reflecting necessary repairs & attention given for maintenance of Canal Network in the AHSR.

2.2 ATR Submitted by Field Offices :

AHSR for 2016-17, 2017-18 & 2018-19 based on Test Inspections of selected Canal Network for each region by Canal Safety Division, Dam Safety Organisation, Nashik was published & circulated, however absolutely no response from the Field Offices was observed regarding submission of ATR.

Details about compliance of Major deficiencies (Category-A & Category-B) Identified in AHSR 2016-17, 2017-18 & 2018-19 is displayed in **Table 2.1 to 2.4.**

2.3 : Conclusions :

Field Offices neither submitted Inspections Reports nor ATR for the Test Inspections carried out by the Canal Safety Division, Dam Safety Organization, Nashik. Hence this **"Consolidated Annual Health Status Reports Part-2 (Action Taken Report) doesnot represent "Actual Status of Remedial Measures carried out by the Field Offices."**Hence, in true spirit this AHSR does not represent actual Health Status of Canal & Canal Structures of the State.

2.4 Points of Attention:

Field Officers should take serious note regarding submission of ATR, Otherwise whole execercise of publishing AHSR will be futile.

Table 2.1: Consolidated Abstract Showing Region wise & Year wise Remedial Measures attended for CAT-A & CAT-B Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik (2016-17, 2017-18 & 2018-19)

REGION	Year 2016-17				Year 2017-18				Year 2018-19			
	Canal Structures		Deficiencies		Canal Structures		Deficiencies		Canal Structures		Deficiencies	
	Total	Inspected	Noticed	Attended	Total	Inspected	Noticed	Attended	Total	Inspected	Noticed	Attended
1	2	3	4	5	6	7	8	9	10	11	12	13
KONKAN	97	97	20	0	102	28	26	0	193	32	43	0
PUNE	897	95	55	0	203	44	24	0	278	20	15	0
NASHIK	271	93	44	0	138	28	24	0	196	39	56	0
AURANGABAD	330	24	6	0	210	14	11	0	204	15	12	0
AMRAWATI	117	52	27	0	73	11	04	0	370	23	35	0
NAGPUR	413	32	12	0	300	30	24	0	127	17	19	0
TOTAL	2125	393	164	0	1026	155	113	0	1368	146	180	0

** Major Deficiencies include Category 'A' (canal structures having serious deficiencies which needs immediate remedial measures) & Category 'B' (canal structures having deficiencies which needs special repairs)*

Table 2.2 : Abstract Showing Project wise Remedial Measures attended for CAT-A & CAT-B Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik in 2016-17

Region / Circle	Name of Project	Name of Canal	Canal Structures		Deficiencies Noticed			Deficiencies Attended		
			Total	Inspected	CAT-A	CAT-B	Total	CAT-A	CAT- B	Total
1	2	3	4	5	6	7	8	9	10	11
Konkan Region										
TIC, Thane	Surya	1) LBC	18	18	1	6	7	0	0	0
		2) RBC	9	9	0	6	6	0	0	0
KIC, Ratnagiri	Tillari	1) LBC	39	39	0	3	3	0	0	0
		2) RBC	28	28	0	2	2	0	0	0
		3) Link	03	3	0	2	2	0	0	0
TOTAL			**97**	**97**	**1**	**19**	**20**	**0**	**0**	**0**
Pune Region										
KIC, Kolhapur	Warna	1) LBC	247	13	0	10	10	0	0	0
		2) RBC	148	10	0	4	4	0	0	0
CADA, Solapur	Ujjani	1) LBC	234	45	0	24	24	0	0	0
		2) RBC	268	27	0	17	17	0	0	0
TOTAL			**897**	**95**	**0**	**55**	**55**	**0**	**0**	**0**
Nashik Region										
CADA,Jalgaon	Hatnur	1) RBC	76	32	0	15	15	0	0	0
	Girna	1) Lower Girna	85	23	0	9	9	0	0	0
		2) Girna Jamda	110	38	0	20	20	0	0	0
TOTAL			**271**	**93**	**0**	**44**	**44**	**0**	**0**	**0**
Aurangabad Region										
AIC, Aurangabad	Nandur Madhmeshwar	1) Express Canal	330	24	0	6	6	0	0	0
Amravati Region										
UWPC, Amravati	Upper Wardha	1) LBC	49	19	0	11	11	0	0	0
		2) RBC	68	33	0	16	16	0	0	0
TOTAL			**117**	**52**	**0**	**27**	**27**	**0**	**0**	**0**
Nagpur Region										
CADA, Nagpur	Lower Wardha	1) LBC	127	9	0	3	3	0	0	0
GPC, Nagpur	Gosikhurd	1) LBC	48	5	0	5	5	0	0	0
		2) RBC	238	18	0	4	4	0	0	0
TOTAL			**413**	**32**	**0**	**12**	**12**	**0**	**0**	**0**

Table 2.3: Abstract Showing Project wise Remedial Measures attended for CAT-A & CAT-B Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik in 2017-18

Region / Circle	Name of Project	Name of Canal	Canal Structures		Deficiencies Noticed			Deficiencies Attended		
			Total	Inspected	CAT-A	CAT-B	Total	CAT-A	CAT- B	Total
1	2	3	4	5	6	7	8	9	10	11
Konkan Region										
TIC, Thane	Kal	1)Kundalika RBC	25	7	0	6	6	0	0	0
		2)Kundalika LBC	23	15	0	17	17	0	0	0
		3)Amba Main Canal	54	6	0	3	3	0	0	0
TOTAL			**102**	**28**	**0**	**26**	**26**	**0**	**0**	**0**
Pune Region										0
PIPC, Pune	Chaskaman	1) LBC	203	44	0	24	24	0	0	0
Nashik Region										
CADA,Nashik	Mula	1) RBC	107	22	0	12	12	0	0	0
		2) RBC/Br-2	31	06	0	12	12	0	0	0
TOTAL			**138**	**28**	**0**	**24**	**24**	**0**	**0**	**0**
Aurangabad Region										
NIC, Nanded	Vishnupuri	RBC	210	14	0	11	11	0	0	0
Amravati Region										
UWPC, Amravati	Wan	1) LBC	73	11	0	4	4	0	0	0
								0	0	0
Nagpur Region										
CADA, Nagpur	Itiadoh	1) RBC	208	26	0	20	20	0	0	0
		2) Vainganga Br. Canal	92	4	0	4	4	0	0	0
TOTAL			**300**	**30**	**0**	**24**	**24**	**0**	**0**	**0**

** Major Deficiencies include Category 'A' (canal structures having serious deficiencies which needs immediate remedial measures) & Category 'B' (canal structures having deficiencies which needs special repairs)*

Table 2.4: Abstract Showing Project wise Remedial Measures attended for CAT-A & CAT-B Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik in 2018-19

Region / Circle	Name of Project	Name of Canal	Canal Structures		Deficiencies Noticed			Deficiencies Attended		
			Total	Inspected	CAT-A	CAT-B	Total	CAT-A	CAT- B	Total
1	2	3	4	5	6	7	8	9	10	11
Konkan Region										
TIC, Thane	Bhatsa	1) LBC	7	1	0	1	1	0	0	0
		2) RBC	186	31	1	41	42	0	0	0
TOTAL			**193**	**32**	**1**	**42**	**43**	**0**	**0**	**0**
Pune Region										0
SIC, Sangli	Takari	1) Main Canal	278	20	0	15	15	0	0	0
Nashik Region										
CADA,Nashik	Bhandardara	1) Pravra LBC	114	20	0	26	26	0	0	0
		2) Pravra RBC	82	19	0	30	30	0	0	0
TOTAL			**196**	**39**	**0**	**56**	**56**	**0**	**0**	**0**
Aurangabad Region										
NIC, Nanded	Lower Manar	LBC	204	15	0	12	12	0	0	0
Amravati Region										
YIC, Yavatmal	Bembala	RBC	370	23	0	35	35	0	0	0
								0	0	0
Nagpur Region										
NIC, Nagpur	Lower Wardha	Main canal	127	17	0	19	19	0	0	0

** Major Deficiencies include Category 'A' (canal structures having serious deficiencies which needs immediate remedial measures) & Category 'B' (canal structures having deficiencies which needs special repairs)*

PART - 3

Annual Health Status
Report of Canal & Canal Structures for Years 2017-18, 2018-19 & 2019-20

(Based on Test Inspections by DSO, Nashik)

Part -3 Annual Health Status Report of Canal & Canal Structures for Years 2017-18, 2018-19 & 2019-20

3.1 General:

Canal Safety Division under Dam Safety Organization, Nashik excersies compilation of Annual Inspection Reports of Canal Network submitted by Field Offices as well as Test Inspection Reports of Selected Canal Network scarried out by Canal Safety Division, Dam Safety Organization, Nashik in the form of Annual Health Status Report.

3.2 Inspection Reports submitted by Field Offices :

No Field Office has submitted Annual Inspection Reports of Canal Network.

3.3 Test Canal Inspectionby Dam Safety Organisation :

Annual Canal Inspection Programme for Test Inspection of selected Canal Network is approved by Director General, DTHRS, MERI, Nashik.

As per approved Annual Test Canal Inspection Programme, canals are inspected by the Office of Executive Engineer, Canal Safety Division, Dam Safety Organisation, Nashik in 2017-18, 2018-19 & 2019-20.

Consolidated Abstract Showing Region wise, Year wise & Category wise Deficiencies Noticed in Test Inspections of Selected Canal Networks (2017-18 to 2019-20) is shown in Table 3.1. Also, Abstract Showing Project wise Deficiencies Noticed in Test Inspections of Selected Canal Networks in 2017-18 to 2019-20 in Table 3.2 to 3.4

A Graphical Representation of Number of Deficiencies noticed in the Test Inspections Region wise, Project wise is appended in Annexure I.

Also, Selected Snapshots in the Test Inspections are compiled in Annexure II.

3.4 : Conclusions :

As no field office has submitted Inspection Reports of Canal & Canal Structures in their jurisdiction, this **"Consolidated Annual Health Status Report is based on the Test Inspection Reports of Selected Canal Networks carried out by Canal Safety Division, Dam Safety Organization, Nashik"** Hence, no way this CAHSR (2017-18 to 2019-20) represents actual Health Status of Canal & Canal Structures of the State. It is expected that a serious note of this should be taken by Field Offices.

3.5 Points of Attention

1) This overview provides condensed summary of deficiencies noticed during test inspection in the year 2017-18, 2018-19 & 2019-20 to which field officers / owners of the canal are required to pay attention in achieving uninterrupted operation of canals and thereby irrigation programme.

2) It is also noticed that deficiencies pointed out in inspection carried out by D.S.O. are either not attended or not submitted by way of Action Taken Report. In view of lack of seriousness from field officers regarding canal safety issues, the whole exercise done by Dam Safety Organisation tends to become futile.

3) The Chief Engineers are requested to flag this issue and compel all canal officers to carry out periodic inspections and submit report to D.S.O.

Table 3.1: Consolidated Abstract Showing Region wise, Year wise & Category wise Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik.(2017-18, 2018-19 & 2019-20)

Sr No.	Region	Deficiency	No. of Deficiencies Noticed				Remarks
			2017-18	2018-19	2019-20	Total	
1	**Konkan**	**CAT–A**	0	1	0	1	
		CAT–B	26	42	13	81	
		CAT–C	10	23	25	58	
2	**Pune**	**CAT–A**	0	0	0	0	
		CAT–B	24	15	18	55	
		CAT–C	10	11	7	28	
3	**Nashik**	**CAT–A**	0	0	0	0	
		CAT–B	17	56	9	84	
		CAT–C	14	22	13	49	
4	**Aurangabad**	**CAT–A**	0	0	0	0	
		CAT–B	18	12	18	41	
		CAT–C	5	8	36	49	
5	**Amravati**	**CAT–A**	0	0	-	0	
		CAT–B	4	35	-	39	
		CAT–C	9	20	-	29	
6	**Nagpur**	**CAT–A**	0	0	-	0	
		CAT–B	25	19	-	44	
		CAT–C	21	16	-	37	
	Total	**CAT–A**	**0**	**1**	**0**	**1**	
		CAT–B	**107**	**179**	**58**	**344**	
		CAT–C	**69**	**100**	**81**	**250**	

Table 3.2:Abstract Showing Project wise Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik in 2017-18

Circle	No. of Projects	Name of Project	Name of Canal	Total Length of Canal (Km)	Structures (No.)		Canal Kms in which Structures are inspected	Major Deficiencies Noticed			
					Total	Inspected		CAT-A	CAT- B	CAT- C	Total
1	2	3		4	5	6	7	8	9	10	11
Chief Engineer, WR (Kokan Region), Mumbai											
TIC, Thane	1	Kal	Kundalika RBC	28	23	15	1,2,3,4,6,7,8	0	17	6	23
			Kundalika LBC	10	25	7	1,3,5,8,9,10	0	6	2	8
			Amba Main Canal	10	54	6	1,2,4,5	0	3	2	5
Chief Engineer, WR, Pune											
PIPC, Pune	1	Chaskaman	LBC	143	203	44	1,2,4,11,12,15,20,24,40,53,56,69,74,80,82,83,92,93,99,105,111,112,122,128,130,134,138,143	0	24	10	34
Chief Engineer, N.M.R, Nashik											
CADA, Nashik	1	Mula	RBC	52	107	22	1,4,8,9,16,23,26,27,28,29,34,36,38,39,40,42,47,48,50,51,52	0	12	5	17
			RBC/Br-2	30	31	06	1,5,9,17,27,	0	12	2	14
Chief Engineer, WR, Aurangabad											
NIC, Nanded	1	Vishnupuri	RBC	49	210	14	1,3,4,5,7,13,16,19,28,34,42	0	11	5	16
Chief Engineer, (SP), Amrawati											
AIC, Akola	1	Wan	LBC	14	73	11	1,2,3,8,10,12,14	0	4	9	13
Chief Engineer, WR, Nagpur											
CADA, Nagpur	1	Itiadoh	RBC	72	208	26	2,3,5,7,14,16,20,21,24,25,27,28,40,41,42,43,46,48,52,53,63	0	20	18	38
			Vainganga Br. Canal	37	92	4	1,2,13,15	0	4	3	7
TOTAL	**6**		**10**	**445**	**1026**	**155**		**0**	**113**	**62**	**175**

Major Deficiencies include Category 'A' (Canal structures having serious deficiencies which needs immediate remedial measures), Category 'B' (Canal structures having deficiencies which needs special repairs) & Category 'C' (Canal structures having deficiencies which are rectifiable during the year)

Table 3.3: Abstract Showing Project wise Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik in 2018-19

Circle	No. of Projects	Name of Project	Name of Canal	Total Length of Canal (Km)	Structures (No.)		Canal Kms in which Structures are inspected	Major Deficiencies Noticed			
					Total	Inspected		CAT-A	CAT- B	CAT- C	Total
1	2	3		4	5	6	7	8	9	10	11
Chief Engineer, WR (Kokan Region), Mumbai											
TIC, Thane	1	Bhatsa	RBC	57	186	31	1,2,3,8,11,12,13,21,22,23,24,27, 28,29,33,34,35,37,39,46,47,54	1	41	22	63
			LBC	3	7	1	1,3	0	1	1	2
Chief Engineer, WR, Pune											
SIC, Sangli	1	Takari	Main Canal	116	278	20	1,7,8,20,21,27,29,43,44,45,54,6 2,67,78,79,83,84,92,93	0	15	11	26
Chief Engineer, N.M.R, Nashik											
CADA, Nashik	1	Bhandardara	PravraRBC	45	82	19	1,3,4,5,7,10,11,15,17,20,22,27,3 1,34,35,36,37,39,	0	30	9	39
			Pravra LBC	77	114	20	1,6,7,15,16,18,27,28,31,34,44,4 9,50,55,57,64,	0	26	13	39
Chief Engineer, WR, Aurangabad											
NIC, Nanded	1	Lower Manar	LBC	68	204	15	1,2,4,6,8,13,17,19,25,32,47,56	0	12	8	20
Chief Engineer, WR, Amrawati											
YIC, Yavatmal	1	Bembala	RBC	113	370	23	1,2,5,11,17,19,22,24,29,36,40,5 1,58,64,65,69,78,85,92,94,105	0	35	20	55
Chief Engineer, WR, Nagpur											
NIC, Nagpur	1	Lower Wardha	Main canal	45	127	17	1,2,8,9,11,13,15,16,23,24,27,28, 37,45	0	19	16	35
TOTAL	**6**		**8**	**524**	**1368**	**146**		**1**	**179**	**100**	**279**

Major Deficiencies include Category 'A' (Canal structures having serious deficiencies which needs immediate remedial measures), Category 'B' (Canal structures having deficiencies which needs special repairs) & Category 'C' (Canal structures having deficiencies which are rectifiable during the year)

Table 3.4 : Abstract Showing Project wise Deficiencies Noticed in Test Inspections of Selected Canal Networks by Canal Safety Division, Dam Safety Organisation, Nashik in 2019-20

Circle	No. of Projects	Name of Project	Name of Canal	Total Length of Canal (Km)	Structures (No.)		Canal Kms in which Structures are inspected	Major Deficiencies Noticed			
					Total	Inspected		CAT-A	CAT- B	CAT- C	Total
1	2	3		4	5	6	7	8	9	10	11
Chief Engineer, WR (Kokan Region), Mumbai											
TIC, Thane	1	Hetawane	Main Canal	18	167	14	1,3,4,6,11,13,14,18	0	13	25	38
Chief Engineer, SP, Pune											
CADA, Pune	1	Ghod	Main Canal	84	178	19	1,5,17,28,30,34,36,38,45,49, 51,53,55,58,62,	0	18	7	25
Chief Engineer, N.M.R, Nashik											
CADA, Nashik	1	Kadva	Main canal	88	332	10	4,7,8,10,11,13,14,17,22,	0	9	13	22
Chief Engineer&Chief Administrator, CADA, Aurangabad											
CADA, Aurangabad	1	Jayakwadi	Paithan LBC	208	170	40	1,2,5,7,12,13,20,27,28,33,34 ,39,40,45,53,54,55,62,66,67, 74,76,79,83,92,93,97,98,101 ,105,108,114	0	18	36	54
TOTAL	**4**		**4**	**398**	**847**	**83**		**0**	**58**	**81**	**139**

Major Deficiencies include Category ‘A’ (Canal structures having serious deficiencies which needs immediate remedial measures), Category ‘B’ (Canal structures having deficiencies which needs special repairs) & Category ‘C’ (Canal structures having deficiencies which are rectifiable during the year)

Table 3.5 : Region wise Canals having Category 'A'Deficiencies (Deficiencies which may lead to failure of Canal and Canal Structures)

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
KONKAN REGION							
2017-18	**1**	**KAL PROJECT/** Kundlika Right Bank Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2017, Insp. From 29/11/2017 to 01/12/2017]	Nil	Nil	Nil	
	2	**KAL PROJECT/** KundlikaLefrt Bank Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2017, Insp. From 29/11/2017 to 01/12/2017]	Nil	Nil	Nil	
	3	**KAL PROJECT/** Amba Main Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2017, Insp. From 29/11/2017 to 01/12/2017]	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
2018-19	**1**	**BHATSA PROJECT/** BhatsaRight Bank Canal/ Bhatsa Dam Management Division, Bhatsanagar/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 19/12/2018 to 20/12/2018]	**1) Slab Culvert at ch. 32.400 Km.** First span slab was collapsed in couple of months ago. For rotation purpose this span over nalla was temporary closed by backfill and PCC slab was casted over it. This structure will become most vulnerable during coming rainy season unless it is repaired within time.	**SC 1.1**	It should be repaired / reconstruct with in time bound period before rainy season.	
	2	**BHATSA PROJECT/** BhatsaLeft Bank Canal/ Bhatsa Dam Management Division, Bhatsanagar/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 19/12/2018 to 20/12/2018]	Nil	Nil	Nil	
2019-20	**1**	**HETWANE PROJECT/** Hetwane Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2020, Insp. Dtd. 03/03/2020]	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
PUNE REGION							
2017-18	**1**	**CHASKAMAN PROJECT/** chaskamanLeft Bank Canal/ chaskaman Dam Division No.1, Pune/ Pune Irrigation Project Circle, Pune	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 10/2017, Insp. From 26/03/2018 to 28/03/2018]	Nil	Nil	Nil	
2018-19	**1**	**TAKARI PROJECT/** Takari Main Canal/ Takari Pump House Division, Deorashtre/ Sangali Irrigation Circle, Sangali	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 5/2019, Insp. From 28/01/2019 to 29/01/2019]	Nil	Nil	Nil	
2019-20	**1**	**GHOD PROJECT/** Ghod Left Bank Canal/ Kukadi Irrigation Division No.2 ,Shrigonda, Dist- Ahemadnagar/ KIC, Pune	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 4/2020, Insp. From 19/03/2020 to 20/03/2020]	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
NASHIK REGION							
2017-18	**1**	**MULA PROJECT/** Mula Right Bank Canal/ Mula Irrigation Division Ahmednagar/ CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 17/01/2018 to 20/01/2018]	Nil	Nil	Nil	
	2	**MULA PROJECT/** Mula Right Bank Canal, Baranch 2/ Mula Irrigation Division Ahmednagar/ CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 17/01/2018 to 20/01/2018]	Nil	Nil	Nil	
2018-19	**1**	**BHANDARDARA PROJECT/** Pravara Right Bank Canal/ Ahmednagar Irrigation Division, Ahmednagar/ CADA, Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 1/2018, Insp. From 19/11/2018 to 20/11/2018]	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
	2	**BHANDARDARA PROJECT/** Pravara Left Bank Canal/ Ahmednagar Irrigation Division, Ahmednagar/ CADA, Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 2/2018, Insp. From 20/11/2018 to 21/11/2018]	Nil	Nil	Nil	
2019-20	**1**	**KADWA PROJECT/** Kadwa Canal/ **Nashik Irrigation Division Nashik/** CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2020, Insp. Dtd. 03/01/2020]	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
AURANGABAD REGION							
2017-18	**1**	**VISHNUPURI PROJECT/** Vishnupuri Right Bank Canal/ Vishnupuri Project Dn. No. 2 Nanded/ Nanded Irrigation Circle Nanded	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 9/2020, Insp. From 20/03/2018 to 23/03/2018]	Nil	Nil	Nil	
2018-19	1	**LOWER MANAR PROJECT/** Lower Manar Left Bank Canal/ Nanded Irrigation Division, Nanded/ Nanded Irrigation Circle Nanded	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 6/2019, Insp. Dtd. 21/02/2019]	Nil	Nil	Nil	
2019-20	1	**JAYAKWADI PROJECT/** Paithan Left Bank Canal/ Jayakwadi Irrigation Division, Nathnagar **(South), Paithan/** CADA Aurangabad	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 3/2020, Insp. From 12/03/2020 to 13/03/2020]	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
AMRAVATI REGION							
2017-18	**1**	**WAN PROJECT/** Left Bank Canal/ Akola Irrgation Division, Akola/ Akola Irrigation Circle, Akola.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2017, Insp. Dtd. 26/10/2017]	Nil	Nil	Nil	
2018-19	**1**	**BEMBLA PROJECT/** Right Bank Canal/ Bembla Project Division. Yavatmal/ Yavatmal IrrigationCircle,Yavatmal. Bembla Irrigation Division. Yavatmal/ Yavatmal Irrigation (Management) Circle, Yavatmal	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 8/2019, Insp. From 13/03/2019 to 14/03/2019]	Nil	Nil	Nil	
NAGPUR REGION							
2017-18	**1**	**ITIADOH PROJECT/** ItiadohRight Bank Canal/ Bagh Itiadoh Division, Gondia/ CADA Nagpur.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2018, Insp. From 20/02/2018 to	Nil	Nil	Nil	

Year	Sr.No	Name of Project / Canal/Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
			22/02/2018]				
	2	**ITIADOH PROJECT/** Wainganga Branch Canal/ Bagh Itiadoh Division, Gondia/ CADA Nagpur.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2018, Insp. From 20/02/2018 to 22/02/2018]	Nil	Nil	Nil	
2018-19	**1**	**LOWER WARDHA PROJECT/** Lower Wardha Main Canal/ Lower Wardha Canal Division. Wardha/ Nagpur Irrigation Circle, Nagpur	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2019, Insp. Dtd. 12/03/2019]	Nil	Nil	Nil	

Table 3.6 :Region wise Canals having Category 'B'Deficiencies (Deficiencies which require Immediate Remedial Measures)

KONKAN REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	2	3	4	5	6	7	8
2017-18	**1**	**KAL PROJECT/** Kundlika Right Bank Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2017, Insp. From 29/11/2017 to 01/12/2017]	**1. Escape at ch. 0.085 km** 1) Gates & frame was missing. Only one frame was remaining. **2. S.W.F. cum V.R.B. at ch. 0.200 km.** 1) Jump formation was not observed. 2) Upstream and downstream side curved UCR wing wall pointing was damaged. 3) Bottom steel reinforcement of VRB was exposed at some places. 4) Connected inlet pipes from gauge chamber to canal section were choked up & not in working condition. **3. Super Passage at ch. 0.624 km** 1) Upstream right side UCR wing wall was damaged.	**CR2B.3** **SWF2A.1** **SWF2B.2** **RB 2B.1** **SWF2B.4** **SP2B.3**	Gates should be provided & brought into working condition if necessary as per field condition. Calibration of SWF should be done. It should be repaired. It should be covered properly. It should be repaired & brought into working condition. It should be repaired.	

				2) Bottom steel reinforcement was exposed. **4. Super Passage at ch. 0.698 km** 1) Upstream and downstream, left & right side UCR wing wall pointing was disturbed. **5. Super Passage at ch. 1.890 km** 1) Bottom steel reinforcement was exposed at few places. **6. Super Passage at ch. 3.024 km.** 1)Approach to super passage was damaged. 2) Bottom steel reinforced was exposed at some places. **7. Super Passage at ch. 6.073 km.** 1) Parapet of super passage was in broken condition. 2) Bottom steel reinforcement was exposed at some places. 3) Lining near the structure was in broken condition.	**SP2B.2** **SP2B.3** **SP2B.2** **SP2B.3** **SP2B.2** **SP2B.3** **SP2B.2** **SP2B.3**	It should be covered properly. It should be repaired. It should be covered properly. It should be repaired to avoid any type of mishap. It should be covered properly. It should be repaired. It should be covered properly. It should be repaired.	

				8. Super Passage at ch. 6.495 km. 1) Bottom steel reinforcement of slab was exposed. 2) Upstream right side canal lining near the structure was damaged. Pointing was also damaged. **9) Head Regulator at ch. 8.00 km** 1) Inner side bottom portion of structure was observed in damaged condition. Cracks were observed.	**SP2B.2** **SP2B.3** **HR2B.3**	It should be covered properly. It should be repaired. It should be repaired immediately.	
2017-18	**2**	**KAL PROJECT/** KundlikaLefrt Bank Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2017, Insp. From 29/11/2017 to 01/12/2017]	**1. V.R.B. cum S.W.F. at ch. 0.125 km.** 1) V.R.B.structurewas damaged at foundation. **2. Canal Syphon cum Escape at ch. 2.730 km.** 1) Heavy leakage was observed in the box portion of syphon from nala bed portion. **3. V.R.B. at ch. 4.484 km** 1) Bottom steel reinforcement of VRB was exposed at some places.	**RB2B.2** **SY2A.1** **RB 2B.1**	It needs to be immediate repairs for convenience. Suitable remedial measures should be adopted as per field condition. It should be covered properly.	

				4.Super Passage at ch.7.865 Km 1) Structure was totally collapsed. **5. Super Passage at ch. 8.293 Km** 1) Structure was totally collapsed. **6. Super Passage at ch. 9.595 Km** 1) Right side of parapet wall was totally collapsed.	**SP 2B.1** **SP 2B.1** **SP 2B.3**	It should be reconstructed if required as per field condition. It should be reconstructed if required as per field condition. It should be reconstructed to avoid any type of mishap.	
2017-18	**3**	**KAL PROJECT/** Amba Main Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2017, Insp. From 29/11/2017 to 01/12/2017]	**1. Head regulator at ch. 0.030 km.** 1) Gates were rusted & observed in broken condition. **2. Super Passage at ch. 3.360 km.** 1) Left and right side wing wall was observed in damaged condition. **3. H.R. cum Escape at ch. 4.150 km.** 1) Head regulator was not in working condition.	**HR2B.2** **SP 2B.3** **HR2B.2**	It should be repaired. It should be repaired for the safety of the structure. It should be repaired and brought into working condition.	

2018-19	**1**	**BHATSA PROJECT/** BhatsaRight Bank Canal/ Bhatsa Dam Management Division, Bhatsanagar/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 19/12/2018 to 20/12/2018]	**1. SWF at ch. 0.500 Km.** i) Jump formation was not observed. ii) Inlet pipes of measuring chamber were choked up. **2) Escape at ch. 1.760 Km.** i) Leakage through gates was observed. ii) Gates of escape were not in working condition. **3) Embankment at ch. 1.940 Km.** i) Huge amount of leakage was observed on the left side bank portion. ii) Right side bank portion was eroded by rainwater. **4) Super Passage at ch. 1.966 Km.** Inspection side embankment causing damages due to rain water.	**SWF2A.1** **SWF2B.4** **CR 2B.1** **CR 2B.3** **HE 2A.2** **HE 2B.3** **HE 2B.3**	Recalibration of SWF should be done. It should be cleaned. Necessary remedial measures should be adopted to stop the leakages. It should be brought in operating condition. Necessary remedial measures should be adopted to stop the leakages. It should be repaired as early as possible for safety of canal. Necessary repairs should be done to avoid damage of canal embankment from rain water.	

				5) Aqueduct at ch. 2.360 Km. Sweating was observed on the bottom of trough and also leakage was observed through abutment joint.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakages.	
				6) Syphon at ch. 7.760 Km. No trash rack was observed.	**SY 2B.3**	It should be provided.	
				7) Canal Breach at Minor No. 4 ch. 10.032 Km. At ch.10.032 km, both side of canal bank portion were found breached. Now trace passing cattles are widening damaged portion of embankment.	**HE 2B.3**	It should be repaired and maintained as per canal design section.	
				8) Cross Regulator cum Escape at ch. 11.790 Km. i)Gates were not in operating condition. Parts of gates (stem rod, wheels) were found missing.	**CR 2B.3**	It should be brought in operating condition.	
				ii) Leakage was observed through gate and sidewall of escape.	**CR 2B.1**	Necessary remedial measures should be adopted to stop the leakage.	

				9) Aqueduct at ch. 12.162 Km.			
				i)Leakage was observed through bottom of trough, abutment.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakages.	
				ii) Steel reinforcement was exposed at the vertical side of trough.	**AQ 2B.2**	It should be cover properly.	
				iii) Bottom portion of pier was eroded - undermined by nala water.	**AQ 2A.2**	It should be repaired.	
				10) Cross Regulator cum Escape at ch. 21.500 Km.			
				Gates were not in operating condition. Parts of gates (stem rod, wheels) were found missing.	**CR 2B.3**	It should be brought in operating condition.	
				11) Aqueduct at ch. 21.583 Km.			
				Leakage was observed through abutment, bottom of the trough.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakages.	
				12) SWF at ch. 22.720 Km.			
				i) Jump formation was not observed.	**SWF2A.1**	Recalibration of SWF should be done.	

				ii) Connected inlet pipes to measuring chamber were choked up. iii) Gauge plate was damaged. **13) Railway Tunnel at ch. 23.335-23.535 Km.** No proper approach was available to inspect the tunnel. **14) Cross Regulator at ch. 26.765 Km.** Gates were not in operating condition. Parts of gates (stem rod, wheels) were found missing. **15) Aqueduct at ch. 27.060 Km.** Leakage was observed from bottom of the trough. **16) Leakage through canal embankment at ch. 27.090** Leakage through canal embankment was seen, Leakage water was flowing through highway side gutter.	**SWF2B.4** **SWF2B.5** **TN 2B.5** **CR 2B.3** **AQ 2A.1** **HE 2A.2**	It should be cleaned. Gauge plate must be demarked and calibrated. Proper approach should be provided. It should be brought in operating condition. Necessary remedial measures should be adopted to stop the leakages. Necessary remedial measures should be done on priority.	

				17) Leakage through canal embankment at ch. 28.910-29.00 Km. Heavy leakage was observed through canal embankment. **18) Box Syphon at ch. 33.525 Km.** i) Headwall of d/s of syphon was observed in damaged condition. ii) No trash rack was observed. **19) Canal Embankment at ch. 34.240 Km.** Both side of canal embankment portion was breached due to heavy rain water as reported by field officer. **20)SWF at ch. 34.410 Km.** Jump formation was not observed.	**HE 2A.2** **SY 2B.2** **SY 2B.3** **HE 2 B.3** **SWF2A.1**	Necessary remedial measures should be adopted to stop the leakages. It should be repaired. It should be provided. Proper drain arrangement should be provided along inspection side. After completing drainage arrangement canal embankment should be repaired as per design criteria. Recalibration of SWF should be done	

				21) Slab Culvert at ch. 34.530 Km. i)Steel was exposed at u/s side of slab. ii) Pointing was exposed at the entrance of the culvert.	**SC 2B.1** **SC 2B.2**	It should be covered properly for safety of the structure. Pointing should be done on exposed places.	
				22) Canal Embankment Breach at ch. 36.400 Km. I.P. side of canal portion was breached due to heavy rain water.	**HE 2B.3**	Make proper drain arrangement for rain water then canal section should be repaired as per design section.	
				23)Cross Regulator cum Escape at ch. 38.200 Km. Gates were not in operating condition. Parts of gates (stem rod, wheels) were found missing.	**CR 2B.3**	It should be brought in operating condition.	
				24)Cross Regulator cum Escape at ch. 45.110 Km. i)Gates were not in operating condition. Parts of gates (stem rod, wheels) were found missing. ii) Escape was closed by murum& soil.	**CR 2B.3** **CR 2B.7**	It should be brought in operating condition. It should be cleaned & brought into working condition.	

				25) SWF at ch. 46.380 Km. i) Jump formation was not observed. ii)Connected inlet pipes of measuring chamber were choked up. iii) Gauge plate was damaged. **26) Syphon at ch. 46.450 Km.** i) No trash rack was observed. ii) Leakage was observed through side wall. **27)Cross Regulator cum Escape at ch. 53.400 Km.** Gates were not in operating condition. Parts of gates (stem rod, wheels) were found missing.	**SWF2A.1** **SWF2B.5** **SWF2B.4** **SY 2B.3** **SY 2A.1** **CR 2B.3**	Recalibration of SWF should be done. It should be cleaned Gauge plate must be demarcated and calibrated. 1) It should be provided. 2) Necessary remedial measures should be taken to stop the leakage. . It should be brought in operating condition.	
2018-19	**2**	**BHATSA PROJECT/** BhatsaLeft Bank Canal/ Bhatsa Dam Management Division, Bhatsanagar/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 19/12/2018 to 20/12/2018]	**1. Cross Regulator cum Escape at ch. 2.250 Km.** Stem rod was not provided to the gates of CR.	**CR 2B.3**	Stem rod should be provided to operate the gates.	

2019-20	**1**	**HETWANE PROJECT/** Hetwane Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 2/2020, Insp. Dtd. 03/03/2020]	**1. Aqueduct at ch. 0.610 km.** i) Minor leakage was observed through upstream and downstream abutment and also through joint between vertical and horizontal side of steel trough near first pier.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				2.S.W.F. at ch. 2.220 km. i) Gauge chamber was totally collapsed.	**SWF 2A.3**	New gauge chamber along with connected inlet pipes and gauge plate should be constructed for measuring discharge.	
				ii) Hump portion of SWF was accumulated with silt. No jump formation was observed.	**SWF 2B.2**	It should be cleaned and repaired properly. Calibration of SWF should be done. Total structure should be brought into working condition.	
				3. Aqueduct at ch. 3.590 km. i) Minor leakage was observed through upstream and downstream abutment and also through joint between vertical and horizontal side of steel trough near center pier.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition	

				ii) Earth work of banking at upstream and downstream side aqueduct was washed out.	**HE 2B.1**	It should be repaired.	
				4. Aqueduct at ch. 5.945 km. i) Minor leakage was observed through upstream and downstream abutment and also through joint between vertical and horizontal side of steel trough near pier.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				5. S.W.F. at ch. 12.260 km. i) No Gauge chamber was observed.	**SWF 2A.3**	New gauge chamber along with connected inlet pipes and gauge plate should be constructed for measuring discharge if necessary as per field requirement.	
				ii) No jump formation was observed.	**SWF 2A.1**	Recalibration of SWF should be done.	
				6. Tunnel at ch. 13.795 km. i) Silt was accumulated at the entrance of tunnel.	**TN 2B.1**	It should be cleaned.	

				7. Escape atch. 17.760 km. i) Gate is not in operating condition. No wheel was observed. Stem rod was bent. **8. Cross Regulator at ch. 17.760 km.** i) No wheels and platform were observed. **9. Aqueduct at ch. 17.870 km.** i) Minor leakage was observed through upstream and downstream abutment and through joint between vertical and horizontal side of steel trough near pier. ii) Earth work of banking at upstream right-sideaqueduct was washed out.	**CR 2B.3** **CR 2B.3** **AQ 2A.1** **HE 2B.1**	It should be repaired and brought into operating condition. It should be provided for operation of gates. Suitable remedial measures should be adopted to stop the leakage as per field condition. It should be repaired	

Year	Sr.No	Name of Project / Canal/ Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
PUNE REGION							
2017-18	**1**	**CHASKAMAN PROJECT/** chaskamanLeft Bank Canal/ chaskaman Dam Division No.1, Pune/ Pune Irrigation Project Circle, Pune	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 10/2017, Insp. From 26/03/2018 to 28/03/2018]	**1. S.W. F. at ch. 0.480 km.** 1) No jump formation was observed at the time of inspection. 2) Connected inlet pipes from gauge chamber to canal section were not in working condition. 3) Downstream left side curved guide wall was collapsed. **2. C.R. cum Escape at ch. 0.830 km.** 1) Gate operation was difficult. **3. Aqueduct at ch. 1.310 km.** 1) Leakage was observed through pier and trough joint. Leakage was also observed through upstream left side abutment and trough joint.	 **SWF2A.1** **SWF2B.4** **SWF2B.2** **CR2B.3** **AQ 2A.1**	 Recalibration should be done. It should be brought into working condition. It should be reconstructed. Lubricants and anticorrosive paint should be applied periodically in routine maintenance. Necessary remedial measures should be adopted to stop the leakages.	

				4. Aqueduct at ch. 3.085 km. 1) Leakage was observed through pier and trough joint. Leakage was also observed through upstream right-side wing wall.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakages.	
				5. Aqueduct at ch. 10.178 km. 1) Leakage was observed through pier and trough joint. Leakage was also observed through downstream side abutment and trough joint and through downstream side wing wall.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakages.	
				6. C.R. cum Escape at ch. 11.800 km. 1) Gate operation was difficult.	**CR2B.3**	Lubricants and anticorrosive paint should be applied in periodically routine maintenance.	
				7. Aqueduct at ch. 14.705 km. 1) Leakage was observed through pier and trough joint.	**AQ 2A.1**	Necessary remedial measures should beadopted to stop the leakages.	

				8. Aqueduct at ch. 19.836 km. 1) Leakage was observed through pier and trough joint. Leakage was also observed through vertical right side of trough in third span.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakages.	
				9. Super passage at ch. 23.120 km. 1) Leakage was observed through RCC duct and accumulated in nalla.	**SP2B.1**	Suitable remedial measures should be adopted to stop the leakage.	
				10. Aqueduct at ch. 52.294 km. 1) Leakage was observed through vertical left and right side of trough.	**AQ 2A.1**	Necessary remedial measures should be adopted as per field condition to stop the leakages.	
				11. C.R. cum Escape at ch. 52.850 km. 1) Gate operation was difficult.	**CR2B.3**	Lubricants and anticorrosive paint should be applied periodically in routine maintenance.	

				12. S.W.F. at ch. 55.300 km. 1) No hump portion was provided as told by field officer, so jump formation was not observed. No gauge chamber was provided.	**SWF2A.1**	Remaining work should be completed, and structure should be brought into working condition if required as per field condition.	
				13. C.R. cum escape at ch. 68.200 km. 1) Gate operation was difficult. When 54 round of handle was operated C.R. gate was lifted by only 1 Centimeter.	**CR2B.3**	It should be consulted with mechanical wing.	
				14. Aqueduct at ch. 73.320 km. 1) Leakage was observed through pier and trough joint. Leakage was also observed through vertical left and right side of trough.	**AQ 2A.1**	Necessary remedial measures should be adopted as per field condition to stop the leakages.	
				15.Cross Regulator Cum Escape at ch. 81.755 Km. 1) Gates were not operated since from beginning.	**CR2B.3**	It should be brought in operating condition.	

				16.Aqueduct at ch.91.6 Km. 1) Minor leakage was observed through pier and trough joint.	**AQ 2A.1**	Necessary remedial measures should be taken.	
				17.S.W.F. cum V.R.B. at ch. 92.680 Km 1) No jump formation was observed in SWF.	**SWF2A.**1	Recalibration should be done.	
				18. Aqueduct at ch.104.675 Km. 1) Minor leakage was observed through vertical side of trough.	**AQ 2A.1**	Necessary remedial measures should be taken.	
				19. Cross Regulator Cum Escape at ch. 110.050 Km 1) Gates of CR were not operated since from beginningandgate of escape was not in operating condition.	**CR2B.3**	It should be brought in operating condition.	
				20. Aqueduct at ch. 121.370 Km. 1) Leakage was observed through wing wall from U/s and D/s side of embankment.	**AQ 2A.1**	Suitable remedial measure should be taken.	

				21.S.W.F. at ch. 129.030 Km 1) No jump formation was observed in SWF. **22. Cross Regulator Cum Escapeat ch.137.215 Km** 1) Gate of escape was not in working condition.	**SWF2A.1** **CR2B.3**	Recalibration should be done. It should be repaired and brought in operating condition.	
2018-19	**1**	**TAKARI PROJECT/** Takari Main Canal/ Takari Pump House Division,Deorashtre/ Sangali Irrigation Circle, Sangali	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 5/2019, Insp. From 28/01/2019 to 29/01/2019]	**1. S.W.F. at ch. 0.240 km.** Gauge plate was not visible at lower portion. **2. Cross Regulator at ch. 6.340 km.** i) Leakage through rubber seal was observed. ii) No proper approach was observed for gate operation of C.R. **3. Aqueduct cum Escape at ch. 7.360 km.** Leakage was observed through expansion joints of trough near second pier. Leakage was also observed through downstream left side wing wall.	**SWF 2B.5** **CR 2B.1** **CR 2B.6** **AQ 2A.1**	It should be remarked / repainted. Gate's rubber seal should be replaced to stop the leakage as per field condition. Steps/ Ladder should be provided. Necessary remedial measures should be adopted to stop the leakage as per field condition.	

				4. Aqueduct at ch. 21.000 km. Heavy leakage was observed through both left and right side expansion joints of trough near pier and also through bottom of trough.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition.	
				5.Cross Regulator cum escape at ch. 26.500 km. i) Both wheels and gates of C.R. were not in operating condition. ii) Escape platform and frame is totally damaged.	**CR 2B.3** **CR 2B.6**	It should be brought into operating condition. It should be repaired/ replaced.	
				6. Aqueduct at ch. 28.470 km. Minor leakage was observed through upstream right side wing wall.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition.	
				7. Deep cut in km. No. 45. Accumulation of debris in this section.	**DC 2B.1**	Debris accumulated should be removed for free flow of water.	

				8. Cross Regulator cum Escape at ch.66.410 km. No proper approach was observed for gate operation of C.R.	**CR 2B.6**	Steps/ Ladder should be provided.	
				9. Cross Regulator cum Escape at ch.77.500 km. i) No proper approach was observed for gate operation of C.R.	**CR 2B.6**	Steps/ Ladder should be provided.	
				ii) Steel reinforcement of curved wall near escape gate was exposed.	**CR 2B.4**	It should be covered properly.	
				10. Cross Regulator cum Escape at ch.82.050 km. i) No proper approach was observed for gate operation of C.R.	**CR 2B.6**	Steps/ Ladder should be provided.	
				ii) Steel reinforcement of center pier and right side head wall was exposed.	**CR 2B.4**	It should be repaired immediately. .	
				iii) Escape gate was not in operating condition.	**CR 2B.3**	It should be brought into operating condition.	

2019-20	**1**	**GHOD PROJECT/** Ghod Left Bank Canal/ Kukadi Irrigation Division No.2 ,Shrigonda, Dist- Ahemadnagar/ KIC, Pune	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 4/2020, Insp. From 19/03/2020 to 20/03/2020]	**1. Escape atch.0.240 km.** **i)** Escape gate was totally damaged condition. It was closed by dumping murum. ii) Parapet wall is damaged **2. Escape at ch. 4.090 km.** **i)** Escape gate was not in operating condition. It was totally damaged and closed by dumping murum. **3. Aqueduct at ch. 4.500 km.** **i)** Leakage was observed through bottom of trough near U/s first pier. **4. Escape at ch. 16.100 km.** **i)** Escape Gate was not in operating condition. ii) U.C.R. parapet wall totally damaged.	**CR 2B.3** **CR 2B.4** **CR 2B.3** **AQ 2A.1** **CR 2B.3** **CR 2B.4**	As this structure is not necessary, so it should not be brought into operation as per field officer's remark. It should be repaired and brought into operating condition. Suitable remedial measures should be adopted to stop the leakage as per field condition It should be repaired and brought into operating condition. It should be repaired	

				5. Aqueduct at ch. 16.700 km. i) Minor leakage was observed through bottom of trough near pier.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				6. S.W. F. at ch. 27.690 km. **i)** Gauge readings are not showing clear, hence Gauge.	**SWF 2B.5**	Plate should be repaint and calibrate	
				7. Culvert ch. 29.420 Km – i) D/s right side wall of Culvert was damaged.	**SC 2B.2**	It should be repaired to prevent further damages to structure as per field condition.	
				8. Escape at ch. 33.260 km. **i)** Parapet wall of Escape was damaged.	**CR 2B.4**	It should be repaired to prevent further damages to structure as per field condition.	
				9. Aqueduct at ch. 48.775 km. i) Leakages were observed through Joints of RCC trough & bottom of trough.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				10 . Aqueduct at ch 50.900 km. i) Minor leakages were observed, It should be repaired.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	

				11. Aqueduct at ch 52.740 km. i)Right side parapet wall was badly damaged. **12. Aqueduct at ch** **61.900 km.** i) Bottom and sides of RCC trough were damaged ii) Steel Reinforcements are exposed, rusted and in broken condition iii) At the time of rotation, leakage was observed through trough as stated by field officer.	**AQ 2B.1** **AQ 2B.1** **AQ 2B.2** **AQ 2A.1**	It should be repaired to prevent further damages to structure as per field condition. It should be repaired and jacketing to Structure for safety to prevent further damages to structure as per field condition.	

Year	Sr.No	Name of Project / Canal/ Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
NASHIK REGION							
2017-18	**1**	**MULA PROJECT/** Mula Right Bank Canal/ Mula Irrigation Division Ahmednagar/ CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 17/01/2018 to 20/01/2018]	**1. S.W.F. at ch. 0.480 km.** Structure was totally damaged. Hump portion was completely collapsed. Gauge chamber was collapsed. Entrance slab portion of gauge chamber was totally damaged. Right side curved guide wall was totally damaged. **2. Aqueduct at ch. 8.400 km.** Crack was developed on top of pier no. 5 on downstream side. **3. Aqueduct at ch. 15.500 km.** Minor leakage was observed through pier and trough joint.	**SWF 2A.1** **AQ 2B.1** **AQ 2A.1**	New structure along with gauge chamber should be reconstructed, if required as per field condition. Suitable remedial measures should be adopted as per field condition. Suitable remedial measures should be adopted to stop the leakage as per field condition.	

				4. Cross regulator at ch. 25.385 km. Crack was observed on left side UCR masonry wall of Steps.	**CR 2 B.4**	It should be repaired.	
				5. Aqueduct at ch. 26.600 km. Minor leakage was observed through pier and trough joint at some portion.	**AQ 2A.1**	Needful treatment should be done to stop leakage.	
				6. Aqueduct at ch. 37.500 km. Minor leakage was observed through pier and trough joint.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				7. Aqueduct at ch. 39.100 km. Minor leakage was observed through bottom of arch.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				8. Canal section in km. 39.100 to 39.300 In this section canal is in high embankment up to 8.5 m height. Canal is in under section. It should be maintained as per design section.	**HE 2B.1**	Loading berm should be provided on both side of embankment. In this section selective lining should be required to avoid breaching of canal.	

				9. Aqueduct at ch. 41.320 km. Minor leakage was observed through bottom of arch. **10. Syphon at ch. 46.910 km.** Minor leakage was observed through top slab portion of RCC barrel into nalla. **11. Cross Regulator at ch. 47.710 km.** Except mechanical parts, remaining structure needs renovation as per field condition. **12. Head Regulator of Branch 1** Except mechanical parts, remaining structure needs renovation as per field condition. Downstream left side UCR masonry curved wall was damaged. Cracks were developed. UCR masonry wall of steps was also damaged.	**AQ 2A.1** **SY2A.1** **CR 2B. 3** **HR 2B.3**	Suitable remedial measures should be adopted to stop the leakage as per field condition. Suitable remedial measures should be adopted to stop the leakage as per field condition. It should be decided by field officer about renovation as per field condition. It should be decided by field officer about renovation as per field condition.	

2017-18	**2**	**MULA PROJECT/** Mula Right Bank Canal, Baranch 2/ Mula Irrigation Division Ahmednagar/ CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 3/2018, Insp. From 17/01/2018 to 20/01/2018]	**1. Aqueduct at ch. 8.000 km.** Minor leakage was observed through pier and trough joint. **2. Escape at ch. 16.200 km.** i)Total structure was in damaged condition. ii)Stem rod and wheel were missing. Gates were not in operating condition. **3. Aqueduct at ch. 16.500 km.** Racking joints of UCR masonry were exposed at some places. **4. S.W.F. at ch. 26.200 km.** Down stream right side stone pitching was damaged. Stones were dislodged.	**AQ 2A.1** **CR 2B.4** **CR 2 B.3** **AQ 2B.1** **SWF 2B.6**	Suitable remedial measures should be adopted as per field condition to stop the leakage. It should be brought into working condition, if necessary as per field condition. It should be provided if required as per field condition. Racking joints of UCR masonry should be covered properly. It should be repaired.	

2018-19	**1**	**BHANDARDARA PROJECT/** Pravara Right Bank Canal/ Ahmednagar Irrigation Division, Ahmednagar/ CADA, Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No 1/2018, Insp. From 19/11/2018 to 20/11/2018]	**1. S.W. F. at ch. 0.300 km.** i)Hump portion was damaged.	**SWF 2B.1**	It should be repaired for the smooth functioning of SWF.	
				ii) Upstream right side & downstream left side UCR lining was totally damaged.	**SWF 2B.6**	It should be reconstructed if required as per field condition.	
				iii) Silt was accumulated in gauge chamber.	**SWF 2B.3**	It should be cleaned.	
				2. Aqueduct at ch. 2.635 km. i) Leakage was observed through bottom of slab & also through pier joints as reported by field officer.	**AQ 2A.1**	Necessary remedial measures such as Gunitting should be adopted if required as per field condition.	
				ii) Upstream and downstream, left and right side canal lining near the structure was totally damaged.	**AQ 2B.3**	Selective lining near the structure should be provided if required as per field condition.	
				3. Aqueduct at ch. 3.675 km. i)Leakage was observed through bottom of slab as reported by field officer.	**AQ 2A.1**.	Necessary remedial measures should be adopted to stop the leakage if required as per field condition.	

				ii) Upstream right side canal lining near the structure was totally damaged.	**AQ 2B.3**	Selective lining near the structure should be provided if required as per field condition.	
				4. Aqueduct at ch. 4.900 km. Upstream& downstream side canal lining near the structure was damaged.	**AQ 2B.3**	Selective lining near the structure should be provided if required as per field condition.	
				5. Aqueduct at ch. 10.330 km. Leakage was observed through vertical side of trough and arch.	**AQ 2A.1**.	Necessary remedial measures should be adopted to stop the leakage if required as per field condition.	
				6. Aqueduct at ch. 14.415 km. Plaster of upstream right side guide wall was damaged.	**AQ 2B.1**.	It should be repaired.	
				7. Aqueduct at ch. 16.470 km. i) Inner vertical side plaster of trough was damaged.	**AQ 2B.1**.	It should be repaired.	
				ii) Minor leakage marks were observed through bottom of archand also throughvertical side of trough and wing wall.	**AQ 2A.1**.	Necessary remedial measures should be adopted to stop the leakage if required as per field condition.	

				iii) Canal lining near the structure was not provided. **8. Aqueduct cum Escape at ch. 19.355 km.** i)Inner vertical side plaster of trough was damaged. ii) Scouring was observed at upstream side embankment near the structure. iii) At the escape gate, working platform was damaged. **9. Aqueduct at ch. 21.340 km.** i) Inner vertical side plaster of trough was damaged. ii) Scouring was observed at upstream side embankment near the structure. .	**AQ 2B.3** **AQ 2B.1**. **HE 2B.1, HE 2B.3** **CR 2B.6** **AQ 2B.1**. **HE 2B.1, HE 2B.3**	Selective lining near the structure should be provided as per field condition. It should be repaired. It should be repaired as per designed section of embankment to avoid further mishap. Platform should be provided for the safety of convenience. It should be repaired. It should be repaired as per designed section of embankment to avoid further mishap.	

				10. Aqueduct at ch. 26.026 km. i)Inner vertical side plaster of trough was damaged.	**AQ 2B.1**.	It should be repaired.	
				ii) Leakage marks were observed at bottom of arch.	**AQ 2A.1**.	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				11. Aqueduct at ch. 30.486 km. Leakage mark was observed through the arch of first span	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition.	
				12. S.W.F. at ch. 30.870 km. i)Major cracks were developed on curved guide walls. It may collapse at any time. Upstream left side guide wall was collapsed.	**SWF 2B.2**	Necessary repairs need to done immediately.	
				ii)Gauge chamber was in damaged condition.	**SWF 2B.2**	New gauge chamber along with new S.W.F. should be constructed if required as per field condition.	
				iii) Silt was accumulated in gauge chamber.	**SWF 2B.3**	It should be cleaned.	

				iv) Gauge plate was not marked up to sill level. **13. Cross regulator at ch. 34.414 km.** Downstream side canal lining near the structure was damaged. **14. Aqueduct at ch. 35.450 km.** Leakage marks were observed through the bottom of arch. **15. Aqueduct at ch. 36.670 km.** Minor leakage was observed through the bottom of arch& through vertical side of trough as told by field officer.	**SWF 2B.5** **CR 2B.8** **AQ 2A.1** **AQ 2A.1**	Gauge plate must be demarcated and calibrated Selective lining near the structure should be provided if required as per field condition. Necessary remedial measures should be adopted to stop the leakage as per field condition. Necessary remedial measures should be adopted to stop the leakage as per field condition.	

2018-19	**2**	**BHANDARDARA PROJECT/** Pravara Left Bank Canal/ Ahmednagar Irrigation Division, Ahmednagar/ CADA, Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 2/2018, Insp. From 20/11/2018 to 21/11/2018]	**1. Aqueduct cum escape at ch. 0.760 km.** i)Leakage was observed through vertical side of trough. ii) Concrete of escape platform was damaged. **2. S.W. F. at ch. 0.418 km.** i) Jump formation was not observed. ii) Downstream left & right side UCR lining was damaged. iii) Right side guide wall was also damaged. **3. Escape at ch. 6.500 km.** Wheel & gate was not in operating condition. **4. Aqueduct at ch.14.210 km.** i) Upstream left side guide wall near the structure was damaged.	**AQ 2A.1** **CR 2B.6** **SWF 2A.1** **SWF 2B.6** **SWF 2B.2** **CR 2B.3** **AQ 2B.1**	Necessary remedial measures should be adopted as per field condition. It should be repaired. Calibration of SWF should be done. Selective lining should be provided if required as per field condition. It should be reconstructed if required as per field condition. Lubricants and anti corrosive paint should be applied and it should be brought into operating condition. It should be reconstructed as per field condition.	

				ii) Upstream right side UCR lining near the structure was damaged.	**AQ 2B.3**	It should be repaired as per field condition.	
				5. Aqueduct at ch. 15.180 km. Upstream & downstream left side guide wall near the structure was damaged.	**AQ 2B.1**	It should be repaired if required as per field condition.	
				6. Aqueduct at ch. 15.370 km. Downstream left side UCR lining near the structure was damaged.	**AQ 2B.3**	It should be repaired if required as per field condition.	
				7. Cross regulator cum Escape at ch. 17.810 km. Upstream left side UCR canal lining near C.R. was damaged.	**AQ 2B.3**	It should be repaired.	
				8. Aqueduct at ch. 27.020 km. i)Minor leakage was observed through arch portion.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage if required as per field condition.	
				ii) Downstream left side UCR lining near the structure was damaged.	**AQ 2B.3**	It should be repaired.	

				9. Cross regulator at ch. 30.775 km. All gates are in operating condition except gate No. 2 from left side.	**CR 2B.3**	Lubricants and anti corrosive paint should be applied and it should be brought into operating condition.	
				10. Escape at ch. 43.400 km. i) Stem rod and wheel was missing. ii) Steel frame of gate was damaged. iii) UCR masonry of the structure was damaged.	**CR 2B.3** **CR 2B.3** **CR 2B.4**	It should be provided. It should be repaired**.** It should be repaired.	
				11. Aqueduct at ch. 43.450 km. Leakage was observed through bottom of arch portion and also through abutment.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakagIt should be repaired.	
				12. Cross regulator at ch. 48.830 km. i) Steel plate of gate No. 3 was damaged. ii) Plaster of lower portion of pier was damaged. iii) Lining at upstream and downstream side of the structure was damaged.	**CR 2B.3** **CR 2B.4** **AQ 2B.3**	It should be repaired. It should be repaired. Selective lining at upstream and downstream side of the structure should be provided.	

				13. S.W.F. at ch. 49.330 km. i) Silt and debris was accumulated in gauge chamber. ii) Connecting inlet pipes were choked up. iii) Gauge plate was not marked. **14. Escape at ch. 54.290 km.** Working platform was damaged. **15. Canal section in km. No. 55** In this high embankment banking section seepage was observed through right side portion of canal. Seepage water was accumulated in the low line area.	**SWF2B.3** **SWF2B.4** **SWF2B.5** **CR 2B.6** **HE 2A.2**	It should be cleaned. It should be cleaned for measuring the discharge. Gauge plate should be marked. Platform should be repaired for safety of convenience. Causes should be identified and suitable remedial measures should be adopted as per field condition to stop the leakage through embankment.	

2019-20	**1**	**KADWA PROJECT/** Kadwa Canal/ **Nashik Irrigation Division Nashik/** CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2020, Insp. Dtd. 03/01/2020]	**1. Slab Culvert at ch. 3.900 Km. (Near Samrudhi Mahamarg)** i)There is no approach for inspecting the structure.	**SC 2B.4**	Sufficient approach should be made for inspecting the structure.	
				2. Hume Pipe Drain at ch. 6.070 km. i) Four rows of RCC pipes were provided and all pipes are silted as told by field officer. Pipes are under ground about 3 meter depth.	**HP 2B.3**	Entire renovation along with nalla regradation should be provided.	
				ii) Right side UCR head wall at upstream of nalla was totally collapsed.	**HP 2B.2**	Entire renovation along with nalla regradation should be provided.	
				3. S.W.F. at ch. 9.810 km i) No gauge plate was observed in gauge chamber.	**SWF 2B.5**	Gauge plate should be provided.	
				ii) Silt was accumulated in gauge chamber. Inlet pipes were choked.	**SWF 2B.3**	It should be cleaned.	
				iii) SWF is not calibrated after renovation, hence not in use as told by field officer.	**SWF 2A.2**	SWF should be calibrated and brought in use.	

				4. Slab Culvert at ch. 12.860 km. i) Reinforcement of bottom and vertical side of trough was exposed and rusted.	**SC 2B.1**	Suitable remedial measures should be adopted to cover the reinforcement as per field condition.	
				5. Hume Pipe Drain at ch. 13.860 km. i) Two rows of RCC pipes were provided and all pipes are silted as told by field officer.	**HP 2B.3**	Nalla regradation should be done and make all the pipes silt free.	
				ii) There is no approach for inspecting the structure.	**HP 2B.4**	Sufficient approach should be made for inspecting the structure.	
				iii) As per field officer, at the time of rotation, leakage was observed through collar joint.	**HP 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				6. Aqueduct at ch. 16.030 km. i) As per field officer, at the time of rotation, leakage was observed through bottom portion of slab.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	

Year	Sr.No	Name of Project / Canal/ Division / Circle	Inspecting Authority	Deficiencies Reported / Noticed	Category Identifier	Remedial Measures Suggested	Remarks
1	2	3	4	5	6	7	8
AURANGABAD REGION							
2017-18	**1**	**VISHNUPURI PROJECT/** Vishnupuri Right Bank Canal/ Vishnupuri Project Dn. No. 2 Nanded/ Nanded Irrigation Circle Nanded	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 9/2020, Insp. From 20/03/2018 to 23/03/2018]	**1. S.W.F. at ch. 0.400 km.** No jump formation was observed.	**SWF 2A.1**	Suitable remedial measure should be adopted for proper functioning of SWF.	
				2. Aqueduct at ch. 4.460 km. Leakage was observed through pier and trough joint on all piers.	**AQ 2A.1**	Necessary remedial measures should be done to stop the leakage as per field condition.	
				3. Escape at ch. 6.040 km. Escape gates were not in operating condition. Wheels were missing.	**CR 2B.3**	It should be brought into working condition if necessary as per field condition.	
				4. Aqueduct at ch. 12.043 km. Minor leakage was observed through abutment and trough joint.	**AQ 2A.1**	Necessary remedial measures should be done to stop the leakage as per field condition.	
				5. C.R. cum escape at ch. 15.120 km. Wheel of escape gate was missing.	**CR 2B.3**	It should be provided.	

				6. Syphon at ch. 15.565 km. Leakage was found through RCC barrel in to nalla.	**SY 2A.1**	Necessary remedial measures should be done to stop the leakage as per field condition.	
				7. Aqueduct at ch. 18.240 km. Minor leakage was observed through abutment and trough joint.	**AQ 2A.1**	Necessary remedial measures should be done to stop the leakage as per field condition.	
				8. Aqueduct at CH. 27.940 km. Minor leakage was observed through abutment and trough joint.	**AQ 2A.1**	Necessary remedial measures should be done to stop the leakage as per field condition.	
				The u/s right side curved guide wall was seen dislocated.	**AQ 2B.1**	Necessary remedial measures should be taken for the safety of the structure.	
				9. Escape at CH. 33.200 km. The stem rod was found bent.	**CR 2B.3**	It should be repaired and brought into operating condition.	
				10. Cross Regulator at CH. 41.380 km One operating wheel was found missing.	**CR 2 B.3**	It should be provided.	

2018-19	1	**LOWER MANAR PROJECT** Lower Manar Left Bank Canal/ Nanded Irrigation Division, Nanded/ Nanded Irrigation Circle Nanded	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 6/2019, Insp. Dtd. 21/02/2019]	**1. S.W.F. at ch. 0.150 km.** i) No gauge chamber was observed.	**SWF 2A.1**	New gauge chamber should be constructed and calibration should be done for proper functioning of SWF.	
				ii) Upstream left side UCR guide wall was broken.	**SWF 2B.2**	It should be repaired.	
				2. Escape at ch. 1.380 km. Out of two gates, one gate is closed by placing murum in front of gate.	**CR 2B.3**	It should be brought into operation.	
				3. Syphon at ch.3.963 km. No trash rack was observed at the entrance of syphon.	**SY 2B.3**	It should be provided for safety purpose and to avoid entering the debris into syphon.	
				4. Aqueduct at ch. 5.404 km. As per field officer, minor leakage was observed through bottom of trough.	**AQ 2A.1**	Suitable remedial measures should be adopted as per field condition to stop the leakage.	
				5. Syphon at ch.7.105 km. No trash rack was observed at the entrance of syphon.	**SY 2B.3**	It should be provided for safety purpose and to avoid entering the debris into syphon.	

				6. S.W.F. at ch. 31.333 km. i) Silt and debris was accumulated in gauge chamber. ii) Inlet pipes of measuring were choked. iii) Gauge plate not provided. iv) Gauge chamber wall and coping was damaged. v) Upstream right side UCR guide wall was tilted and damaged. **7. Escape at ch. 55.950 km.** Out of two, one wheel of escape gate was missing.	**SWF 2B.3** **SWF 2B.4** **SWF 2B.5** **SWF 2B.2** **SWF 2B.2** **CR 2B.3**	It should be cleaned It should be cleaned. Gauge plate should be marked. It should be repaired. It should be repaired. It should be provided.	

2019-20	1	**JAYAKWADI PROJECT/** Paithan Left Bank Canal/ Jayakwadi Irrigation Division, Nathnagar **(South), Paithan/** CADA Aurangabad	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 3/2020, Insp. From 12/03/2020 to 13/03/2020]	**1. S.W.F. at ch. 0.914 km.** i) Earth work of banking at downstream left side near structure was washed out. **2. Bairaja Aqueduct at ch. 4.581 km.** i) Minor leakage was observed through joint between trough and pier and also through abutment. **3. Aakhatwada Aqueduct at ch. 6.620 km.** i) Minor leakage was observed through joint between vertical and bottom side of trough near pier. ii) Leakage from banking at service roadside near structure was observed.	**HE 2B.1** **AQ 2A.1** **AQ2A.1** **AQ 2B.3**	It should be repaired Suitable remedial measures should be adopted to stop the leakage as per field condition. Suitable remedial measures should be adopted to stop the leakage as per field condition. Suitable remedial measures should be adopted to stop the leakage as per field condition.	

				4.Gopewadi Aqueduct at ch. 12.440 km. i) 0.5 cusecs Leakage was observed through joint between vertical and bottom side of trough near pier and also through downstream abutment.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				5. Canal Section in km. 13 i) In this section leakage was observed through banking section at service roadside.	**HE 2B.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				6. Cross Regulator at ch. 27.240 km. i) Vertical section of I.P. side gate has no support.	**CR 2B.3**	It should be provided for the safety of structure.	
				7. Escape at ch. 27.240 km. i) One stem rod was bent. ii) Leakage through seal beam of escape gate was observed.	**CR 2B.3** **CR 2B.1**	It should be repaired. Rubber seal should be provided to stop the leakage.	

				8. Canal Section in km. no. 33 & 34 i) From ch. 32.640 km to 33.640 km. earth work of banking at service road side was settled.	**HE 2B.1**	Designed canal section should be maintained.	
				9. Esacpe at ch. 38.310 km. i) One stem rod was bent.	**CR 2B.3**	It should be repaired.	
				10. Aqueduct at ch. 39. 540 km. i) Heavy leakage was observed through joint between vertical and bottom left side of trough near pier.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				11.Cross Regulator at ch. 52.810 km. i) All four gates are not in working condition.	**CR 2B.3**	It is not necessary as reported by field officer at the time of inspection.	
				12. Avlova Aqueduct at ch. 54. 310 km. i) Leakage was observed through downstream abutment.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	

				13. Bhadrai Aqueduct at ch. 61.732 km. i) Minor leakage was observed through joint between vertical and bottom left and right side of trough near pier.	**AQ2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				14. Bhaigavan Aqueduct at ch. 66.559 km. i) Heavy leakage was observed through joint between vertical and bottom left and right side of trough near pier.	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				15. Nimoni Aqueduct at ch. 82.460 km. i) Minor leakage was observed through joint between vertical and bottom side of trough near second pier**.**	**AQ 2A.1**	Suitable remedial measures should be adopted to stop the leakage as per field condition.	
				16. Escape at ch. 91.540 km. i) Pier and foundation was damaged.	**CR 2B.4**	It should be repaired. Platform should be made for the operation of gates.	

AMRAVATI REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**WAN PROJECT/** Left Bank Canal/ Akola Irrgation Division, Akola/ Akola Irrigation Circle, Akola.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2017, Insp. Dtd. 26/10/2017]	**1. S.W. F. cum V.R.B. at ch. 0.390 km.** i) Deposition of silt was observed in gauge chamber. **2. Canal Section in km. No. 1** i) In this section from km 0.910 to 0.960 canal lining was removed. Stone boulders were fallen in canal section. **3. Canal Escape at ch. 7.740 km** i) Two steel gates are provided. One wheel was missing. **4. H.R. cum C.R. at ch. 11.460 km.** i) R.C.C. Center pier of H.R. gate was damaged.	**SWF 2 B.3** **HE 2 B.3** **CR 2 B.3** **CR 2 B.4**	Silt should be removed. Stone boulders should be removed from canal section. Lining should be reconstructed in this portion. It should be provided. Damaged portion of pier should be reconstructed properly for the safety of the structure.	

2018-19	**1**	**BEMBLA PROJECT/** Right Bank Canal/ Bembla Project Division. Yavatmal/ Yavatmal IrrigationCircle,Yavatmal. Bembla Irrigation Division. Yavatmal/ Yavatmal Irrigation (Management) Circle, Yavatmal	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 8/2019, Insp. From 13/03/2019 to 14/03/2019]	**1. C.R. cum Escape at ch. 0.600 km.** Leakage through rubber seal of escape gate was observed. **2. Aqueduct at ch. 0.655 km.** Leakage was observed through upstream side abutment. **3. S.W.F. at ch. 1.280 km.** i) Slope of hump is not proper. Due to this proper jump formation was not observed. ii) At the downstream side of SWF, bed erosion @ 1 to 1.5 feet is occurred in canal section. iii) No gauge plate was observed in gauge chamber. iv) Inlet pipes of measuring chamber were choked.	**CR 2B.1** **AQ 2A.1** **SWF 2A.1** **SWF 2B.1** **SWF 2B.5** **SWF 2B.4**	Gate's rubber seal should be replaced. Necessary remedial measures should be adopted to stop the leakage as per field condition. S.W.F. should be redesigned. Canal bed should be maintained. Gauge plate should be provided. It should be cleaned.	

				4. Aqueduct at ch. 4.380 km.		Necessary remedial measures should be	
				i) Leakage was observed through pier and trough joint and also through bottom of trough.	**AQ 2A.1**	adopted to stop the leakage as per field condition.	
				ii) Downstream left side wing wall was shortened in length.	**AQ 2B.1**	It should be extended for safety.	
				5. C.R. cum Escape at ch. 10.860 km.			
				Leakage through rubber seal of escape gate was observed.	**CR 2B.1**	Gate's rubber seal should be replaced.	
				6. Aqueduct at ch. 16.430 km.			
				i) Minor leakage was observed through pier and trough joint.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition.	
				ii) Upstream right side wing wall was shortened in length.	**AQ 2B.1**	It should be extended for safety.	
				iii) I.P. left side embankment damaged.	**AQ 2B.1**	Embankment section should be maintained.	
				iv) Lining near the structure was damaged.	**AQ 2B.3**	Lining should be provided.	
				7. S.W.F. at ch. 18.285 km.			
				i) No gauge plate was	**SWF 2B.5**	Gauge plate should be provided and calibration should be	

				observed in gauge chamber. ii) Inlet pipes of measuring chamber were choked. **8. Aqueduct at ch. 21.660 km.** i) Minor leakage was observed through pier and trough joint. ii) Upstream right side wing wall was shortened in length. **9. C.R. cum Escape at ch. 23.565 km.** Leakage @ 3 to 4 cusecs through rubber seal of escape gate was observed. **10. Aqueduct at ch. 26.680 km.** i) Leakage was observed through bottom of trough and also through pier and trough joint. ii) Upstream right side wing wall was shortened in length. **11.Aqueduct at ch. 35.910 km.**	 **SWF 2B.4** **AQ 2A.1** **AQ 2B.1** **CR 2B.1** **AQ 2A.1** **AQ 2B.1**	done. It should be cleaned. Necessary remedial measures should be adopted to stop the leakage as per field condition. It should be extended for safety. Gate's rubber seal should be replaced. Necessary remedial measures should be adopted to stop the leakage as per field condition. It should be extended for safety.	

				i) Leakage was observed through bottom of trough, abutment and also through second and third pier and trough joint. ii) Upstream right side wing wall was shortened in length. **12. C.R. cum Escape at ch. 50.230 km.** i) Escape gate was not working smoothly. Due to this leakage was observed through both end of escape gate @ 3 cusecs. ii) No staircase /ladder for gate operation. **13.Syphon at ch. 57.820 km.** No trash rack was observed at the entrance of syphon. **14. Escape at ch. 63.390 km.** i) Leakage through rubber seal of escape gate was observed. ii) Escape channel was blocked. **15. C.R. at ch. 64.570 km.**	**AQ 2A.1** **AQ 2B.1** **CR 2B.1** **CR 2B.6** **SY 2B.3** **CR 2B.1** **CR 2B.7** **CR 2B.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition. It should be extended for safety. Gate's rubber seal should be replaced. Staircase/ ladder should be provided for gate operation of C.R. It should be provided for safety purpose and to avoid entering the debris into siphon. Gate's rubber seal should be replaced. It should be cleaned and extended to pass the canal water.	

				Leakage through rubber seal of C.R. gate was observed. **16. C.R. cum Escape at ch. 68.430 km.** i)Both stem rods and wheels of escape gates were missing. ii) Leakage through rubber seal of C.R. and escape gate was observed. iii) Escape channel was blocked with silt and vegetation. **17. C.R. cum Escape at ch. 77.280 km.** i)Both stem rods and wheels of escape gates were missing. ii) Leakage through rubber seal of C.R. and escape gate was observed. **18. C.R. cum Escape at ch. 84.450 km.** Leakage through rubber seal of C.R. and escape gate was observed. **19. C.R. cum Escape at ch.91.140 km.** Rubber seal of C.R. and escape gate was damaged.	 **CR 2B.3** **CR 2B.1** **CR 2B.7** **CR 2B.3** **CR 2B.1** **CR 2B.1** **CR 2B.1**	Gate's rubber seal should be replaced. It should be provided. Gate's rubber seal should be replaced. It should be cleaned. Nalla regarding should be done. It should be provided. Gate's rubber seal should be replaced. Gate's rubber seal should be replaced. Gate's rubber seal should be replaced.	

NAGPUR REGION							
Year	**Sr. No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**ITIADOH PROJECT/** ItiadohRight Bank Canal/ Bagh Itiadoh Division, Gondia/ CADA Nagpur.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2018, Insp. From 20/02/2018 to 22/02/2018]	**1. Head Regulator at CH. 0.00 KM.** i) some leakages were found through the valves. ii) It was found very hard to operate, needs to improve mechanism to operatesmoothly. **2. SWF cum VRB at CH 1.380 KM.** i) The chamber was found silted&choked, inlet chamber pipe was also choked, the Gauge plate was not properly marked. **3. Canal Section at CH. 2.800 KM to CH. 2.950 KM.** i) Side banks of the Canal section were damaged, side slops of Canal has been collapsed in some portion. **4. Aqueduct at CH. 4.380 KM.** i) Leakages has been observed through the joints & abutments.	**HR 2B.1** **HR 2B.2** **SWF2B.3** **HE 2B.3** **AQ2A.1**	Suitable remedial measures should be adopted to stop the leakage. Lubricants and anti corrosive paint should be applied periodically to gates in routine maintenance. It should be cleaned& brought into working condition. It should be repaired, if necessary as per field condition. Suitable remedial measures should be adopted to stop the leakage as per field condition.	

				ii) The parapet wall was damaged. **5. Cross regulator at CH. 6.510 KM.** i) The d/s right side curved guide wall as well as the u/s left side curved guide wall has been collapsed. ii) The u/s berm near the guide wall always breaches as told by the field officer. **6. Super Passage at CH. 13.350 KM.** i) Due to under design capacity of pipe culvert(which act as waterway), the rain water gets overflow and erodes the canal side banks which results into canal breaching. **7. Canal section at CH.15.200 KM.** i) The canal bed level was not maintained, so water ponding was observed. The canal banks has been observed settled at the time of inspection, due to this the overtopping may occurs at the time of rotation.	**AQ2B.1** **CR2B.4** **CR2B.5** **SP 2B.3** **HE 2B.1**	It should be repaired. Guide wall should be reconstructed. Suitable remedial measures should be adopted as per field condition. Suitable remedial measures should be adopted as per field condition. The canal section should be maintained as per design section.	

				8. Escape at CH. 19.190 KM. i) During inspection escape gates were not found in working condition.	**CR2B.3**	It should be repaired and brought into working condition.	
				9. Nalla Syphon at CH. 20.290 KM. i) Leakages was observed at the entry & exit of syphon.	**SY2A.1**	Suitable remedial measures should be adopted to stop leakages.	
				ii)No trash rack has been provided.	**SY2B.3**	It should beprovided.	
				10. Syphon at CH. 23.410 KM. i) No trash rack has been seen.	**SY2B.3**	It should beprovided.	
				11. Cross regulator at CH. 24.340 KM. i) The u/s left side curved guide wall was seen completely collapsed at the time of inspection.	**CR2B.4**	It should be reconstructed, to avoid any type of mishap.	
				ii) As told by the field officer all four gates has not been operated since last two years.	**CR 2B.3**	Regular maintenance i.e. oiling, greasing should be done.	
				12. Nala Syphon at ch. 27.380 km i) No trash rack was provided.	**SY2B.3**	It should beprovided.	

				13. Escape at CH. 39.660 KM. i) At the time of inspection it was not in working condition, the stem rod was missing. **14. SWF at CH. 42.140 KM.** i) Hump portion was not maintained. ii) The gauge plate couldnotvisible to readproperly. **15. Canal Syphon at CH. 52.745 KM.** i) No trash rack is found at the time of inspection.	**CR 2B.3** **SWF 2B.1** **SWF 2B.5** **SY2B.3**	It should be brought in working condition. It should be maintained as per the design. Itshouldbemarkedandvisible to read. It should beprovided.	

2017-18	**2**	**ITIADOH PROJECT/** Wainganga Branch Canal/ Bagh Itiadoh Division, Gondia/ CADA Nagpur.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2018, Insp. From 20/02/2018 to 22/02/2018]	**1. Head Regulator at CH. 0.00 KM.** i) The upstream left side UCR masonry curved wall was damaged. **2. Canal Syphon at CH. 0.102 KM.** i) The clear height between the canal bed level & bottom of the slab is less, which results in water ponding & it acts as a obstruction to the flow during the rotation. **3. SWF at CH. 1.415 KM.** i) The chamber was silted. ii) The gauge plate was damaged.	**HR 2B.3** **SY 2B.3** **SWF 2B.3** **SWF 2B.5**	It should be repaired. The clear height between the canal bed level & bottom of the slabshouldbemaintainasperdesign. It should becleaned. It should berepaired.	

2018-19	**1**	**LOWER WARDHA PROJECT/** Lower Wardha Main Canal/ Lower Wardha Canal Division. Wardha/ Nagpur Irrigation Circle, Nagpur	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2019, Insp. Dtd. 12/03/2019]	**1. S.W.F. at Ch. 0.790 km.** i) No gauge plate was observed in gauge chamber.	**SWF 2B.1**	It should be provided.	
				ii) Silt was accumulated in gauge chamber.	**SWF 2B.3**	It should be cleaned.	
				iii) Banking earth work settlement was observed near structure.	**HE 2B.1**	Banking earth work should be maintained as per design section.	
				2. Cross Regulator cum Escape at Ch. 7.035 Km.			
				i) Manually gate operation takes more time (about 6 to 7 hrs to open the gate).	**CR 2B.3**	Proper lifting mechanism should be provided for gate operation.	
				ii) Rubber seal for CR and Escape gate was damaged.	**CR 2B.1**	Rubber seal for CR and Escape gate should be replaced.	
				3. Aqueduct at Ch. 7.365 Km. Minor leakage marks were observed through bottom of trough and through pier and trough joint .	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition.	

				4. Aqueduct at Ch. 8.805 Km. Brass plate provided as expansion joint of the trough is found missing at places. Because of that expansion joints are exposed, hence possibility of leakages will arise.	**AQ 2 B.1**	Suitable remedial measures should be provided as per field condition.	
				5. Aqueduct at Ch. 10.500 Km. i) Minor leakage marks were observed through trough at downstream side.	**AQ 2A.1**	Necessary remedial measures should be adopted to stop the leakage as per field condition.	
				ii) Canal lining was damaged near the structure.	**HE 2B.3**	Selective canal lining near upstream and downstream of structure should be provided.	
				6. Dy. Head Regulator at Ch. 12.570 km i) Stem rod & wheel was missing. Gates was not in operating condition.	**HR 2B.2**	New gate with stem rod and wheel should be provided.	
				7. Dy. Head Regulator at Ch. 14.130 km i)Wheel was missing.	**HR 2B.2**	It should be provided for gate operation.	
				8. Dy. Head Regulator at Ch. 14.880 km i) Stem rod & wheel was missing.	**HR 2B.2**	It should be provided for gate operation.	

				9. Dy. Head Regulator at Ch. 15.240 Km i) Gate leaf was damaged.	**HR 2B.2**	It should be provided.	
				10. Cross Regulator Cum Escape at ch. 22.980 Km. i) Operation of gates by manually takes more time (about 6 to 7 hrs to open the gate). ii) Rubber seal for CR and Escape gate was damaged.	**CR 2B.3** **CR 2B.1**	Proper lifting mechanism for gate operation should be provided. Rubber seal for CR and Escape gate should be replaced.	
				11. Deep cut in km. No. 28.00 i) At some places stone/ murum debris was noticed.	**DC 2B.1**	Deep cut must be cleaned for efficient flow of water.	
				12. Cross Regulator Cum Escape cum H.R. at ch. 36.095 Km. i) Operation of gates by manually takes more time (about 6 to 7 hrs to open the gate). ii) Rubber seal for CR and Escape gate was damaged.	**CR 2B.3** **CR 2B.1**	Proper lifting mechanism for gate operation should be provided. Rubber seal for CR and Escape gate should be replaced.	
				13. Cross Regulator Cum Escape at ch. 44.425 Km. i) Rubber seal for escape gate was damaged.	**CR 2B.1**	Rubber seal for escape gate should be replaced.	

Table 3.7: Region wise Canals having Category 'C' Deficiencies. (Deficiencies which are Rectifiable during the year)

KONKAN REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**KAL PROJECT/** Kundlika Right Bank Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 2/2017, Insp. From 29/11/2017 to 01/12/2017]	**1. Super Passage at ch. 2.045 km** 1) RCC pipe was choked up by deposition of silt.	**SP3.1**	It should be cleaned to drain water	
				2. Deep cut in km. No. 3 1) Growth of vegetation was observed on inner side banking portion.	**DC3.2**	It should be uprooted to pass the designed discharge smoothly.	
				3. Deep cut in km. No. 4 1) Growth of vegetation was observed on both inner side banking portion.	**DC3.2**	It should be uprooted to pass the designed discharge smoothly.	
				4. Syphon at ch. 5.320 km. 1) Growth of trees and vegetation was observed in nalla portion.	**SY 3.2**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				5. Deep cut in km. No. 7 1) In this section growth of vegetation was observed on both inner sides banking portion.	**DC3.2**	It should be uprooted to pass the designed discharge smoothly.	
				6. Canal Syphon at ch. 9.840 Km 1) Silt was accumulated at the entrance of syphon.	**SY/C-1**	It should be cleaned to pass the design discharge smoothly**.**	

2017-18	**2**	**KAL PROJECT/** Kundlika Left Bank Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 2/2017, Insp. From 29/11/2017 to 01/12/2017]	**1. Escape at ch. 0.089 km** 1) Stone boulders are observed in canal at the entrance of escape. **2. Canal Syphon cum Escape at ch. 2.730 km.** 1) At the d/s of escape, heavy vegetation was observed.	**CR3.3** **SY 3.2**	It should be removed to pass the design discharge. It should be uprooted for the safety of structure.	
2018-19	**1**	**BHATSA PROJECT/** Bhatsa Right Bank Canal/ Bhatsa Dam Management Division, Bhatsanagar/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 3/2018, Insp. From 19/12/2018 to 20/12/2018]	**1) Escape at ch. 1.760 Km.** i) Growth of heavy vegetation was observed on the wall. **2) Aqueduct at ch. 2.360 Km.** i) Growth of heavy vegetation was observed on piers, abutment. **3) Syphon at ch. 7.760 Km.** i) Growth of heavy vegetation was observed in nalla. **4) Cross Regulator cum Escape at ch. 11.790 Km.** i) Vegetation was observed on the CR.	**CR 3.2** **AQ 3.3** **SY 3.2** **CR 3.2**	It should be uprooted for the safety of the structure. It should be uprooted for the safety of the structure. It should be uprooted for the safety of the structure. It should be uprooted for safety of the structure.	

				5) Aqueduct at ch. 12.162 Km. i) Growth of heavy vegetation was observed on piers, abutment. **6) Nala Syphon at ch. 20.645 Km.** i) Growth of heavy vegetation was observed in nalla. **7) Cross Regulator cum Escape at ch. 21.500 Km.** i) Vegetation was observed near the gates of CR & in front of the escape gate. **8) Aqueduct at ch. 21.583 Km.** i) Railing was damaged. ii) Small trees were observed on piers and at the entrance of aqueduct. **9) SWF at ch. 22.720 Km.** Heavy vegetation was observed near the structure & also chamber was filled with heavy vegetation.	**AQ 3.3** **SY 3.2** **CR 3.2** **AQ 3.1** **AQ 3.3** **SWF3.2**	It should be uprooted for safety of the structure. It should be uprooted for the safety of the structure. It should be removed to pass the discharge. Railing should be provided to avoid any mishap. It should be uprooted for safety of the structure. It should be uprooted to pass the designed discharge smoothly.	

				10) Railway Tunnel at ch. 23.335-23.535 Km. Heavy vegetation was observed.	**TN 3.1**	It should be cleared.	
				11) Cross Regulator at ch. 26.765 Km. Heavy vegetation was observed at the entrance of gates.	**CR 3.2**	It should be removed to pass the discharge.	
				12) Aqueduct at ch. 27.060 Km. i)Because of the heavy vegetation no proper approach was available to inspect the aqueduct.	**AQ 3.2**	Proper approach should be provided.	
				ii) Big trees were observed on piers.	**AQ 3.3**	It should be uprooted for safety of the structure.	
				13) Slab Culvert at ch. 32.400 Km. Vegetation was observed.	**SC 3.2**	It should be uprooted for safety of the structure.	
				14) SWF at ch. 34.410 Km. Silt and debris was observed in the throat portion.	**SWF3.3**	It should be cleaned to pass the design discharge.	
				15) Cross Regulator cum Escape at ch. 45.110 Km. Debris was accumulated at the entrance of CR gates.	**CR 3.3**	It should be cleaned to pass the design discharge smoothly.	

				16) SWF at ch. 46.380 Km. i) Stone boulders were observed in canal at throat portion. ii) chamber was filled with heavy vegetation. **17) Syphon at ch. 46.450 Km.** Debris and silt was accumulated at the entrance of syphon. **18) Cross Regulator cum Escape at ch. 53.400 Km.** Heavy vegetation was observed at the entrance of CR gates. **19) Aqueduct at ch. 54.000 Km.** Heavy vegetation was observed in canal portion.	**SWF3.3** **SWF3.2** **SY 3.1** **CR 3.2** **AQ 3.3**	It should be removed to pass the design discharge smoothly . It should be uprooted to pass the designed discharge smoothly. It should be removed to pass the design discharge smoothly. It should be cleaned to pass the design discharge smoothly. It should be uprooted for safety of the structure.	
2018-19	**2**	**BHATSA PROJECT/** Bhatsa Left Bank Canal/ Bhatsa Dam Management Division, Bhatsanagar/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 4/2018, Insp. Dtd.	**1. Cross Regulator cum Escape at ch2.250 Km.** Heavy vegetation was observed in canal section near the structure.	**CR 3.2**	It should be uprooted.	

			20/12/2018]				
2019-20	**1**	**HETWANE PROJECT/** Hetwane Canal/ Raigad Irrigation Division, Kolad/ Thane Irrigation Circle, Thane	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 2/2020, Insp. Dtd. 03/03/2020]	**1. Escape at ch.0.153 Km.** i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required. ii) Rubber bush is necessary. **2. Cross Regulator at ch. 0.162 km.** i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required. ii) Rubber bush is necessary. **3. Aqueduct at ch. 0.610 km.** i) Growth of tree was observed on first pier top. Also, growth of tree & vegetation was observed near upstream right side abutment. ii) Rubber seal (bearing pads) are damaged due to wear and tear. iii) M.S. trough was rusted.	**CR 3.1** **CR 3.1** **CR 3.1** **CR 3.1** **AQ 3.5** **AQ 3.3** **AQ 3.4**	Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied. Rubber bush should be provided for smooth operation of gates. Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied. Rubber bush should be provided for smooth operation of gates. It should be uprooted for the safety of structure. It should be replaced. Anti corrosive paint should be applied for the total trough portion**.**	

				4. Aqueduct at ch. 3.590 km. i) Growth of tree & vegetation was observed near downstream right side abutment.	**AQ 3.5**	.It should be uprooted for the safety of structure.	
				ii) Rubber seal (bearing pads) are damaged due to wear and tear.	**AQ 3.3**	It should be replaced.	
				iii) M.S. trough was rusted.	**AQ 3.4**	Anti corrosive paint should be applied for the total trough portion.	
				5. Escape at ch. 5.860 km. i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required.	**CR 3.1**	Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied for smooth operation of gates.	
				ii) Growth of trees and vegetation was observed in escape channel.	**CR 3.2**	It should be cleaned.	
				6. Aqueduct at ch. 5.945 km. i) Growth of pimple tree & vegetation was observed near upstream and downstream right side abutment.	**AQ 3.5**	It should be uprooted for the safety of structure.	

				ii) Rubber seal (bearing pads) are damaged due to wear and tear.	**AQ 3.3**	It should be replaced.	
				iii) M.S. trough was rusted.	**AQ 3.4**	Anti corrosive paint should be applied for the total trough portion.	
				7. Escape at ch. 10.330 km.			
				i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required.	**CR 3.1**	Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied for smooth operation of gates.	
				ii) Growth of trees and vegetation was observed in escape channel.	**CR 3.2**	It should be cleaned.	
				8. Cross Regulator at ch. 12.030 km.			
				i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required.	**CR 3.1**	Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied	
				ii) Rubber bush is necessary.	**CR 3.1**	Rubber bush should be provided for smooth operation of gates.	
				9. Escape at ch. 17.760 km.			
				i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required.	**CR 3.1**	Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied for smooth operation of gates.	

				ii) Debris was accumulated at the entrance of gate. **10. Cross Regulator at ch. 17.760 km.** i) Lubricants to hoisting assembly and anticorrosive paint to steel part of gates is required. **11. Aqueduct at ch. 17.870 km.** i) Growth of trees & vegetation was observed near upstream right side abutment. ii) Growth of vegetation was observed in nalla. iii) M.S. trough was rusted.	**CR 3.3** **CR 3.1** **AQ 3.5** **AQ 3.6** **AQ 3.4**	It should be cleaned. Lubricants to hoisting assembly and anticorrosive paint to steel part of gates should be applied for smooth operation of gates. It should be uprooted for the safety of structure. It should be cleaned to pass the incoming flood of nalla water. Anti corrosive paint should be applied for the total trough portion.	

PUNE REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**CHASKAMAN PROJECT/** chaskaman Left Bank Canal/ Executive Engineer, chaskaman Dam Division No.1, Pune/ Pune Irrigation Project Circle, Pune	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 10/2018, Insp. From 26/03/2018 to 28/03/2018]	**1. S.W. F. at ch. 0.480 km.** 1) Gauge chamber was totally blocked due to growth of dense vegetation. **2. Aqueduct at ch. 1.310 km.** 1) Growth of heavy vegetation was observed on upstream and downstream wing wall. **3. Aqueduct at ch. 3.085 km.** 1) Growth of heavy vegetation was observed on upstream and downstream wing wall and also in nalla. **4. Aqueduct at ch. 10.178 km.** 1) Growth of heavy vegetation was observed on upstream and downstream wing wall and also in nalla.	**SWF3.2** **AQ3.3** **AQ3.3** **AQ3.3**	It should be cleaned. It should be uprooted for the safety of the structure. It should be uprooted for the safety of the structure. It should be uprooted for the safety of the structure.	

				5. Aqueduct at ch. 14.705 km. 1) Growth of heavy vegetation was observed on upstream and downstream wing walls.	**AQ3.3**	It should be uprooted for the safety of the structure.	
				6. Aqueduct at ch. 19.836 km. 1) Growth of pimple tree was observed on upstream right side wing walls.	**AQ3.3**	It should be uprooted for the safety of the structure.	
				7. Aqueduct at ch. 52.294 km. 1) Growth of trees was observed in nalla on right side of trough.	**AQ3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				8. Deep cut in km. 80 1) Growth of trees was observed in this section.	**DC3.2**	It should be uprooted.	
				9.Cross Regulator Cum Escapeat ch. 81.755 Km. 1) Accumulation of debris was observed on u/s side of CR and escape.	**CR3.3**	It should be removed to pass thedesigndischarge.	
				10. Aqueduct at ch.142.125 Km. 1) Damaged patch was observed between approach slab and approach road.	**AQ3.2**	It should be repaired to avoid any mishap.	

2018-19	**1**	**TAKARI PROJECT/** Takari Main Canal/ Takari Pump House Deorashtre/ Sangli Irrigation Circle, Sanali	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 5/2019, Insp. From 28/01/2019 to 29/01/2019]	**1. Aqueduct at ch. 7.360 km.** Growth of banyan tree was observed on top of pier cap. Growth of vegetation was also observed on downstream left and right side wing wall. **2. Cross regulator cum Escape at ch. 19.860 km.** Debris was accumulated at the entrance of escape gate. **3. Cross regulator cum Escape at ch. 26.500 km.** Escape channel was blocked with silt and vegetation. No sufficient water way was observed to escape channel. **4. Aqueduct at 28.470 km.** Railing was damaged. **5. Aqueduct at 42.660 km.** Growth of dense vegetation was observed in nalla.	**AQ 3.3** **CR 3.3** **CR 3.3** **AQ 3.1** **AQ 3.3**	It should be uprooted for the safety of structure. It should be removed. Escape channel should be cleaned. Railing should be provided for safety purpose. It should be uprooted to pass the incoming flood in nalla, without damaging the structure.	

				6. Aqueduct at 61.140 km. Growth of trees and vegetation was observed at upstream and downstream side of aqueduct in nalla.	**AQ 3.3**	It should be uprooted to pass the flood.	
				7. Cross regulator cum Escape at ch. 77.500 km. Railing was missing.	**CR 3.1**	Provide it for safety reason.	
				8. Aqueduct at 78.705 km. i) At upstream side of aqueduct, approach road is not sufficient to pass the inspection vehicle.	**AQ 3.2**	Sufficient width shall be provided / constructed for inspection vehicles.	
				9. Aqueduct at ch. 83.035 km. i) At upstream and down stream side of aqueduct, approach road and canal embankment was damaged.	**AQ 3.2**	Proper murum filling and compaction of embankment should be done to maintain canal section.	
				ii) Growth of trees was observed near embankment.	**AQ 3.3**	It should be uprooted.	
				10. Aqueduct at ch. 92.310 km. At upstream and down stream side of aqueduct, approach road and canal embankment was damaged.	**AQ 3.2**	Proper murum filling and compaction of embankment should be done to maintain canal section.	

2019-20	**1**	**GHOD PROJECT/** Ghod Canal/ Kukadi Irrigation Dn. No. 2 Shrigonda/ CADA Pune	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 4/2020, Insp. Dtd. 20/03/2020]	**1 . Aqueduct at ch. 4.500 km.** i)Heavy Growth of tree was observed near Piers and wing wall.	**AQ 3.3**	It should be uprooted for the safety of the structure.	
				2. Aqueduct at ch. 16.700 km. i) Growth of tree was observed near structure.	**AQ 3.3**	It should be uprooted for the safety of the structure	
				3. Culvert ch. 29.420 Km i) Growth of trees on the wall.	**SC 3.2**	It should be uprooted for the safety of the structure	
				4 . Aqueduct at ch. 37.267 km. i) Growth of trees were observed near wing wall and parapet wall.	**AQ 3.3**	It should be uprooted for the safety of the structure	
				5 . Aqueduct at ch. 48.775 km. i) Growth of trees were observed on structure.	**AQ 3.3**	It should be uprooted for the safety of the structure	
				6. Aqueduct at ch 52.540 km. i) Growth of trees were observed on structure.	**AQ 3.3**	It should be uprooted for the safety of the structure	
				7. Aqueduct at ch 52.740 km. i) Growth of trees were observed on structure.	**AQ 3.3**	It should be uprooted for the safety of the structure.	

NASHIK REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**MULA PROJECT/** Mula Right Bank Canal/ Mula Irrigation Division Ahmednagar/ CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 3/2018, Insp. From 17/01/2018 to 20/01/2018]	**1. Syphon at ch. 3.660 km.** Growth of pimple tree was observed on downstream left side wing wall.	**SY 3. 2**	It should be uprooted for the safety of the structure.	
				2. Syphon at ch. 7.080 km. Growth of dense vegetation was observed in nalla.	**SY 3. 2**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				3. Aqueduct at ch. 8.400 km. Growth of banyan tree was observed on third and fourth pier. Also growth of vegetation was observed on both side wing walls.	**AQ 3.3**	It should be uprooted for the safety of the structure	
				4. Aqueduct at ch. 15.500 km. i) Growth of pimple tree was observed on vertical left side of trough and also on downstream left side wing wall.	**AQ 3.3**	It should be uprooted for the safety of the structure.	
				ii) Growth of dense vegetation was observed in nalla.	**AQ 3.4**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	

				5. Aqueduct at ch. 26.600 km. Growth of dense vegetation was observed in nalla. **6.Aqueduct at. ch. 28.467 km.** Growth of dense vegetation was observed in nalla. **7. Aqueduct at ch. 33.095 km.** Growth of pimple tree was observed on upstream right sidearch portion. **8. Aqueduct at ch. 35.386 km.** Growth of vegetation was observed in nalla near span 1 to 4. **9. Aqueduct at ch. 39.100 km.** Growth of vegetation was observed in first span.	**AQ 3.4** **AQ3.3** **AQ3.3** **AQ 3.3** **AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted for the safety of the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be cleaned.	

				10. Aqueduct at ch. 41.320 km. Growth of pimple tree was observed on arch portion in second span and also between third and fourth span. It is also observed on both side wing walls. **11. Aqueduct at ch. 47.720 km.** Growth of dense vegetation was observed in nalla. So it was not possible to inspect the structure from bottom side. **12. Escape at ch. 47.660 km.** Silt was accumulated in front of escape gate.	**AQ 3.3** **AQ 3.3** **CR 3.3**	It should be uprooted for the safety of the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure & easy access to inspect the structure from bottom side. It should be removed	

2017-18	**2**	**MULA PROJECT/** Mula Right Bank Canal, Branch-2/ Mula Irrigation Division Ahmednagar/ CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 3/2018, Insp. From 17/01/2018 to 20/01/2018]	**1. Aqueduct at ch. 8.000 km.** Growth of pimpal tree was observed on pier cap. Growth of dense vegetation was observed in nalla. **2. Aqueduct at ch. 16.500 km.** Growth of pimple tree was observed on vertical outer side of trough. Growth of vegetation was observed in nalla.	**AQ 3.3** **AQ 3.3**	It should be uprooted for the safety of the structure. It should be cleaned to pass the incoming flood of nalla water without damaging the structure. It should be uprooted for the safety of the structure. It should be cleaned to pass the incoming flood of nalla water without damaging the structure.	

2018-19	**1**	**BHANDARDARA PROJECT/** Pravara Right Bank Canal/ Ahmednagar Irrigation Division, Ahmednagar/ CADA, Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2018, Insp. From 19/11/2018 to 20/11/2018]	**1. S.W. F. at ch. 0.300 km.** Plaster of downstream left side curved guide wall was damaged.	**SWF 3.1**	It should be repaired.	
				2. Aqueduct at ch. 2.635 km. Growth of heavy vegetation was observed in nalla.	**AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				3. Aqueduct at ch. 4.900 km. Growth of trees was observed on canal lining, near the structure.	**AQ 3.3**	It should be removed.	
				4. Aqueduct at ch. 16.470 km. Growth of vegetation was observed in nalla.	**AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				5. Aqueduct cum Escsape at ch. 19.355 km. Growth of heavy vegetation was observed in nalla.	**AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				6. Aqueduct at ch. 21.340 km. Growth of trees was observed near downstream right side abutment.	**AQ 3.3**	It should be uprooted for the safety of the structure.	

				7. Aqueduct at ch. 30.486 km. Growth of vegetation was observed in nalla. **8. Aqueduct at ch. 35.450 km.** Silt was accumulated in trough portion. **9. Aqueduct at ch. 36.670 km.** Silt was accumulated in trough portion. Also silt was accumulated in nalla.	**AQ 3.3** **AQ 3.3** **AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be cleaned. It should be cleaned to pass the incoming flood of nalla water without damaging the structure.	
2018-19	**2**	**BHANDARDARA PROJECT/** Pravara Left Bank Canal/ Ahmednagar Irrigation Division, Ahmednagar/ CADA, Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 2/2018, Insp. From 20/11/2018 to 21/11/2018]	**1. Aqueduct cum escape at ch. 0.760 km.** Growth of trees was observed on vertical side of trough. And in the nalla. **2. S.W. F. at ch. 0.418 km.** Stone boulders were accumulated near hump portion in canal section. **3. Aqueduct at ch. 5.000 km.** Growth of pimpal tree was observed on left vertical side of trough.	**AQ 3.3** **SWF 3.3** **AQ 3.3**	It should be uprooted for the safety of the structure. It should be cleaned. It should be uprooted for the safety of the structure.	

				4. Aqueduct at ch. 15.180 km. Steel bars of railing were cut & stolen.	**AQ 3.1**	New RCC railing should be provided to avoid any mishap.	
				5. Aqueduct at ch. 15.370 km. i) Growth of umber tree was observed on pier top. ii) Steel bars of railing were cut & stolen.	**AQ 3.3** **AQ 3.1**	It should be uprooted for the safety of the structure. New RCC railing should be provided to avoid any mishap.	
				6. Cross regulator cum Escape at ch. 17.810 km. Growth of vegetation was observed on banking near C.R. & escape.	**CR 3.2**	It should be uprooted.	
				7. Aqueduct at ch. 27.020 km. i) Growth of tree was observed on vertical side of trough.	**AQ 3.3**	It should be uprooted.	
				ii) Growth of vegetation was observed in nalla.	**AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				iii) Silt was observed in nalla.	**AQ 3.3**	Nalla regradation should be done.	
				8. Cross regulator at ch. 30.775 km. Growth of vegetation was observed on banking near C.R.	**CR 3.2**	It should be uprooted.	

				9. Aqueduct at ch. 43.450 km. Growth of trees and heavy vegetation was observed on banking of canal near the structure. Due to this it was not possible to inspect the structure from top of the structure. **10. Cross regulator at ch. 63.850 km.** Stone boulders from old dismantled structure were observed in canal section near the structure.	**AQ 3.3** **CR 3.2**	It should be uprooted for the safety of the banking and structure. It should be cleaned to pass the designed discharge smoothly.	
2019-20	**1**	**KADWA PROJECT/** Kadwa Canal/ **Nashik Irrigation Division Nashik/** CADA Nashik	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2020, Insp. Dtd. 03/01/2020]	**1. Slab Culvert at ch. 3.900 Km. (Near SamrudhiMahamarg)** i)Growth of trees was observed on the joint between slab and vertical head wall of culvert, on UCR wing wall and near the structure. **2. Hume Pipe Drain at ch. 6.070 km.** i) Encroachment on I.P. side is observed near structure.	**SC 3.2** **HP 3.2**	It should be uprooted for the safety of the structure. Encroachment should be restricted by measuring canal land and marking boundary stones.	

				3. Aqueduct at ch. 7.440 km. i) Growth of vegetation was observed in nalla near the structure.	**AQ 3.6**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				4. Aqueduct at ch. 9.180 km. i) Growth of vegetation was observed at upstream left side wing wall.	**AQ 3.5**	It should be uprooted for safety of structure.	
				5. S.W.F. at ch. 9.810 km i) Growth of vegetation, trees was observed near structure.	**SWF 3.2**	It should be uprooted for the safety of the structure.	
				6. Nalla Syphon at ch. 10.725 km. i) Pipes of the structures were choked and buried under silt.	**SY 3.1**	Nalla regradation should be done.	
				ii) Nalla water way was encroaching by the farmers.	**SY 3.3**	Encroachment should be restricted by measuring canal land and marking boundary stones.	
				7. Slab Culvert at ch. 12.860 km. i) Nalla waterway was reduced by boulders, debris and vegetation.	**SC 3.1**	It should be cleaned to pass the incoming flood of nalla without damaging the structure.	
				ii) Growth of trees was observed on pier cap.	**SC 3.2**	It should be uprooted for safety of structure.	

				8. Aqueduct at ch. 16.030 km. i) Growth of vegetation was observed in nalla. ii) At the entrance of aqueduct, service road was eroded due to heavy rain. **9. Aqueduct at ch. 21.967 km.** i) Growth of vegetation was observed in nalla.	**AQ 3.6** **AQ 3.2** **AQ 3.6**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be repaired for safety of convenience. It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	

AURANGABAD REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**VISHNUPURI PROJECT/** Vishnupuri Right Bank Canal/ Vishnupuri Project Dn. No. 2 Nanded/ Nanded Irrigation Circle Nanded	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 9/2018, Insp. From 20/03/2018 to 23/03/2018]	**1. Aqueduct at ch. 4.460 km.** Growth of vegetation was observed in nalla. **2. C.R. at ch. 6.380 km.** Vegetation was seen in canal section on d/s side of C.R. **3. Aqueduct at ch. 12.043 km.** Growth of vegetation was observed on u/s and d/s side wing wall and abutment. **4. Aqueduct at ch. 18.240 km.** Growth of trees and vegetation was observed on u/s and d/s side wing wall. **5. Aqueduct at CH. 27.940 km.** Growth of dense vegetation was observed in nalla. Growth of vegetation was observed on u/s and d/s side wing wall.	**AQ 3.3** **CR 3.2** **AQ 3.3** **AQ 3.3** **AQ 3.3**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be cleaned to pass the designed discharge smoothly. It should be uprooted for the safety of the structure. It should be uprooted for the safety of the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted for the safety of the structure.	

2018-19	**1**	**LOWER MANAR PROJECT/** Lower Manar Left Bank Canal/ Nanded Irrigation Division, Nanded/ Nanded Irrigation Circle Nanded	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 6/2019, Insp. Dtd. 21/02/2019]	**1. S.W.F. at ch. 0.150 km.** Growth of vegetation was observed in canal section.	**SWF 3.2**	It should be uprooted to pass the canal discharge smoothly.	
				2. Aqueduct at ch. 1.440 km. Growth of tree was observed near upstream right side wing wall.	**AQ 3.3**	It should be uprooted for the safety of the structure.	
				3. Syphon at ch. 3.963 km. Growth of tree was observed at upstream right side of the structure.	**SY 3.2**	It should be uprooted for the safety of the structure.	
				4. Aqueduct at ch. 5.404 km. No railing was observed.	**AQ 3.1**	New RCC railing should be provided for safety purpose.	
				5. Aqueduct at ch. 12.213 km. No railing was observed.	**AQ 3.1**	New RCC railing should be provided for safety purpose.	
				6. S.W.F. at ch. 31.333 km. At downstream of SWF, stone boulders were accumulated in canal section.	**SWF 3.3**	It should be removed.	
				7. Escape at ch. 46.575 km. Growth of heavy vegetation was observed in front of escape gate.	**CR 3.2**	It should be cleaned.	
				8. Nalla Syphon at ch. 66.355 km. Silt was accumulated in nalla. Half portion of RCC hume pipes were choked with silt.	**SY 3.1**	Silt should be removed, and nalla water way should be cleaned to pass the incoming flood of nalla water without damaging the structure.	

2019-20	**1**	**JAYAKWADI PROJECT/** Paithan Left Bank Canal/ Jayakwadi Irrigation Division, Nathnagar **(South), Paithan/** CADA Aurangabad	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 3/2018, Insp. From 12/03/2020 to 13/03/2020]	**1. S.W.F. at ch. 0.914 km.** i) Growth of trees and vegetation was observed near the structure.	**SWF 3.2**	It should be uprooted for the safety of the structure.	
				2. Escape at ch. 1.370 km ii)Growth of trees and vegetation was observed in escape channel.	**CR 3.2**	It should be cleaned.	
				3. Syphon at ch. 1.823 km. i) Growth of trees and vegetation was observed in nalla.	**SY 3.2**	It should be uprooted.	
				4. Bairaja Aqueduct at ch. 4.581 km. i) Downstream side parapet railing was missing.	**AQ 3.1**	It should be repaired to avoid any mishap.	
				ii) Growth of trees and vegetation was observed in nalla.	**AQ 3.6**	It should be uprooted.	
				5. Aakhatwada Aqueduct at ch. 6.620 km. i) Parapet railing was missing.	**AQ 3.1**	It should be repaired to avoid any mishap.	
				ii) Growth of trees and vegetation was observed in nalla and also on UCR abutment.	**AQ 3.6 , AQ 3.5**	It should be uprooted.	
				6. Gopewadi Aqueduct at ch. 12.440 km. i) Growth of tree was observed near upstream abutment.	**AQ 3.5**	It should be uprooted.	

				7. Virbhadra Aqueduct at ch. 19.900 km. i) Both side parapet heights are very small.	**AQ 3.1**	It should be sufficiently raised to avoid any mishap.	
				8. Cross Regulator at ch. 38.310 km. i) Growth of neem tree was observed near upstream right side pier.	**CR 3.2**	It should be uprooted for the safety of the structure.	
				9. Esacpe at ch. 38.310 km. i) Vegetation in Escape channel was observed.	**CR 3.2**	It should be cleaned.	
				10. Aqueduct at ch. 39. 540 km. i) Growth of dense trees was observed in nalla.	**AQ 3.6**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				11. Aqueduct at ch. 44. 450 km. i) Growth of vegetation was observed in nalla.	**AQ 3.6**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure.	
				12. Galati Aqueduct at ch. 53.313 km. i) Growth of tree was observed near upstream left side abutment.	**AQ 3.5**	It should be uprooted for the safety of the structure.	
				13. Avlova Aqueduct at ch. 54. 310 km. i) Growth of tree was observed near abutment.	**AQ 3.5**	It should be uprooted for the safety of the structure.	

				14. Bhadrai Aqueduct at ch. 61.732 km. i) Growth of trees was observed in nalla. ii) Growth of tree was observed near abutment. **15. Hivraj Aqueduct at ch. 65.170 km.** i) Growth of tree was observed near abutment. **16. Bhaigavan Aqueduct at ch. 66.559 km.** i) Growth of tree was observed near abutment. **17. Khadaka Aqueduct at ch. 78.004 km.** i) RCC parapet was damaged. ii) Growth of trees and vegetation was observed near upstream and downstream abutment. iii) Growth of trees was observed in nalla. **18. Nimoni Aqueduct at ch. 82.460 km.** i) Growth of trees was observed in nalla near third pier and near downstream abutment.	**AQ 3.6** **AQ 3.5** **AQ 3.5** **AQ 3.5** **AQ 3.1** **AQ 3.5** **AQ 3.6** **AQ 3.6, AQ 3.5**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted for safety of structure. It should be uprooted for safety of structure. It should be uprooted for safety of structure. It should be repaired to avoid any mishap. It should be uprooted for the safety of the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure It should be uprooted for the safety of the structure.	

				19. Aqueduct at ch. 92.245 km. i) Growth of dense vegetation and trees was observed in nalla and near abutment. **20. Viregaon Aqueduct at ch. 96.069 km.** i) Growth of dense vegetation and trees was observed in nalla and near abutment. **21. Jamb Aqueduct at ch. 97.157 km.** i) Growth of dense vegetation and trees was observed in nalla and near abutment. **22. Pokarni Aqueduct at ch. 100.25 km.** i) Growth of dense vegetation and trees was observed near abutment. **23. Sopara Aqueduct at ch. 104.894 km.** i) At the entrance of aqueduct joint between approach road and slab was damaged. ii) No parapet was observed. **24. Escape at ch. 107.680 km.** Dense vegetation was observed in escape channel. **25. Ashti Aqueduct at ch. 113.267 km.** Growth of vegetation was observed near abutment.	**AQ 3.6, AQ 3.5** **AQ 3.6, AQ 3.5** **AQ 3.6, AQ 3.5** **AQ 3.5** **AQ 3.2** **AQ 3.1** **CR 3.2** **AQ 3.5**	It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted to pass the incoming flood of nalla water without damaging the structure. It should be uprooted for the safety of the structure. It should be repaired for safety of convenience. It should be provided to avoid any mishap. It should be cleared. It should be uprooted for the safety of structure.	

AMRAVATI REGION							
Year	**Sr. No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**WAN PROJECT/** Left Bank Canal/ Akola Irrgation Division, Akola/ Akola Irrigation Circle, Akola.	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 1/2017, Insp. Dtd. 26/10/2017]	**1. S.W. F. cum V.R.B. at ch. 0.390 km.** i) Growth of vegetation was observed near gauge chamber. ii) Stone boulders and murum was observed in canal bed near the structure. **2. Canal Syphon cum C.R. at ch. 1.712 km.** i) Silt and vegetation was observed near u/s well. **3. Canal section in km. No. 3** i) In this section growth of big trees and heavy vegetation was observed on inner side canal banking. **4. Canal Escape at ch. 7.740 km** i) Growth of vegetation was observed in canal section at entrance of escape gate. **5. H.R. cum C.R. at ch. 11.460 km.** i) Debris was accumulated in front of H.R. gate.	**SWF 3.2** **SWF 3.3** **SY 3.2** **HE 3.2** **CR 3.2** **HR 3.1**	It should be uprooted for the safety of the structure. It should be cleaned to pass the designed discharge smoothly. It should be cleaned. It should be uprooted & designed section should be maintained to pass the designed discharge smoothly. It should be uprooted. It should be cleaned.	

				6. C.R. cum Escape at ch. 13.300 km. i) Debris was accumulated in canal bed at the entrance of C.R. ii) Growth of bushes was observed near escape. **7. Box culvert at ch. 13.410 km.** i) Growth of trees was observed on service road near parapet wall and also on wing wall.	**CR 3.3** **CR 3.2** **SC 3.2**	It should be cleaned to pass the designed discharge smoothly. It should be uprooted. It should be uprooted for the safety of the structure.	

2018-19	**1**	**BEMBLA PROJECT/** Right Bank Canal/ Bembla Project Division. Yavatmal/ Yavatmal IrrigationCircle,Yavatmal. Bembla Irrigation Division. Yavatmal/ Yavatmal Irrigation (Management) Circle, Yavatmal	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 8/2019, Insp. From13/03/2019 to14/03/2019]	**1. Aqueduct at ch. 0.655 km.** i) Growth of trees was observed near upstream and downstream side wing wall. ii) Growth of vegetation was observed in nalla. **2. Aqueduct at ch. 4.380 km.** i) Expansion joints of road slab on trough portion were widened. ii) At the entrance & exit of aqueduct, portion between approach road and road slab was damaged. iii) Growth of trees and vegetation was observed on upstream and downstream, left and right side wing wall. iv) RCC parapet was damaged at entrance of aqueduct. **3. C.R. cum Escape at ch. 10.86 km.** Growth of vegetation was observed near the structure. **4. Aqueduct at ch. 16.430 km** i) Expansion joints of road slab on trough portion were widened. ii) At the entrance & exit of Aqueduct, portion between approach road and road slab was damaged.	**AQ 3.3** **AQ 3.4** **AQ 3.2** **AQ 3.2** **AQ 3.3** **AQ 3.1** **CR 3.2** **AQ 3.2** **AQ 3.2**	It should be uprooted for the safety of the structure. It should be cleaned to pass the incoming flood of nalla water without damaging the structure. It should be repaired. It should be repaired with murum filling. It should be uprooted for the safety of the structure. It should be repaired. It should be uprooted for safety of structure. It should be repaired. It should be repaired with murum filling.	

				iii) Growth of trees and vegetation was observed near upstream left and downstream right side wing wall. iv) RCC parapet was damaged at some places. **5. Aqueduct at ch. 21.660 km** i) Expansion joints of road slab on trough portion were widened. ii) At the entrance & exit of Aqueduct, portion between approach road and road slab was eroded. iii) Growth of vegetation was observed near upstream left and downstream side wing wall. **6. Aqueduct at ch. 28.680 km** i) At the entrance & exit of aqueduct, portion between approach road and road slab was eroded. ii) Growth of vegetation was observed near upstream and downstream side wing wall. iii) RCC parapet was damaged at many places.	**AQ 3.3** **AQ 3.1** **AQ 3.2** **AQ 3.2** **AQ 3.3** **AQ 3.2** **AQ 3.3** **AQ 3.1**	It should be uprooted for safety of structure. It should be repaired. It should be repaired. It should be repaired with murum filling. It should be uprooted for safety of structure. It should be repaired with murum filling. It should be uprooted for safety of structure. It should be repaired/replaced wherever necessary.	

				7. Cross regulator cum Escape at ch. 35.590 km. Growth of vegetation was observed in escape channel.	**CR 3.2**	It should be cleaned.	
				8. Aqueduct at ch. 35.910 km i) Growth of babul trees and vegetation was observed near upstream and downstream side wing wall.	**AQ 3.3**	It should be uprooted for the safety of the structure.	
				ii) Parapet was damaged at some places.	**AQ 3.1**	It should be repaired / replaced wherever necessary	

NAGPUR REGION							
Year	**Sr.No**	**Name of Project / Canal/ Division / Circle**	**Inspecting Authority**	**Deficiencies Reported / Noticed**	**Category Identifier**	**Remedial Measures Suggested**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2017-18	**1**	**ITIADOH PROJECT/** ItiadohRight Bank Canal/ Bagh Itiadoh Division, Gondia/ CADA Nagpur	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2018, Insp. From 20/02/2018 to 22/02/2018]	**1. SWF cum VRB at CH 1.380 km** i) Growth of vegetation,shrubs was observed. **2. Canal Section at CH. 2.800 km to CH. 2.950 km** i) Silting was observed in this canal portion ii) Growth of vegetation, shrubswas observed. **3. Aqueduct at CH. 4.380 km** ii) Growth of vegetation, shrubswas observed on the abutment. **4. Deep Cutting at CH. 13.500 km** i) Growth of vegetation, shrubswas observed on the canal banks. **5. Canal section at CH.15.200 km** i) Silt was accumulated in this canal section. **6. Syphon at CH. 23.410 km** i) Growth of dense vegetation was observed in nalla.	**SWF 3.2** **HE 3.3** **HE 3.2** **AQ 3.3** **DC 3.2** **HE 3.3** **SY 3.2**	It should be uprooted for the safety of the structure. Canal desilting &regradation should be done. It should be uprooted. It should be uprooted for the safety of the structure. It should be uprooted. It should be removed. It should be uprooted. It should be cleaned& brought	

				ii) The drainage pipes below the service road was choked up.	**SY 3.1**	into working condition.	
				7. Super passage cum syphon at CH. 26.430 km i) Silt was observed at both u/s & d/s of the structure. ii) Growth of bushes were observed in the canal section.	**SP 3.1** **SP 3.2**	It should be cleaned. It should be uprooted.	
				8. Nalla Syphon at CH. 27.380 km. i) Growth of dense vegetation was observed in nalla.	**SY 3.2**	It should be uprooted.	
				9. C.R. cum VRB at CH. 40.080 km. i) Silt was accumulated near the gate.Growth of vegetation was observed near guide wall.	**CR 3.2**	It should be cleaned.	
				10. Nalla syphon at CH. 41.915 km i) Silt accumulation has been seen on both side of the syphon.	**SY3.1**	It should be cleaned.	
				11. SWF at CH. 42.140 km i) The vegetation has been seen on u/s guide wall.	**SWF 3.2**	It should be uprooted for the safety of the structure.	
				12. Nalla syphon at CH. 45.500 km i) At u/s side, silt has been accumulated.	**SY 3.1**	It should be cleaned.	

				13. Nalla syphon at CH. 47.147 km i) Growth of vegetation was observed in nalla. **14. CR, HR cum VRB at CH. 52.00 km** i) Growth of vegetation was observed on the guide wall. **15. Canal Syphon at CH. 52.745 km** ii)Debris & garbage was seen at u/s side. Boulders have been seen on the d/s of syphon.	**SY 3.2** **CR 3.2** **SY 3.1**	It should be uprooted. It should be uprooted. It should be removed to maintain the clear path of flow.	
2017-18	**2**	**ITIADOH PROJECT/** Wainganga Branch Canal/ Bagh Itiadoh Division, Gondia/ CADA Nagpur	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2018, Insp. From 20/02/2018 to 22/02/2018]	**1. Canal Syphon at CH. 0.102 km** i) Silt has been observed on d/s side. **2. Escape at CH. 12.090 km** i) Silt was accumulated in front of escape gate. **3. C.R. cum H.R. at CH. 14.700 km** i) vegetation was seen on the guide wall.	**SY 3.1** **CR 3.3** **CR 3.2**	It should be removed. It should be cleaned. It should be uprooted.	

2018-19	**1**	**LOWER WARDHA PROJECT/** Lower Wardha Main Canal/ Lower Wardha Canal Division. Wardha/ Nagpur Irrigation Circle, Nagpur	Executive Engineer, Canal Safety Division. Nashik [Inspection Note No. 7/2019, Insp. Dtd. 12/03/2019]	**1. S.W.F. at ch. 0.790 km.** Growth of vegetation, trees was observed near structure.	**SWF 3.2**	It should be uprooted for safety of structure.	
				2. C.R. cum Escape at ch. 7.035 km. i) Silt was accumulated in canal section at the entrance of escape gate.	**CR 3.3**	It should be cleaned.	
				ii) Growth of vegetation was observed at upstream and downstream of structure.	**CR 3.2**	It should be removed.	
				3. Aqueduct at ch. 7.365 km. i) Silt was accumulated at the entrance of aqueduct.	**AQ 3.3**	It should be cleaned.	
				ii) Growth of vegetation was observed in nalla and also at upstream and downstream side abutment.	**AQ 3.3**	It should be uprooted for safety of structure.	
				4. Aqueduct at ch. 8.805 km. Growth of vegetation was observed on wing walls.	**AQ 3.3**	It should be uprooted for the safety of structure.	
				5. Aqueduct at ch. 10.500 km. i) Accumulation of silt, boulders near the structure.	**AQ 3.3**	It should be removed.	
				ii) Growth of vegetation was observed in canal at upstream and downstream near the structure.	**HE 3.2**	Nalla regradation should be done.	
				iii) Nalla water way was blocked with silt and vegetation.	**AQ 3.4**	Silt and vegetation should be removed to pass the designed discharge smoothly.	

				6. Head regulator at ch. 12.570 km. Heavy vegetation and silt was accumulated up to C.B.L. at the entrance of gate also silt was accumulated in canal near structure.	**HR 3.2**	It should be removed.	
				7. C.R. cum Escape at ch. 22.980 km. Debris was accumulated at the entrance of escape gate.	**CR 3.3**	It should be uprooted to pass the designed discharge smoothly.	
				8. Canal section in km. 24.000 Growth of heavy vegetation was observed in this section.	**HE 3.2**	It should be removed.	
				9. Tunnel at ch. 27.000 km. As per field officer heavy vegetation and debris was accumulated in tunnel.	**TN 3.1**	It should be cleaned to pass the designed discharge smoothly.	
				10. Deep cut in km. 28.000 Vegetation was observed in deep cut.	**DC 3.2**	It should be uprooted.	
				11. Cross Regulator Cum Escape cum H.R. at ch. 36.095 km. Big neem tree is observed near escape channel.	**CR 3.2**	It should be uprooted for the safety of the structure.	
				12. C.R. cum Escape at ch. 44.425 km. i) Silt was accumulated in front of escape gate.	**CR 3.3**	It should be cleaned.	

Table 3.8: Consolidated Abstract of Structure wise, Year wise & Category wise Deficiencies

Sr. No.	Year	Type of structure	Deficiencies					Total
			Category A	Category B			Category C	
				A- First Priority	B- Second Priority	Total		
1	2	3	4	5	6	7	8	9
1	**2017-18**	**Aqueduct**	0	21	4	25	23	48
2		**Syphon**	0	4	5	9	13	22
3		**Standing Waves Flume**	0	7	11	18	5	23
4		**Cross Regulator cum Escape**	0	0	24	24	11	35
5		**High Embankment**	0	0	4	4	4	8
6		**Deep Cut**	0	0	0	0	5	5
7		**Tunnel**	0	0	0	0	1	1
8		**Supper passage**	0	0	17	17	5	22
9		**Hume Pipe Drain**	0	0	0	0	0	0
10		**Head regulator**	0	0	7	7	1	8
11		**Slab Culvert/ Box Culvert**	0	0	0	0	1	1
12		**Road Bridge**	0	0	3	3	0	3
		TOTAL	**0**	**32**	**75**	**107**	**69**	**176**

Sr. No.	Year	Type of structure	Deficiencies					Total
			Category A	Category B			Category C	
				A- First Priority	B- Second Priority	Total		
1	2	3	4	5	6	7	8	9
1	**2018-19**	**Aqueduct**	0	30	24	54	58	112
2		**Syphon**	0	1	7	8	5	13
3		**Standing Waves Flume**	0	7	32	39	9	48
4		**Cross Regulator cum Escape**	0	0	58	58	21	79
5		**High Embankment**	0	0	11	11	2	13
6		**Deep Cut**	0	0	2	2	1	3
7		**Tunnel**	0	0	1	1	2	3
8		**Supper passage**	0	0	0	0	0	0
9		**Hume Pipe Drain**	0	0	0	0	0	0
10		**Head regulator**	0	0	4	4	1	5
11		**Slab Culvert/ Box Culvert**	1	0	2	2	1	4
12		**Road Bridge**	0	0	0	0	0	0
		TOTAL	**1**	**38**	**141**	**179**	**100**	**280**

Sr. No.	Year	Type of structure	Deficiencies					Remark
			Category A	Category B			Category C	
				A- First Priority	B- Second Priority	Total		
1	2	3	4	5	6	7	8	9
1	**2019-20**	**Aqueduct**	0	18	04	22	53	
2		**Syphon**	0	0	0	0	3	
3		**Standing Waves Flume**	0	4	4	8	2	
4		**Cross Regulator cum Escape**	0	0	14	14	18	
5		**High Embankment**	0	0	5	5	0	
6		**Deep Cut**	0	0	0	0	0	
7		**Tunnel**	0	0	1	1	0	
8		**Supper passage**	0	0	0	0	0	
9		**Hume Pipe Drain**	0	1	4	5	1	
10		**Head regulator**	0	0	0	0	0	
11		**Slab Culvert/ Box Culvert**	0	0	3	3	4	
12		**Road Bridge**	0	0	0	0	0	
		TOTAL	**0**	**23**	**35**	**58**	**81**	

Table 3.9 : Details of Structure wise & year wise Category 'A' Defeciencies

Sr. No.	Type of Structure	Type of Deficiency	Category Iedentifier	No of Deficiencies noticed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
1	**Aqueduct**	1) Pier is crushed / settled down and hence Trough also get tilted or settled.	**AQ 1.1**	**0**	**0**	**0**	**0**
		2) Bottom slab of trough is sagged. / damaged.	**AQ 1.2**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
2	**Syphon**	1) Pipe/ RCC Barrel gets chocked due to accumulation of debris and water flow is completely blocked.	**SY 1.1**	**0**	**0**	**0**	**0**
		2) Syphon structure is badly damaged.	**SY 1.2**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
3	**Standing Waves Flume**	1) Structural wall badly damaged.	**SWF 1.1**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
4	**Cross Regulator cum Escape**	1) Piers having series cracks/ badly damaged.	**CR 1.1**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
5	**High Embankment**	1) Boils/ Leakages/seepage/ wet patches / Slushiness in earthen embankment.	**HE 1.1**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**

Sr. No.	Type of Structure	Type of Deficiency	Category Iedentifier	No of Deficiencies noticed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
6	**Deep Cut**	1) Accumulation of Boulders/ silt/ Vegetation in canal which obstruct canal flow on large scale.	**DC-1.1**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
7	**Tunnel**	1) Accumulation ofBoulders/ silt/ Vegetation in Tunnel which obstruct canal flow on large scale.	**TN 1.1**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
8	**Super Passage**	1) Pier is crushed / settled down and hence Trough also get tilted or settled./ Structure damaged.	**SP 1.1**	**0**	**0**	**0**	**0**
		2) Bottom slab of trough is sagged./ damaged.	**SP 1.2**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
9	**H.P. Drain**	1) Settlement/ Damage of Hume Pipe.	**HP 1.1**	**0**	**0**	**0**	**0**
		2) Major leakages through joints.	**HP 1.2**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
10	**Head Regulator**	1) Structure is badly damaged.	**HR 1.1**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**

Sr. No.	Type of Structure	Type of Deficiency	Category Iedentifier	No of Deficiencies noticed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
11	**Slab Culvert/ Box Culvert**	1) Slab is sagged/ damaged./collapsed	**SC 1.1**	**0**	**1**	**0**	**0**
		TOTAL		**0**	**1**	**0**	**0**
12	**Road Bridge**	1) Pier is crushed / settled down and hence bridge slab get tilted or settled.	**RB 1.1**	**0**	**0**	**0**	**0**
		2) Bridge slab is sagged	**RB 1.2**	**0**	**0**	**0**	**0**
		TOTAL		**0**	**0**	**0**	**0**
		Grand Total of "Category-A" Deficiencies		**0**	**1**	**0**	**1**

Table 3.10: Details of Structure wise & Year wise Category 'B' Defeciencies

Sr. No.	Structure	Deficiencies (A- First Priority, B- Second Priority.)	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
1	Aqueduct	1) Leakages through joints of trough, pier, abutment, wing wall	AQ 2A.1	21	29	20	70
		2) Pier/abutment foundation exposed/ erroded	AQ 2A.2	0	1	0	1
		TOTAL A		21	30	20	71
		3) Cracks/ damages at the bottom and vertical sides of trough, in UCR / Concrete - piers, abutments, wing walls, transition wall.	AQ 2B.1	4	13	0	17
		4) Steel reinforcement exposed/ rusted.	AQ 2B.2	0	1	1	2
		5) U/s & D/s transition lining damaged	AQ 2B.3	0	10	1	11
		TOTAL B		4	24	2	30
		GRAND TOTAL A + B		25	54	22	101
2	Syphon	1) Leakage through joints of RCC barrel, bottom slab, joint between embankment and wing /transition wall	SY 2A.1	4	1	0	5
		TOTAL A		4	1	0	5
		2) Reinforcement exposed/ Rusted.	SY 2B.1	0	0	0	0
		3) Cracks/ damages to RCC barrel, wing walls, transition wall/	SY 2B.2	0	1	0	1
		4) Trash rack/iron grill not provided/ damaged/ waterway blocked.	SY 2B.3	5	6	0	11

Sr. No.	Structure	Deficiencies (A- First Priority, B- Second Priority.)	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
		5) U/s & D/s transition lining damaged	SY 2B.4	0	0	0	0
		TOTAL B		5	7	0	12
		GRAND TOTAL A + B		9	8	0	17
3	**Standing Waves Flume**	1) Proper functioning of SWF/ Jump formation 2) ot observed	SWF 2A.1	7	7	1	15
		2) SWF not calibrated & not in use	SWF 2A.2	0	0	1	1
		5) Gauge chamber totally collapsed / Not observed	SWF 2A.3	0	0	2	2
		TOTAL A		7	7	4	18
		3) Hump portion damaged/ Bed erosion /silted /steel exposed	SWF 2B.1	1	3	0	4
		4) Cracks/ damages to transition wall./Guide wall	SWF 2B.2	2	6	1	9
		6) Gauge chamber Silted	SWF 2B.3	3	5	1	9
		7) Inlet Pipe chock up.	SWF 2B.4	2	7	0	9
		8) Gauge plate not provided/ damaged.	SWF 2B.5	2	9	2	13
		9) U/s & D/s lining damaged	SWF 2B.6	1	2	0	3
		TOTAL B		11	32	4	47

Sr. No.	Structure	Deficiencies (A- First Priority, B- Second Priority.)	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
		GRAND TOTAL A + B		**18**	**39**	**8**	**65**
4	**Cross Regulator cum Escape**	1) Leakage through sill beam and edges of gates	**CR 2B.1**	**0**	**18**	**1**	**19**
		2) Steel reinforcement of foot bridge exposed	**CR 2B.2**	**0**	**0**	**0**	**0**
		3) Gates not in working condition/ steel parts/hoist/ rope damaged/rusted	**CR 2B.3**	**18**	**23**	**9**	**50**
		4) Cracks/ damages to stone masonry / concrete Masonry.	**CR 2B.4**	**5**	**4**	**4**	**13**
		5) Bed/ Berm erosion	**CR 2B.5**	**1**	**0**	**0**	**1**
		6) Working platform (Bridge) damaged./ No approach for gate operation.	**CR 2B.6**	**0**	**9**	**0**	**9**
		7) Escape channel choked up	**CR 2B.7**	**0**	**3**	**0**	**3**
		8) U/s & D/s lining damaged	**CR 2B.8**	**0**	**1**	**0**	**1**
		TOTAL B		**24**	**58**	**14**	**96**
5	**High Embankment/ Canal section**	1)) Slushiness / water ponding along embankment	**HE 2A.1**	**0**	**0**	**0**	**0**
		2) Boils, Leakage, Seepage, wet Patches in embankment.	**HE 2A.2**	**0**	**0**	**0**	**0**
		TOTAL A		**0**	**0**	**0**	**0**

Sr. No.	Structure	Deficiencies (A- First Priority, B- Second Priority.)	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
		3) Section not as per design/ Earth work washed out	HE 2B.1	2	3	5	10
		4) Rain cuts/ Cracks are observed.	HE 2B.2	0	0	0	0
		5) Erosion of side slope./ canal lining damaged/banks damaged due to cattle moving	HE 2B.3	2	8	0	10
		TOTAL B		4	11	5	20
		GRAND TOTAL A + B		4	11	5	20
6	Deep Cut	1) Accumulation of debris which obstruct canal flow.	DC 2B.1	0	2	0	2
		2) Section not as per design	DC 2B.2	0	0	0	0
		3) Situation of land slide.	DC 2B.3	0	0	0	0
		4) Silt trap not provided.	DC 2B.4	0	0	0	0
		5) Ramp not provided.	DC 2B.5	0	0	0	0
		TOTAL B		0	2	0	2
7	Tunnel	1) Situation of boulder collapsed./ Accumulation of silt	TN 2B.1	0	0	1	1
		2) U/s & D/s lining damaged	TN 2B.2	0	0	0	0
		3) Entry and exit Portal not constructed.	TN 2B.3	0	0	0	0
		4) Silt trap not provided.	TN 2B.4	0	0	0	0

Sr. No.	Structure	Deficiencies (A- First Priority, B- Second Priority.)	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
		5) Approach road not provide.	TN 2B.5	0	1	0	1
		TOTAL B		0	1	1	2
8	**Super Passage**	1) Leakages through joints of slab, pier, abutment, wing wall, head wall/ structure damaged.	SP 2B.1	3	0	0	3
		2) Steel reinforcement exposed/ rusted.	SP 2B.2	5	0	0	5
		3) Cracks/ damages in UCR and concrete piers, abutments, wing walls, transition wall /head wall / Bank, Bed erosion	SP 2B.3	9	0	0	9
		TOTAL B		17	0	0	17
9	**H.P. Drain**	1) Leakage through pipes.	HP 2A.1	0	0	1	1
		TOTAL A		0	0	1	1
		2) Cracks/ damages to pipes , pipe joints.	HP 2B.1	0	0	0	0
		3) Cracks/ damages to head wall.	HP 2B.2	0	0	1	1
		4) Design flood not passing/ Pipes silted	HP 2B.3	0	0	2	2
		5) No approach for inspection	HP 2B.4	0	0	1	1
		TOTAL B		0	0	4	4
		GRAND TOTAL A + B		0	0	5	5
10	**Head**	1) Leakage through sill beam and edges of gates	HR 2B.1	1	0	0	1

Sr. No.	Structure	Deficiencies (A- First Priority, B- Second Priority.)	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
	Regulator						
		2) Gates not in working condition/ steel parts/hoist/ rope damaged/rusted	**HR 2B.2**	**3**	**4**	**0**	**7**
		3) Cracks/ damages to stone/ concrete masonry	**HR 2B.3**	**3**	**0**	**0**	**3**
		TOTAL B		**7**	**4**	**0**	**11**
11	**Slab Culvert/ Box Culvert**	1) Leakages through joints of slab, pier, abutment, wing wall	**SC 2A.1**	**0**	**0**	**0**	**0**
		TOTAL A		**0**	**0**	**0**	**0**
		2) Steel reinforcement exposed/ rusting	**SC 2B.1**	**0**	**1**	**2**	**3**
		3) Cracks/ damages in UCR /concrete piers, abutments, wing walls, transition wall / head wall	**SC 2B.2**	**0**	**1**	**0**	**1**
		4) Pier/abutment foundation exposed	**SC 2B.3**	**0**	**0**	**0**	**0**
		5) No approach for inspection	**SC 2B.4**	**0**	**0**	**1**	**1**
		TOTAL B		**0**	**2**	**3**	**5**
		GRAND TOTAL A + B		**0**	**2**	**3**	**5**
12	**Road Bridge**	1) Steel reinforcement exposed/ rusting	**RB 2B.1**	**2**	**0**	**0**	**2**
		2) Cracks/ damages in UCR/concrete piers, abutments, wing walls, transition wall /head wall	**RB 2B.2**	**1**	**0**	**0**	**1**
		TOTAL B		**3**	**0**	**0**	**3**

Table 3.11: Details of Structure wise & Year wise Category 'C' Defeciencies

Sr. No.	Structure	Deficiencies	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
1	Aqueduct	1) Railing/parapet damaged	AQ 3.1	0	10	6	16
		2) Approach Road damaged. /erroded.	AQ 3.2	1	11	2	14
		3) Growth of trees, vegetation on the structure. / Accumulation of silt	AQ 3.3	20	35	18	73
		4) Lower part of Pier could not be inspected due to water ponding / vegetation in nalla.	AQ 3.4	2	2	14	18
		5) Rubber seal damaged	AQ 3.5	0	0	9	9
		6) Steel trough rusted	AQ 3.6	0	0	4	4
		TOTAL		23	58	53	134
2	Syphon	1)Accumulation of Silt/ debris in Barrel.	SY 3.1	5	2	1	8
		2) Growth of heavy vegetation.	SY 3.2	8	3	1	12
		3) Encroachment	SY 3.3	0	0	1	1
		TOTAL		13	5	3	21
3	Cross regulator cum Escape	1) Greasing &oiling to Mechanical part of Gates/ Provision of rubber bush /Railing damaged.	CR 3.1	0	1	10	11

Sr. No.	Structure	Deficiencies	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
		2) Growth of trees, vegetation on the structure / near the structure/ in escape channel	CR 3.2	6	14	6	26
		3) Accumulation of debris near structure.	CR 3.3	5	6	2	13
		TOTAL		11	21	18	50
4	Standing Waves Flume	1) Removal of mortar, plaster .	SWF 3.1	0	1	0	1
		2) Growth of trees, vegetation on the structure / near the structure.	SWF 3.2	4	4	2	10
		3) Debris/ Boulder in canal near structure.	SWF 3.3	1	4	0	5
		TOTAL		5	9	2	16
5	High Embankment/ Canal section	1) Holes due to rodents.	HE 3.1	0	0	0	0
		2) Growth of trees, vegetation	HE 3.2	2	2	0	4
		3) Catch water drain silted/ not provided.	HE 3.3	2	0	0	2
		TOTAL		4	02	0	06
6	Deep Cut	1) Lining damaged.	DC 3.1	0	0	0	0
		2) Growth of trees, vegetation	DC 3.2	5	1	0	6
		TOTAL		5	1	0	6

Sr. No.	Structure	Deficiencies	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
7	Tunnel	1) Growth of trees, vegetation.	TN 3.1	1	2	0	3
		TOTAL		1	2	0	3
8	Super Passage	1) Accumulation of silt. / debris	SP 3.1	3	0	0	3
		2) Growth of trees, vegetation.	SP 3.2	2	0	0	2
		TOTAL		5	0	0	5
9	H.P. Drain	1) Siltation or blockage in pipes.	HP 3.1	0	0	0	0
		2) Encroachment	HP 3.2	0	0	1	1
		TOTAL		0	0	1	1
10	Head Regulator	1) Accumulation of debris near Gate.	HR 3.1	1	0	0	1
		2) Growth of trees, vegetation	HR 3.2	0	1	0	1
		TOTAL		1	1	0	2
11	Slab Culvert/ Box Culvert	1) Accumulation of silt / Regradation of nalla	SC 3.1	0	0	1	1
		2) Growth of trees, vegetation.	SC 3.2	1	1	3	5
		TOTAL		1	1	4	6

Sr. No.	Structure	Deficiencies	Category Iedentifier	No of Deficiencies Observed			Total
				2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8
12	Road Bridge	1) Railing/parapet damaged	RB 3.1	0	0	0	0
		2) Slab joints are open.	RB 3.2	0	0	0	0
		TOTAL		0	0	0	0
		GRAND TOTAL FOR ALL STRUCTURES CATEGORY " C " DEFICIENCIES		69	100	81	250

Table 3.12: Details of Project wise Deficiencies noticed during Test Inspection by Canal Safety Division, Dam Safety Organisation, Nashik

A) Inspection by D.S.O. in 2017-2018

Sr. No.	Region	Name of Project	Deficiencies noticed.					
			Cat A	Cat B			Cat C	Total
				A First Priority	B Second Priority	Total		
1	Konkan	Kal	0	2	24	26	10	36
2	Pune	chaskaman	0	14	10	24	10	34
3	Nashik	Mula	0	8	9	17	14	31
4	Aurangabad	Vishnupuri	0	6	5	11	5	16
5	Amravati	Wan	0	0	4	4	9	13
6	Nagpur	Itiadoh	0	2	23	25	21	46
	Total		**0**	**32**	**75**	**107**	**69**	**176**

B) Inspection by D.S.O. in 2018-19

Sr No	Region	Name of Project	Deficiencies noticed.					
			Cat A	Cat B			Cat C	Total
				A First Priority	B Second Priority	Total		
1	Konkan	Bhatsa	1	13	29	42	23	66
2	Pune	Takari	0	3	12	15	11	26
3	Nashik	Bhandardara	0	13	43	56	22	78
4	Aurangabad	Lower Manar	0	2	10	12	08	20
5	Amravati	Bembla	0	7	28	35	20	55
6	Nagpur	Lower Wardha	0	2	17	19	16	35
	Total		**1**	**40**	**139**	**179**	**100**	**280**

C) Inspection by D.S.O. in Year 2019-20

Sr No	Region	Name of Project	Deficiencies noticed.					
			Cat A	Cat B			Cat C	Total
				A First Priority	B Second Priority	Total		
1	Konkan	Hetwane	0	7	6	13	25	38
2	Pune	Ghod	0	5	11	16	07	23
3	Nashik	Kadva	0	3	8	11	13	24
4	Aurangabad	Jayakwadi	0	8	10	18	36	54
	Total		**0**	**23**	**35**	**58**	**81**	**139**

Annexure I

Proforma A, B & C

As per Govt. of Maharashtra circular No. MISC 2002/ (202/2002)/IM (W) Mantralaya Mumbai –32, dated 22-07-2003, instructions issued for inspection of the Canal & it's Structures in Proforma A, B & C.

PROFORMA – A

Register Masonry Work on the _____ Canal in the _____ Division

chainage Km.	Detailed description of work		Year of Construction	C.A. or CCA under command	Discharge in cumecs	Assumed Velocity	No. of opening	Span	Height of embankment	Rise of arch	Waterway provided	Highest recorded flooded level		Remarks
	Name	No.										Up-stream	Down-stream	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

PROFORMA – B

Inspection of Masonry Works on Canals_____

Date of Inspection	Name & No, of Works as described in Proforma A	Results of inspection, defects if any, and Proposed measures	Remarks as to completion of proposed repairs etc. or other steps taken	Signature
1	2	3	4	5

e.g. Aqueduct No. 14 of Bridge No.3 of Drain No.148

PROFORMA – C

Inspection of Embankments

Canal/ Dy _____ chainage_____

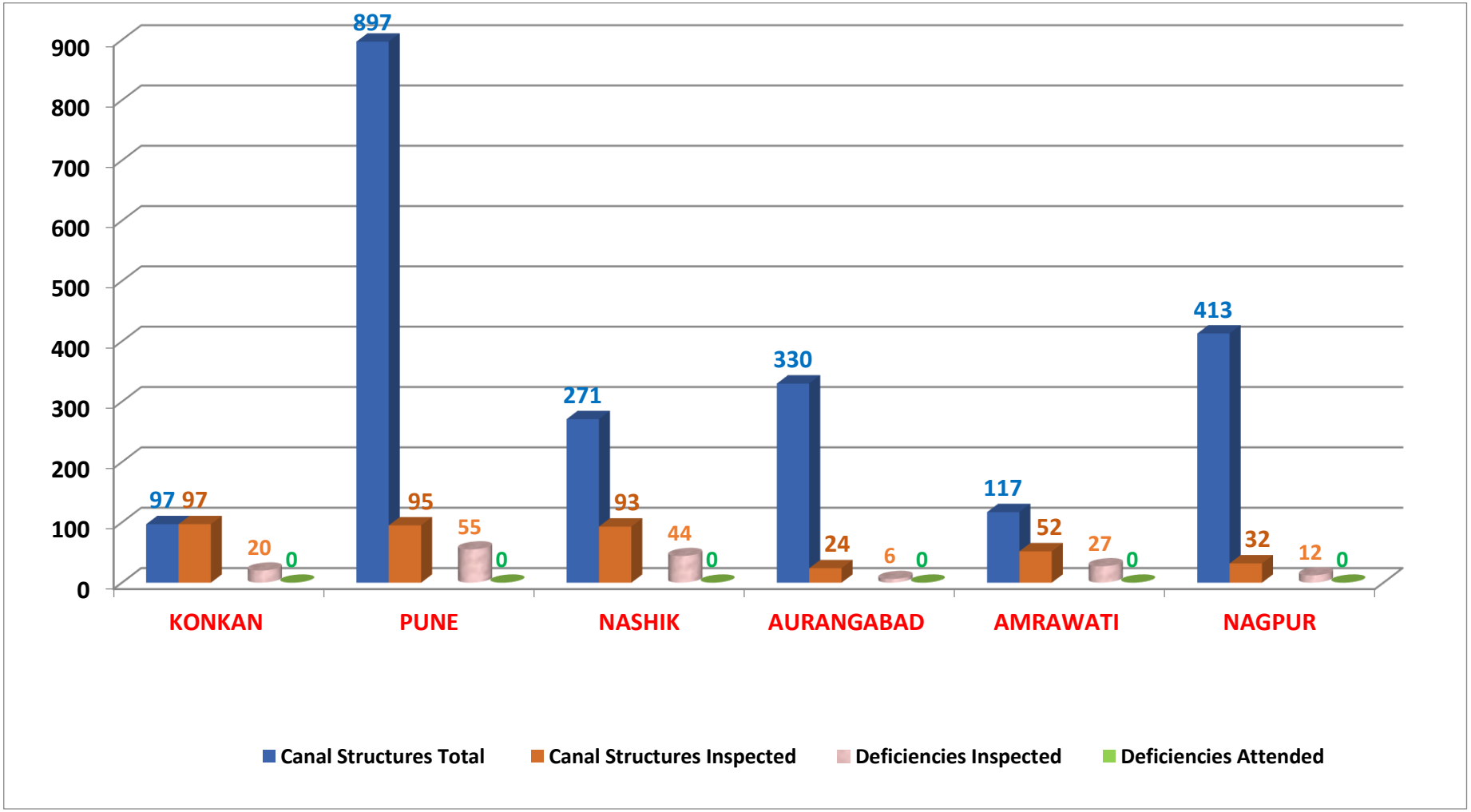
Length of embankment (m)_____Max. Height of Embankment (m) _____

Date of Inspection	Results of inspection, Problems identified & proposed measures	Remarks about carrying out repairs etc.	Signature
1	2	3	4

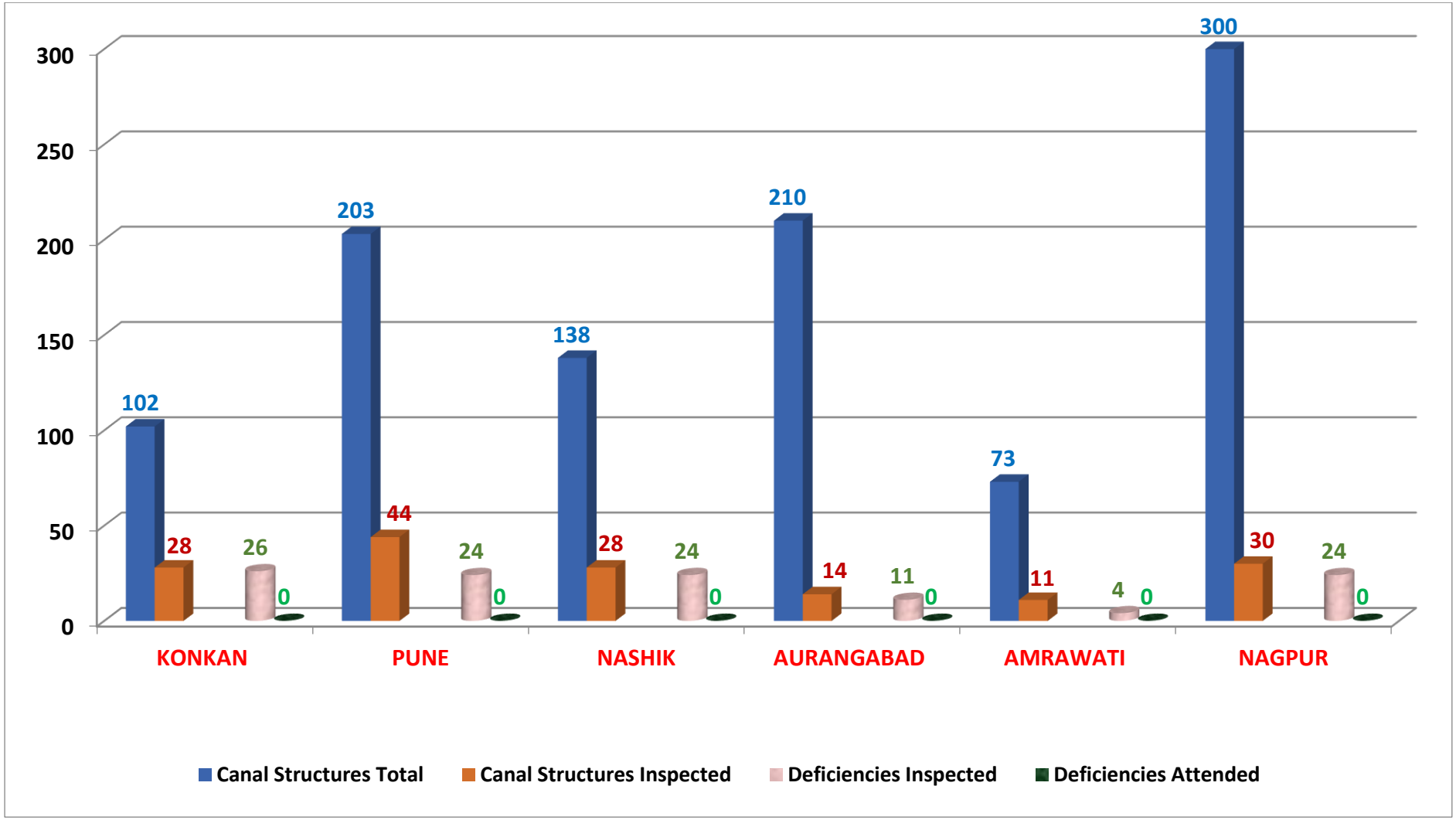
Annexure II

Graphical Representation of Deficiencies

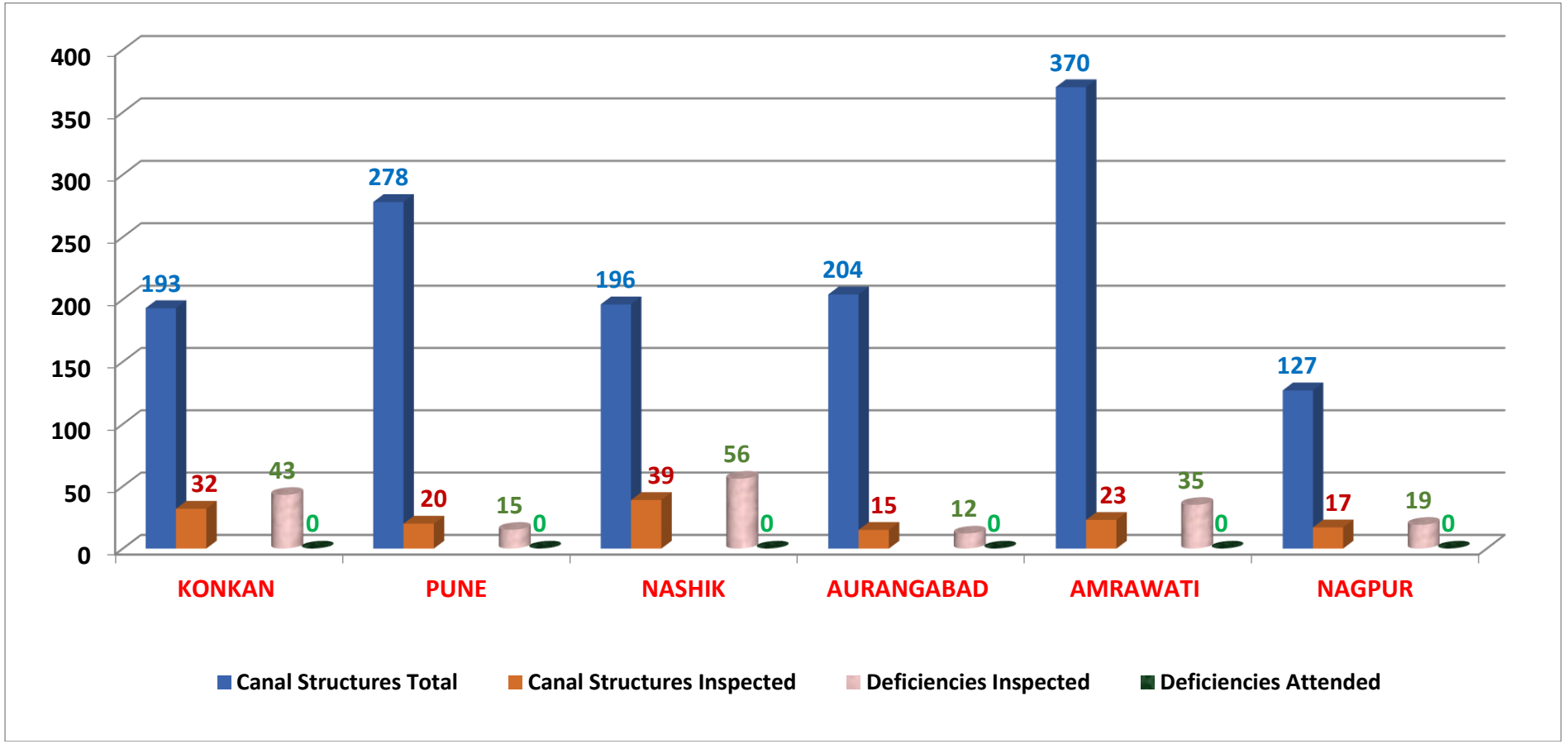
Region wise Canal Structures and Deficiencies Noticed in Test Inspections by DSO, Nashik and Deficiencies Attended by Field Offices in 2016-17.



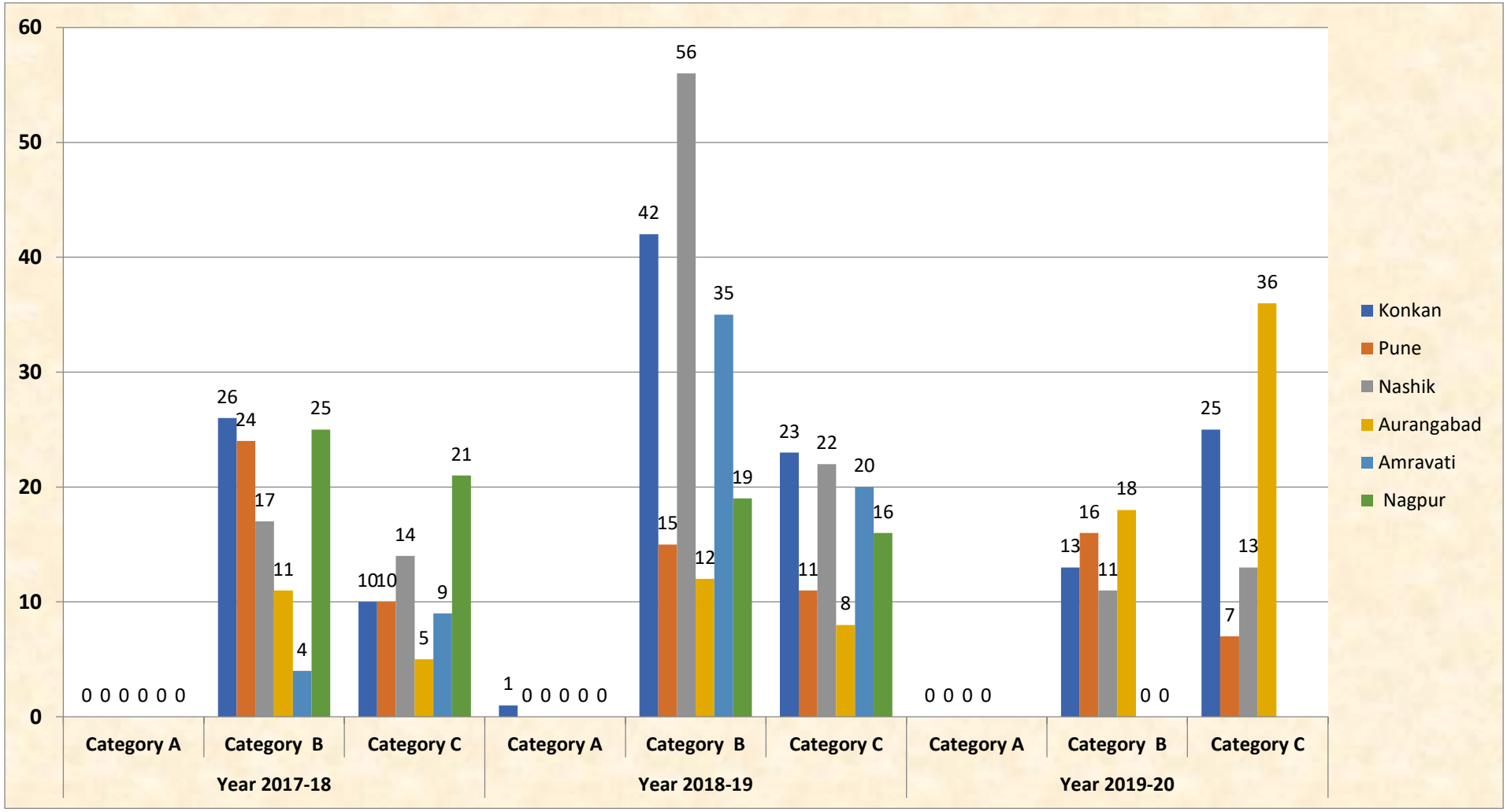
Region wise Canal Structures and Deficiencies Noticed in Test Inspections by DSO, Nashik and Deficiencies Attended by Field Offices in 2017-18.

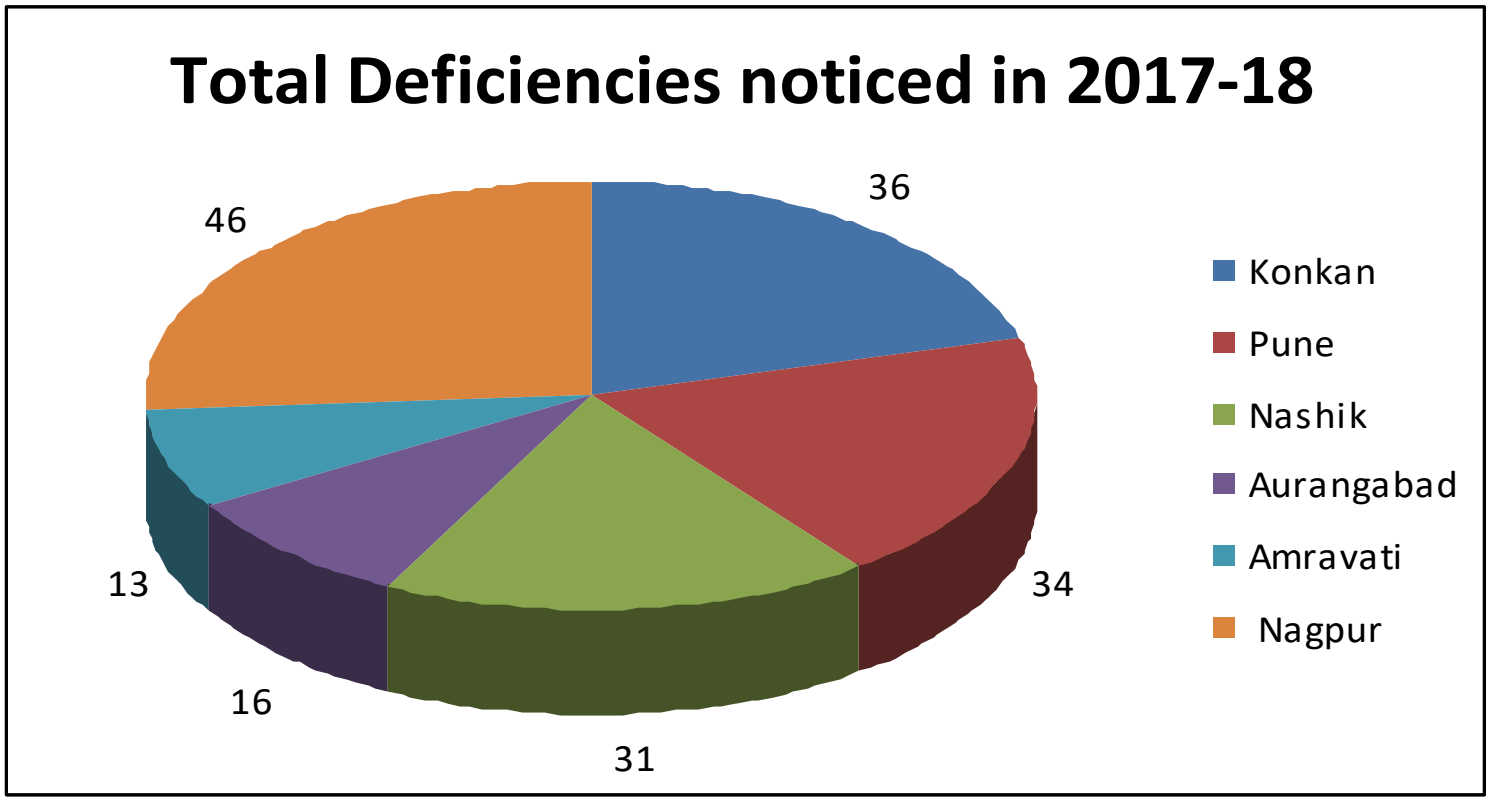


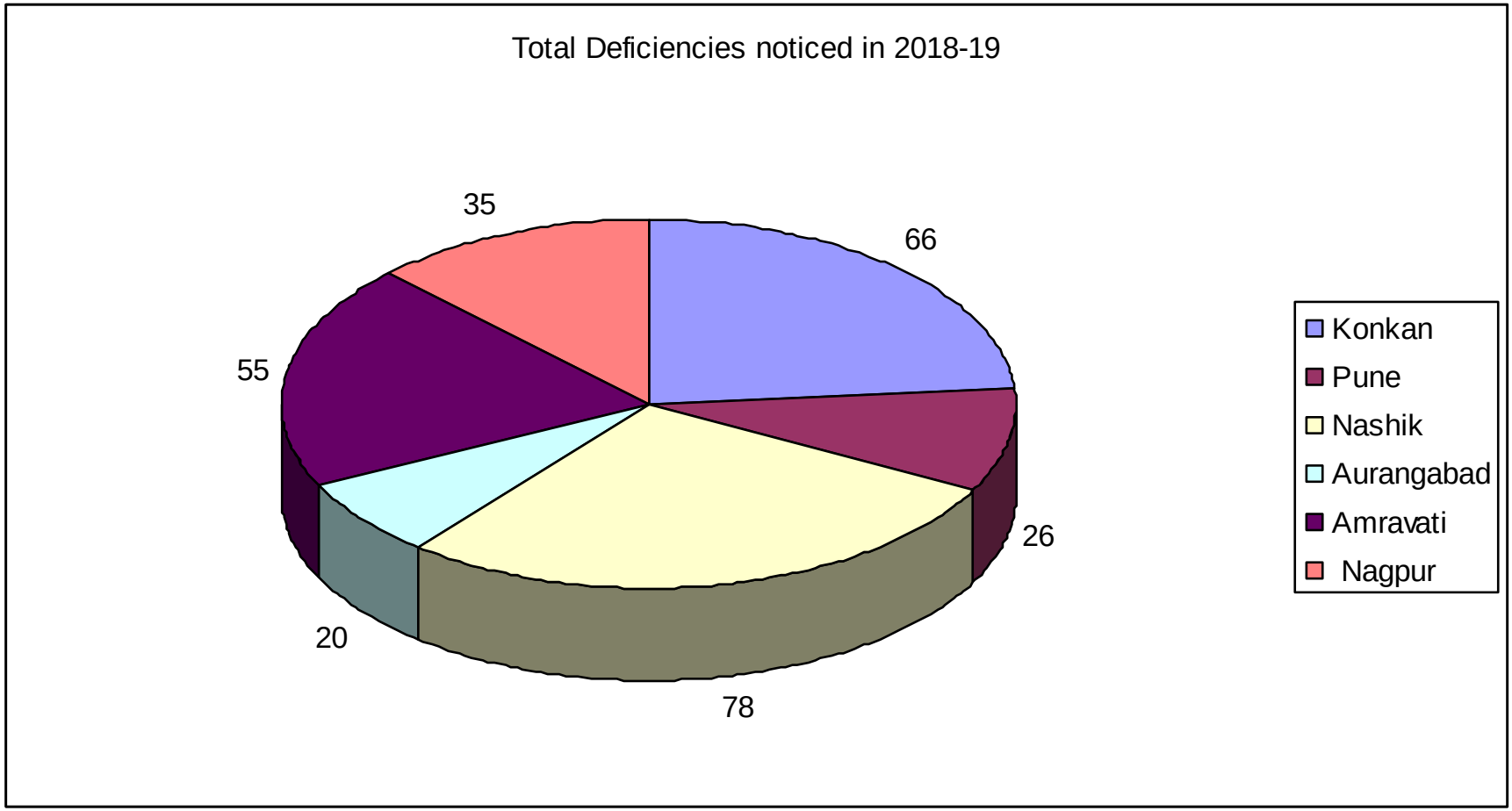
Region wise Canal Structures and Deficiencies Noticed in Test Inspections by DSO, Nashik and Deficiencies Attended by Field Offices in 2018-19.

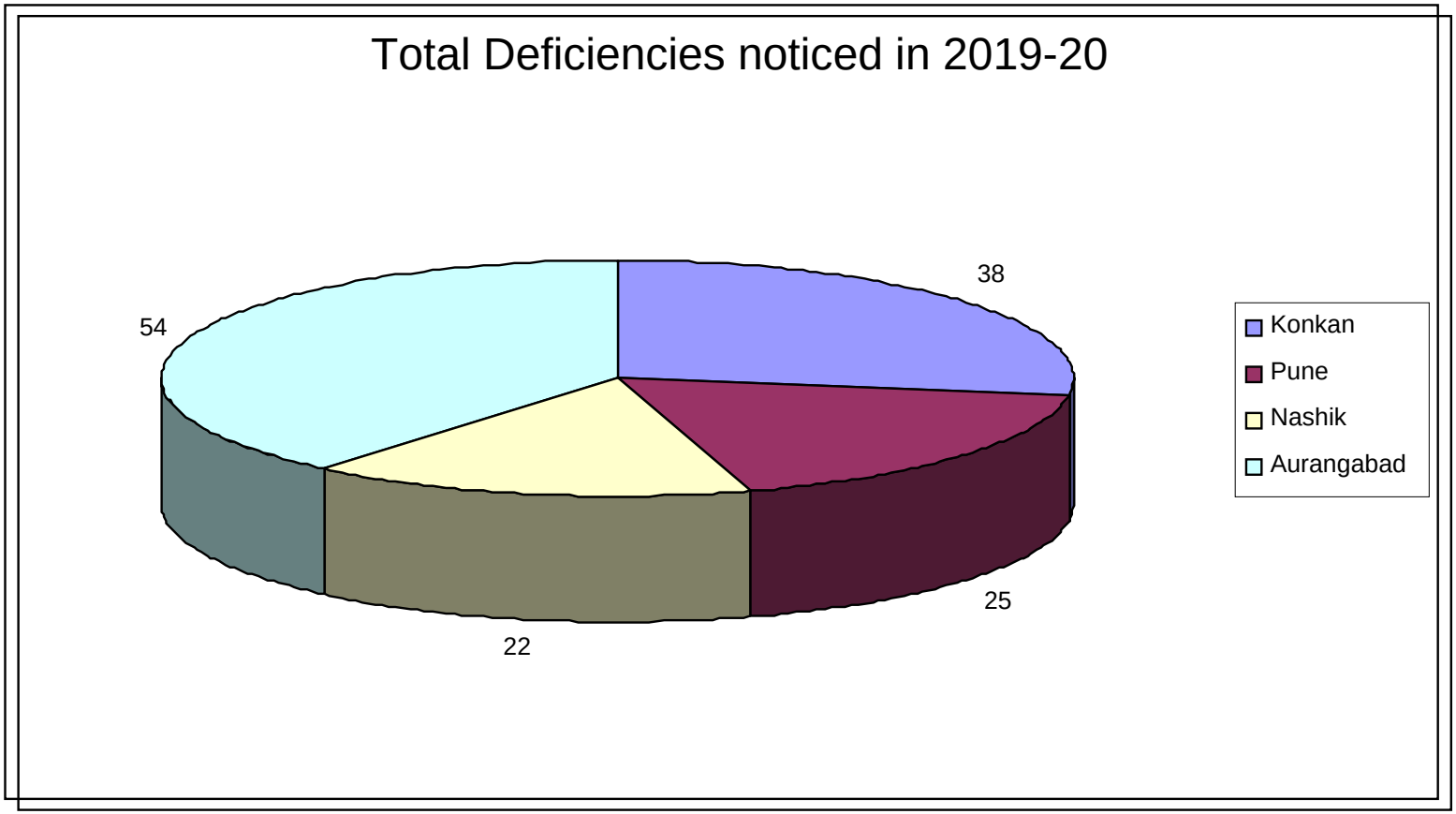


Graph Showing Year wise, Category wise & Region wise DeficienciesNoticed in Test Inspections by DSO, Nashik

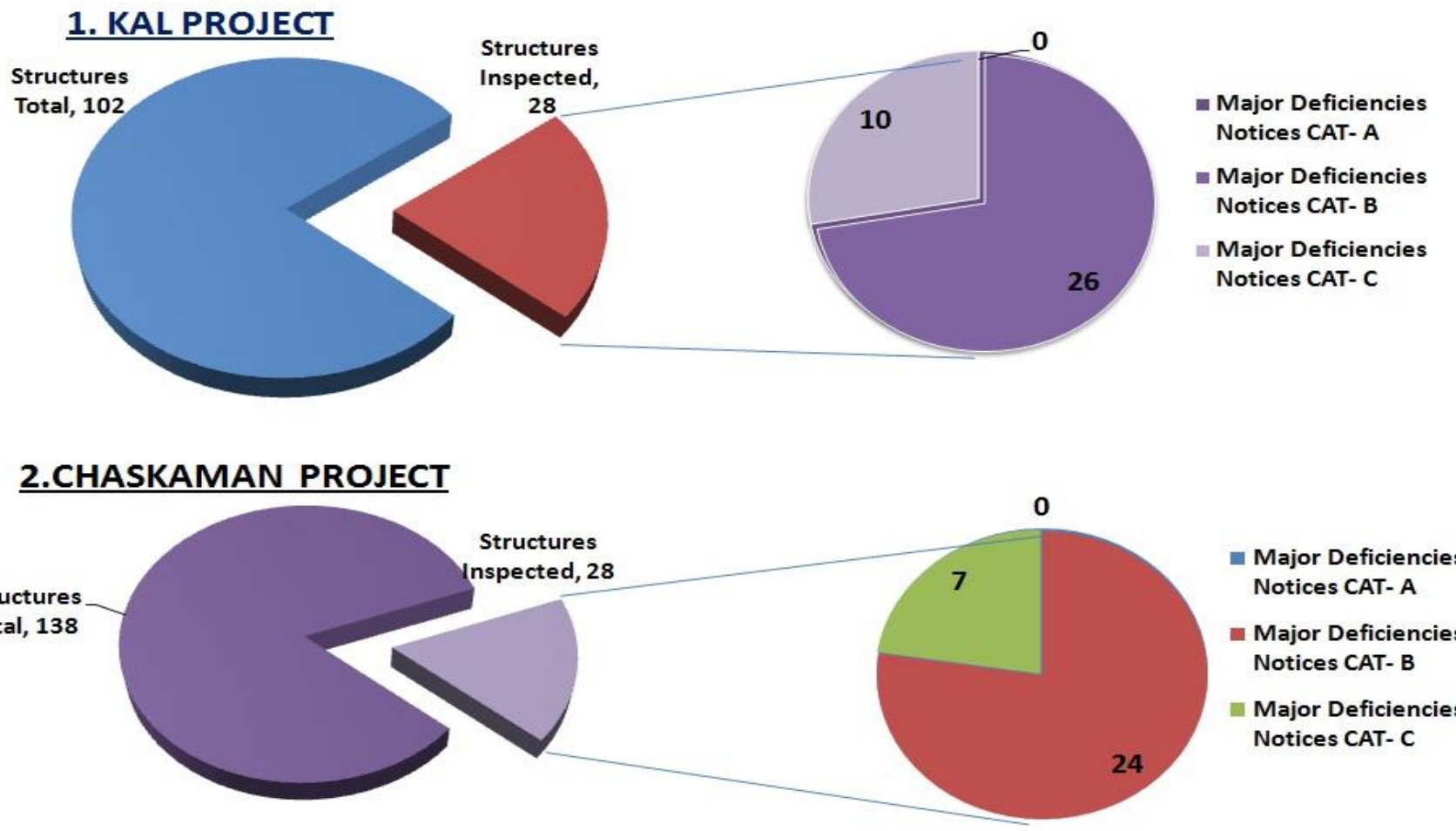


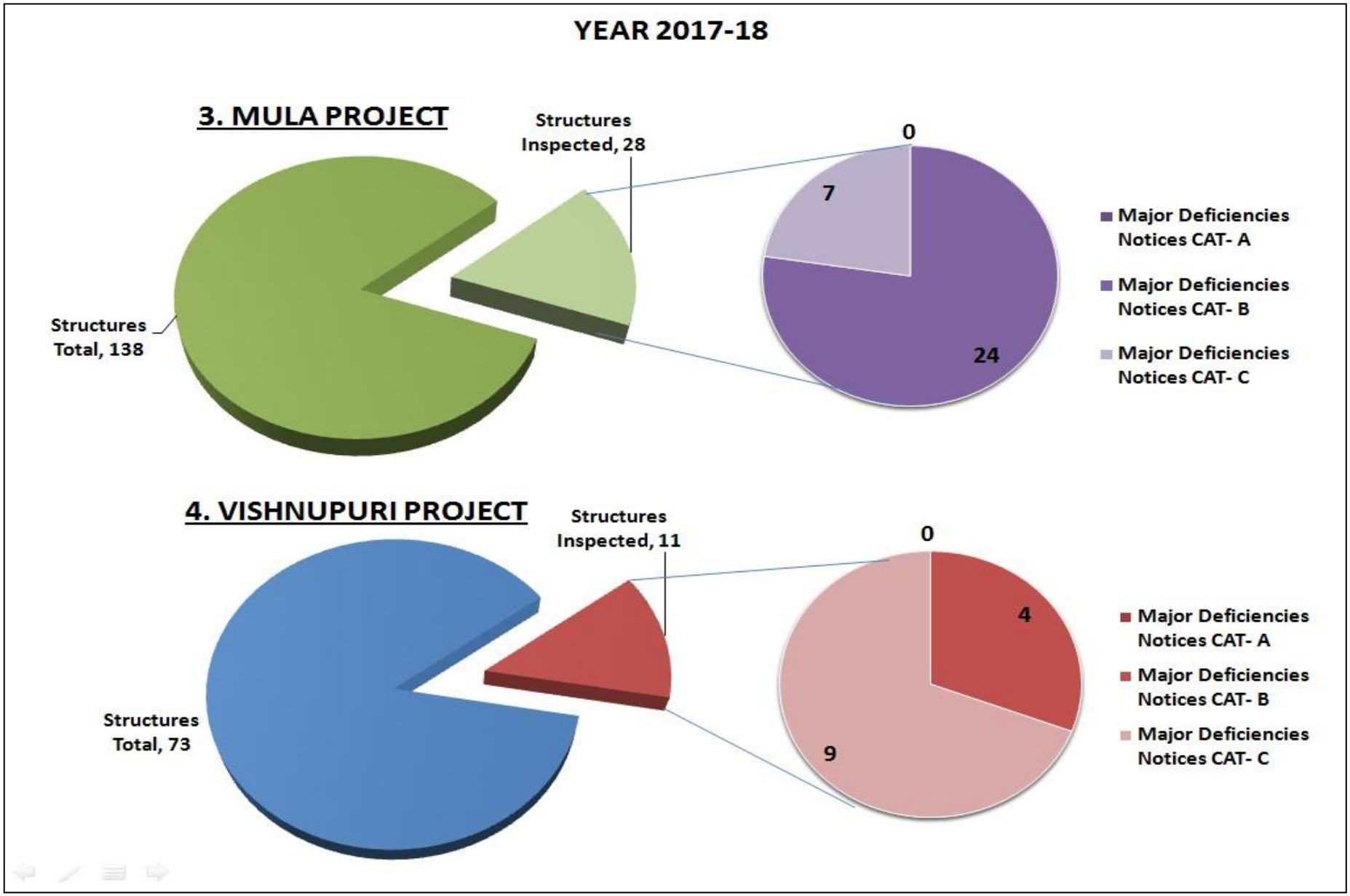

Total Deficiencies noticed in 2017-18
36
46
13
34
16
31
Konkan
Pune
Nashik
Aurangabad
Amravati
Nagpur

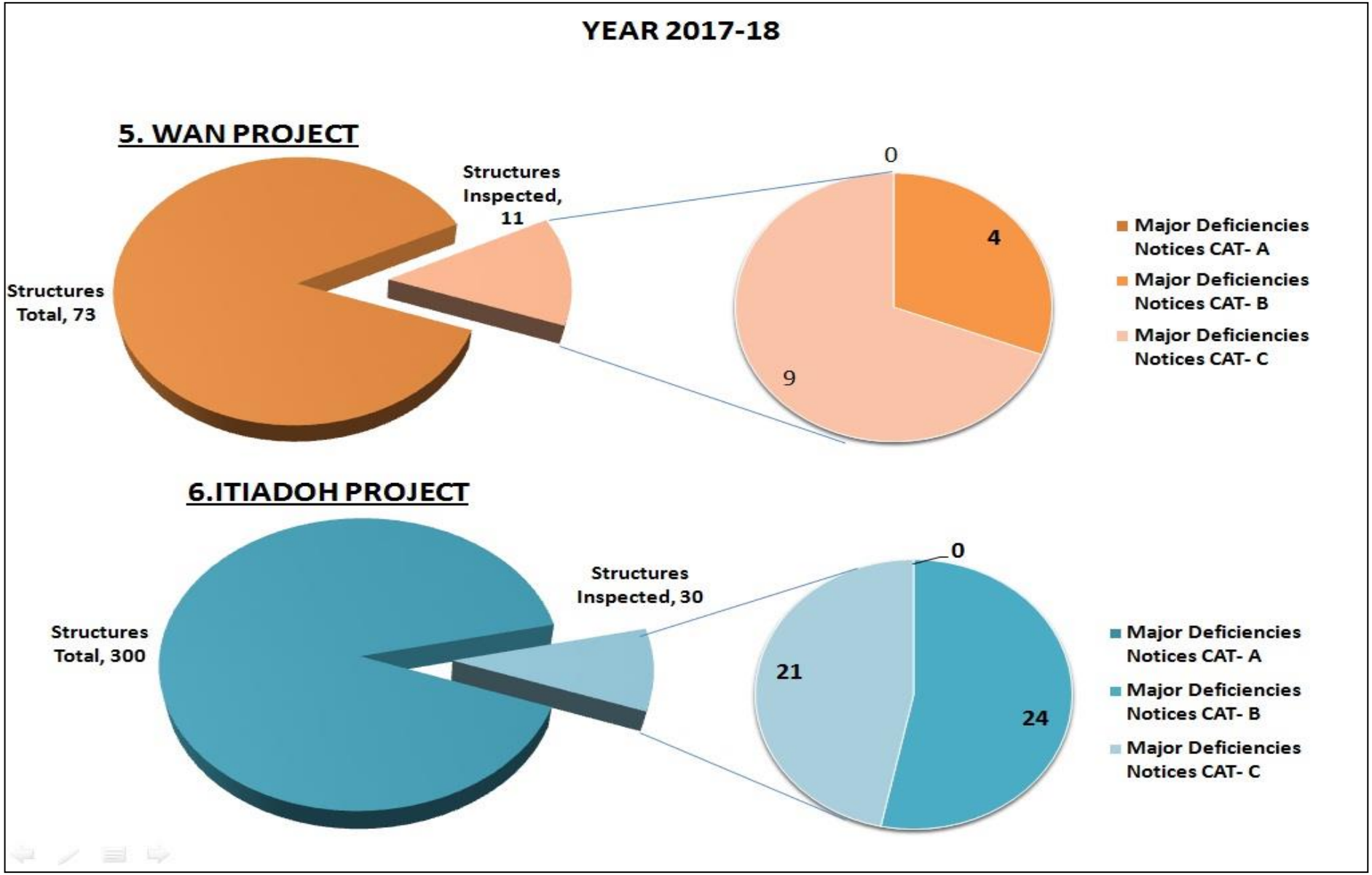

Total Deficiencies noticed in 2018-19
35
66
55
26
20
78
Konkan
Pune
Nashik
Aurangabad
Amravati
Nagpur

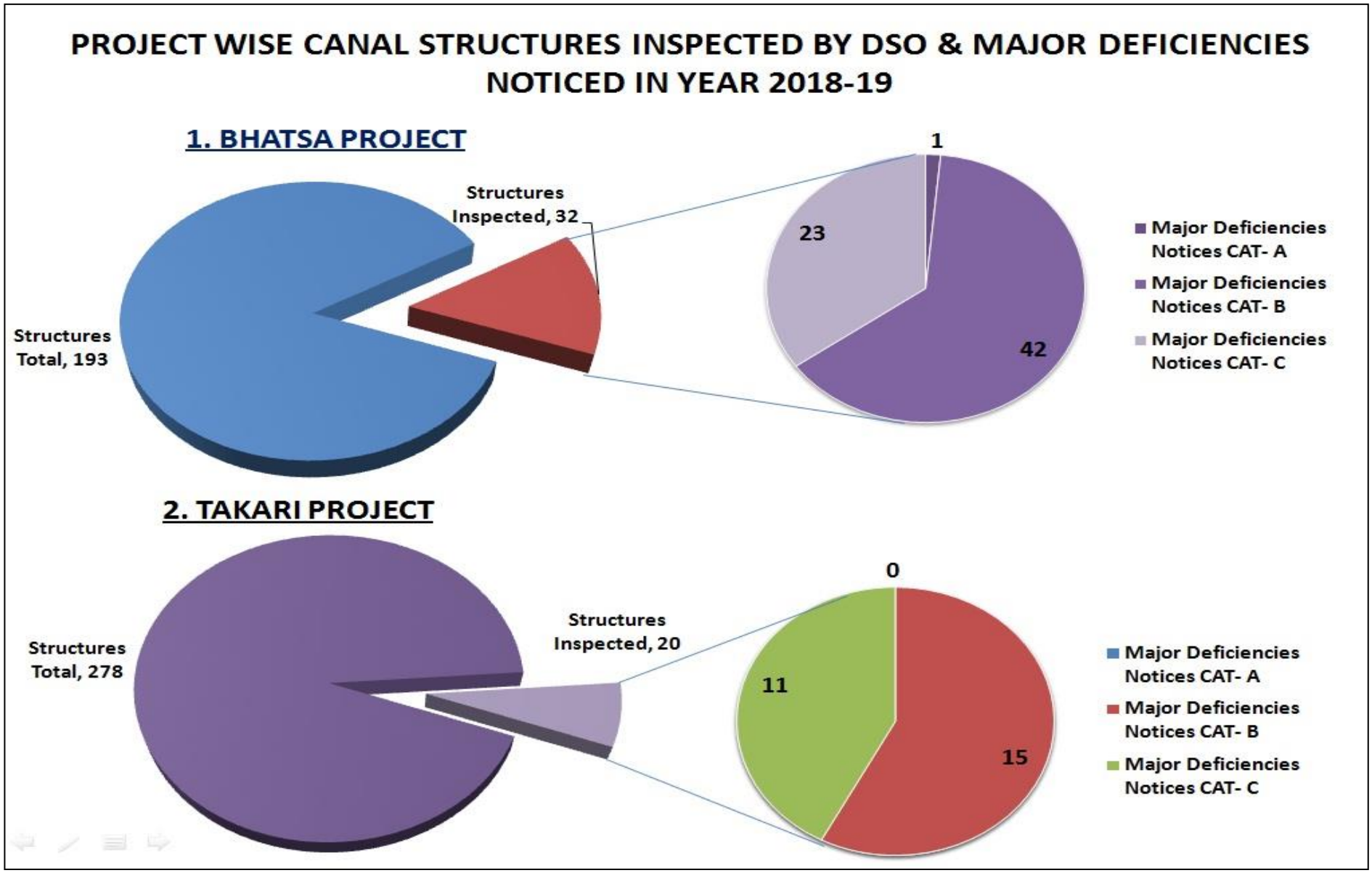

Total Deficiencies noticed in 2019-20
38
25
22
54
Konkan
Pune
Nashik
Aurangabad

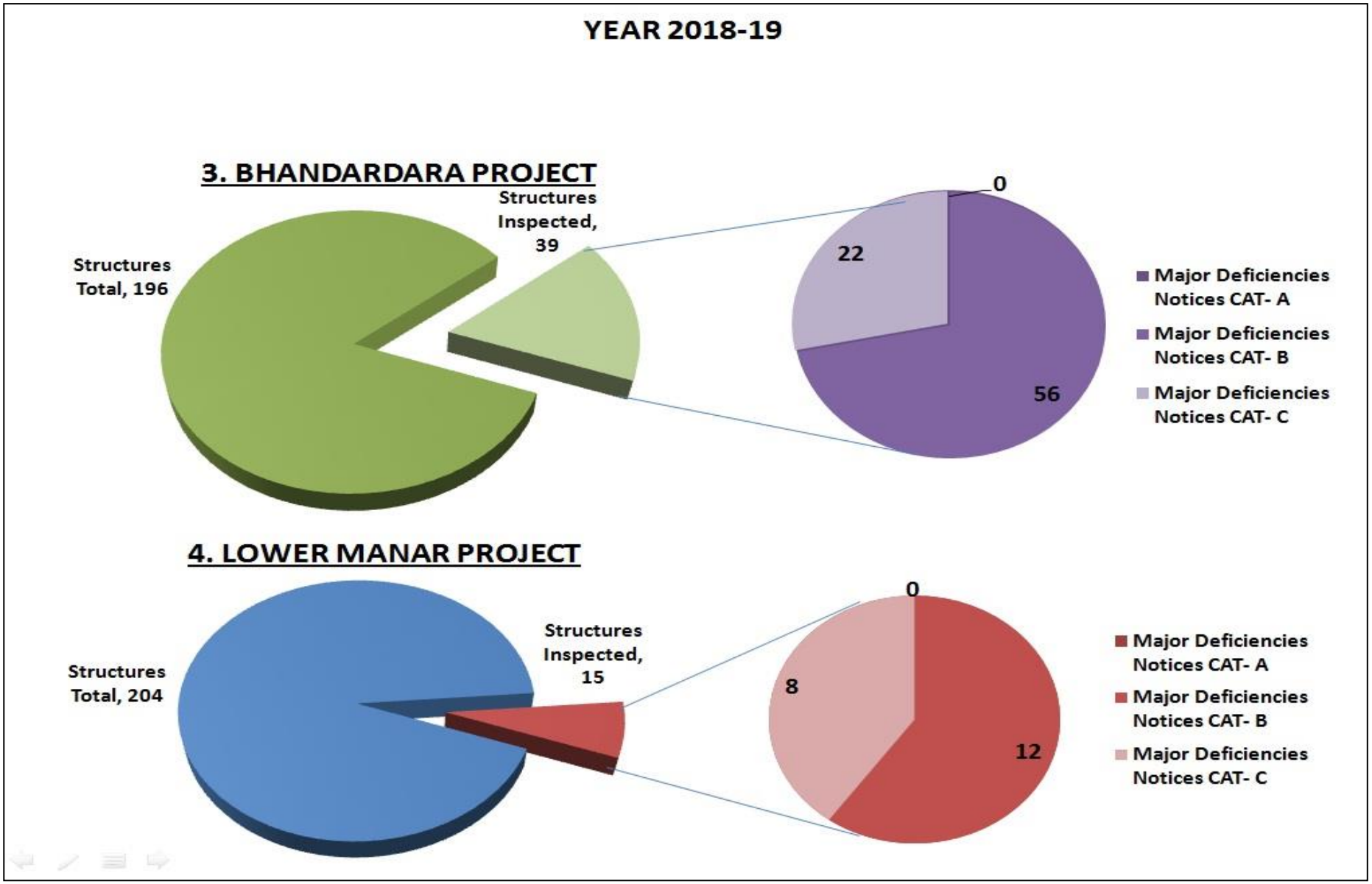
PROJECT WISE CANAL STRUCTURES INSPECTED BY DSO & MAJOR DEFICIENCIES NOTICED IN YEAR 2017-18

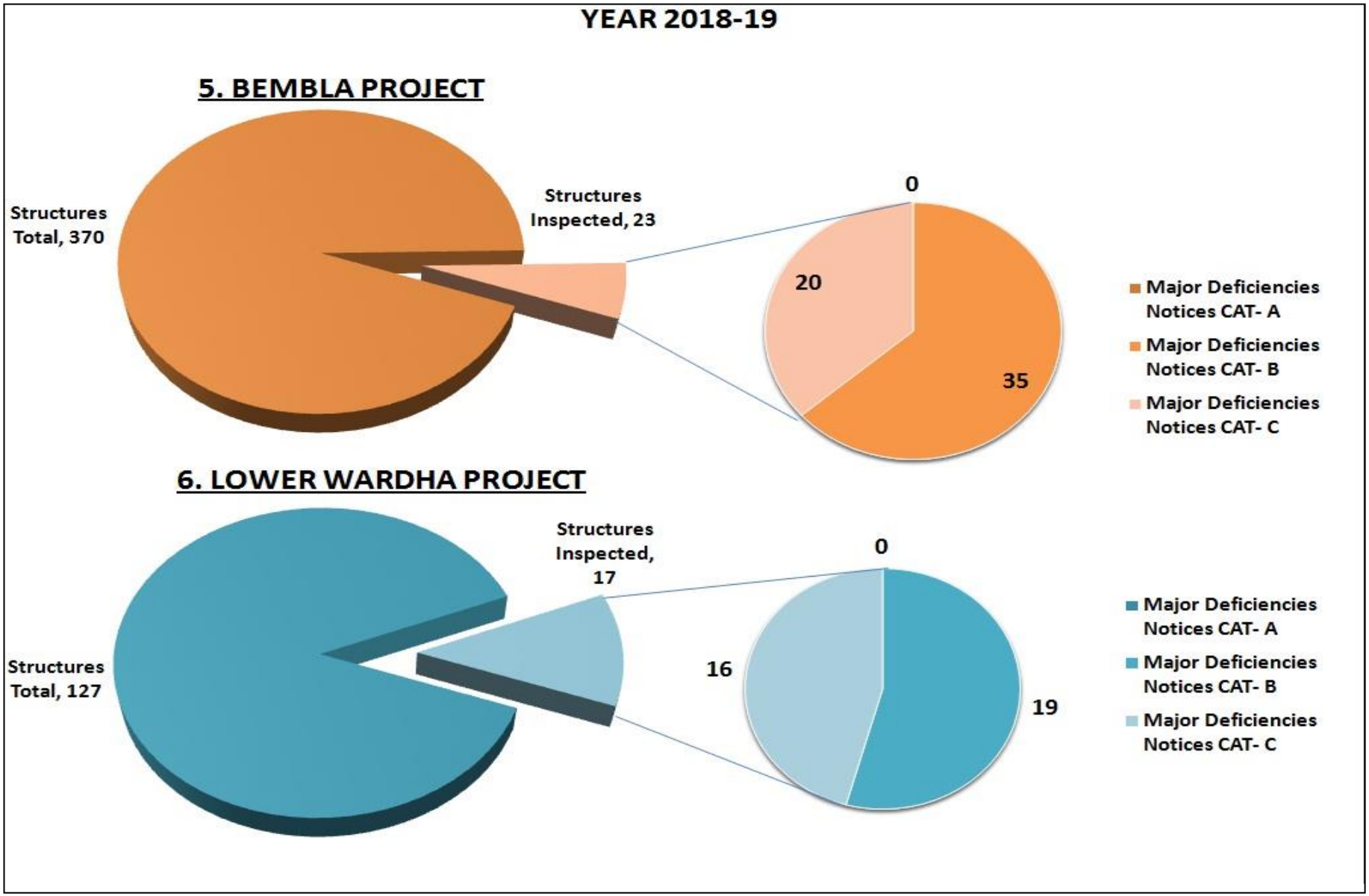


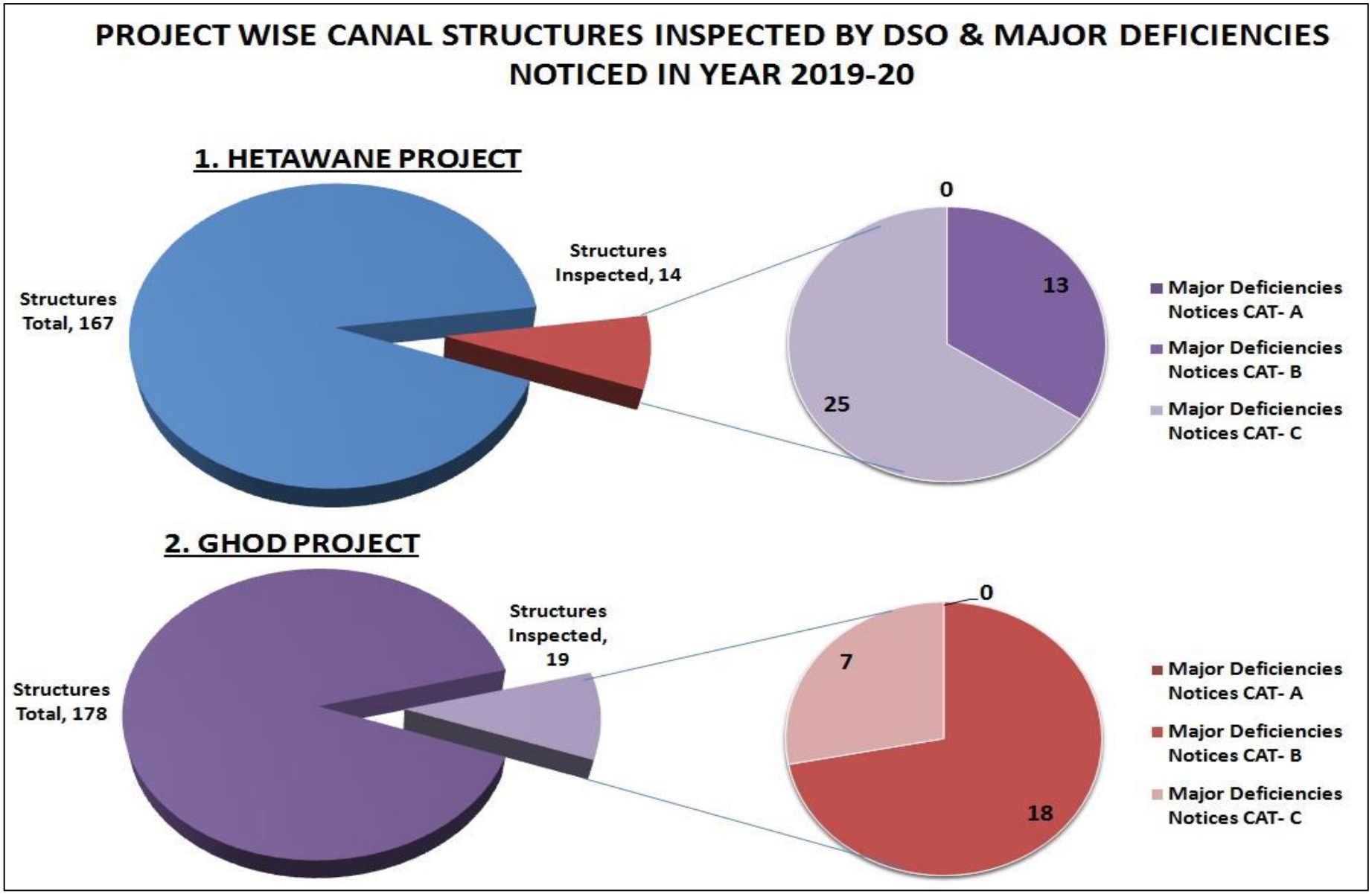

YEAR 2017-18
3. MULA PROJECT
Structures Inspected, 28
Structures Total, 138
0
7
24
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
4. VISHNUPURI PROJECT
Structures Inspected, 11
Structures Total, 73
0
4
9
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C

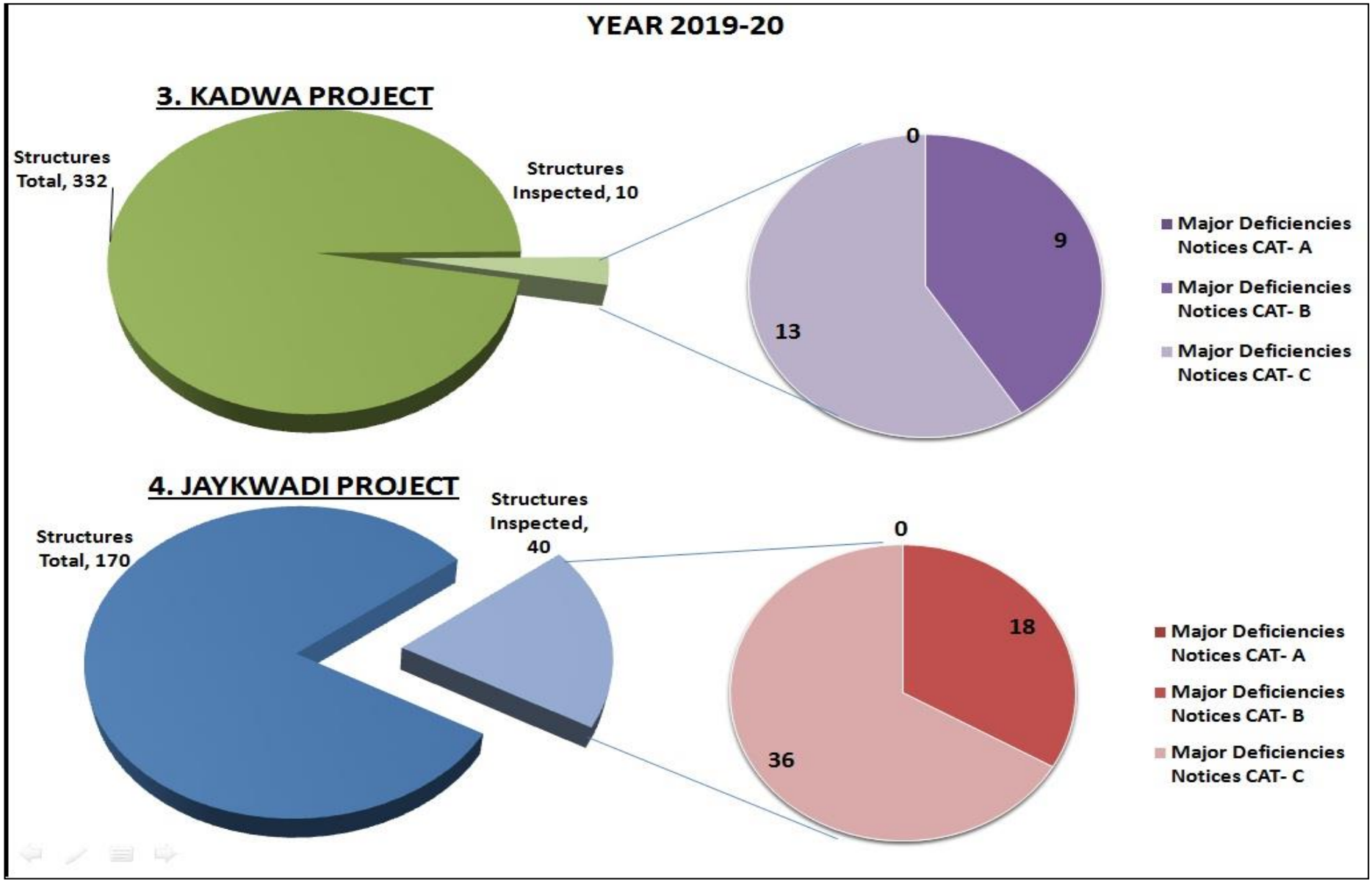

YEAR 2017-18
5. WAN PROJECT
Structures Total, 73
Structures Inspected, 11
0
4
9
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
6.ITIADOH PROJECT
Structures Total, 300
Structures Inspected, 30
0
21
24
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C


PROJECT WISE CANAL STRUCTURES INSPECTED BY DSO & MAJOR DEFICIENCIES NOTICED IN YEAR 2018-19
1. BHATSA PROJECT
Structures Inspected, 32
Structures Total, 193
1
23
42
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
2. TAKARI PROJECT
Structures Inspected, 20
Structures Total, 278
0
11
15
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C


YEAR 2018-19
3. BHANDARDARA PROJECT
Structures Total, 196
Structures Inspected, 39
0
22
56
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
4. LOWER MANAR PROJECT
Structures Total, 204
Structures Inspected, 15
0
8
12
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C


YEAR 2018-19
5. BEMBLA PROJECT
Structures Total, 370
Structures Inspected, 23
0
20
35
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
6. LOWER WARDHA PROJECT
Structures Inspected, 17
Structures Total, 127
0
16
19
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C


PROJECT WISE CANAL STRUCTURES INSPECTED BY DSO & MAJOR DEFICIENCIES NOTICED IN YEAR 2019-20
1. HETAWANE PROJECT
Structures Total, 167
Structures Inspected, 14
0
13
25
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
2. GHOD PROJECT
Structures Total, 178
Structures Inspected, 19
0
7
18
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C


YEAR 2019-20
3. KADWA PROJECT
Structures Total, 332
Structures Inspected, 10
0
9
13
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C
4. JAYKWADI PROJECT
Structures Total, 170
Structures Inspected, 40
0
18
36
Major Deficiencies Notices CAT- A
Major Deficiencies Notices CAT- B
Major Deficiencies Notices CAT- C

Annexure III

Snapshots of Test Inspections

1) Konkan Region: Kal Project (2017-18)

Name of Canal: Kundlika Left Bank Canal.
Name of Structure: Super Passage at Ch.9.595 Km.
Deficiency: 1) Railing and Parapet wall damaged.
2) Vent way blocked.

Name of Canal: Kundlika Right Bank Canal.
Name of Structure: Head Regulator at Ch. 8.00 km.
Deficiency: 1) Cracked and damaged stone masonry.

2) Pune Region: Chaskaman Project (2017-18)

.

Name of Canal: Chaskaman Left Bank Canal.
Name of Structure: Aqueduct at Ch. 10.178 km.
Deficiency: 1) Leakage through joint of trough, pier, abutment, wing wall.

Name of Canal: Chaskaman Left Bank Canal.
Name of Structure: Aqueduct at Ch. 19.836 km.
Deficiency: 1) Leakage through joint of trough, pier, abutment, wing wall.

3) Nashik Region: Mula Project (2017-18)

Name of Canal: Mula Right Bank canal.
Name of Structure: S.W. F. at Ch. 0.480 km.

Deficiency: 1) Hump portion was completely collapsed. Right side curved guide wall was totally damaged.
2) Gauge chamber was also collapsed. Entrance slab portion of gauge chamber was totally damaged.

4) Aurangabad Region: Vishnupuri Project (2017-18)

Name of Canal: Vishnupuri Right Bank Canal.
Name of Structure: Syphon at Ch. 15.565 km.
Deficiency: 1) Leakage was found through the RCC barrel in the nalla.

Name of Canal: Vishnupuri Right Bank Canal.
Name of Structure: Aqueduct at Ch. 27.940 km.
Deficiency: 1) The u/s right side guide wall was seen dislocated.

5) Amravati Region: Wan Project (2017-18)

Name of Canal: Wan Left Bank Canal.
Name of Structure: Canal Section in km. No. 1.
Deficiency: 1) In this section from km 0.910 to 0.960 canal lining was removed.
Stone boulders were fallen in canal section.

.

Name of Canal: Wan Left Bank Canal.
Name of Structure: H.R. cum C.R. at Ch. 11.460 km. (Balkhed Branch)
Deficiency: 1) R.C.C. Center pier of H.R. gate was damaged. Debris was
accumulated in front of H.R. gate.

6) Nagpur Region: Itiadoh Project (2017-18)

Name of Canal: Itiadoh Right Bank Canal.
Name of Structure: Cross regulator at Ch. 6.510 km.
Deficiency: 1) The d/s right side curved guide wall has been collapsed.

Name of Canal: Itiadoh Right Bank Canal.
Name of Structure: Cross regulator at Ch. 24.340 km.
Deficiency: 1) The u/s left side curved guide wall was seen completely collapsed.

1) Konkan Region: Bhatsa Project (2018-19)

Name of Canal: Bhatsa Right Bank Canal.
Name of Structure: Aqueduct at Ch. 12.162 Km.
Deficiency: 1) Leakage was observed through bottom of trough.
2) Growth of heavy vegetation was observed on piers, abutment.

Name of Canal: Bhatsa Right Bank Canal.
Name of Structure: Canal embankment at Ch. 28.910-29.00 Km.
Deficiency: 1) Heavy leakage was observed through canal embankment.

2) Pune Region: Takari Project (2018-19)

.

Name of Canal: Takari Left Bank Canal.
Name of Structure: Aqueduct cum escape at Ch. 7.360 km.
Deficiency:1) Leakage through joint of trough, pier, abutment, wing wall.
2) Growth of vegetation was observed on wing wall and on top of pier.

Name of Canal: Takari Left Bank Canal.
Name of Structure: Aqueduct at Ch. 21.000 km.
Deficiency:1) Heavy leakage was observed through both left and right side expansion joint of trough near pier and through bottom of trough.

3) Nashik Region: Pravara Project (2018-19)

Name of Canal: Pravara Right Bank canal.
Name of Structure: Aquaduct. at ch. 10.330 km.
Deficiency:1) Leakage was observed through vertical side of trough and Bottom side of arch.

Name of Canal: PravaraLeft Bank canal.
Name of Structure: Aquaduct. at ch. 43.450 km.
Deficiency:1) Leakage was observed through bottom of arch portion and also throug abutment.

4) Aurangabad Region: Lower Manar Project (2018-19)

Name of Canal: Lower Manar Left Bank Canal.
Name of Structure: Escape at Ch.1.380 km.
Deficiency: 1) Escape gate is closed by placing murum in front of gate.

Name of Canal: Lower Manar Left Bank Canal.
Name of Structure: Syphon at Ch. 3.963 km.
Deficiency :1) No trash rack was observed at the entrance of syphon.
2) Heavy growth of trees was observed at upstream side of the structure.

5) Amravati Region: Bembala Project (2018-19)

Name of Canal: Bembala Right Bank Canal.
Name of Structure: Aqueduct at Ch. 16.430 km.
Deficiency: 1) Leakage was observed through pier and trough joint.
2)Growth of trees and vegetation was observed near upstream left and downstream right side wing wall.

Name of Canal: Bembala Right Bank Canal.
Name of Structure: Cross regulator cum Escape at Ch. 23.565 km.
Deficiency :1) Leakage @ 3 to 4 cusecs through rubber seal of escape gate was observed.
.

6) Nagpur Region: Lower Wardha Project (2018-19)

Name of Canal: Lower Wardha Canal.
Name of Structure: Deep cut in Km. 28.000.
Deficiency: 1) Deep cut was full of stagnant water.
2) At some places stone / murum debris was noticed.
3) Vegetation was observed in deep cut.

Name of Canal: Lower Wardha Canal
Name of Structure: Aqueduct at Ch. 8.805 Km.
Deficiency :1) Brass plate provided as expansion joint of the trough is found to be missing at places.

1) Konkan Region: Hetwane Project (2019-20)

Name of Canal: Hetwane Canal.
Name of Structure: Aqueduct at Ch. 12.162 Km.
Deficiency :1) Growth of tree was observed on first pier top.

2) Pune Region: Ghod Project (2019-20)

.

Name of Canal: Ghod Left Bank Canal.
Name of Structure: Aqueduct at Ch 61.900 km.
Deficiency: 1) Reinforcement of bottom and vertical side of trough was exposed and rusted.

3) Nashik Region: Kadwa Project (2019-20)

Name of Canal: Kadwa Canal.
Name of Structure: Aqueduct at Ch. 43.450 km.
Deficiency :1) Reinforcement of bottom and vertical side of trough was exposed and rusted.

4) Aurangabad Region: Jayakwadi Project (2019-20)

Name of Canal: Paithan Left Bank Canal.
Name of Structure: Bhaigavan Aqueduct at Ch. 66.559 km.
Deficiency: 1) Heavy leakage was observed through joint between vertical and bottom left and right side of trough near pier.