

FEDERAL COLLEGE OF EDUCATION (TECHNICAL) GULLY EROSION AND FLOOD CONTROL PROJECT

DESCRIPTION OF THE PROJECT INTERVENTION AREA

2.1 Background of the State

Gombe State is one of the 36 states in Nigeria located in the northeast geopolitical zone, between latitude 9°32'– 11°18'N and longitude 10°28'– 11°52'E in the Sudan and northern guinea savanna region of the country. Gombe State shares boundaries with Yobe State to the north, Adamawa and Taraba States to the south, Borno State to the east, and Bauchi State to the west. Gombe state covers an area of 18,768 km², with population of about 3,585,131 (according to the DEVAGOM) distributed across the 11 local governments in the state. The state has two very distinct season that is controlled by the movement of the Intertropical Convergence Zone (ITCZ), the wet season usually last between April to October, with an average rainfall of 850mm and the dry season from November to March.

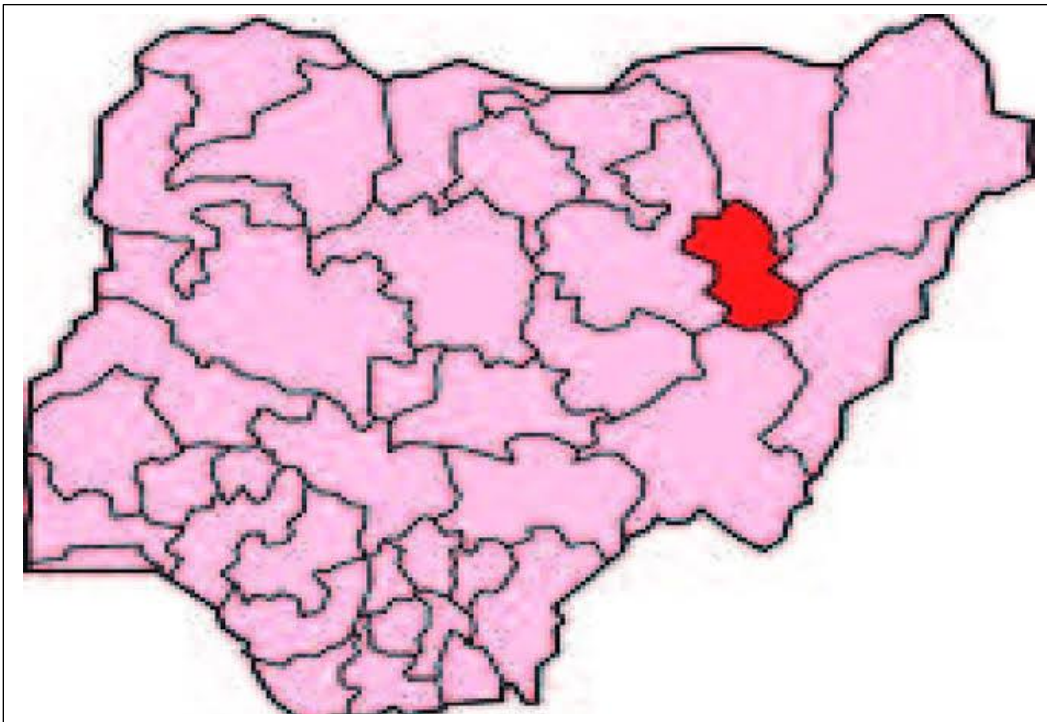


Figure 2.1: Map of Nigeria showing the location of Gombe state; Source Google Maps

2.2. Description of the Project Site

The Federal College of Education (Technical) Gully Erosion Site originates from the FCE (Technical) demonstration/staff school on Latitude $10^{\circ} 18' 24.17''\text{N}$ and Longitude $11^{\circ} 9' 10.72''\text{E}$ down to and beyond Arawa "B", through densely populated low-income dwellings. The gully cut across the Pindiga and Bima sandstone substrate; the result is variable dimensions of gully channels in terms of depth and width. Since the gully transverses through densely populated area, many of the homes located along the gully banks are constantly exposed to hazards during rainfall and high flood. Although the limestone areas are to an extent resistant to erosion, it has deleterious future implications, whereas the sandstone areas easily give way to erosive agents, which results in channel bank erosion (widening) and increase in base level incision (depth), causing serious damage to home and properties along the channel.

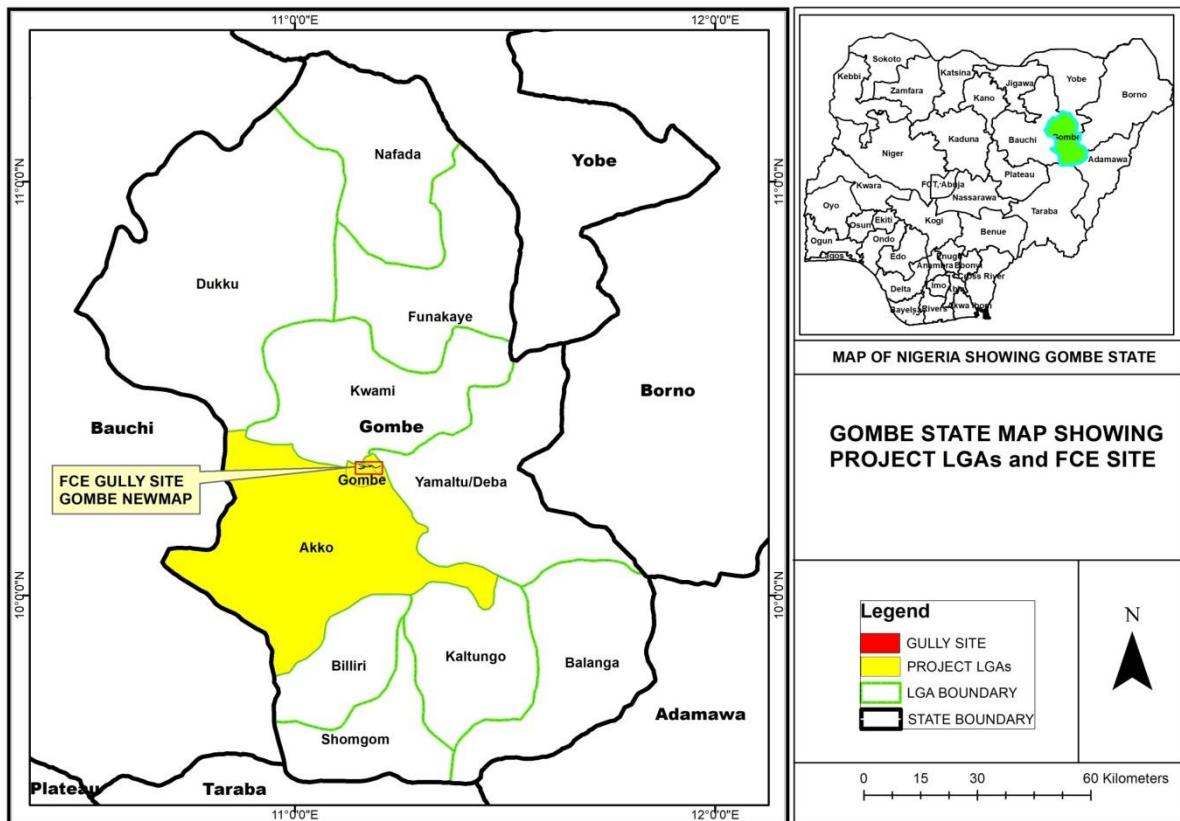


Figure 2.2: Gombe State map showing Project LGAs and FCE Site (Source: GIS, RAP team)



Figure 2.3: FCE (Technical) erosion site (Sub catchment 1 main gully upstream beginning at London Mai-dorowa)



Figure 2.4: FCE (Technical) erosion site (Sub catchment 2 beginning at Wuroladde community)



Figure 2.5: FCE (Technical) erosion site (Sub catchment 3 main gully upstream beginning at Alkahira)



Figure 2.6: Existing Culvert along the gully stretch in Downstream of FCE (Tech) gully site at Arawa 'B'

2.2.1 Business Income Linkage to the RAP of FCE Technical

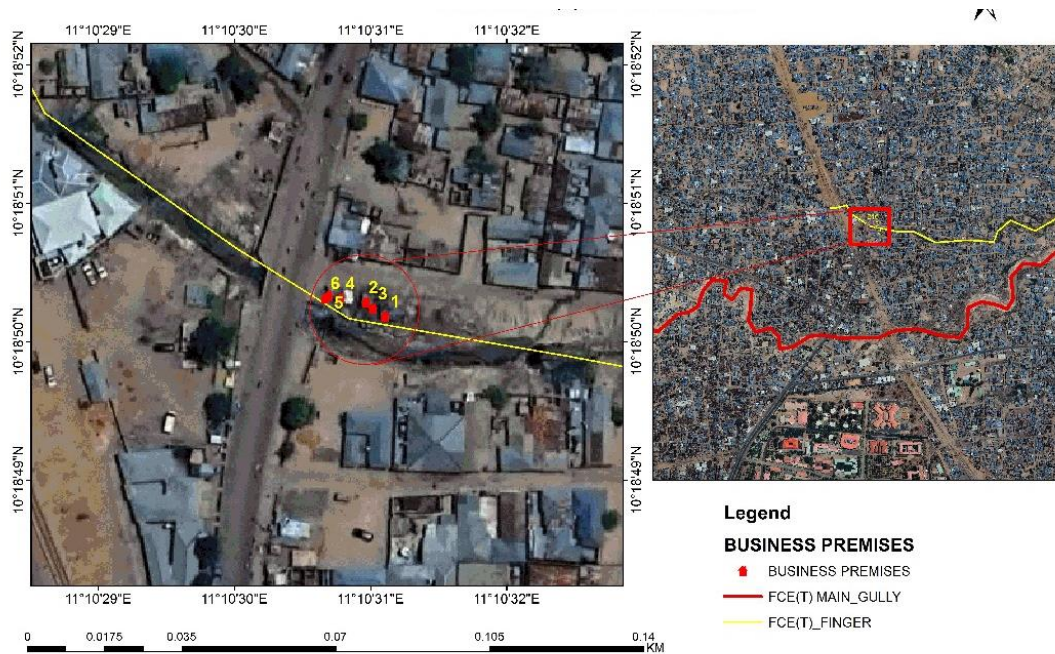


Figure 2.7: Map showing businesses premises within the corridor (Source: GIS, RAP team)

Figure 2.7 is an aerial map that shows a view of some premises that will be affected as a result of the intervention, because they lie within the 15m right of way which is needed for setback/buffers. Project affected persons (PAPs) as depicted in figure 2.7 includes traders who will suffer permanent loss of business premises and income. The displacement will be permanent because Gombe ACREsAL will use the setback for bioremediation /green belting after civil works. As a function of this, PAPs under this category will be consulted, compensated and assisted to restore their livelihoods in line with the entitlement matrix specified in this RAP.

However, relocation to a new site is not anticipated because PAPs choice was to re-establish their structures/houses within remaining lands in the original location.

2.3 Description of the FCE (Technical) Gully Erosion Intervention Activities

For the purpose of work description, the engineering design delineates the project site into sections as **VIEW A to VIEW F** (see the **General Layout on Figure 2.7A**).

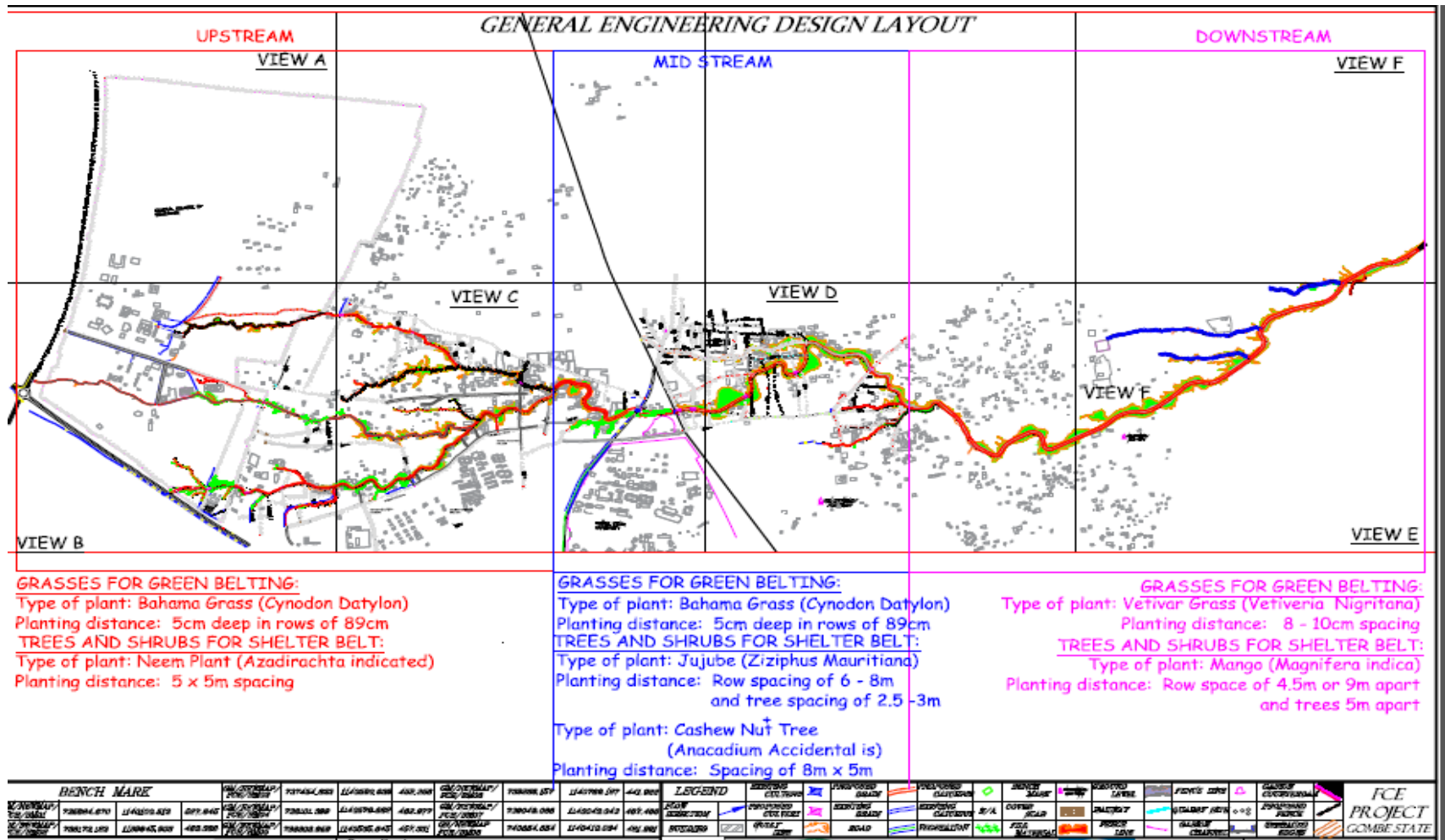


Figure 2.7A: Engineering design general layout of the intervention sites showing the sections A-F (Gombe ACRsAL, 2023)

OVERVIEW OF VIEW A

View A is the beginning of the gully at Federal College of Education (FCE) Technical which is on latitude $10^{\circ} 18' 24.17''N$ and Longitude $11^{\circ} 9' 10.72''E$. Land acquisition or displacement is not anticipated along this corridor.

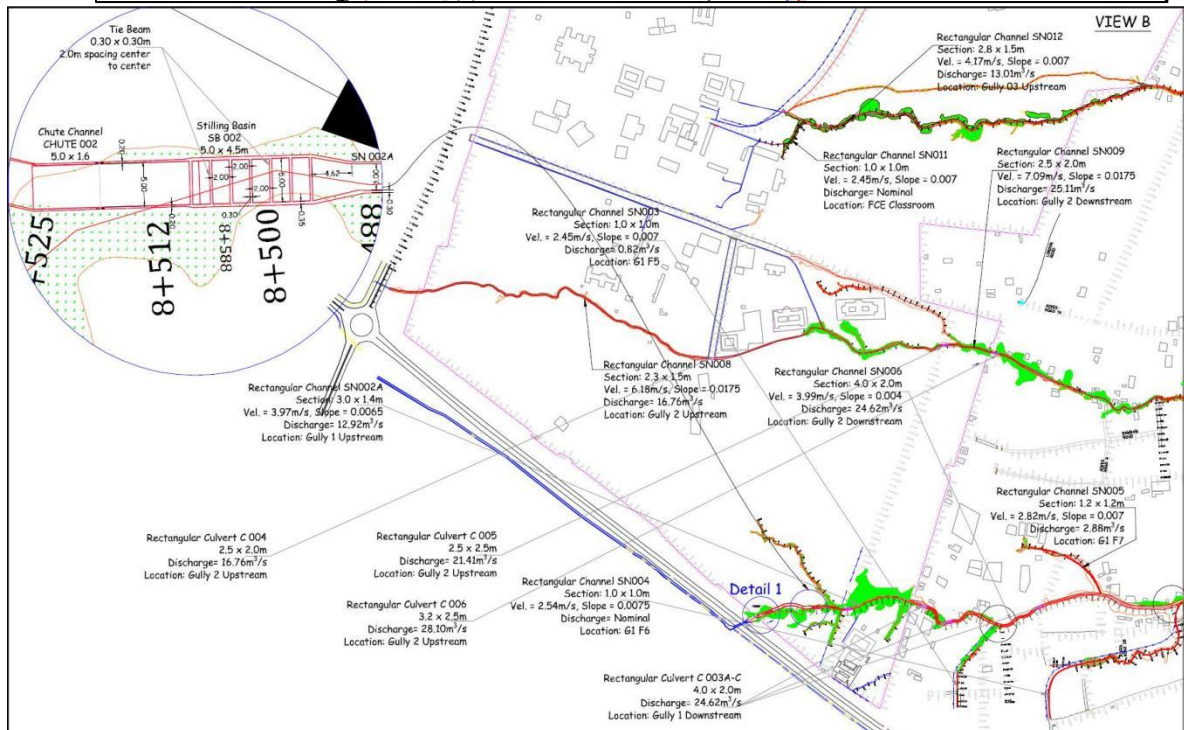
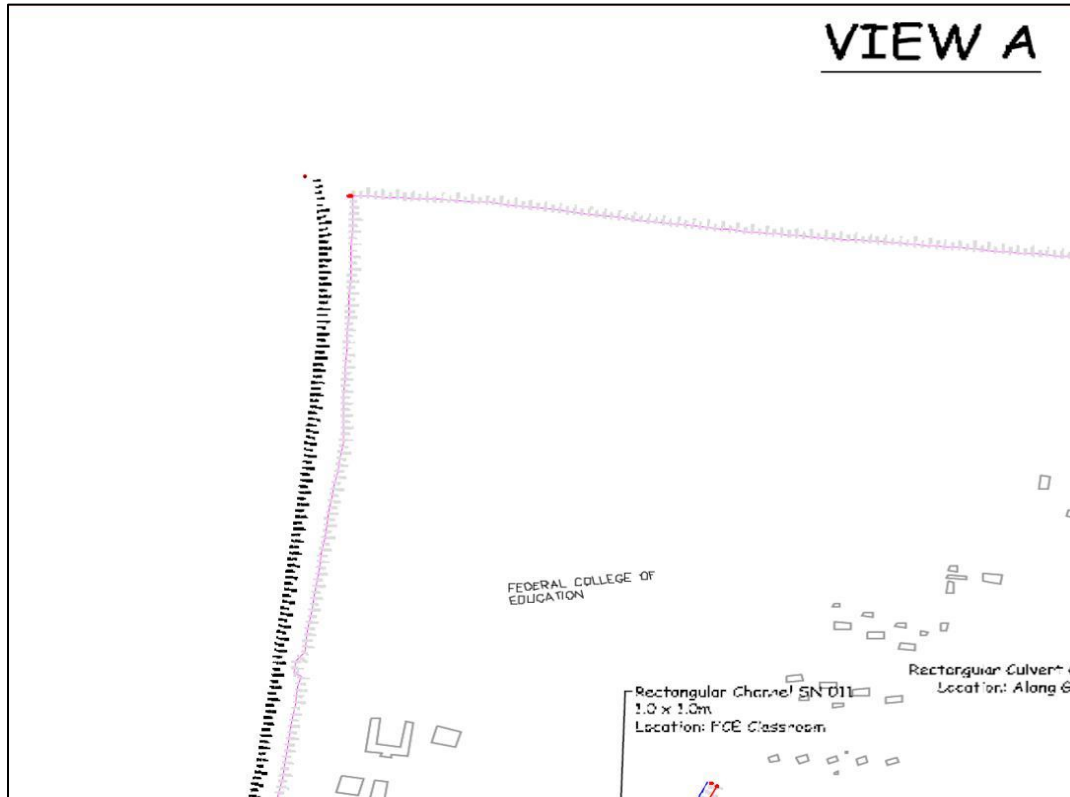


Figure 2.7: View A and B of the intervention site from the Engineering Drawing Report

View A consists of four (4) communities including London Mai Doruwa, Jauro Abare Nahuta Wurolodde and Alkahira It starts from Ashako Bajako Road, London Mai Doruwa at Chainage 8+575 to 8+648 which corresponds to latitude N 10^o18,413 and longitude E 011^o09.482.

View B has three (3) sub catchments. Sub catchment 1 terminates at the boundary between London Mai- Dorowa and Jauro Abare/Koranzaki) on latitude N10.30633 and longitude E011.15917; Sub catchment 2 terminates at Wurolodde community on latitude N10.30943 and longitude E011. 16287 while Sub catchment 3 terminates at Alkahira on latitude N10.31599 and latitude E011.16059 linking to View C.

The intervention activities proposed for View B project area is rectangular concrete channel construction of varying specifications as depicted below:

Table 2.1: Description of intervention specification and setback requirements in View B

S/N	COMMUNITY	LATITUDE	LONGITUDE	GULLY LOCATION	WORK SPECIFICATION	PROPOSED SIZE + SETBACK
1	London Mai Doruwa	N 10.30624	E 011.15609	Sub catchment 1 gully at the FCE fence, Upstream	Drainage Channel 3.0X1.4m	13m
2	London Mai Doruwa	N 10.30557	E 011. 15753	Beginning of Finger 2	Drainage Channel 1.2X1.2m	11.2m
3	London Mai Doruwa	N 10.30688	E 011.15803	Sub catchment 1 gully, Upstream	Drainage Channel 4.0X2.0m	14.m
4	Jauro Abare Nahuta	N 10.30712	E 011.16258	Finger Interception to the main gully Upstream	Drainage Channel 1.2X1.2m	11.2m
5	Wuroladde	N 10.31125	E 011.15607	Sub catchment 2 gully at the FCE fence, Upstream	Drainage Channel 2.5X2.0m	12.5m
6	Wuroladde	N 10.30973	E 011.16086	Sub catchment 2 Gully, Upstream	Drainage Channel 3.2X2.5m	13.2m
7	Wuroladde	N 10.31033	E 011.15965	Sub catchment 2 gully, Upstream	Drainage Channel 3.2X2.5m	13.2m
8	Alkahira	N 10.31565	E 011.15762	Sub catchment 3 gully at the FCE fence, Upstream	Drainage Channel 3.5X2.2m	13.5m

The structures to be installed are concrete drainage structures of specified dimensions as shown in Table 2.1 and will have a 5 meters buffers areas on both sides of the gully to allow for 1) movement of construction vehicles and controlled pedestrian diversion during constructions and 2) buffers area for planting of trees and grasses for green belting (bioremediation) after construction work.

The grass for green belting is Bahama grass of 5cm deep in rows of 89 cm. Similarly, trees and shrubs shelter belting will utilize Neem plant with a planting distance of 5x5m spacing.

OVERVIEW OF SECTIONAL VIEW C

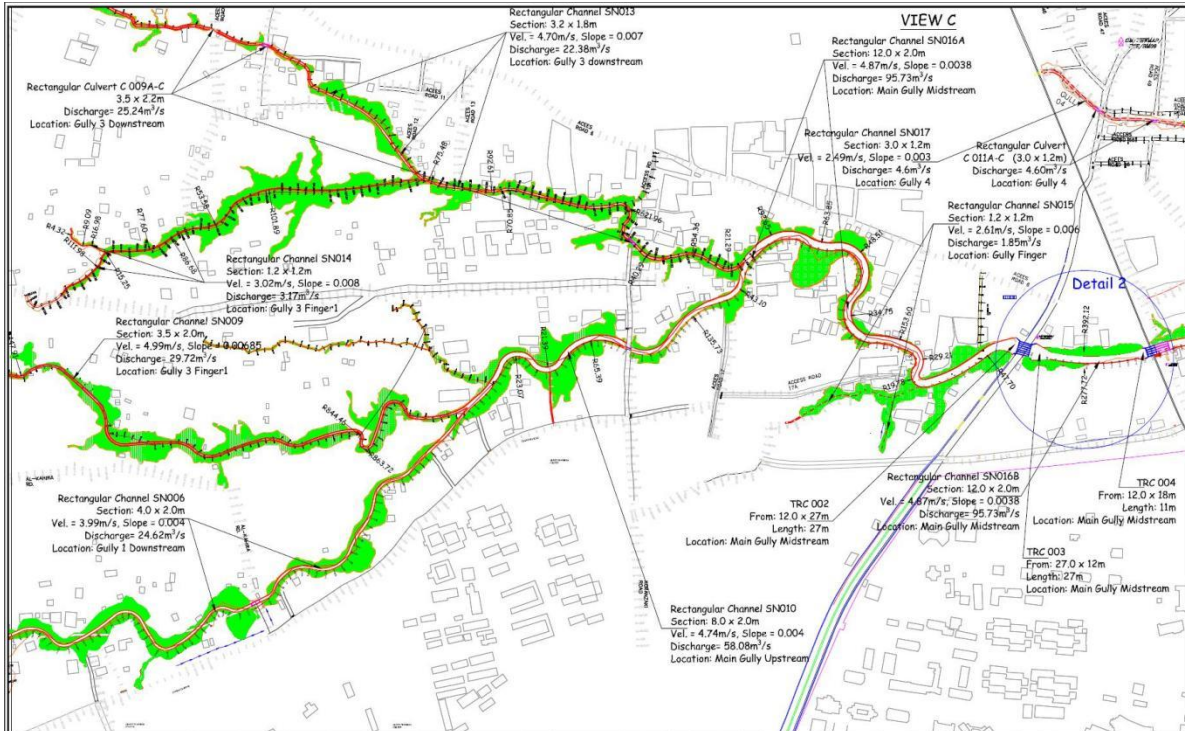


Figure 2.8: Sketch drawing of Proposed Intervention at View C; Source: Gombe ACREsAL Engineering Drawing Report

View C consists of six (6) communities including Jauro Abare, Arawa, Koranzaki, Jauro Kuna, Wuroladde and Alkahira from Chainage 5+262 to 8+575 which corresponds to latitude N 10°18'400 and longitude E 011°09.565. View C has many fingers that are linked to the main gully. The fingers and their terminal points are described in Table 2.2. Similarly, work activities to be carried out in VIEW C include construction of culverts and drainage channels of varying sizes as stated in Table 2.2.