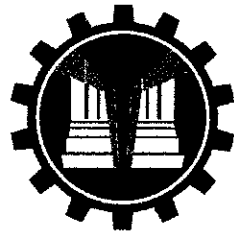


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REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE No. VIII
BARAS, PALO, LEYTE

C.Y. 2024 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR
CONSTRUCTION OF FLOOD CONTROL ALONG SAN ISIDRO
BRIDGE (DOWNSTREAM), BRGY. SAN ISIDRO, STA. FE, LEYTE
LEYTE 1ST DEO

BEG. OF PROJECT: LAT = 11.20859148° N, LONG = 124.93625294° E
END OF PROJECT: LAT = 11.208319° N, LONG = 124.934411° E

STATION LIMIT : 0+000 - 0+295
NET LENGTH : 295 LM

CW1 - CONSTRUCTION OF FLOOD MITIGATION STRUCTURE = 295 LM

SUBMITTED:

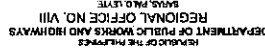
AGNES M. BARONDA
CHIEF, PLANNING AND DESIGN DIVISION
DATE:

RECOMMENDED:

MA. MARGARITA C. JUNIA, D.M.
ASSISTANT REGIONAL DIRECTOR
DATE:

APPROVED:

EDGAR B. TABACON, CESO IV
REGIONAL DIRECTOR
DATE:



CONSTRUCTION OF FLOOD CONTROL ALONG
TAN ISIRO BRIDGE (DOWNSTREAM), BRAY, SAN
RUBIO, STA 1E LEYTE

INDEX OF SKELTS

~~JANSENZ, DE MC~~

~~CHODOWSKI L. MARCELLANA EMP~~

AGNES M. BARONDA

MA. MARY GABITA, JUNIA, P.M.

DDGAL B, TABACON, CESO IV

$$\begin{array}{r} 02 \\ \hline 21 \end{array}$$

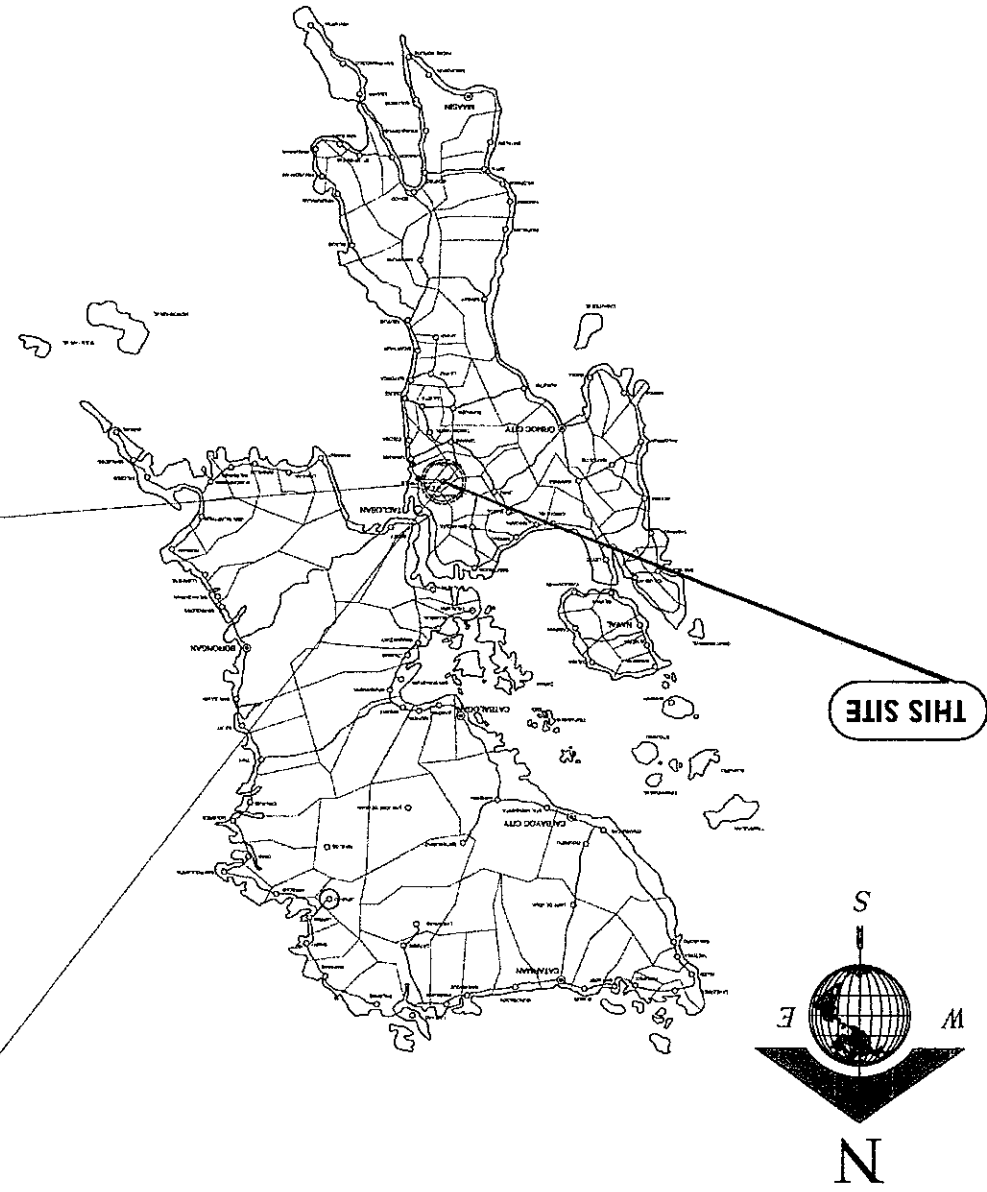
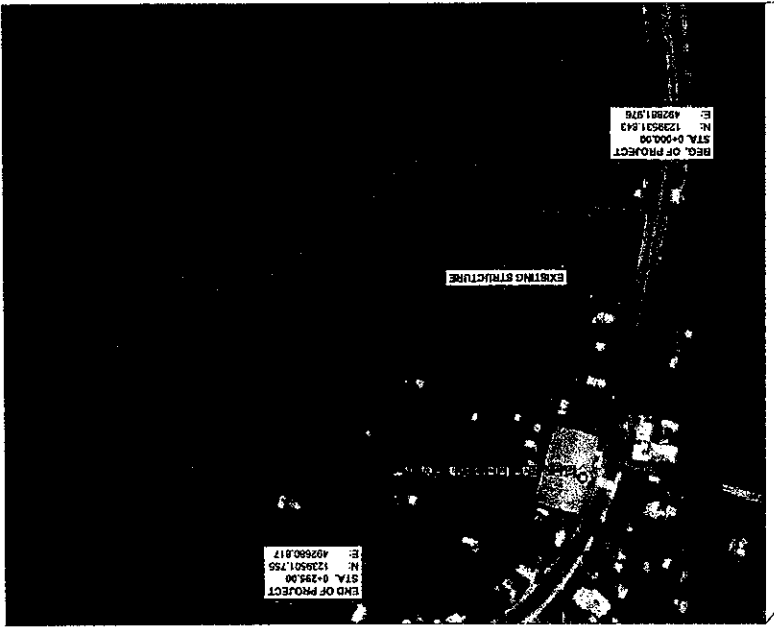
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2	SHEET 3	KEY MAP AND LOCATION PLAN
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21 03	02 09	DATE EDGAR B. TABACON, CESO IV REGIONAL DIRECTOR	DATE MA. MARGARITA JUNIA, M.M. REGIONAL REGIONAL DIRECTOR	DATE JOHN M. BARONDA REGIONAL REGIONAL DIRECTOR	DATE CLODALYN L. KAYELLANA, Engr. REGIONAL REGIONAL DIRECTOR	DATE JOHN M. BARONDA REGIONAL REGIONAL DIRECTOR	DATE JOHN M. BARONDA REGIONAL REGIONAL DIRECTOR	DATE JOHN M. BARONDA REGIONAL REGIONAL DIRECTOR	DATE JOHN M. BARONDA REGIONAL REGIONAL DIRECTOR
SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.	SHEET NO.

KEY MAP AND LOCATION PLAN

NOT TO SCALE

A. COORDINATE REFERENCE SYSTEM, PRS92/ Philippine zone 5
 B. PROJECTION: TRANSVERSE MERCATOR (TM) IN ZONE OF 2° NET WIDTH
 C. DATUM: PRS92
 D. EPSG CODE: 3125



PROJECT NAME AND LOCATION	GENERAL NOTES	REVIEWED	DESIGNED	RECOMMENDED	APPROVED	SET NO.	PROJECT NO.
CONSTRUCTION OF FLOOD CONTROL ALONG BAM ISKON BRIDGE (DOWNSIDE), BRGY. SAN MIGUEL, STA. 17, LEYTE	GENERAL NOTES	REVIEWED CLERK/DIST. MANAGER/ADM. SVP DATE: 03/09/2017 BY: [Signature]	DESIGNED AGNES M. BARONDA DATE: 03/09/2017 BY: [Signature]	RECOMMENDED MA. MARGARITA C. JUNIL DATE: 03/09/2017 BY: [Signature]	APPROVED EDGAR B. TABACON, CESO IV DATE: 03/09/2017 BY: [Signature]	SET NO. 01	PROJECT NO. 04-21

A.) THE REHABILITATION/ CONSTRUCTION PROJECT FOLLOWS THE EXISTING TRAVERSE AND GROUND ELEVATION

A) DPMW DESIGN GUIDELINES, CRITERIA AND STANDARDS (DGS), VOLUME III, 2015 EDITION

DRAINAGE STRUCTURES AND WATER SUPPLY SYSTEMS) - VOLUME III, 2019 EDITION
C) AASHTO A POLICY ON GEOMETRIC DESIGN STANDARDS OF HIGHWAYS AND STREETS, 2011
D) HIGHWAY SAFETY DESIGN OF RAINWATER STRUCTURES, 4TH EDITION, 1993

E: HIGHWAY SAFETY DESIGN STANDARDS: PART 1: ROAD SAFETY DESIGN, AND PART 2: ROAD SIGNS AND PAVEMENT MARKINGS, THIRD EDITION
F: ROAD NOTE 39, THIRD EDITION - A GUIDE TO THE STRUCTURAL DESIGN FOR NEW ROADS

FOR ITS IMPLEMENTATION AND OTHER PURPOSES, AND DOWNS MEMORANDUM IN CIRCULAR NO. 113, ESTABLISHING THE CLASSIFICATION OF ROADS.

III. DESIGN SPECIFICATIONS

VOLUME II,
B.) THE ASSOCIATION OF STATE HIGHWAYS AND TRANSPORTATION OFFICIALS (AASHTO) STANDARD SPECIFICATIONS FOR HIGHWAY

IV. DIMENSIONS
A) UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS WHICH INCLUDES STATIONING, DISTANCE BETWEEN CONTROL POINTS AND AS

V. TOPOGRAPHIC SURVEY

A) SHALL BE DONE AS PER TERMS OF REFERENCE

A.1) THE ROAD STATIONING AND ELEMENTS OF ELEMENTS OF HORIZONTAL AND VERTICAL CURVES SHOWN ON THE PLAN AND PROFILE SHEETS ARE MEASURED FROM THE ROADWAY CENTERLINE

b. STATIONING OF THE BRIDGES R/C/F, K/C/F, AND OTHER STRUCTURES ARE reckoned FROM THE STATIONING OF THE ROADWAY CENTERLINE SHOWN ON THE PLAN.

COORDINATE SYSTEM
SURVEY SPECIFICATION

A. COORDINATE REFERENCE SYSTEM, PRS92/Philippine zone 54 WGS84
B. PROJECTION, TRANSVERSE MERCATOR (TM) IN ZONE OF 2° NET WIDTH

D. EPSG CODE: 3125

EQUIPMENT USED:

EQUIPMENT	ROVER 1	ROVER 2	BASE 2	CONTROLLER 1	CONTROLLER 2
MODEL	V90 Plus (Sale)	V90 Plus	V90 Plus (Sale)	Hand55	Hand30
S/N	ND11631836	PA 11638713	ND11631921	TE16182274	RG15686519

A.) THE POSITION OF PROJECT CONTROL POINTS SHALL BE DEFINED AND MARKED ON THE GROUND BY MONUMENTS OF

B) CRITERIA FOR LOCATION OF MONUMENTS
1. ACCESSIBILITY
2. VISIBILITY
3. PROTECTION
4. SECURITY
5. CONSERVATION
6. EDUCATION
7. RESEARCH
8. MONITORING
9. EVALUATION
10. REPORTING
11. FUNDING
12. MANAGEMENT
13. LEGISLATION
14. POLICY
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491. RESEARCH

3. SECURITY FROM POSSIBLE ACTS OF DISTURBANCE

2. PRIMARY PROJECT CONTROL (BM): 500M INTERVAL
3. INTERMEDIATE CONTROL (IBM): EVERY 250M INTERVAL IN BETWEEN BMS

A) HORIZONTAL AND VERTICAL CONTROLS ARE BASED ON THE CONTROL POINTS SHOWN IN THE TOPOGRAPHIC MAP.
B) THE DESIGN OF VERTICAL ALIGNMENT IS CONTROLLED BY GENERAL TOPOGRAPHIC OF THE SITE

C.) FINISHED GRADE SHALL BE SHOWN IN THE PLANS.
D.) ALTERATION OR CHANGES IN THE ALIGNMENT SHALL BE MADE ONLY WHEN EXISTING CONDITION SO WARRANT AND ONLY UPON ORDER BY THE ENGINEER.

WRITTEN ORDER BY THE ENGINEER.
E.) FINISHED GRADE ELEVATION SHOWN ON PLAN AND PROFILE SHEETS REFERS TO THE FINISHED PAVEMENT LEVEL (REFERENCE

F) GROUND GRADE SHOWN ON THE PLAN AND PROFILE SHEET REFERS TO THE ELEVATION OF THE ORIGINAL GROUND ALONG THE CENTRLINE OF THE PROJECT ROAD.

g.) FINISHED GRADE FOR THIS PROJECT ARE SUBJECT TO CHANGE TO SUIT EXISTING FIELD CONDITION HOWEVER THAT IT IS MORE ADVANTAGEOUS AND MORE ECONOMIC ON THE PART OF THE GOVERNMENT AND THE DESIGN STANDARD FOR HIGHWAYS PER

H.) THE HORIZONTAL ALIGNMENT SHOWN IN THIS DRAWING FOLLOWS THE CENTERLINE OF THE RIVERBED.
I.) EXACT LOCATIONS SLOPES OUTFALLS AND INVERT ELEVATIONS OF PROPOSED DRAINAGE STRUCTURE SHALL BE CHECKED IN

FIELD BY THE CONTRACTOR AND OWNER MINOR ADJUSTMENTS MAY BE MADE TO SUIT THE ACTUAL FIELD CONDITION ON OR AFTER OF THE ENGINEER/OWNER.

GENERAL NOTES

E. OTHERS

A. CIVIL WORKS

1. POST - CONSTRUCTION SURVEY SHALL BE CONDUCTED JOINTLY THE REPRESENTATIVES OF THE IMPLEMENTING OFFICE AND THE CONTRACTOR.

2. AS-SKATED DRAWING SHALL BE DONE BY THE CONTRACTOR BASED FROM THE POST CONSTRUCTION SURVEY OF COMPLETED SEGMENTS FEATURING DEVIATIONS FROM THE APPROVED CONSTRUCTION PLANS AS CONSTRUCTION PROGRESS TO MINIMIZED THE REVIEW PERIOD AFTER CONSTRUCTION SUBJECT FOR APPROVAL BY THE UNDERSECRETARY FOR PMO OPERATION.

3. ANY MISCELLANEOUS REMOVAL NOT SHOWN ON THE PLANS INCLUDING REMOVAL OF HEADWALL AND WING WALLS OF EXISTING DRAINAGE STRUCTURES THAT ARE TO BE EXTENDED OR IMPROVED AND THE DISPOSAL OF RESULTING MATERIALS SHALL BE CONSIDERED AS SUBSIDIARY WORK PERTAINING TO OTHER CONTRACT ITEMS. THE COST IF PERFORMANCE THEREOF SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS.

4. EXTENSIONS AND OTHER IMPROVEMENTS OF EXISTING FLOOD CONTROL AND DRAINAGE STRUCTURES ARE SUBJECT TO CHANGE AND SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER IN-CHARGE.

5. DURING CONSTRUCTION ANY EXISTING PIPE FOUND DAMAGED OR DEFECTIVE SHALL BE REMOVED BY THE CONTRACTOR AND REPLACED AT THE DIRECTION OF THE ENGINEER. THE REMOVAL OF EXISTING STRUCTURES SHALL BE PAID FOR UNDER ITEM 101(1) / 1702(6)a).

6. STONE FOR RIPRAP SHALL BE CLASS "A" WHICH CONSIST OF ROCK EITHER RECTANGULAR IN SECTION OR ROUND NATURAL. STONES SHALL RANGE FROM A MINIMUM 15KG TO A MAXIMUM OF 25KG AT LEAST 50% OF THE STONES WEIGHING MORE THAN 20KGS.

GENERAL

ALL WORKS AND MATERIALS SHALL COMPLY WITH THE TECHNICAL SPECIFICATIONS OF THE PROJECT. ANY WORK OR MATERIAL NOT SPECIFIED IN THE TECHNICAL SPECIFICATIONS SHALL COMPLY WITH THE FOLLOWING NOTES AND BUILDING CODE REQUIREMENTS FOR CONCRETE AND REINFORCEMENTS FOR CONCRETE AND REINFORCEMENT DETAILING.

a.) BASE MATERIALS SHALL BE PLACED IN LAYERS OF 150MM MAXIMUM THICKNESS COMPACTED PROPERLY WATERED TO ATTAIN THE 100% OF MAXIMUM DENSITY.

b.) TRUCK DUMPING OF MATERIALS IN HUGE LUMPS SHALL NOT BE PERMITTED. THE DUMP TRUCK SHALL UNLOAD THE MATERIALS BY SPREADING IT ON TOP OF THE FILL AREA SUFFICIENT TO ALLOW COMPACTED BY LAYERS SPECIFIED.

c.) FILL OF SUBGRADE MATERIALS SHALL BE COMPACTED TO ATTAIN 95% OF MAXIMUM DENSITY.

2. COMPACTION/ SUBGRADE

a.) EMBANKMENT MATERIALS SHALL BE FREE FROM STONES, TWIGS AND OTHER DELETERIOUS MATERIALS TO ENSURE COMPACTION AND COHESION LUMPS OF FILLING MATERIALS SHOULD BE PULVERIZED PRIOR TO COMPACTION,

B. REINFORCEMENT CONCRETE

1. CONCRETE

a.) CLASS "A" CONCRETE SHALL HAVE A MAXIMUM WATER CEMENT RATIO OF SLUMP RANGE OF 50-100MM AND MAXIMUM SIZE OF AGGREGATES SHALL BE 25MM.

2. REINFORCEMENT

a.) SPACING OF BARS SHALL BE LAPPED OR BUTT WELDED AT 20MM BAR DIAMETER OR A MINIMUM OF 300MM.

b.) ADJACENT BARS SHALL BE SECURELY HELD TOGETHER BY #16 TIE WIRES AT MINIMUM OF 250MM. c.) CLEAR CONCRETE COVER BETWEEN REINFORCEMENT BARS EMBANKMENT MATERIALS SHALL BE 100MM AND PRE CAST MORTAR BLOCKS SHOULD BE PROVIDED FOR THIS PURPOSE.

3. MIXING WATER

a.) WATER TO BE SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNT OF OIL, ACID, ALKALI, SALT, ORGANIC MATERIAL AND SUBSTANCES THAT MAY BE DELETERIOUS TO CONCRETE OF REINFORCEMENT.

b.) NON-POTABLE WATER SHALL NOT BE USED UNLESS IT PASSES EQUIVALENT STRENGTH OF AT LEAST 90% OF THE STRENGTH RESULT OF SIMILAR SAMPLES. MADE BY USING POTABLE WATER WITH SAME PROPORTIONS THROUGH COMPRESSIVE STRENGTH TEST (ASTM C109).

C. EMBANKMENT

STONES SHALL BE SOUND DURABLE & IN A WELL BALANCE RANGE SIZES ALL STONES SHALL BE MORE THAN CUM IN VOLUME & NOT LESS THAN 7% OF THE TOTAL VOLUME OF ROCK EMBANKMENT & SHALL CONSISTS OF STONES 0.30 CUM IN VOLUME STONES SHALL BE LAID FLAT @SECURELY PLACED BROKEN JOINTS LINES, THE LARGER SHALL BE ELIMINATED TO THE EXTEND POSSIBLE.

D. CONSTRUCTION JOINT

CONSTRUCTION JOINT SHALL BE PROVIDED AT EVERY 50.00 LINEAR METERS OF FLOOD CONTROL STRUCTURE. CONTRACTOR SHALL PROVIDE SEQUENCE AND SHOP DRAWING DETAIL FOR APPROVAL OF THE PROJECT ENGINEER.



DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
REGIONAL ENGINEER

CONSTRUCTION OF FLOOD CONTROL ALONG
SAMBORO BRIDGE (DOWNSTREAM), RUSTI, SAN
ISIDRO, STA. FELITE

GENERAL NOTES

ENGINEER
MA. MARCOS
DATE: 06/09/2021

CLERK OF WORKS
MA. MARCOS
DATE: 06/09/2021

DATE: 06/09/2021
MA. MARCOS
DATE: 06/09/2021

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CONSTRUCTION REQUIREMENT

1. ALL CONSTRUCTION SHALL CONFORM TO:

- A. CONDITIONS OF CONTRACT
B. THE SPECIAL PROVISIONS
C. THE SPECIFICATIONS OF ITEMS OF WORK FOR THIS PROJECT SHALL BE THE DPWH STANDARD SPECIFICATIONS FOR PUBLIC WORKS & HIGHWAYS 2013 EDITION, VOLUME II- HIGHWAYS BRIDGES & AIRPORTS OR SPECIAL PROVISIONS AS PRESENTED IN THE TENDER DOCUMENTS OF THE PROJECT.

2. SETTING OUT

- A. THE SETTING OUT AND ELEVATION OF THE DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE START OF ANY CONSTRUCTION WORK.
B. THE SETTING OUT AND ELEVATION OF THE DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE START OF ANY CONSTRUCTION WORK.

3. CONSTRUCTION SURVEY AND STAKING

- A. SHALL CONSIST OF FURNISHING THE NECESSARY EQUIPMENT AND MATERIAL TO SURVEY, CALCULATE, AND RECORD DATA FOR THE CONTROL OF WORK IN ACCORDANCE WITH THIS SPECIFICATION AND IN CONFORMITY WITH THE LINES, GRADES AND DIMENSIONS SHOWN ON THE PLANS OR AS ESTABLISHED BY THE ENGINEER.

4. PROJECT BILLBOARD

- A. D.O. 11, SERIES OF 2022 : AMENDMENT TO DEPARTMENT ORDER NO. 21 SERIES OF 2017 REVISED GUIDELINES ON THE INSTALLATION OF PROJECT BILLBOARD.
B. REVISED GUIDELINES ON THE INSTALLATION OF PROJECT BILLBOARD (PER D.O. 21 S. 2017)

5. MOBILIZATION

- A. SHALL CONSIST OF MOBILIZATION OF EQUIPMENT AND MANPOWER, MATERIALS AND OTHER ITEMS THAT SHALL BE OF USE IN THE IMPLEMENTATION OF THE PROJECT.
B. IN A WEATHER PROOF BUILDING WHICH WILL PROTECT THE CEMENT FROM DAMPNESS THE FLOOR SHALL BE RAISED FROM THE GROUND BY 4 INCHES.
C. ALL SIGMAGES AND PROJECT BILLBOARDS SHALL BE PLACED AT DESIGNATED LOCATIONS APPROVED BY THE PROJECT ENGINEER.

6. DEMOBILIZATION

- A. FOLLOWS AFTER THE PROJECT WAS FINALLY ACCEPTED AND THE SURROUNDINGS ARE PROPERLY CLEANED.

7. REINFORCING STEEL

- A. THIS ITEM SHALL CONSIST OF FURNISHING, BENDING, FABRICATING AND PLACING OF STEEL REINFORCEMENT OF THE TYPE, SIZE, SHAPE AND GRADE REQUIRED IN ACCORDANCE WITH THIS SPECIFICATION AND IN CONFORMITY WITH THE REQUIREMENTS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
B. REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF ITEM 710, REINFORCING STEEL AND WIRE ROPE.
C. STEEL REINFORCEMENT SHALL BE STORED ABOVE THE SURFACE OF THE GROUND ONLY, WHEN PLACED IN THE WORK, REINFORCEMENT SHALL BE FREE FROM DIRT, DETRIMENTAL RUST, LOOSE SCALE, PAINT, GREASE, OIL, OR OTHER FOREIGN MATERIALS, RUST, SURFACE IRREGULARITIES, PROVIDED THE MINIMUM MILL SCALE WILL NOT BE CAUSE FOR REJECTION, PROVIDED THE MINIMUM DIMENSIONS, CROSS SECTIONAL AREA AND TENSILE PROPERTIES OF A HAND WIRE BRUSHED SPECIMEN MEETS THE PHYSICAL REQUIREMENTS FOR THE SIZE AND GRADE OF STEEL SPECIFIED.
D. ALL REINFORCING BARS REQUIRING BENDING SHALL BE COLD-BENT TO THE SHAPES SHOWN ON THE PLANS OR REQUIRED BY THE ENGINEER. BARS SHALL BE BENT AROUND A CIRCULAR PIN HAVING THE FOLLOWING DIAMETERS (D) IN RELATION TO THE DIAMETER OF THE BAR (D):

NOMINAL DIAMETER, D, MM

25 TO 28
32 GREATER BD10D

PIN DIAMETER (D) 10 TO 20
8D
10D

F. ALL STEEL REINFORCEMENT SHALL BE ACCURATELY PLACED IN THE POSITION SHOW ON THE PLANS OR REQUIRED BY THE ENGINEER AND FIRMLY HELD THERE DURING THE PLACING AND SETTING OF THE CONCRETE. BARS SHALL BE TIED AT ALL INTERSECTIONS EXCEPT WHERE SPACING IS LESS THAN 300MM IN EACH DIRECTIONS, IN WHICH CASE, ALTERNATE INTERSECTIONS SHALL BE TIED. DISTANCE FROM THE FORMS SHALL BE MAINTAINED BY MEANS OF STAYS, BLOCKS, TIES, HANGERS, OR OTHER APPROVED SUPPORTS, SO THAT IT DOES NOT VARY FROM THE POSITION INDICATED ON THE PLANS BY MORE THAN 6MM.

- BLOCKS OF APPROVED SHAPES AND DIMENSIONS, LAYERS OF BARS SHALL BE SEPARATED BY PRECAST MORTAR BLOCKS OR BY OTHER EQUALLY SUITABLE DEVICES. THE USE OF PEBBLES, PIECES OF BROKEN STONE OR BRICK, METAL PIPE AND WOODEN BLOCKS SHALL NOT BE PERMITTED, UNLESS OTHERWISE SHOWN ON THE PLANS OR REQUIRED BY THE ENGINEER. THE MINIMUM DISTANCE BETWEEN BARS SHALL BE 40MM.
G. ALL REINFORCEMENT SHALL BE FURNISHED IN THE FULL LENGTH INDICATED ON THE PLANS, SPLICING OF BARS, EXCEPT WHERE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. SPLICES SHALL BE STAGGERED AS FAR AS POSSIBLE AND WITH A MINIMUM SEPARATION OF NOT LESS THAN 40 BAR DIAMETERS. UNLESS OTHERWISE SHOWN ON THE PLANS, BARS SHALL BE LAPPED A MINIMUM DISTANCE OF: SPLICE TYPE GRADE 60, MIN LAP BAR DIA BUT NOT LESS THAN TENSION 40 BAR DIA, 36 DIA, 300 MM COMPRESSION 20 BAR DIA, 24 BAR DIA 300 MM.

DESIGN CRITERIA

1. DESIGN REQUIREMENT
a) ACI 318R - 99 AMERICAN CONCRETE INSTITUTE
b) NSCP 1987 - 4TH EDITION NATIONAL STRUCTURAL CODE OF THE PHILIPPINES MATERIALS

MATERIALS

1. DESIGN REQUIREMENT
a) UNLESS OTHERWISE INDICATED OR SPECIFIED ON THE PLANS, THE CONCRETE CLASSES STRENGTH SHALL BE AS FOLLOWS:

STRUCTURAL MEMBERS	CLASS	28 - DAY CYLINDER STRENGTH (MPa)
GENERAL REINFORCED STRUCTURES CONCRETE	A	24
UN REINFORCED CONCRETE BEDDING AND BACKFILLING	B	17
PRE - CAST PILES CAST - IN - PLACE PILES CONCRETE	E	28
LEVELLING CONCRETE	F	10

- b) UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR APPROVED, THE NOMINAL MAXIMUM SIZE AGGREGATE USED IN CONCRETE SHALL BE AS FOLLOWS.

- b) 75MM FOR CONCRETE IN WALLS SLAB AND SECTIONS MORE THAN 600MM IN THICKNESS
b) 40MM FOR CONCRETE IN WALLS SLAB SECTION BETWEEN 350MM 600MM IN THICKNESS.
b) 20MM FOR HEAVY REINFORCED SECTIONS, RE-CAST CONCRETE AND SECOND STAGE CONCRETE FOR EMBEDMENT.

- a) REINFORCING STEEL BARS SHALL BE DEFORMED STEEL BARS CONFORM TO ASTM A615M.
b) UNLESS OTHERWISE INDICATED ON THE PLANS, THE REINFORCING STEEL GRADE SHALL BE GRADE 60.
c) REINFORCING STEEL BE FREE OF MILL SCALE, OR ANY SUBSTANCES WHICH WEAKEN THE BOND WITH CONCRETE.

2. DESIGN REQUIREMENT

3. STRUCTURAL STEEL

- a.) ALL STRUCTURAL STEEL MEMBERS SHALL BE GRADE 248 MPa (ASTM A36M)

CONSTRUCTION

- a) ALL DIMENSIONS SHOWN IN THE DRAWINGS ARE IN (MM) UNLESS OTHERWISE SPECIFIED.
b) ALL ELEVATIONS SHOWN IN THE DRAWING ARE IN (M) AND ARE LOCALLY ESTABLISHED BASED ON TEMPORARY BENCH MARK OF THIS PROJECT.
2. REINFORCED CONCRETE:

- A. CONCRETE MIX AND PLACING
a) CONCRETE MIX SHALL MEET THE MINIMUM DESIGN CONCRETE STRENGTH REQUIREMENTS AS SPECIFIED IN TECH. SPECS.
b) CONCRETE SHALL BE DEPOSITED, VIBRATED AND CURED IN ACCORDANCE WITH THE SPECIFICATIONS.

- c) UNLESS OTHERWISE SHOWN ON THE DRAWINGS, CONCRETE DEPOSITED AGAINST THE GROUND SHALL BE INSTALLED OF STEEL REINFORCEMENT, THIS LEVELING CONCRETE SHALL NOT BE CONSIDERED IN THE MEASURING THE STRUCTURAL DEPTH OF CONCRETE SECTION.
d) THE CONTRACTOR SHALL SUBMIT THE ENGINEER THE REPLACING SEQUENCES OF STEEL REINFORCEMENT FOR ALL CONCRETE WORKS.

- B. BAR BENDINGS, SPLICING AND SPACING
a) THE CONTRACTOR SHALL BE SUBMIT SHOP DRAWINGS TO THE ENGINEER INDICATING THE BENDING, CUTTING, SPLICING AND INSTALLATION OF THE ENGINEER.
b) BARS SHALL BE BENT COLD, BARS PARTIALLY EMBEDDED IN THE CONCRETE SHALL NOT BE FIELD BENT UNLESS PERMITTED BY THE ENGINEER.
c) BARS SPLICES UNLESS OTHERWISE SPECIFIED, SPLICE LENGTH OF REBARS SHALL BE AS IN THE FOLLOWING TABLES.

- FOR GRADE 60 (420 MPa) REBARS WITH CONCRETE COMPRESSIVE STRENGTH $f'_c=20.7$ MPa (3000 psi)
FOR GRADE 40 (280 MPa) REBARS WITH CONCRETE COMPRESSIVE STRENGTH $f'_c=20.7$ MPa (3000 psi)

BAR DIAMETER (MM)	SPLICE LENGTH (MM)
10	530
12	635
16	845
20	1055
25	1645
28	1840
32	2105
36	2365

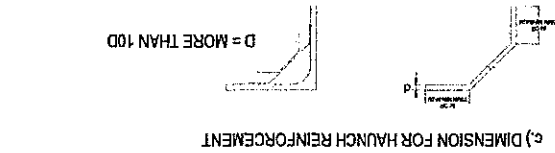
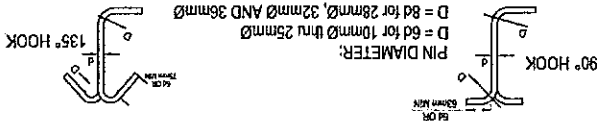
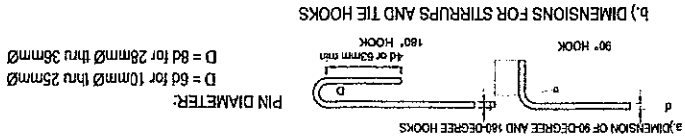
BAR DIAMETER (MM)	SPLICE LENGTH (MM)
10	530
12	635
16	845
20	1055
25	1645
28	1840
32	2105
36	2365

PROJECT NAME AND LOCATION	CONSTRUCTION OF FLOOD CONTROL ALONG SAN ISIDRO BRIDGE (INTERMEDIATE, BRGY. SAN ISIDRO, STA. 15+75, LEVITE)
SHEET CONTENTS	CONSTRUCTION REQUIREMENT
APPROVED	ENGINEER JANETTE B. DELOS REGISTERED PROFESSIONAL ENGINEER
REVIEWED	DESIGNED JANETTE B. DELOS REGISTERED PROFESSIONAL ENGINEER
SUBMITTED	CHECKED JANETTE B. DELOS REGISTERED PROFESSIONAL ENGINEER
RECEIVED	DATE JANETTE B. DELOS REGISTERED PROFESSIONAL ENGINEER
RECEIVED	DATE JANETTE B. DELOS REGISTERED PROFESSIONAL ENGINEER
APPROVED	DATE JANETTE B. DELOS REGISTERED PROFESSIONAL ENGINEER
SET NO.	05/09
SHEET NO.	21

CONSTRUCTION REQUIREMENT

STRUCTURAL NOTES

- c.1) FOR BUNDLED BARS, SPICED LENGTH SHALL BE MULTIPLIED BY 1.10.
c.2) FOR THREE (3), BUNDLED BARS, L_d SHALL BE MULTIPLIED BY 1.10.
c.3) FOR FOUR (4), BUNDLED BARS, L_d SHALL BE MULTIPLIED BY 1.10.
c.4) BARS SPICING NOT INDICATED ON THE DRAWINGS SHALL BE REFERRED TO THE ENGINEER FOR FINAL APPROVAL.
c.5) WELDED SPICES IF APPROVED BY THE ENGINEER SHALL BE DEVELOPED IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE BARS.
c.6) NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTIONS SHALL BE SPICED.
c.7) UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE CLEAR DISTANCE BETWEEN PARALLEL BARS IN LAYERS SHALL NOT BE LESS THAN 1.5 TIMES THE MAX. SIZE OF COARSE AGGREGATES THE CLEAR DISTANCE BETWEEN LAYERS SHALL NOT BE LESS THAN 25MM NOR ONE BAR DIAMETER, WHICHEVER IS GREATER. THE BARS IN THE UPPER LAYER SHALL BE PLACED DIRECTLY ABOVE THOSE IN THE BOTTOM LAYER.
c.8) HOOKS AND BENDS



- c.) CONSTRUCTION JOINT
a) THE LOCATION AND FORM OF ANY CONSTRUCTION JOINT SHALL BE AS SHOWN ON DRAWINGS OR AS AGREED WITH THE ENGINEER.
b.) THE INTERFACE BETWEEN THE FIRST AND SECOND POUR CONCRETE SHALL BE ROUGHENED WITH AN AMPLITUDE OF 6MM MINIMUM.
d.) FALSEWORKS, TEMPORARY
a.) ALL FALSEWORK AND TEMPORARY STRUCTURES SHALL BE DESIGNED BY THE CONTRACTOR AND DETAILS ARE TO BE SUBMITTED TO THE ENGINEER.
e.) FORMWORK
a.) UNLESS OTHERWISE SHOWN IN THE DRAWING OF APPROVED BY THE ENGINEER, THE FOLLOWING MINIMUM STRIPPING SHALL BE USED.

F. STRUCTURAL STEEL

- a.) STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 SPECIFICATIONS. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL WORKS. THESE SHOP DRAWINGS SHALL BE APPROVED BY THE ENGINEER BEFORE ANY START OF FABRICATION.
b.) BOLTS SHALL CONFORM TO ASTM A325 SPECIFICATIONS AND SHALL BE TIGHTENED TO THE FOLLOWING TENSILE STRESS.

STRUCTURAL MEMBERS	MINIMUM TIME	CYLINDER 28-DAY STRENGTH (MPa)	
		70	80
VERTICAL SIDES OF BEAMS WALL PILES, PILE CAPS AND COLUMNS, LIFT NOT EXCEEDING 1.2M	24 HOURS	70	80
VERTICAL SIDES OF BEAMS AND WALL PILES LIFT NOT EXCEEDING 1.2M	36 HOURS	70	80
SOFFITS OF MAIN SLAB AND BEAMS REMOVAL OF PROPS FROM BEAMS AND MAIN SLAB AND OTHER WORK	14 HOURS	80	80

8. STRUCTURAL CONCRETE/LEAN CONCRETE

- A. THIS ITEM SHALL CONSIST OF FURNISHING, PLACING AND FINISHING CONCRETE IN ALL STRUCTURES EXCEPT PAVEMENTS IN ACCORDANCE WITH THIS SPECIFICATION AND CONFORMING TO THE LINES, GRADES, AND DIMENSIONS SHOWN ON THE PLANS. CONCRETE SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT, FINE AGGREGATE, COARSE AGGREGATE, ADMIXTURE WHEN SPECIFIED, AND WATER MIXED IN THE PROPORTIONS SPECIFIED OR APPROVED BY THE ENGINEER.
B. FIVE CLASSES OF CONCRETE ARE PROVIDED FOR IN THIS ITEM, NAMELY: A, B, C, P AND SEAL EACH CLASS SHALL OF CONCRETE WILL GENERALLY BE USED AS FOLLOWS:
CLASS A- ALL SUPERSTRUCTURES AND HEAVILY REINFORCED SUBSTRUCTURES, THE IMPORTANT PARTS OF THE STRUCTURE INCLUDED ARE SLABS, BEAMS, GIRDERS, COLUMNS, ARCH RIBS, BOX CULVERTS, REINFORCED FOOTINGS, RETAINING WALLS, AND REINFORCED FOOTINGS.
CLASS B- GRAVITY WALLS, UNREINFORCED OR WITH ONLY A SMALL AMOUNT OF REINFORCEMENT.
CLASS C- THIN REINFORCED SECTIONS, RAILINGS, PRECAST R.C. PILES AND CURBING AND FOR FILLER IN STEEL GRID FLOORS.
CLASS P- PRESTRESSED CONCRETE STRUCTURES AND MEMBERS SEAL- CONCRETE DEPOSIT IN WATER

DIAMETER BAR (MM)	SPICE LENGTH (MM)
12	635
16	845
20	1055
25	1645

9. TREE PLANTING

- A. SHALL CONSIST OF FURNISHING AND PLANTING DECIDUOUS SHADE, FLOWERING TREES AND EVERGREEN TREES LESS THAN 150MM IN DIAMETER ON THE AREAS AND IN THE ARRANGEMENTS INDICATED ON THE PLANS OR AS INDICATED BY THE ENGINEER, INCLUDING THE DIGGING AND

13. EMBANKMENT

- A. SHALL CONSIST OF THE CONSTRUCTION OF EMBANKMENT IN ACCORDANCE WITH THIS SPECIFICATION AND IN CONFORMITY WITH THE LINES, GRADES AND DIMENSIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER.
B. PRIOR TO CONSTRUCTION OF EMBANKMENT, ALL NECESSARY CLEARING AND GRUBBING IN THAT AREA SHALL HAVE BEEN PERFORMED IN CONFORMITY WITH ITEM 100, CLEARING AND GRUBBING.
C. EMBANKMENT CONSTRUCTION SHALL CONSIST OF CONSTRUCTING ROADWAY EMBANKMENTS, INCLUDING THE PREPARATION OF THE AREAS UPON WHICH THEY ARE TO BE PLACED THE CONSTRUCTION OF DIKES WITHIN OR ADJACENT TO THE ROADWAY; THE PLACING AND COMPACTING OF APPROVED MATERIAL WITHIN ROADWAY AREAS WHERE UNSUITABLE MATERIAL HAS BEEN REMOVED; AND THE PLACING AND COMPACTING OF EMBANKMENT MATERIAL IN HOLES, PITS, AND OTHER DEPRESSIONS WITHIN THE ROADWAY AREA.
D. EMBANKMENTS AND BACKFILLS SHALL CONTAIN NO MUCK, PEAT, SOD ROOTS OR OTHER DELETERIOUS MATTER, ROCKS, BROKEN CONCRETE OR OTHER SOLID, BULKY MATERIALS SHALL NOT BE PLACED IN EMBANKMENT AREAS WHERE PILING IS TO BE PLACED OR DRIVEN.
E. WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, THE SURFACE OF THE EXISTING GROUND SHALL BE COMPACTED TO A DEPTH OF 150 MM AND TO THE SPECIFIED REQUIREMENTS OF THIS ITEM.
F. WHERE PROVIDED ON THE PLANS AND BILL OF QUANTITIES THE TOP OF THE ROADBED IN BOTH CUTS AND EMBANKMENTS, AS INDICATED, SHALL CONSIST OF SELECTED BORROW FOR TOPPING FROM EXCAVATIONS.

12. EXCAVATION

- A. ALL EXCAVATION SHALL BE FINISHED TO REASONABLY SMOOTH AND UNIFORM SURFACES. NO MATERIALS SHALL BE WASTED WITHOUT AUTHORITY OF THE ENGINEER.
B. EXCAVATION OPERATIONS SHALL BE CONDUCTED SO THAT MATERIALS OUTSIDE OF THE LIMITS OF THE SLOPES WILL NOT BE DISTURBED.
C. ALL SUITABLE MATERIALS REMOVED FROM THE EXCAVATION SHALL BE USED IN THE FORMATION OF THE EMBANKMENT, SUBGRADE, SHOULDER, SLOPES, BEDDING, AND BACKFILL FOR STRUCTURES, AND FOR OTHER PURPOSES SHOWN ON THE PLANS OR AS DIRECTED.
D. EMBANKMENT CONSTRUCTION SHALL CONSIST OF CONSTRUCTING ROADWAY EMBANKMENTS, INCLUDING THE PREPARATION OF THE AREAS UPON WHICH THEY ARE TO BE PLACED THE CONSTRUCTION OF DIKES WITHIN OR ADJACENT TO THE ROADWAY; THE PLACING AND COMPACTING OF APPROVED MATERIAL WITHIN ROADWAY AREAS WHERE UNSUITABLE MATERIAL HAS BEEN REMOVED; AND THE PLACING AND COMPACTING OF EMBANKMENT MATERIAL IN HOLES, PITS, AND OTHER DEPRESSIONS WITHIN THE ROADWAY AREA.
E. WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, THE SURFACE OF THE EXISTING GROUND SHALL BE COMPACTED TO A DEPTH OF 150 MM AND TO THE SPECIFIED REQUIREMENTS OF THIS ITEM.
F. WHERE PROVIDED ON THE PLANS AND BILL OF QUANTITIES THE TOP OF THE ROADBED IN BOTH CUTS AND EMBANKMENTS, AS INDICATED, SHALL CONSIST OF SELECTED BORROW FOR TOPPING FROM EXCAVATIONS.

11. INDIVIDUAL REMOVAL OF TREES OR STUMPS

- A. INDIVIDUAL TREES OR STUMPS DESIGNATED BY THE ENGINEER FOR REMOVAL AND LOCATED IN AREAS OTHER THAN THOSE ESTABLISHED FOR CLEARING AND GRUBBING AND ROADSIDE CLEANUP SHALL BE REMOVED AND DISPOSED OFF AS SPECIFIED UNDER SUBSECTION 100.2.2 EXCEPT TREES REMOVED SHALL BE CUT AS NEARLY FLUSH WITH THE GROUND AS PRACTICABLE WITHOUT REMOVING STUMPS.

10. CLEARING AND GRUBBING

- A. THE ENGINEER WILL ESTABLISH THE LIMITS OF WORK AND DESIGNATE ALL TREES, SHRUBS, PLANTS AND OTHER THINGS TO REMAIN. THE CONTRACTOR SHALL PRESERVE ALL OBJECTS DESIGNATED TO REMAIN. PAINT REQUIRED FOR CUT OR SCARRED SURFACE OF TREES OR SHRUBS SELECTED FOR RETENTION SHALL BE AN APPROVED ASPHALTUM BASE PAINT PREPARED ESPECIALLY FOR TREE SURGERY.
B. CLEARING SHALL EXTEND ONE (1) METER BEYOND THE TOE OF THE FILL SLOPES OR BEYOND ROUNDING OF CUT SLOPES AS THE CASE MAYBE FOR THE ENTIRE LENGTH OF THE PROJECT UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND PROVIDED IT IS WITHIN THE RIGHT OF WAY LIMITS OF THE PROJECT, WITH THE EXCEPTION OF TREES UNDER THE JURISDICTION OF THE FOREST MANAGEMENT BUREAU (FMB).
C. INDIVIDUAL TREES OR STUMPS DESIGNATED BY THE ENGINEER FOR REMOVAL AND LOCATED IN AREAS OTHER THAN THOSE ESTABLISHED FOR CLEARING AND GRUBBING AND ROADSIDE CLEANUP SHALL BE REMOVED AND DISPOSED OFF AS SPECIFIED UNDER SUBSECTION 100.2.2 EXCEPT TREES REMOVED SHALL BE CUT AS NEARLY FLUSH WITH THE GROUND AS PRACTICABLE WITHOUT REMOVING STUMPS.



DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
BANGAL, PAV. LEVITE

CONSTRUCTION OF FLOOD CONTROL ALONG
SARANGANI RIVER, BANGAL, PAV. LEVITE

CONSTRUCTION REQUIREMENT

REVIEWED

REVIEWED

REVIEWED

REVIEWED

REVIEWED

REVIEWED

CONSTRUCTION REQUIREMENT

13. RIPRAP AND GROUTED RIPRAP

A. SHALL CONSIST OF THE FURNISHING AND PLACING OF RIPRAP WITH OR WITHOUT GROUT AS THE CASE MAY BE, WITH OR WITHOUT FILTER BACKING, FURNISHED AND CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION, AND TO THE LINES AND GRADES AND DIMENSIONS SHOWN ON THE PLANS.

B. RIPRAP SHALL CONSIST OF ROCK AS NEARLY AS RECTANGULAR IN SECTION AS IS PRACTICAL, EXCEPT THAT RIPRAP OF CLASS A MAY CONSIST OF ROUND NATURAL STONES, THE STONES SHALL BE SOUND, DURABLE, DENSE, RESISTANT TO THE ACTION OF AIR AND WATER, AND SUITABLE IN ALL RESPECTS FOR THE PURPOSE INTENDED.

STONES FOR RIPRAP SHALL BE ONE OF THE FOLLOWING CLASSES AS SHOWN ON THE PLANS OR DETERMINED BY THE ENGINEER.

CLASS A - STONES RANGING FROM A MINIMUM OF 15KG TO A MAXIMUM OF 25KG WITH AT LEAST 50 PERCENT OF THE STONES WEIGHING MORE THAN 20KG

CLASS B - STONES RANGING FROM MINIMUM OF 30KG TO A MAXIMUM OF 70KG WITH AT LEAST 50 PERCENT OF THE STONES WEIGHING MORE THAN 50KG

CLASS C - STONES RANGING FROM MINIMUM OF 60KG TO A MAXIMUM OF 100KG WITH AT LEAST 50 PERCENT OF THE STONES WEIGHING MORE THAN 80KG

CLASS D - STONES RANGING FROM MINIMUM OF 100KG TO A MAXIMUM OF 200KG WITH AT LEAST 50 PERCENT OF THE STONES WEIGHING MORE THAN 150KG

SOUND PIECES OF BROKEN CONCRETE OBTAINED FROM THE REMOVAL OF BRIDGES, CULVERTS AND OTHER STRUCTURES MAY BE SUBSTITUTED FOR STONE WITH THE APPROVAL OF THE ENGINEER.

C. REPAIR SHALL BE PLACED ON A FILTER LAYER TO PREVENT FINE EMBANKMENT MATERIALS TO BE WASHED OUT THROUGH THE VOIDS OF THE FACES STONES THE GRADING OF THE FILTER MATERIAL SHALL BE AS SPECIFIED OR THE PANS, OR IN THE SPECIAL PROVISIONS, IF NOT SO SPECIFIED, IT WILL BE REQUIRED THAT D₁₅ OF THE FILTER IS AT LEAST TIMES THE SIZE D₆₀ FOR THE EMBANKMENT MATERIAL, WHERE D₁₅ PERCENT AND 85 PERCENT, RESPECTIVELY, PASSING (BY MASS) IN GRAIN SIZE ANALYSIS, FINE AGGREGATE PASSING GRADING REQUIREMENTS FOR THE ITEM 405, STRUCTURAL CONCRETE WALL SATISFY FOREIGN REQUIREMENTS.

D. SPECIAL BRICKS SHALL CONSIST OF SAND GEMENT AND WATER

CONFORMING TO THE REQUIREMENTS GIVEN UNDER ITEM 405, STRUCTURAL CONCRETE, MIXED IN THE PROPORTION OF ONE PART CEMENT TO THREE PARTS SAND BY VOLUME, AND SUFFICIENT WATER TO OBTAIN THE REQUIRED CONSISTENCY, THE HORIZONTAL AND VERTICAL CONTACT SURFACE BETWEEN STONES SHALL BE EMBEDDED BY CEMENT MORTAR HAVING A MINIMUM THICKNESS OF 20MM. SUFFICIENT MORTAR SHALL BE USED TO COMPLETELY FILL ALL JOINTS LEAVING THE FACE OF THE STONES EXPOSED. E. RIPRAP SHALL BE EXCAVATED TO THE REQUIRED DEPTHS AND PROPERLY COMPACTED TRIMMED AND SHAPED, SHALL BE FOUNDED IN A TIE TRENCH DUG BELOW THE DEPTH OF SCOUR AS SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER, THE JOE TRENCH SHALL BE FILLED WITH STONE OF THE SAME CLASS AS THAT SPECIFIED FOR THE RIPRAP, UNLESS OTHERWISE SPECIFIED.

1. STONES PLACED BELOW THE WATER LINE SHALL BE DISTRIBUTED SO THAT THE MINIMUM THICKNESS OF THE RIPRAP IS NOT LESS THAN THAT SPECIFIED. STONES ABOVE THE WATER LINE SHALL BE PLACED BY HAND OR INDIVIDUALLY BY MACHINES. THEY SHALL BE LAID WITH CLOSE, BROKEN JOINTS AND SHALL BE FIRMLY BEDDED INTO THE SLOPE AND AGAINST THE ADJOINING STONES. EACH STONE SHALL BE LAID WITH ITS LONGEST AXIS PERPENDICULAR TO THE SLOPE IN CLOSE CONTACT WITH EACH ADJACENT STONE. THE RIPRAP SHALL BE THOROUGHLY RANMED INTO PLACE AS CONSTRUCTION PROGRESSES. IN NO EVENT SHALL THE FINISHED SURFACE PRESENT AN EVEN, TIGHT SURFACE. INTERESTING BETWEEN STONE SHALL BE FILLED WITH SMALL BRAGMENT FRAGMENTS FIRMLY RANMED INTO PLACE

UNLESS OTHERWISE PROVIDED, RIPRAP SHALL HAVE THE FOLLOWING MINIMUM THICKNESS, MEASURED PERPENDICULAR TO THE SLOPE:

CLASS A - 300MM
CLASS B - 500MM
CLASS C - 600MM
CLASS D - 800MM

7. WHEN GROUTED RIPRAP IS SPECIFIED, STONES SHALL BE PLACED ABOVE THE WATER LINE. THE SPACES BETWEEN THE STONES SHALL BE FILLED WITH CEMENT MORTAR THROUGHOUT THE THICKNESS OF THE RIPRAP AS SPECIFIED IN SUBSECTION 505.2.3. MORTAR, SURFICIENT MORTAR SHALL BE USED TO COMPLETELY FILL ALL JOINTS, EXCEPT THAT THE FACE SURFACE OF THE STONES SHALL BE LEFT EXPOSED. GROUT SHALL BE PLACED FROM BOTTOM TO TOP OF THE SURFACE SWEEP WITH A STIFF BRUSH. AFTER ITEM 405, STRUCTURAL CONCRETE FOR A PERIOD OF AT LEAST THREE DAYS, THE STONES SHALL ALSO BE LAID IN A MANNER THAT THE VERTICAL AND HORIZONTAL ALIGNMENTS OF THE EXPOSED FACE SHALL, AS POSSIBLE BE MAINTAINED IN A STRAIGHT LINE.

THE WALLS OF THE ABUTMENT SHALL BE PROVIDED WITH THE WEEPHOLES, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE WEEP HOLES SHALL BE PLACED HORIZONTALLY AT THE LOWEST POINTS WHERE FREE OUTLETS FOR WATER CAN BE OBTAINED AND SHALL BE SPACED AT NOT MORE THAN 24 CENTER TO CENTER IN A STAGGERED MANNER. THE LENGTH OF THE WEEP HOLES SHALL NOT BE LESS THAN THE THICKNESS OF THE WALLS OF THE ABUTMENT AND SHALL BE AT LEAST 50MM DIAMETER PVC OR OTHER PIPE MATERIALS ACCEPTED BY THE ENGINEER. WEEP HOLES MUST PROVIDED WITH FILTER BAGS AS SPECIFIED IN SPECIAL PROVISION OR AS OR AS DIRECTED BY THE ENGINEER, AND SHALL BE INCIDENTAL TO PAY ITEM 505.

14. SHEET PILE

A. THIS SHALL CONSIST OF FURNISHING, DRIVING AND CUTTING OFF A SHEET PILING COVERED BY THIS SPECIFICATION.

STEEL SHEET SHALL BE OF THE TYPE, WEIGHT AND SECTION INDICATED ON THE PLANS OR SPECIAL PROVISIONS, AND SHALL CONFORM TO THE REQUIREMENT OF ITEM 400, PILING, SUBSECTION 400.27 SHEET PILES. PAINTING SHALL CONFORM TO THE REQUIREMENTS FOR ITEM C11, PAINTS SUBSECTION 111.3.2, PAINTING STRUCTURAL STEEL.

C SHEET PILES SHALL BE DRIVEN TO ELEVATION SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER WHERE IMPRACTICAL TO DRIVE TO PLAN ELEVATION DUE TO SUBSURFACE CONDITIONS. THE DRIVING OF PILES MAY BE STOPPED AT A HIGHER ELEVATION WITH THE WRITTEN PERMISSION OF THE ENGINEER, HOWEVER, BEFORE GRANTING SUCH PERMISSION, THE ENGINEER SHALL ASCERTAIN THAT THE CONTRACTOR HAS ADEQUATE EQUIPMENT FOR THE REQUIRED DRIVING AND THAT THE PILES CAN BE DRIVEN TO THE PLAN ELEVATION WITH THE PROPER USE OF THE EQUIPMENT. THE TOP OF THE PILING SHALL BE DRIVEN OR CUT-OFF TO A STRAIGHT LINE AT THE ELEVATION INDICATED ON THE PLANS. THE REQUIREMENTS GOVERNING THE INSTALLATION OF SHEET PILING SHALL CONFORM IN GENERAL TO THOSE GOVERNING BEARING PILES AS SET FORTH UNDER ITEM 400, PILING.

D SHEET PILING WILL BE MEASURED BY LINEAR METER OF SHEET PILING AS SHOWN ON THE PLANS OR AS DIRECTED IN WRITING BY THE ENGINEER, COMPLETE IN PLACE AND ACCEPTED. HOWEVER, MEASUREMENT OF PILING OR MEASURED ELEVATION BECAUSE OF SUBSURFACE CONDITION SHALL BE MEASURED AS IF DRIVEN TO THAT ELEVATION.

15. ADDITIONAL GEOTECHNICAL INVESTIGATION

PRIOR TO INSTALLATION OF GROUND ANCHORS THE CONTRACTORS SHALL
SUBMIT GEOTECHNICAL INVESTIGATION REPORT TO THE PLANNING AND
DESIGN DIVISION.

PROJECT NAME AND LOCATION	CONSTRUCTION OF FLOOD CONTROL ALONG SAN ISIDRO BRIDGE (DOWNSTREAM), BRGY. SAN ISIDRO, STA. 7E, LEYTE	
SHEET CONTENTS	CONSTRUCTION REQUIREMENT	
DATE	DATE	DATE
REVIEWED	REVIEWED	REVIEWED
SUBMITTED	SUBMITTED	SUBMITTED
RECORDED	RECORDED	RECORDED
APPROVED	APPROVED	APPROVED
SHEET NO.	SHEET NO.	SHEET NO.
08	09	21

LEGENDS, SYMBOLS & ABBREVIATIONS

NBZ = NO BUILD ZONE
SYM = SYMMETRICAL
DR = DETAIL REFERENCE
SR = SECTION REFERENCE
LH = LEFT HANDED
RH = RIGHT HANDED
HS = HIGH STRENGTH

TOPOGRAPHICAL FEATURES			
NORTH ARROW INDICATOR			
GRID COORDINATES			
GROUTED RIPRAP			
EXISTING ROADWAY			
SPELLWAY			
REFERENCE POINT			
STAIRS			
POINT OF INTERSECTION			
GABIONS			
EMBANKMENT			

MAX.	=	MAXIMUM	=	FDL	=	FINISHED DREDGED LEVEL
MIN.	=	MINIMUM	=	FFL	=	FINISH FLOOR LEVEL
FIN.	=	FIN	=	SOP	=	SET OUT POINT
DIA.	=	DIAMETER	=	WP	=	WORK POINT
DWG.	=	DRAWING	=	MS	=	MILD STEEL (250MPa.)
ELEV.	=	ELEVATION	=	HS	=	HIGH STRENGTH
L	=	LENGTH	=	CW	=	CONTINUOUS FILLET WELD
PI	=	POINT OF INTERSECTION	=	CHB	=	CONCRETE HOLLOW BLOCK
%	=	PERCENT	=	RC	=	REINFORCE CONCRETE
m	=	METER	=	SSL	=	STRUCTURAL SLAB LEVEL
CB	=	CONCRETE BARRIER	=	FGL	=	FINISHED GROUND LEVEL
BCSC	=	BITUMINOUS CONCRETE	=	MS	=	MILD STEEL
CU	=	CULVERT	=	O/A	=	OVERALL
RCPC	=	REINFORCE CONCRETE PIPE CULVERT	=	DS	=	DOWN SPOUT
RCBC	=	REINFORCE CONCRETE BOX CULVERT	=	DP	=	DEEP
TS	=	TANGENT TO SPIRAL	=	HD	=	HOLDING DOWN
SC	=	SPIRAL TO CURVE	=	PF	=	PAD FOOTING
CS	=	CUTVE TO SPIRAL	=	SF	=	STRIP FOOTING
ST	=	SPIRAL TO TANGENT	=	GB	=	GROUND BEAM
PVI	=	POINT OF VERTICAL INTERSECTION	=	TB	=	TIE BEAM
DFL	=	DESIGN FLOOD LEVEL	=	CW	=	RC WALL
SIM	=	SIMILAR	=	SOG	=	SLAB ON GRADE
MC	=	MEDIAN CLEARANCE	=	D	=	DEPTH
PCCP	=	PORTLAND CEMENT CONCRETE PAVEMENT	=	T	=	TOP
CTBC	=	CEMENT TREATED BASE COURSE	=	C	=	CENTRAL/CENTERED
NO.	=	NUMBER	=	B	=	BOTTOM
H	=	HORIZONTAL	=	BB	=	BOTTOM MOST LAYER OF BOTTOM BARS
V	=	VERTICAL	=	NF	=	NEAR FACE
R.O.W.	=	RIGHT OF WAY	=	FF	=	FAR FACE
SHLDR	=	SHOULDER	=	EF	=	EACH FACE
C&G	=	CURB & GUTTER	=	EW	=	EACH WAY
A.D.	=	ALGEBRAIC DIFFERENCE	=	EQ	=	EQUAL
K	=	RATE OF VERTICAL CURVATURE	=	ES	=	EQUAL SPACES
STA	=	STATION	=	LV	=	LENGTH VARIES
FGL	=	FINISH GRADE LEVEL	=	ADD	=	ADDITIONAL BAR
CABC	=	CRUSHED AGGREGATE BASE COURSE	=	ALT	=	ALTERNATE
APPR.	=	APPROXIMATE	=	ABR	=	ALTERNATE BARS REVERSED
C	=	CENTER LINE	=	LG	=	BAR LENGTH
BVCS	=	BEGINNING OF VERTICAL CURVE STATION	=	STAG	=	STAGGERED
BVCE	=	BEGINNING OF VERTICAL CURVE ELEVATION	=	TT	=	UPPER MOST LAYER OF TOP BARS
EVCS	=	END OF VERTICAL CURVE STATION	=	OC	=	ON CENTRES
EVCE	=	END OF VERTICAL CURVE ELEVATION	=	CTS	=	CENTRES
N	=	COORDINATES, NORTH	=	OCTS	=	AT CENTRES
E	=	COORDINATES, EAST	=	DB	=	MINIMUM DIAMETER BAR BEND
N	=	NORTH	=	LPA, LPB	=	LAP LENGTH (CLASS A OR B)
Km.	=	KILOMETER	=	FTL	=	FULL TENSION LAP
NC	=	NORMAL CROSSFALL	=	TYP	=	TYPICAL
ASB	=	AGGREGATE SUB BASE COURSE	=	LDH-S	=	NON-SEISMIC HOOK DIMENSION
UNO	=	UNLESS NOTED OTHERWISE	=	R	=	ROUND BAR
NTS	=	NOT TO SCALE	=	db	=	BAR DIAMETER
IL	=	INVERT LEVEL	=	NSOP	=	NOT SHOWN ON PLAN
FSL	=	FINISH SURFACE LEVEL	=		=	



DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
BANGAL, PALAY, LEYTE

CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ISIDRO RIVER (BROWNSTEAM, BROW, SAN
BROWN, STA. 10, LEYTE

LEGEND, SYMBOLS & ABBREVIATIONS

ENGINEER
JANNIENNE DE PAZ

DATE: 10/10/2020
CHECKED BY: L. MARCELLANA, EAP

DATE: 10/10/2020
AGNES M. BARONDA

DATE: 10/10/2020
MA. MARGARITA, JUNIA, JLM

DATE: 10/10/2020
EDGAR B. TABACON, CESO IV

09 09 21

 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. VIII BANGAL, MALAYAL SAN ISIDRO BRIDGE (DOWNSTREAM), BRGY. SAN ISIDRO, STA. FEL, LAYTE		PROJECT NAME AND LOCATION SHEET NO.		PREPARED BY ENGINEER DATE		REVIEWED DATE		SUBMITTED DATE		RECOMMENDED DATE		APPROVED DATE		SHEET NO.	
10		09		09		09		09		09		09		09	

NOTE:

1. ALL QUANTITIES SHOWN ARE ESTIMATES AND SHALL BE SUBJECT TO CHANGE DEPENDING ON THE ACTUAL FIELD CONDITION AS DETERMINED BY THE PROJECT ENGINEER.
2. THE AWARDED CONTRACTOR SHALL SUBMIT AS-STAKED PLAN TO VALIDATE ACTUAL QUANTITIES
3. PILING ACTIVITIES SHALL BE APPROVED BY THE PROJECT ENGINEER AND WITNESS BY PDD DESIGN ENGINEER.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
SUMMARY OF QUANTITIES			
VOLUME II			
OTHER GENERAL REQUIREMENTS			
B.13	ADDITIONAL GEOTECHNICAL INVESTIGATION	L.S.	1.00
MISCELLANEOUS STRUCTURES			
602(2)a	MAINTENANCE MARKER POSTS, CAST-IN-PLACE	EACH	1.00
611(3)	SEEDLINGS/ SAPLINGS FOR OTHER PROGRAMS/ INITIATIVE	EACH	1,700.00
VOLUME III			
OTHER GENERAL REQUIREMENTS			
B.3(1)	PERMITS AND CLEARANCES	L.S.	1.00
B.4(10)	MISCELLANEOUS SURVEY AND STAKING	L.S.	1.00
B.5(1)	PROJECT BILLBOARD / SIGNBOARD	EACH	8.00
B.7(1)	OCCUPATIONAL SAFETY AND HEALTH	L.S.	1.00
B.8(1)	TRAFFIC MANAGEMENT	MO.	8.00
B.9(1)	MOBILIZATION/DEMOLITION	L.S.	1.00
B.15(1)	DETOUR/ACCESS ROAD	L.S.	1.00
PART D			
REINFORCED CONCRETE			
900(1)b	STRUCTURAL CONCRETE, 3000 PSI, CLASS A 14 DAYS	CU.M.	7.96
901(1)	LEAN CONCRETE	CU.M.	10.40
902(1)a2	REINFORCING STEEL (DEFORMED), GRADE 60	KG.	922.45
PART L			
FLOOD AND RIVER CONTROL AND DRAINAGE			
EARTHWORK			
1700(1)	CLEARING AND GRUBBING	SQ.M.	5,900.00
1700(3)a1	INDIVIDUAL REMOVAL OF TREES, 150MM - 300MM DIA.	EACH	40.00
1701(1)	UNSUITABLE EXCAVATION	CU.M.	837.35
1702(4)b	SHORING, CRIBBING AND DRAIN EXCAVATION, CRIBBING/ COFFERDAMMING	L.S.	1.00
1704(1)b	EMBANKMENT, FROM BORROW	CU.M.	2,722.60
PART L-B			
BANK AND SLOPE PROTECTION WORKS			
1710(2)a	GROUTED RIPRAP, CLASS A	CU.M.	623.58
1712(1)	CONCRETE SLOPE PROTECTION	CU.M.	586.75
1714(1)a3	GABIONS, 1m x 1m x 2m, METALLIC COATED	CU.M.	1,770.00
1717(4)b	FURNISHED AND DRIVEN OF STEEL SHEET PILE, Z-TYPE, GRADE 50	M.	2,298.00



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
BAGUIO, PUNJ. LEVITE

PROJECT NAME AND LOCATION:
CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ISIDRO BRIDGE (DUMAGUETE), BRGY. SAN
ISIDRO, STA. FE, LEVITE

SHEET CONTENTS:
TYPICAL DESIGN OF RETENTION STRUCTURE
TYPICAL PARAPET WALL DETAIL
TYPICAL FOOT PROTECTION DETAIL

ENGINEER:
JANUARY 1, 2024

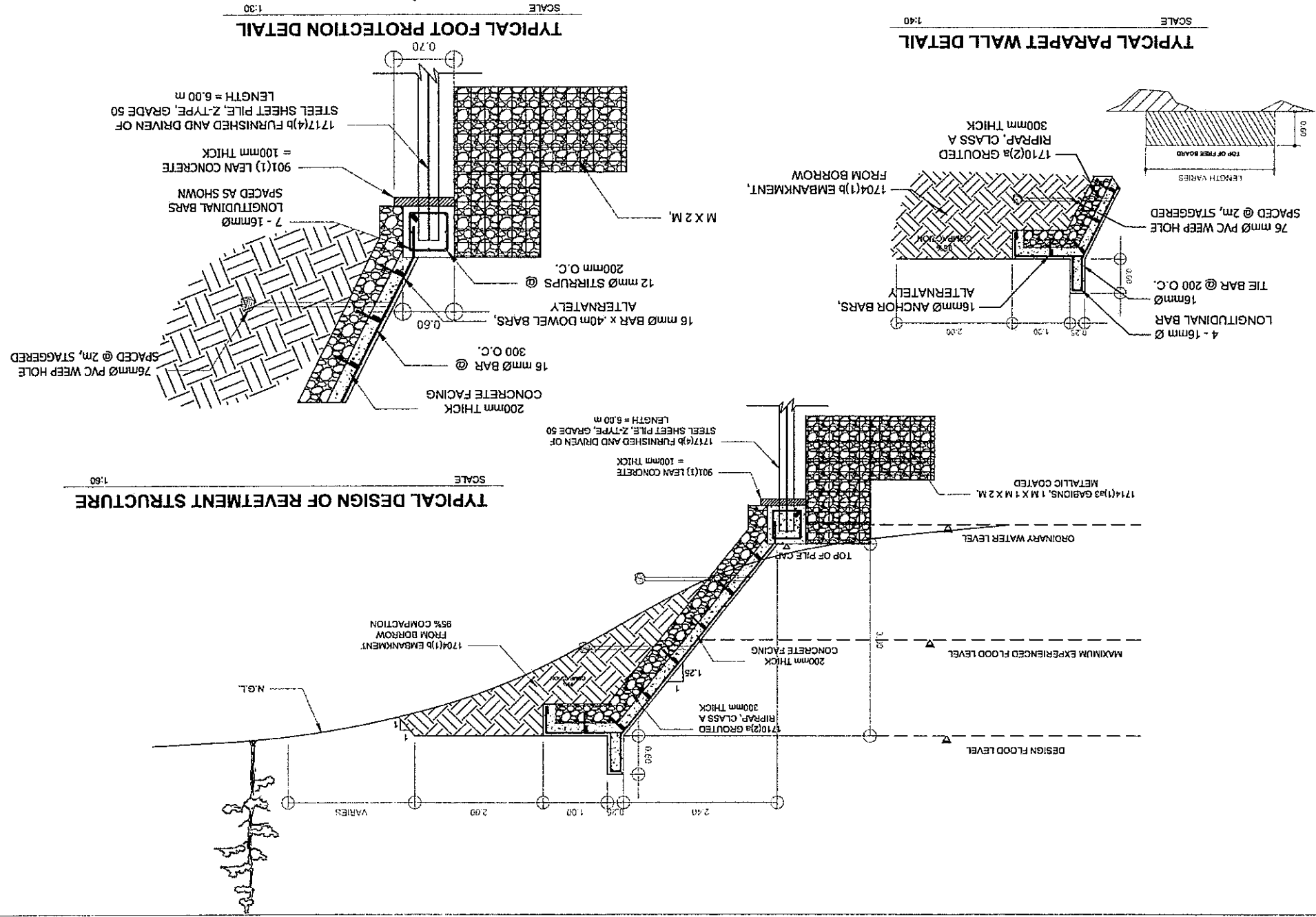
DATE:
10/10/2023

DATE:
10/10/2023

DATE:
10/10/2023

DATE:
10/10/2023

DATE:
10/10/2023





REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
BAYAN, P.I.O. LETTER

CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ISIDRO BRIDGE DOWNSTREAM, BAYAN, SAN
ISIDRO, STA. P.I.O. LETTER

TYPICAL PILE CAP DETAIL
SHEET CONTENTS

ENGINEER
JAMMARENZ L. DE PAZ

DATE: 10/10/2018
CHECKED BY: MARGARET L. DE PAZ
DATE: 10/10/2018

SUBMITTER
AGNES M. BARONDA

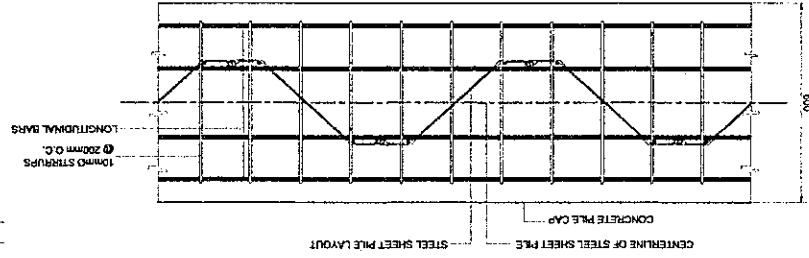
DATE: 10/10/2018
APPROVED BY: MA. MARGARET L. DE PAZ
DATE: 10/10/2018

DATE: 10/10/2018
APPROVED BY: EDGAR B. TABACON, CESO IV
DATE: 10/10/2018

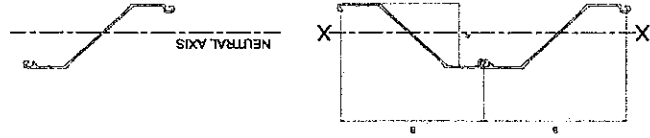
12
21

TYPICAL SHEET PILE DETAIL

AS SHOWN

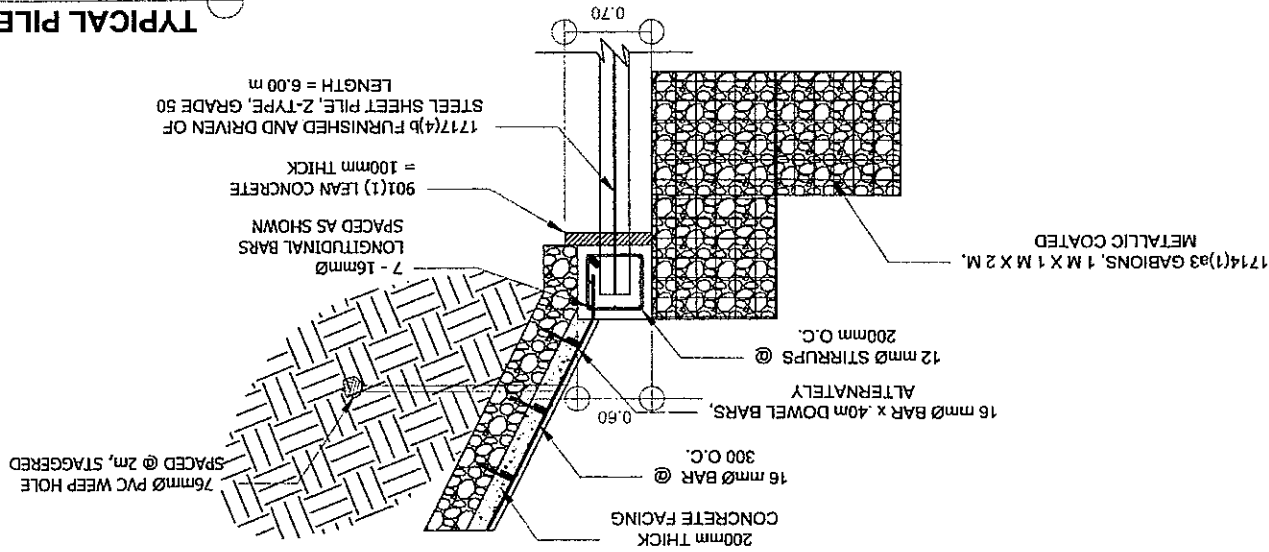


DIMENSIONS				PER PILE				PER LINEAR METER OF WALL			
Width	Height	Thickness	Sectional Area	Weight	Moment of Inertia	Section Modulus	Weight	Sectional Area	Weight	Section Modulus	Sectional Area
770	343.5	8.69.5	120.80	72.8	1252	156.9	156.9	94.5	21.489	1.252	1.252
mm	mm	mm	cm ²	kg/m	cm ⁴	cm ³	cm ³	kg/m	cm ³	cm ³	cm ³



TYPICAL PILE CAP DETAIL

SCALE 1:40





REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
BAYAN, PANGLOSITE

PROJECT NAME AND LOCATION
CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ISIDRO BRIDGE DOWNSTREAM, BAYAN, SAKAY
SECTION, STA. 0+100 TO 0+200

SHEET COMMENTS
DETAIL OF CONCRETE STAIRS
FRONTVIEW OF RETEMENT STRUCTURE

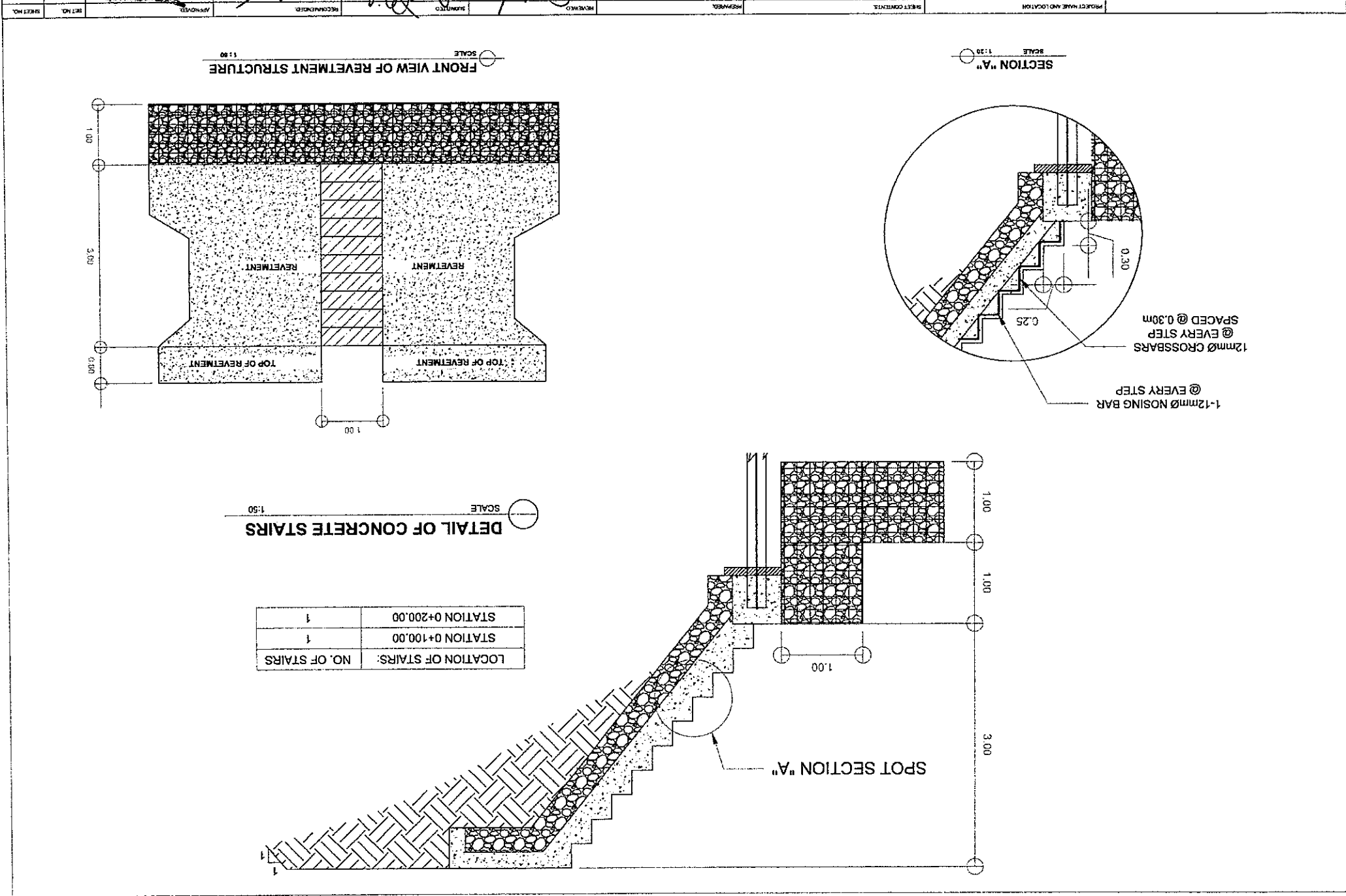
DESIGNED BY
JANETTE L. DELA CRUZ
CHECKED BY
JANETTE L. DELA CRUZ

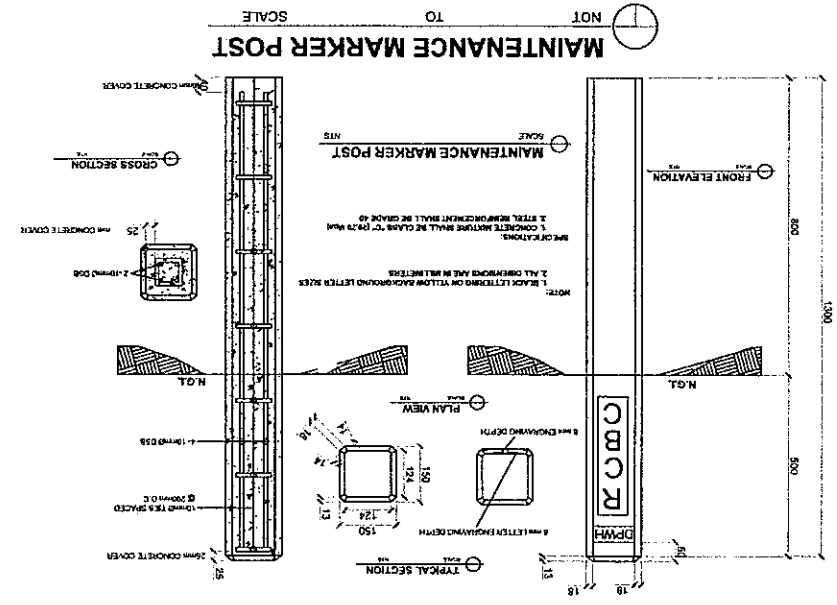
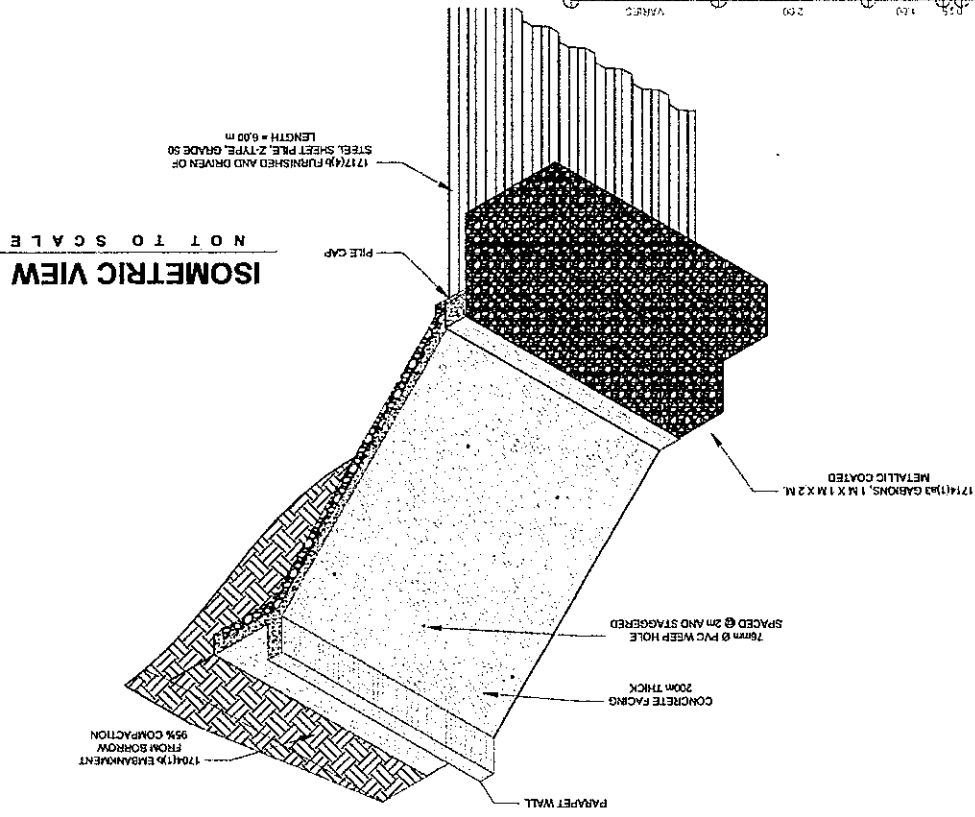
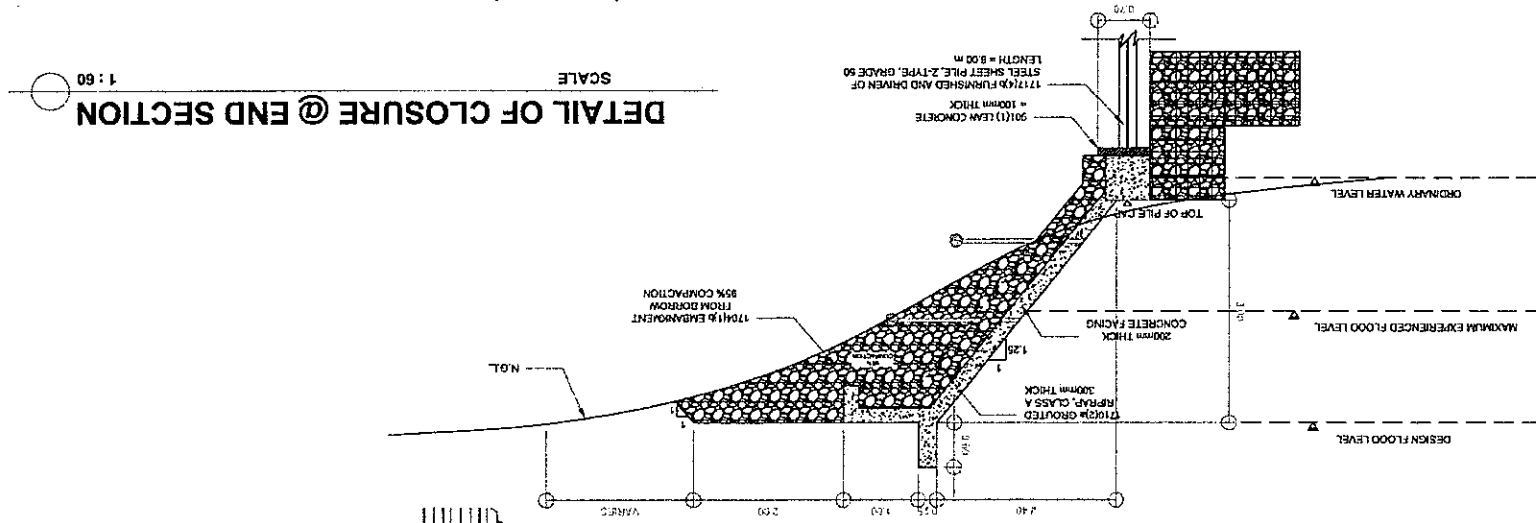
REVIEWED BY
GILBERTO L. MARCELO, ENR
DATE: 10/10/2019

SUBMITTED BY
AGNES M. BARONDA
DATE: 10/10/2019

RECOMMENDED BY
MA. MARGARITA C. JIMENA, ENR
DATE: 10/10/2019

APPROVED BY
EDGAR S. TABACON, CESO IV
DATE: 10/10/2019







REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VIII
Davao City, Davao Region

PROJECT NAME AND LOCATION
CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ROMAN BRIDGE (DOWNTOWN, DAVAO, SAKAY)
SECTION, STA. 1+00 TO 1+100

SHEET CONTENTS
FRONT VIEW ELEVATION OF RETEMENT STRUCTURE
TOP VIEW OF RETEMENT STRUCTURE
DETAIL OF WEEP HOLE
ISOMETRIC VIEW (RBC)

DESIGNED BY
JAMMIE L. REYES
ENGINEER

CHECKED BY
CLODIA M. MARCELLANA, ENP
DATE: 11/05/2011

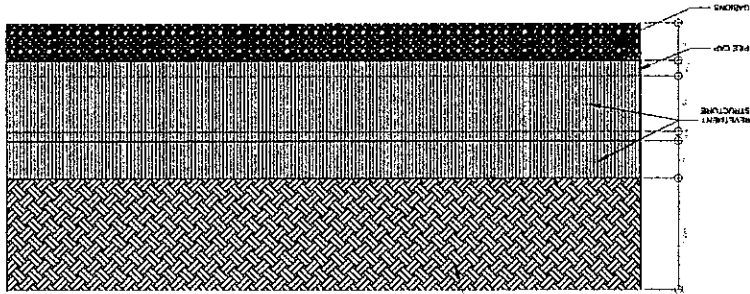
DATE: 11/05/2011
SUBMITTED BY
JAMES M. BARRONDA
DATE: 11/05/2011

DATE: 11/05/2011
RECOMMENDED BY
MA. MARICORITA C. JUNG, D.M.
DATE: 11/05/2011

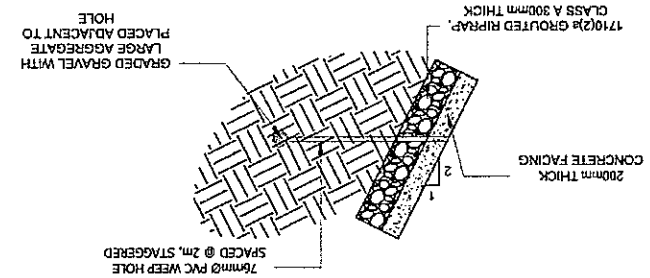
DATE: 11/05/2011
APPROVED BY
EDGAR B. TABAGON, CESO IV
DATE: 11/05/2011

SHEET NO.
15
OF
21

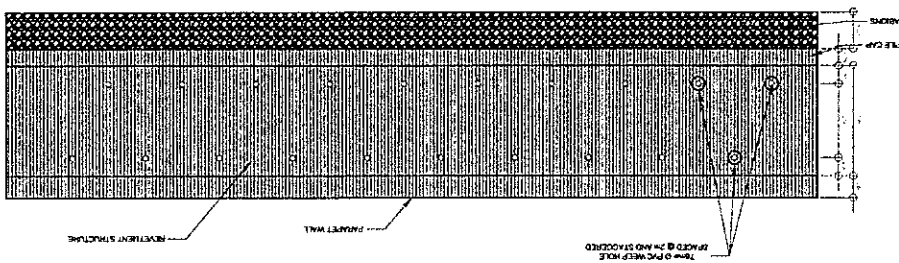
TOP VIEW OF RETEMENT STRUCTURE
SCALE: 1:50



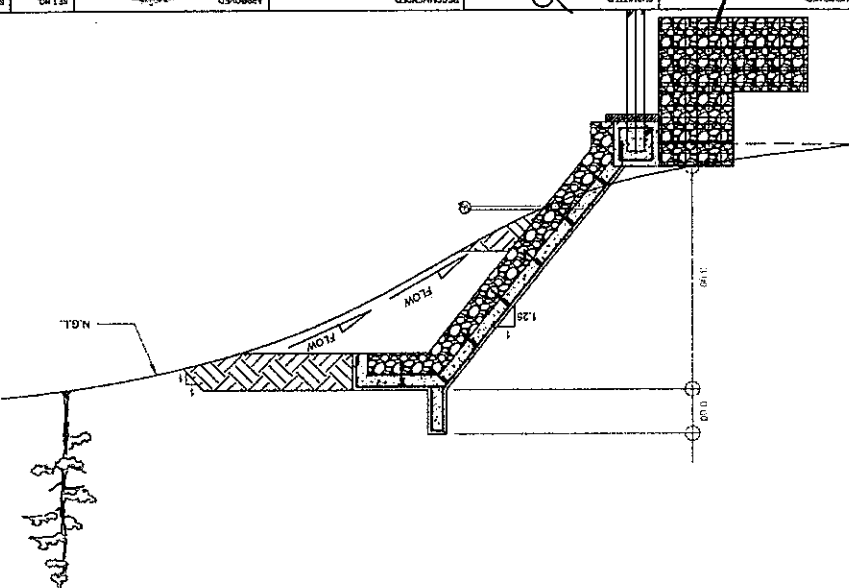
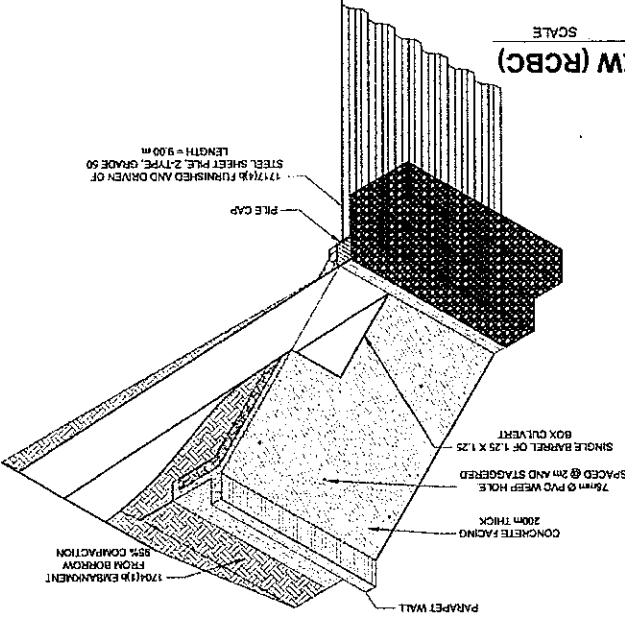
DETAIL OF WEEP HOLE
SCALE: 1:50



FRONT VIEW ELEVATION OF RETEMENT STRUCTURE
SCALE: 1:50



ISOMETRIC VIEW (RBC)
NOT TO SCALE





REGIONAL OFFICE NO. VIII
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
ILOILO, STA. FE, LEYTE

CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ISIRO BRIDGE (DOWNSTREAM), BROY, BAW
BAR SCHEDULE - SINGLE BARREL

SECTION - SINGLE BARREL
BAR SCHEDULE - SINGLE BARREL

JANN RENZ L. DE PAZ
ENGINEER II

DATE: 10/10/2018
DRAWN: JANN RENZ L. DE PAZ
CHECKED: JANN RENZ L. DE PAZ

DATE: 10/10/2018
DRAWN: JANN RENZ L. DE PAZ
CHECKED: JANN RENZ L. DE PAZ

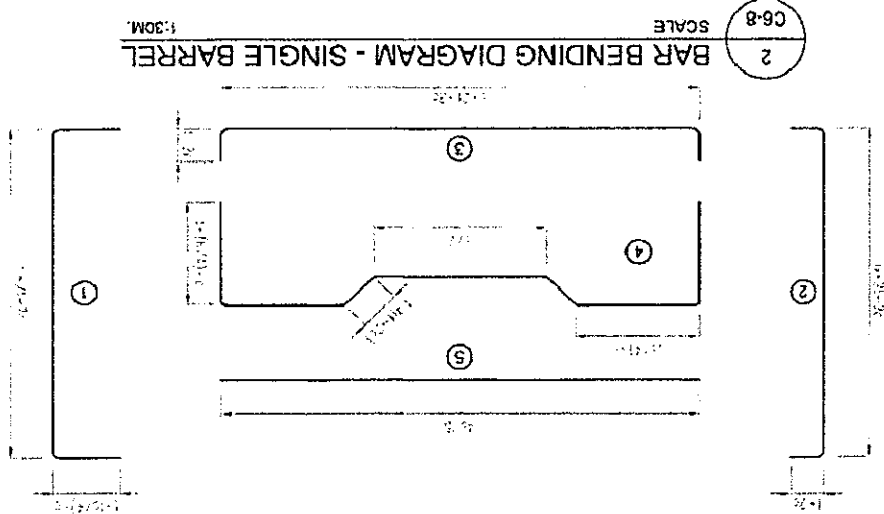
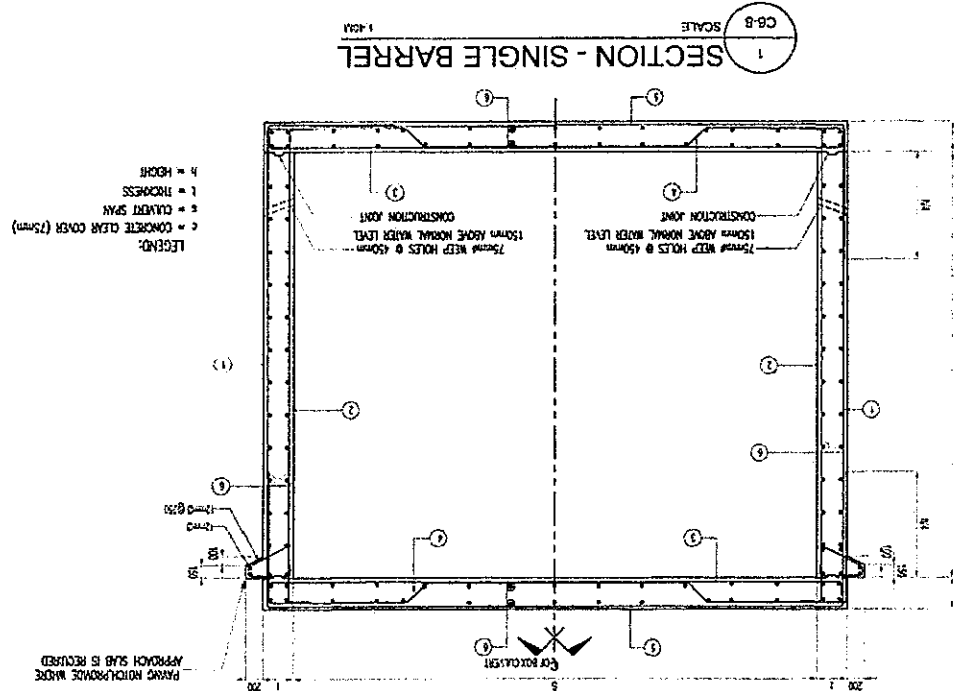
DATE: 10/10/2018
DRAWN: JANN RENZ L. DE PAZ
CHECKED: JANN RENZ L. DE PAZ

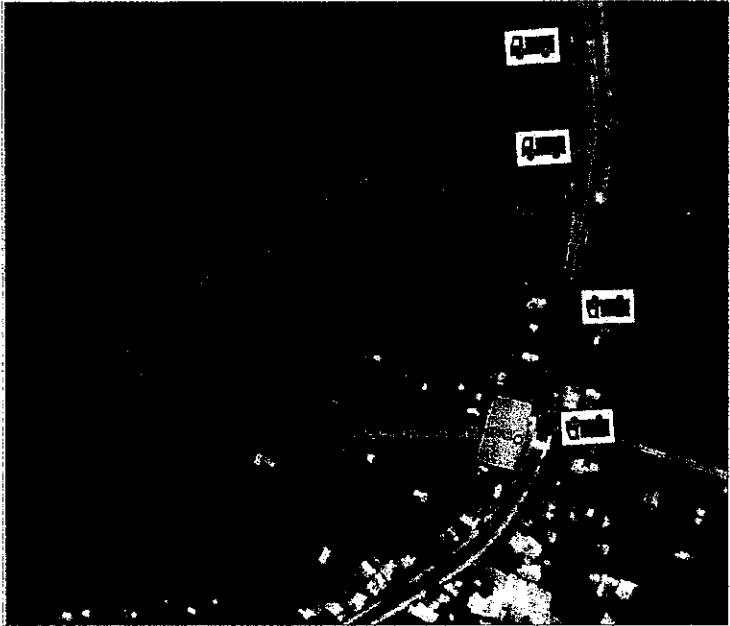
DATE: 10/10/2018
DRAWN: JANN RENZ L. DE PAZ
CHECKED: JANN RENZ L. DE PAZ

16
20

SPAN	HEIGHT	BAR 1	BAR 2	BAR 3	BAR 4	BAR 5	BAR 6
3000	3000	3000	3000	3000	3000	3000	3000
2400	2400	2400	2400	2400	2400	2400	2400
1800	1800	1800	1800	1800	1800	1800	1800
1500	1500	1500	1500	1500	1500	1500	1500
1250	1250	1250	1250	1250	1250	1250	1250
1000	1000	1000	1000	1000	1000	1000	1000
750	750	750	750	750	750	750	750
500	500	500	500	500	500	500	500
250	250	250	250	250	250	250	250
125	125	125	125	125	125	125	125
62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5

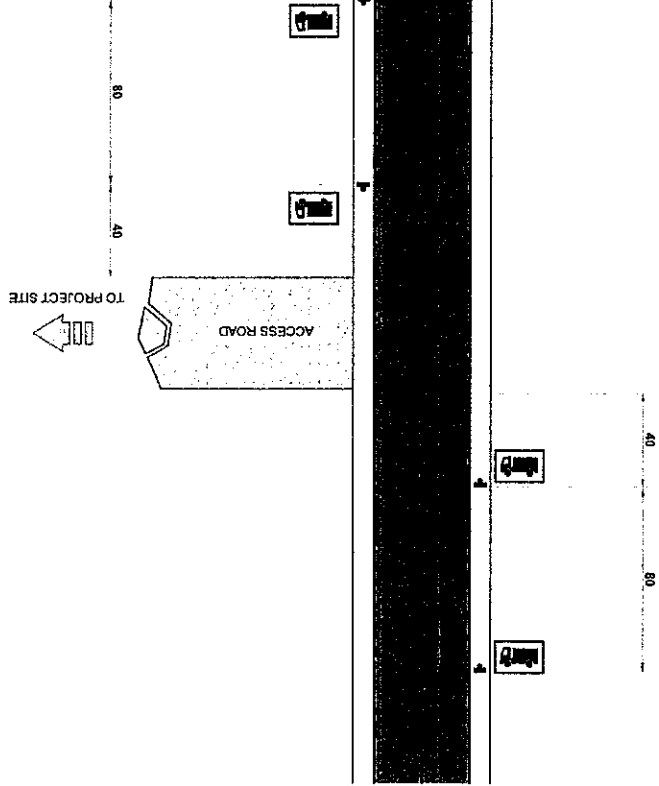
BAR SCHEDULE - SINGLE BARREL
SCALE: 1:100M





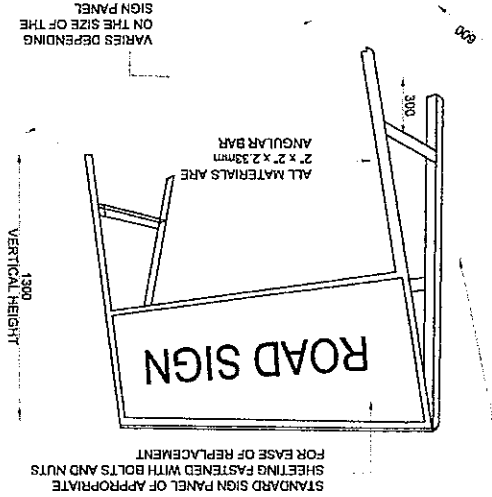
ROAD WORK SIGN DETAILS
SCALE
NTS

LEGEND:
SIGNAGE (T2-25)
DETOUR/ACCESS ROAD
REVERTMENT



	TRUCKS ENTERING	T2-25	900 X 600	SIGNAGE (T2-25)
			BLACK	YELLOW REFLECTORIZED

VARIES
DEPENDS
ON THE
SIZE OF THE
SIGN PANEL

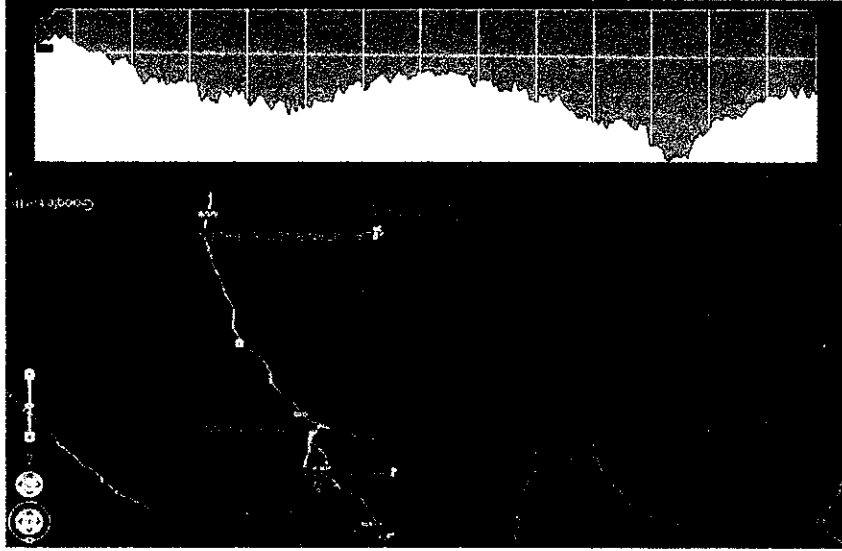


NOTES:

1. ROADWORKS SAFETY AND TRAFFIC MANAGEMENT AND CONSTRUCTION SAFETY AND HEALTH PROGRAM SHALL BE IN ACCORDANCE WITH D.O. NO. 19, SERIES OF 2018.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEVELOPING AND MAINTAINING AN EFFECTIVE TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE SPECIAL PROVISIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND THE CORRESPONDING LOCAL AUTHORITIES.

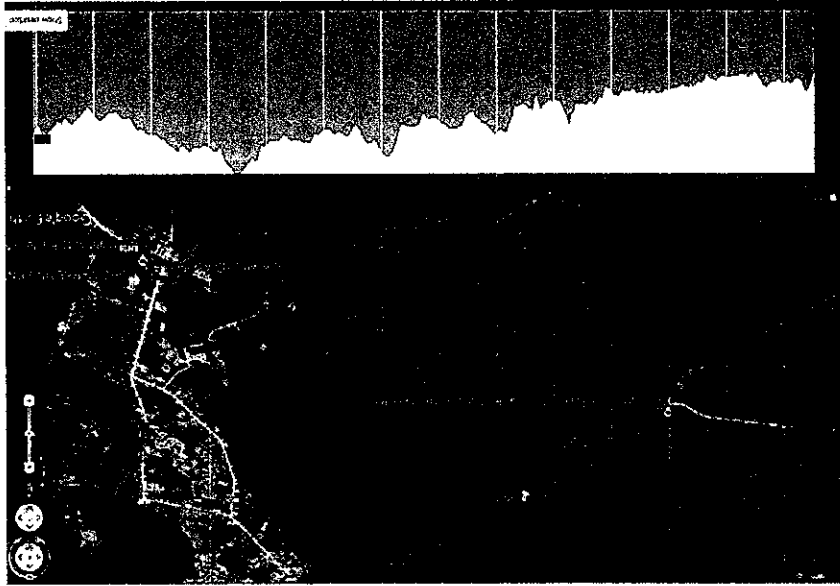
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. VIII REGIONAL HEADQUARTERS 1000, 8TH FL. LEFTS CONSTRUCTION OF FLOOD CONTROL ALONG SAN ISIDRO BRIDGE (DOMESTIC) BRIDGE, SAN		PROJECT NAME AND LOCATION SHEET COUNTS		APPROVED JAMES L. DEPAZ DIRECTOR		REVIEWED GLOMBARD L. MARCELO, ENR CHIEF ENGINEER DATE: 08/11/18		SUBMITTED AGNES N. BARONDA CHIEF ENGINEER AND DESIGN SECTION DATE: 08/11/18		RECOMMENDED MA. MARGARITA C. JUAN, D.M. REGIONAL DIRECTOR DATE: 08/11/18		SHEET NO. 18 SHEET NO. 21	
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SOURCE MAP



Dagupan River (Bureau) to
 Project Site
 Coordinates: 10° 58' 22.42" N
 124° 56' 19.26" E
 Fine Aggregate (Sand, Gravel 5%)
 (MAS 20mm) Gravel Natural,
 Aggregate Subbase Course, Common
 Borrow, Stone Class A (15-25 kg)
 36.30 Kilometers

Note
 Flat Terrain - 36.30 km.
 Rolling Terrain - 0 km.

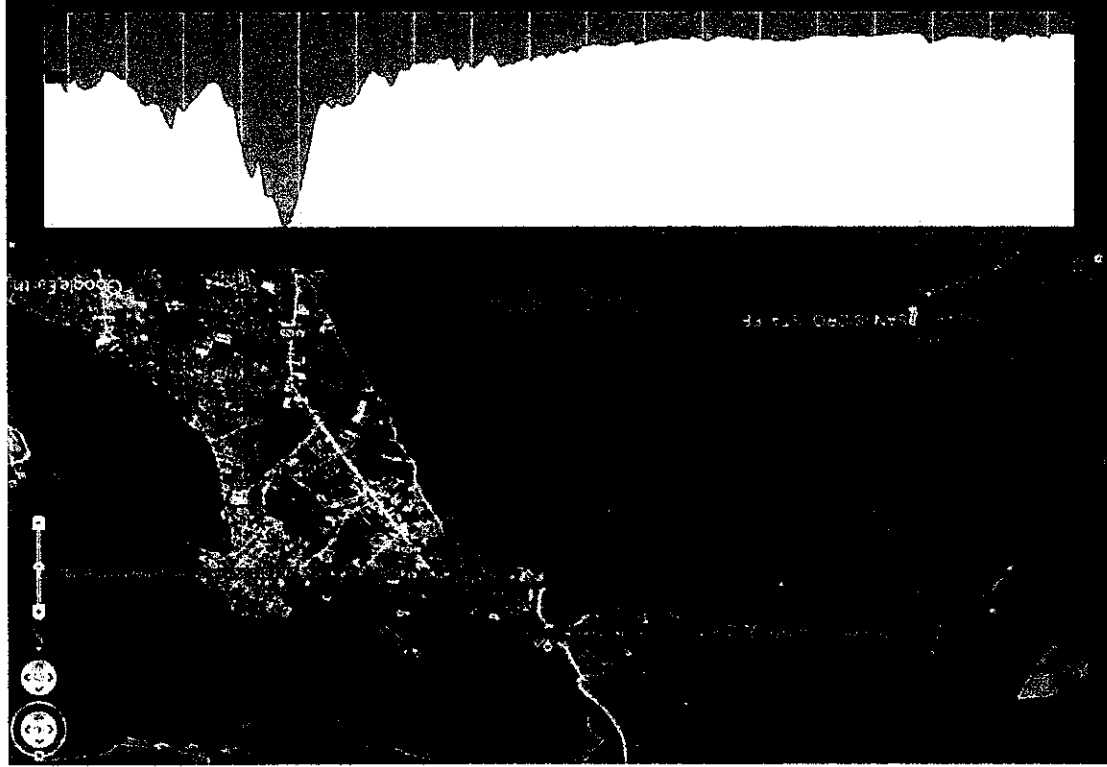


GRC Marking Enterprise to
 Project Site
 Coordinates: 11° 9' 34.79" N
 124° 59' 46.86" E
 Portland Cement (40 kg), Reinforcing
 Steel Bar Grade 40 & Grade 60
 13.8 Kilometers

Note:
 Flat Terrain - 13.8 km.
 Rolling Terrain - 0 km.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. VIII BANGALAY, DAVAO		PROJECT NAME AND LOCATION CONSTRUCTION OF FLOOD CONTROL ALONG SAN MIGUEL BRIDGE (DOWNTOWN) BRIDGE, SAN MIGUEL, STA. FE, LETE		SHEET CONTENTS SOURCE MAP		PREPARED JANUARY 1, 2012 ENGINEER JANUARY 1, 2012	REVIEWED E. OGDALINO L. MARSELLA, ENR DATE: 01/01/2012 OFFICE OF THE REGIONAL ENGINEER	SUBMITTED JANUARY 1, 2012 DATE: 01/01/2012 OFFICE OF THE REGIONAL ENGINEER	RECOMMENDED MA. MARGARITA C. JUNI, R.M. DATE: 01/01/2012 OFFICE OF THE REGIONAL ENGINEER	APPROVED EDUAR B. TABACON, CESO III DATE: 01/01/2012 OFFICE OF THE REGIONAL ENGINEER	SHEET NO. 19 21
--	--	---	--	------------------------------	--	--	---	---	---	---	-----------------------

SOURCE MAP



Note
Flat Terrain - 13.30 km.
Rolling Terrain - 0 km.

Port of Tacloban
to Project Site
Coordinates: 11° 14' 51.99" N
125° 0' 0.09" E
Structural Steel / Steel Sheet Pile
12-1-Z-Type
13.30 Kilometers

SHEET NO. 20		SHEET NO. 21		APPROVED: EDGAR B. YASACON, CERO IV REGIONAL DIRECTOR		RECORDED: MA. MARAOLITA J. JUAN, D.M. ASST. REGIONAL DIRECTOR		DATE: _____ AGNES M. BARONDA REGIONAL ENGINEER		DATE: _____ CLODOWD L. MARCELLANA, EIR CHIEF ENGINEER		DATE: _____ JANN MARINE C. DE PUECO ENGINEER II		COA STANDARD PROJECT BILLBOARD SPECIAL TREE CUTTING PERMIT BILLBOARD		PROJECT NAME AND LOCATION CONSTRUCTION OF FLOOD CONTROL ALONG SAN BERNADO BRIDGE DOWNSTREAM, BAYO, SAK IBIGNO, BTA, PC, LEYTE		DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGIONAL OFFICE NO. VIII BARAS, PALO, LEYTE			
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COA STANDARD PROJECT BILLBOARD

Tarapaulin, white, 8 ft x 8 ft
Resolution : 70 dpi
Font : Helvetica
Font size : Main Information - 3"
Sub-Information - 1"
Font Color : Black

SPECIFICATIONS :

For participants or complaints about this project, please contact the Regional Office or Cluster which has audit jurisdiction on this project :

COA Regional Office No./Cluster : _____
Address : _____
Contact No. : _____ or Text COA Citizen's Desk at 0915-5391957

Duration	Started	Target Date of Completion	Percentage of Completion	As of (Date)	Cost Incurred to Date	Date Completed	Remarks

Project Details :

Project : _____
Location : _____
Implementing Agency/ies : _____
Development Partner/s : _____
Contractor/Supplier : _____
Brief Description of Project : _____

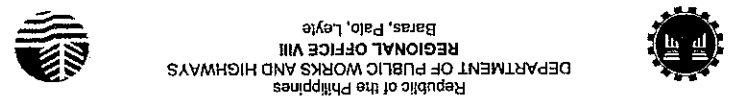
Project : _____
Cost : _____
Fund Source/s : _____

Government Center Candahug, Palo, Leyte



SPECIAL TREE CUTTING PERMIT BILLBOARD

PURPOSE: TREE CUTTING FOR THE PROJECT _____
NO. OF TREES TO BE CUT: _____
DENR-SPECIAL TREE CUTTING PERMIT No.: _____
DATE ISSUED: _____
EXPIRY DATE: _____

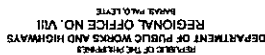


CNC BILLBOARD (4' x 8')

This is to inform that (name of proponent) has been issued with Certificate of Non-Coverage (CNC) No. _____ by the DENR-Environmental Management Bureau R8 for the (name of project) Located at (project location). Issued on _____.



NOTICE TO THE PUBLIC



CONSTRUCTION OF FLOOD CONTROL ALONG
SAN ISIDRO BRIDGE (DOWNSTREAM) BRGY. SAN
ISIDRO, STA. FE, LEYTE

OPEN STANDARD PROJECT SHEET
BILL BOARD PAGE

JAYNN L. DE PAZ

CLONADO L MARCELLA, EMP

AGNES M. BARONDA
CHIEF PLANNING AND DESIGN DIVISION

MA. MORGANTI, C. JUNIA, D.M. EDGAR B. TABACON, CEO N. REGIONAL DIRECTOR

$$\frac{24}{24}$$

BILLBOARD

THIS IS WHERE YOUR TAXES GO



NAME OF PROJECT:

LOCATION:

NAME OF CONTRACTOR:

CONTRACT COMPLETION DATE:

CONTRACT COST:

IMPLEMENTING OFFICE:

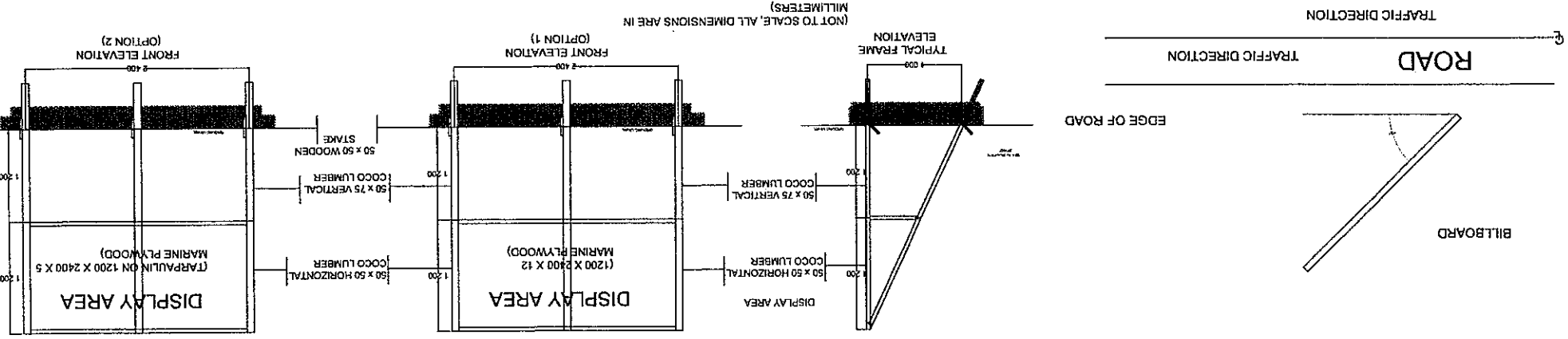
SOURCE OF FUND:

Department of Public Works and Highways
 Text 2520 or Call (02) 155-02 for any concern on this project

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INSTALLATION OF BILLBOARD SHALL CONFORM WITH
DEPARTMENT ORDER NO 37, SERIES OF 2010,
INSTALLATION OF REVISED PROJECT BILLBOARDS

NOTE:



BILLBOARD FRAME

(NOT TO SCALE, ALL DIMENSIONS ARE IN MILLIMETERS)

FRONT ELEVATION (OPTION 2)

Floor plan of the Display Area. The area is rectangular, measuring 1200 units by 2400 units. The material is specified as MARINE PLYWOOD. The plan shows a central display area with a width of 1200 and a length of 2400. The material is labeled as MARINE PLYWOOD. The plan also shows a section labeled 1200 X 2400 X 5. The overall dimensions are 1200 X 2400 X 5.