C.Y. 2019 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR
OO1: ENSURE SAFE AND RELIABLE NATIONAL ROAD SYSTEM - ASSET PRESERVATION PROGRAM, PREVENTIVE MAINTENANCE - TERTIARY ROADS, C. PADILLA ST., (S00070CB)
CHAINAGE 0 - CHAINAGE 407, CEBU CITY
SECTION: C. PADILLA ST.
LOCATION: BRGYS. MAMBALING & JAI-ALAI, CEBU CITY
STATION LIMITS:
SECTION 1: STA. 0+000 - STA. 0+407
SECTION 2: STA. 0+407 - STA. 0+514
NET LENGTH:
SECTION 1: 407m
SECTION 2: 107m
TYPICAL ROADWAY SECTIONS

SECTION 1

STA. 0+000 - STA. 0+107

SECTION 2

STA. 0+107 - STA. 0+214

NOTE: TO SCALE

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10 PLAN AND PROFILE (STA. 0+320 - STA. 0+420)
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17 DETAILED CROSS SECTION - SECTION 1 (STA. 0+037.63 - STA. 0+047.13)
18 DETAILED CROSS SECTION - SECTION 1 (STA. 0+050 - STA. 0+120)
19 DETAILED CROSS SECTION - SECTION 1 (STA. 0+140 - STA. 0+240)
20 DETAILED CROSS SECTION - SECTION 1 (STA. 0+260 - STA. 0+360)
21 DETAILED CROSS SECTION - SECTION 1 (STA. 0+380 - STA. 0+407)
22 DETAILED CROSS SECTION - SECTION 2 (STA. 0+407 - STA. 0+500)
23 DETAILED CROSS SECTION - SECTION 2 (STA. 0+514)

PROJECT LENGTH DATA

SECTION LIMITS LENGTH
1 STA. 0+000 - STA. 0+407 407 m
2 STA. 0+407 - STA. 0+514 107 m
TOTAL LENGTH 514 m

COORDINATES (START)
LAT 10° 17' 27.79" N
LONG 123° 52' 38.47" E

COORDINATES (END)
LAT 10° 17' 30.80" N
LONG 123° 52' 34.96" E

LOCATION MAP

REGION VII MAP

THIS SITE

LOCATION PLAN

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23 DETAILED CROSS SECTION - SECTION 2 (STA. 0+514)
**SUMMARY OF QUANTITIES**

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<th>UNIT</th>
<th>QUANTITY</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.3</td>
<td>PERMITS AND CLEARANCES</td>
<td>L.S.</td>
<td>1</td>
<td>IN COMPLIANCE TO DEPT. ORDER NO. 197 SERIES OF 2016</td>
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<tr>
<td>B.4(10)</td>
<td>MISCELLANEOUS SURVEY AND STAKING</td>
<td>ea.</td>
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<td>IN COMPLIANCE TO DEPT. ORDER NO. 197 SERIES OF 2016</td>
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<td>B.5</td>
<td>PROJECT BILLBOARD / SIGNBOARD</td>
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<td>2</td>
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<td>B.7(2)</td>
<td>OCCUPATIONAL SAFETY AND HEALTH PROGRAM</td>
<td>mos.</td>
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<td>B.8(1)</td>
<td>TRAFFIC MANAGEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.9</td>
<td>MOBILIZATION / DEMOBILIZATION</td>
<td>L.S.</td>
<td>1</td>
<td>IN COMPLIANCE TO DEPT. ORDER NO. 197 SERIES OF 2016</td>
</tr>
<tr>
<td>101(3)c1</td>
<td>REMOVAL OF ACTUAL STRUCTURES/OBSTRUCTION (ACP, 0.05m thk.) (includes disposal)</td>
<td>m²</td>
<td>4,844</td>
<td>ADOPT THE DPWH STANDARD SPECIFICATION</td>
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<tr>
<td>302(2)</td>
<td>EMULSIFIED ASPHALT</td>
<td>m³</td>
<td>8,777</td>
<td>ADOPT THE DPWH STANDARD SPECIFICATION</td>
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<tr>
<td>310(1)c1</td>
<td>BITUMINOUS CONCRETE SURFACE WEARING COURSE, HOT-LAID (50mm)</td>
<td>m²</td>
<td>8,777</td>
<td>ADOPT THE DPWH STANDARD SPECIFICATION</td>
</tr>
<tr>
<td>612(1)</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS WHITE</td>
<td>m²</td>
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<tr>
<td>612(2)</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS YELLOW</td>
<td>m²</td>
<td>38</td>
<td>ADOPT THE DPWH STANDARD SPECIFICATION</td>
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<tr>
<td>607(3b)</td>
<td>INTERNALLY ILLUMINATED (SOLAR) PAVEMENT LEVELLED MARKER/STUD FLUSH TYPE</td>
<td>each</td>
<td>136</td>
<td>ADOPT THE DPWH STANDARD SPECIFICATION</td>
</tr>
</tbody>
</table>
GENERAL NOTES:

1. ALL WORKS SHALL COMPLY WITH THE FOLLOWING:
   • DPWH DESIGN GUIDELINES, CRITERIA AND STANDARDS, VOLUME II
   • STANDARD SPECIFICATION FOR HIGHWAY, BRIDGES AND AIRPORTS, 2013 EDITION
   • HIGHWAY SAFETY DESIGN STANDARD PART I & II

2. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE EXPRESSED IN MILLIMETERS WHILE DISTANCES AND ELEVATIONS ARE IN TERMS OF METERS.


4. PROPER CONNECTION SHALL BE PROVIDED AT THE BEGINNING AND END OF THE PROJECT, WHEN NECESSARY TO ENSURE A SAFE TRANSITION BETWEEN THE NEW AND OLD/EXISTING PAVEMENT.

5. FIELD DATA OF THIS PROJECT IS BASED ON ACTUAL SURVEY CONDUCTED ON SEPTEMBER 2018 BY THE SURVEY TEAM OF THE DPWH CEBU CITY DISTRICT ENGINEERING OFFICE.

6. THE IMPLEMENTING OFFICE SHALL IDENTIFY THE LOCATIONS AND PROVIDE ACCESSIBILITY FACILITIES FOR PERSONS WITH DISABILITY SHALL BE IN ACCORDANCE WITH DEPT. ORDER # 37 SERIES OF 2009.

7. THE ORIGINAL PLAN IS PREPARED TO SERVE AS A GUIDE PARTICULARLY DURING THE PROCUREMENT STAGE, SUBJECT TO AN "AS-STAKED PLAN" TO BE PREPARED BY THE AWARDER BIDDER BASED ON THE PRE-CONSTRUCTION SURVEY OR STAKED OUT SURVEY JOINTLY CONDUCTED BY THE CONTRACTOR, IMPLEMENTING OFFICE AND TO COORDINATE WITH THE PLANNING AND DESIGN SECTION WHO CONDUCTED THE ORIGINAL SURVEY FOR THE PROJECT.


10. PRIOR CLEARANCE OR AUTHORITY SHALL BE SECURED FROM THE DISTRICT ENGINEER FOR PORTIONS INVOLVING MAJOR CHANGES IN ROAD ALIGNMENT THAT WOULD ENTAIL/SURMOUNT TO CERTAIN CHANGES ON THE ORIGINAL ITEMS OF WORK.
CARRIAGEWAY WIDTH

- 4.100 - 11.550
- 8.200 - 23.100

ITEM 302(2) - EMULSIFIED ASPHALT

ITEM 310(1)c - BITUMINOUS CONCRETE SURFACE WEARING COURSE, HOT-LAIED (50mm)

EXISTING CURB, GUTTER AND GUTTER

ITEM 310(1)c - BITUMINOUS CONCRETE SURFACE WEARING COURSE, HOT-LAIED (100mm)

EXISTING CURB, GUTTER AND GUTTER

PAVEMENT DESIGN PARAMETERS

8.16 TONNES AXLE (ESA)
LEVEL OF RELIABILITY, R = 85% (URBAN)
CONCRETE STRENGTH AT 28 DAYS, 650psi
USE 15% STRENGTH DROP
STANDARD NORMAL DEVIATE, Zr = 1.037
SUBBASE ELASTIC MODULUS, E SB = 20,000psi
LOSS OF SUBBASE SUPPORT, LS = 1.0
P O = 4.5 (RIGID PAVEMENT), ORIGINAL SERVICEABILITY
P T = 2.5 (MAJOR HIGHWAYS), TERMINAL SERVICEABILITY
OVERALL STANDARD DEVIATION, O = 0.35 (RIGID PAVEMENT)
TYPICAL ROADWAY SECTION AT NORMAL CROWN

SECTION 2

SCALE: 1:75 m

UNITED NATIONS

PRELIMINARY DESIGN

TYPICAL ROADWAY SECTIONS

PAVEMENT DESIGN PARAMETERS

8.16 TONNES AXLE (ESA)
LEVEL OF RELIABILITY, R = 85% (URBAN)
CONCRETE STRENGTH AT 28 DAYS, 650psi
USE 15% STRENGTH DROP
STANDARD NORMAL DEVIATE, Zr = 1.037
SUBBASE ELASTIC MODULUS, ESB = 20,000psi
LOSS OF SUBBASE SUPPORT, LS = 1.0
fc = 3,500psi
LOAD TRANSFER COEFFICIENT, J = 3.60
DRAINAGE COEFFICIENT, Cd = 1.0
P1 = 4.5 (RIGID PAVEMENT), ORIGINAL SERVICEABILITY
P2 = 2.5 (MAJOR HIGHWAYS), TERMINAL SERVICEABILITY
OVERALL STANDARD DEVIATION, 0.35 (RIGID PAVEMENT)

SCHEDULE OF STRUCTURES

ITEM NO. | DESCRIPTION |
--- | --- |
0+437 | REMOVAL OF STRUCTURES/DESTRUCTION (ACP, 0.05m thk.) |
0+437 | BITUMINOUS CONCRETE SURFACE WEARING COURSE, HOT LAD |
0+437 | BITUMINOUS CONCRETE SURFACE WEARING COURSE, HOT LAD |
0+437 | REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS, YELLOW |
0+437 | INTERIALLY ILLUMINATED (SOLAR) PAVEMENT LEVELLED MARKER |

REMARKS

ITEM NO. | START | END |
--- | --- | --- |
0+437 | 0+407 | 0+514 |
0+437 | 0+407 | 0+514 |
0+437 | 0+407 | 0+514 |
0+437 | 0+407 | 0+514 |
0+437 | 0+407 | 0+514 |
NOTES:
1. FOR EFFECTIVE DRAINAGE, THE SLOPE OF EDGE OF PAVEMENT (AS) SHALL BE ≥ 0.30% BETWEEN ± 2% GRADE.
2. e1 max. CAN BE TAKEN FROM TABLE OF DESIGN VALUE FOR SUPERELEVATION.
3. THE SLOPE OF SHOULDER SHALL ALWAYS fill IN THE DIRECTION OF THE OUTSIDE EDGE OF THE TRAVELED WAY.
4. WHEN THE SUPERELEVATION IS GREATER THAN 3% THEN THE SLOPE OF LOWER SHOULDER SHALL BE THE SAME AS FOR THE TRAVELED WAY.
5. WHEN SUPERELEVATION IS 4% OR LESSER, THEN THE LOWER SHOULDER SHALL HAVE A SLOPE OF 3%.
6. IF THE SUPERELEVATION IS 5% THEN THE CROSS SLOPE OF THE HIGHER SHOULDER IS 2%, BUT FOR A MAXIMUM SUPERELEVATION OF 5%, THE SLOPE OF THE HIGHER SHOULDER WILL BE 1%.
7. SUPERELEVATION SHOWN ON THE PROFILE ARE BASED ON CONSTANT 6.70m PAVEMENT WITH AND NOT ON VARYING PAVEMENT WITH DUE WIDENING.
8. THE CROSS SLOPE OF SUBBASE IS ALWAYS FALLING.
9. ALGEBRAIC DIFFERENCE OF CROSS OVER SHOULD NOT EXCEED 7%.
10. FOR e>7% SHOULDER SHOULD BE PAVED.

NOTE: IN MOUNTAINous SECTIONS AND AT BRIDGE APPROACHES THE DESIGN SPEED OF 30 Km/h AND THE MAXIMUM SUPERELEVATION OF 4% INSTEAD OF 6% WILL BE ADOPTED WHEN NECESSARY.
HORIZONTAL CURVE (CIRCULAR)

SYMMETRICAL VERTICAL PARABOLIC CURVE

UNSYMMETRICAL VERTICAL PARABOLIC CURVE

FORMULA:
\[ T = \frac{1}{2} \tan^{-1} \left( \frac{Y}{Lc} \right) \]
\[ L_{c} = \frac{TT}{\pi} \]
\[ D = \frac{1145.916}{R} \]
\[ E = T \tan \left( \frac{1}{4} \right) \]

LEGEND:
P - POINT OF HORIZONTAL INTERSECTION
I - EXTERNAL ANGLE
T - LENGTH OF TANGENT
R - HORIZONTAL RADIUS
L - LENGTH OF CURVATURE
D - DEGREE OF CURVE (ARC DEFINITION)
PVC - POINT OF VERTICAL CURVATURE
PVT - POINT OF VERTICAL TANGENCY
E - EXTERNAL DISTANCE

LEGEND:
PVI - POINT OF VERTICAL INTERSECTION
PVC - POINT OF VERTICAL CURVATURE
PVT - POINT OF VERTICAL TANGENCY
LVC, LVC1, LVC2 - LENGTH OF VERTICAL CURVES
G - GRADE IN PERCENT
MO - MIDDLE ORDINATE
X, X1, X2 - DISTANCE FROM PCV OR PVT TO ANY POINT IN CURVE
Y, Y1, Y2 - VERTICAL OFFSET
A - ALGEBRAIC DIFFERENCE OF GRADES IN %

NOTE:
NO VERTICAL CURVES IS REQUIRED WHEN THE ALGEBRAIC DIFFERENCE IN GRADE IS LESS THAN 0.50%
IN ANY SYMMETRICAL VERTICAL PARABOLIC CURVE
\[ MO = \frac{A}{2} \]

FORMULA:
\[ LVC = Ka \]

LEGEND:
A - ALGEBRAIC DIFFERENCE OF GRADIENT (%)
K - RATE OF VERTICAL CURVATURE (m)

FORMULA:
\[ LVC = Ka \]

LEGEND:
A - ALGEBRAIC DIFFERENCE OF GRADIENT (%)
K - RATE OF VERTICAL CURVATURE (m)

LEGEND:
W = WIDENING WIDTH
\[ L_{s} = \text{LENGTH OF SUPER ELEVATION RUN-OFF} \]
\[ L_{w} = \text{LENGTH OF FULL WIDENING WIDTH} \]
\[ L_{n} = \text{LENGTH FROM THE BEGINNING OF RUN-OFF WITH A WIDENING OF } W \]
\[ W_{n} = \text{WIDENING OF LENGTH } L_{n} \]

FORMULA:
\[ L_{c} = \frac{T \tan \left( \frac{1}{2} \right)}{\pi} \]

LEGEND:
P - POINT OF TANGENCY
E - EXTERNAL DISTANCE

LEGEND:
PI - POINT OF HORIZONTAL INTERSECTION
T - LENGTH OF TANGENT
R - HORIZONTAL RADIUS
L - LENGTH OF CURVATURE
D - DEGREE OF CURVE (ARC DEFINITION)
PVC - POINT OF VERTICAL CURVATURE
PVT - POINT OF VERTICAL TANGENCY
E - EXTERNAL DISTANCE

LEGEND:
PVI - POINT OF VERTICAL INTERSECTION
PVC - POINT OF VERTICAL CURVATURE
PVT - POINT OF VERTICAL TANGENCY
LVC, LVC1, LVC2 - LENGTH OF VERTICAL CURVES
G - GRADE IN PERCENT
MO - MIDDLE ORDINATE
X, X1, X2 - DISTANCE FROM PCV OR PVT TO ANY POINT IN CURVE
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IN ANY SYMMETRICAL VERTICAL PARABOLIC CURVE
\[ MO = \frac{A}{2} \]

FORMULA:
\[ LVC = Ka \]

LEGEND:
A - ALGEBRAIC DIFFERENCE OF GRADIENT (%)
K - RATE OF VERTICAL CURVATURE (m)

FORMULA:
\[ LVC = Ka \]

LEGEND:
A - ALGEBRAIC DIFFERENCE OF GRADIENT (%)
K - RATE OF VERTICAL CURVATURE (m)
PAVEMENT MARKING PLAN DETAILS

START OF PROJECT STA. (0+00)

SOLID LANE LINE

STOP LINE

SOLID LANE LINE

SOLAR PAVEMENT LEVELLED MARKER/STUD SPACED AT 3.00m O.C. (WHITE)

0.30m x 4.0m PEDESTRIAN CROSSWALK (WHITE)

ZEBRA TYPE

0.15m x 2.00m CENTER SEPARATION LINE (WHITE)

LEGEND

0 NORTH ARROW

1 ALIGNMENT WITH STATIONING

2 CONTOUR WITH ELEVATION

3 EXISTING EDGE LIMITS

4 BENCHMARK INDICATOR

5 RIGHT OF WAY LIMIT

6 PCCP EDGE

PAVEMENT MARKING SCHEDULE

<table>
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<tr>
<th>START STA.</th>
<th>END STA.</th>
<th>DESCRIPTION</th>
<th>LOCATION</th>
<th>REMARKS</th>
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</thead>
<tbody>
<tr>
<td>0 + 000</td>
<td>0 + 028</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,YELLOW</td>
<td>CENTER</td>
<td>NO PASSING LANE LINE, 150mm</td>
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<td>0 + 080</td>
<td>0 + 090</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,YELLOW</td>
<td>CENTER</td>
<td>NO PASSING LANE LINE, 150mm</td>
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<tr>
<td>0 + 093</td>
<td>0 + 514</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,WHITE</td>
<td>CENTER</td>
<td>NO PASSING LANE LINE, 150mm</td>
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<tr>
<td>0 + 094.55</td>
<td>0 + 095.55</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,WHITE</td>
<td>RIGHT TO LEFT SIDE</td>
<td>STOP LINE, 450mm</td>
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<td>0 + 096</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,WHITE</td>
<td>LEFT SIDE</td>
<td>STOP LINE, 450mm</td>
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<td>0 + 097</td>
<td>0 + 098</td>
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<td>LEFT SIDE</td>
<td>TURN ARROW</td>
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<td>0 + 100</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,WHITE</td>
<td>LEFT SIDE</td>
<td>JUNCTION BOX</td>
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<td>0 + 227</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,WHITE</td>
<td>LEFT SIDE</td>
<td>EDGE LINE, 100mm</td>
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<td>0 + 45</td>
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<td>EDGE LINE, 100mm</td>
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<td>0 + 129</td>
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<td>EDGE LINE, 100mm</td>
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<td>EDGE LINE, 100mm</td>
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<td>0 + 441</td>
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<td>EDGE LINE, 100mm</td>
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<td>0 + 452</td>
<td>0 + 514</td>
<td>REFLECTORIZED THERMOPLASTIC PAVEMENT MARKINGS,WHITE</td>
<td>RIGHT SIDE</td>
<td>EDGE LINE, 100mm</td>
</tr>
</tbody>
</table>
ROAD WORK AHEAD

STOP / GO FLAGS:
Leads by a roadworker to ensure that traffic is stopped and the green flag is used to allow traffic to proceed.

TRAFFIC CONTROLLER (FLAGMAN):
A person whose duty is to control traffic at a roadwork site. Uses a portable stop / slow hand held sign or red and green stop / go flags to control traffic.

TRAFFIC CONTROLLER (FLAGMAN): (REQUIRED)
1. Where collapse of a roadway or bridge is closed.
2. Where there is a need to slow the traffic down to an acceptable speed.
3. Where the use of a traffic control device / equipment is required.
4. Where traffic control to the work zone is required.

TRAFFIC CONTROLLER (FLAGMAN):
A person whose duty is to control traffic at a roadwork site.

TRAFFIC CONTROLLER (FLAGMAN) LOCATION:
1. Where corners of a work area are accessible.
2. Where there is a need to stop traffic.
3. Where there is a need to control traffic.
4. Where there is a need to stop traffic.

TEMPORARY HAZARD MARKERS (T5-4):
Used to give advance warning of a lane closure or a roadway hazard.

INSTALLATION:
The sign shall be installed a minimum of 0.5 meter clear of the edge of the remaining width of road / roadway by traffic.

ROAD WORK (R4-3):
Leads by a roadworker to ensure that traffic is stopped and the green flag is used to allow traffic to proceed.

TRAFFIC CONTROLLER (FLAGMAN):
A person whose duty is to control traffic at a roadwork site. Uses a portable stop / slow hand held sign or red and green stop / go flags to control traffic.

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TRAFFIC CONTROLLER (FLAGMAN) LOCATION:
1. Where corners of a work area are accessible.
2. Where there is a need to stop traffic.
3. Where there is a need to control traffic.
4. Where there is a need to stop traffic.

TEMPORARY HAZARD MARKERS (T5-4):
Used to give advance warning of a lane closure or a roadway hazard.

INSTALLATION:
The sign shall be installed a minimum of 0.5 meter clear of the edge of the remaining width of road / roadway by traffic.

ROAD WORK (R4-3):
Leads by a roadworker to ensure that traffic is stopped and the green flag is used to allow traffic to proceed.

TRAFFIC CONTROLLER (FLAGMAN):
A person whose duty is to control traffic at a roadwork site. Uses a portable stop / slow hand held sign or red and green stop / go flags to control traffic.

TRAFFIC CONTROLLER (FLAGMAN): (REQUIRED)
1. Where collapse of a roadway or bridge is closed.
2. Where there is a need to slow the traffic down to an acceptable speed.
3. Where the use of a traffic control device / equipment is required.
4. Where traffic control to the work zone is required.

TRAFFIC CONTROLLER (FLAGMAN):
A person whose duty is to control traffic at a roadwork site.

TRAFFIC CONTROLLER (FLAGMAN) LOCATION:
1. Where corners of a work area are accessible.
2. Where there is a need to stop traffic.
3. Where there is a need to control traffic.
4. Where there is a need to stop traffic.

TEMPORARY HAZARD MARKERS (T5-4):
Used to give advance warning of a lane closure or a roadway hazard.

INSTALLATION:
The sign shall be installed a minimum of 0.5 meter clear of the edge of the remaining width of road / roadway by traffic.
Traffic Management Plan

Road Work Ahead

Dimension "D"
A distance expressed in meters equal to the approach speed of traffic in kilometers per hour

D = 30 km/h

Traffic cones to be placed 1 to 5 meters apart.

Hazard Markers to be spaced evenly along the Merge Taper

At night or in poor visibility, occasionally illuminate by use of flasher light.
DETAILED CROSS SECTIONS

SCALE 1:100 m

SECTION 1
(STA 0+037.63 - 0+047.13)

ELEV. 67
F.O. ELEV. = 67.040

ELEV. 66
F.O. ELEV. = 67.077

ELEV. 65
F.O. ELEV. = 67.115

ELEV. 64
F.O. ELEV. = 67.153

ELEV. 63
F.O. ELEV. = 67.191

ELEV. 62
F.O. ELEV. = 67.229

ELEV. 61
F.O. ELEV. = 67.267

ELEV. 60
F.O. ELEV. = 67.305

ELEV. 59
F.O. ELEV. = 67.343

ELEV. 58
F.O. ELEV. = 67.381

ELEV. 57
F.O. ELEV. = 67.419

ELEV. 56
F.O. ELEV. = 67.457

ELEV. 55
F.O. ELEV. = 67.495

ELEV. 54
F.O. ELEV. = 67.533

ELEV. 53
F.O. ELEV. = 67.571

ELEV. 52
F.O. ELEV. = 67.609

ELEV. 51
F.O. ELEV. = 67.647

ELEV. 50
F.O. ELEV. = 67.685

ELEV. 49
F.O. ELEV. = 67.723

ELEV. 48
F.O. ELEV. = 67.761

ELEV. 47
F.O. ELEV. = 67.799

ELEV. 46
F.O. ELEV. = 67.837

ELEV. 45
F.O. ELEV. = 67.875

ELEV. 44
F.O. ELEV. = 67.913

ELEV. 43
F.O. ELEV. = 67.951

ELEV. 42
F.O. ELEV. = 67.989

ELEV. 41
F.O. ELEV. = 68.027

ELEV. 40
F.O. ELEV. = 68.065

ELEV. 39
F.O. ELEV. = 68.103

ELEV. 38
F.O. ELEV. = 68.141

ELEV. 37
F.O. ELEV. = 68.179

ELEV. 36
F.O. ELEV. = 68.217

ELEV. 35
F.O. ELEV. = 68.255

ELEV. 34
F.O. ELEV. = 68.293

ELEV. 33
F.O. ELEV. = 68.331

ELEV. 32
F.O. ELEV. = 68.369

ELEV. 31
F.O. ELEV. = 68.407

ELEV. 30
F.O. ELEV. = 68.445

ELEV. 29
F.O. ELEV. = 68.483

ELEV. 28
F.O. ELEV. = 68.521

ELEV. 27
F.O. ELEV. = 68.559

ELEV. 26
F.O. ELEV. = 68.597

ELEV. 25
F.O. ELEV. = 68.635

ELEV. 24
F.O. ELEV. = 68.673

ELEV. 23
F.O. ELEV. = 68.711

ELEV. 22
F.O. ELEV. = 68.749

ELEV. 21
F.O. ELEV. = 68.787

ELEV. 20
F.O. ELEV. = 68.825

ELEV. 19
F.O. ELEV. = 68.863

ELEV. 18
F.O. ELEV. = 68.901

ELEV. 17
F.O. ELEV. = 68.939

ELEV. 16
F.O. ELEV. = 68.977

ELEV. 15
F.O. ELEV. = 69.015

ELEV. 14
F.O. ELEV. = 69.053

ELEV. 13
F.O. ELEV. = 69.091

ELEV. 12
F.O. ELEV. = 69.129

ELEV. 11
F.O. ELEV. = 69.167

ELEV. 10
F.O. ELEV. = 69.205

ELEV. 9
F.O. ELEV. = 69.243

ELEV. 8
F.O. ELEV. = 69.281

ELEV. 7
F.O. ELEV. = 69.319

ELEV. 6
F.O. ELEV. = 69.357

ELEV. 5
F.O. ELEV. = 69.395

ELEV. 4
F.O. ELEV. = 69.433

ELEV. 3
F.O. ELEV. = 69.471

ELEV. 2
F.O. ELEV. = 69.509

ELEV. 1
F.O. ELEV. = 69.547

ELEV. 0
F.O. ELEV. = 69.585

W 310(1)c
W 302(2)

W 101(3)c1

DETAILED CROSS SECTIONS

SCALE 1:100 m

STA. 00 + 037.63
ELEV. = 67.143
F.G. ELEV. = 67.210

STA. 00 + 040
ELEV. = 67.115
F.G. ELEV. = 67.177

STA. 00 + 047.13
ELEV. = 67.043
F.G. ELEV. = 67.100

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE NO. VII
CEBU CITY
DISTRICT ENGINEERING OFFICE
V. SOTTO ST., CEBU CITY

PROJECT NAME AND LOCATION:
OO1: ENSURE SAFE AND RELIABLE NATIONAL ROAD SYSTEM - ASSET PRESERVATION PROGRAM, PREVENTIVE MAINTENANCE - TERTIARY ROADS, C. PADILLA ST., (S00070CB), CHAINAGE 0 - CHAINAGE 407, CEBU CITY
STA. 00 + 260
ELEV. = 66.314
F.G. ELEV.= 66.364

STA. 00 + 300
ELEV. = 66.820
F.G. ELEV.= 66.886

STA. 00 + 320
ELEV. = 67.130
F.G. ELEV.= 67.195

STA. 00 + 340
ELEV. = 67.435
F.G. ELEV.= 67.476

STA. 00 + 360
ELEV. = 67.634
F.G. ELEV.= 67.683

SECTION 1
(CHAINAGE 0 - CHAINAGE 407, CEBU CITY)
DETAILED CROSS SECTIONS

SCALE: 1:100 m

SECTION 1

STA. 00 + 380 - 0+407

O.O1: ENSURE SAFE AND RELIABLE NATIONAL ROAD SYSTEM; ASSET PRESERVATION PROGRAM, PREVENTIVE MAINTENANCE - TERTIARY ROADS

C. PADILLA ST., (S00070CB)

CHAINAGE 0 - CHAINAGE 407, CEBU CITY
DETAILED CROSS SECTIONS

SECTION 02

STA. 00 + 514
ELEV. = 68.309
F.G. ELEV. = 68.360

SET NO. 23
SHEET NO. 23

ENTE OF SECTION 2

ELEV. 69

ELEV. 68

ELEV. 67

-2.00%

-2.00%

ELEV. 68

ELEV. 68

ELEV. 68

(0.000, 68.36)
(0.000, 68.26)
(4.250, 68.27)
(4.250, 68.17)
(-4.250, 68.36)
(-4.250, 68.26)

302(2)
310(1)c
101(3)c1

SCALE 1:100 m

(4.250, 8.500 m)
(4.250, 8.500 m)
(4.250, 8.500 m)

302(2)
310(1)c
101(3)c1

6.500 m
6.500 m
6.500 m

PROJECT NAME AND LOCATION:

PROOF: ENSURE SAFE AND RELIABLE NATIONAL ROAD SYSTEM - ASSET PRESERVATION PROGRAM, PREVENTIVE MAINTENANCE - TERTIARY ROADS, C. PADILLA ST, (S00070CB) CHAINAGE 0 - CHAINAGE 407, CEBU CITY

SURVEYED: LEMUEL N. ASENTISTA

ENGINEER II (GEODETIC ENGINEER)

PREPARED: CHRISTOPH R. POLICERO

ENGINEER II

SURVEYED:

PREPARED:

REVIEWED:

ENGINEER III

DATE:

SUBMITTED:

DATE:

RECOMMENDED:

DATE:

APPROVED:

DATE: