Appendix E

Attribute Overrides and Applicability

Attribute Overrides and Applicability

Attribute Override Name	AM	PM	Static	Dynamic
Base 2016 Yellow Box	√	√	√	√
Base 2018 Section Speed	√	√	√	√
Base 2018 Turn Capacity	√	√	√	√
Harris Rd Lane Cooperation	√	√	√	√
Ti Rakau Lane Cooperation	√		√	√
Pakuranga Rd Look Aheads	√		√	√
Pakuranga Rd Section Speed		√	√	√

Appendix F

Junction and Turn Delay Calculation Parameters

Intersection Coding Adopted from ADTA

To assist with scripting and automation, a classification system was applied to turn movements to signify different conflict situations at intersections. The external ID of each turn movement was set to a 4-digit code following the convention below:
XYZZ
where **X** = intersection type
Y = number of approaches/legs
ZZ = movement type
These 4-digit codes were used in each JDF and TPF cost function scripts to allocate the correct calibration parameters to each turn at the calibration stage

X	INTERSECTION TYPE
1	Signalised
2	Roundabout
3	Priority intersection – Give-way sign at Minor Road
4	Priority intersection – Stop sign at Minor Road
5	Two-way one lane bridge
6	Zebra pedestrian crossing
Y	**NUMBER OF APPROACHES**
ZZ	**MOVEMENT TYPE[3]**
00	Unopposed Turn (e.g. Through and left turn on Major Road, as well as signalised movements)
01	Left Turn – 1-lane opposing
02	Left Turn – 2-lane or more opposing
03	Through Movement Crossing One-way Road – 2-lane one-way
04	Through Movement Crossing One-way Road – 3-lane one-way
05	Through Movement Crossing One-way Road – 4-lane one-way
06	Through Movement Crossing Two-way Road – 2-lane two-way
07	Through Movement Crossing Two-way Road – 4-lane two-way
08	Through Movement Crossing Two-way Road – 6-lane two-way
09	Right Turn from Major Road - Across 1 lane
10	Right Turn from Major Road - Across 2 lanes
11	Right Turn from Major Road - Across 3 lanes
12	Right Turn from Minor Road – One-way
13	Right Turn from Minor Road – 2-lane two-way Major Road / Across 1 lane
14	Right Turn from Minor Road – 4-lane two-way Major Road / Across 2 lanes
15	Right Turn from Minor Road – 6-lane two-way Major Road / Across 3 lanes
16	Staged Right Turn from Minor Road – Across 1 lane with flush median or merge lane in the middle
17	Staged Right Turn from Minor Road – Across 2 lanes with flush median or merge lane in the middle
18	Staged Right Turn from Minor Road – Across 3 lanes with flush median or merge lane in the middle

ADTA-Calibrated Intercept and Slope Values for turn types used in JDF

Turn External Id	Number of Approach lanes for this Movement	Intercept	Slope
1x01	x	735	0.37
1x02	x	925	0.35
1x03	x	400	0.18
1x04	x	330	0.15
1x06	x	300	0.08
1x07	x	225	0.05
1x09	x	595	0.29
1x10	x	595	0.25
1x11	x	630	0.27
1x13	x	300	0.08
1x14	x	225	0.05
1x15	x	225	0.05
2xxx	1	1,200	0.7
2xxx	2	2,500	0.8
2xxx	3	3,100	0.8
3x01	x	735	0.37
3x02	x	925	0.35
3x03	x	400	0.18
3x04	x	330	0.15
3x05	x	330	0.15
3x06	x	300	0.08
3x07	x	225	0.05
3x08	x	225	0.05
3x09	x	595	0.29
3x10	x	595	0.25
3x11	x	630	0.27
3x12	x	400	0.18
3x13	x	300	0.08
3x14	x	225	0.05
3x15	x	225	0.05
3x16	x	400	0.18
3x17	x	330	0.15
3x18	x	330	0.15
4x01	x	510	0.21
4x02	x	505	0.09
4x03	x	355	0.15
4x04	x	310	0.14
4x05	x	310	0.14
4x06	x	230	0.05
4x07	x	230	0.05
4x08	x	230	0.05
4x09	x	595	0.29
4x10	x	595	0.25
4x11	x	630	0.27
4312	x	355	0.15
4313	x	230	0.05
4314	x	230	0.05
4315	x	230	0.05
4316	x	355	0.15
4317	x	310	0.14
4318	x	310	0.14
4412	x	355	0.15
4413	x	235	0.16
4414	x	235	0.16
4415	x	230	0.05
4416	x	355	0.15
4417	x	310	0.14
4418	x	310	0.14
5x03	x	500	0.2

Appendix G

Cost Function Scripts

Volume Delay Function

```
model = None
tollCarColumn = None
tollTruckColumn = None
assignedVolColumn = None
laneCapacityColumn = None

def checkExperimentContext(context, turning):
	global model
	global tollCarColumn
	global tollTruckColumn
	global assignedVolColumn
	global laneCapacityColumn
	if model == None:
		model = context.experiment.getModel()

	# get the section type
	sectionType = model.getType('GKSection')
	if tollCarColumn == None:
		tollCarColumn = sectionType.getColumnByExternalName ("TOLL - CAR", 0)
	if tollTruckColumn == None:
		tollTruckColumn = sectionType.getColumnByExternalName ("TOLL - TRUCK", 0)

	# get the road type
	roadType = model.getType('GKRoadType')
	if laneCapacityColumn == None:
		laneCapacityColumn = roadType.getColumnByExternalName('Lane Capacity',0)

	turnType = model.getType('GKTurning')
	if assignedVolColumn == None:
		assignedVolColumn = turnType.getColumn('MACRO::' + str(context.experiment.getId()) + '_GKTurning_macroAssignedVolume_0', 0)

def travelTime(context, section, funcVolume):

	global model

	#define the peak hour factor based on peak
	# get the experiment
	experiment = context.experiment
	# get the scenario
	scenario = experiment.getScenario()
	# get the traffic demand
	trafficDemand = scenario.getDemand()
	# get the start time of the demand
	startTime = trafficDemand.initialTime()
	# get the duration of the demand
	assignmentDuration = trafficDemand.duration().hour()

	#set parameters from sections
	speed = section.getSpeed()
	volume = funcVolume.getVolume()
	length = section.length3D()
	capacity = section.getCapacity()
	capacityperlane = section.getRoadType().getDataValueDouble(laneCapacityColumn)
	JA = section.getUserDefinedCost3()

	# assign volume peak hour factor based on peak
	phfVol = 1.0

	# fixed, global factor
	if startTime.hour() == 6:
		phfVol = 1.15
	elif startTime.hour() == 11:
		phfVol = 1.02
	elif startTime.hour() == 15:
		phfVol = 1.05


	# assign speed peak hour factor based on peak
	phfSpeed = 1.0
	'''
	# fixed, global factor
	if startTime.hour() == 6:
		phfSpeed = 1.1595
	elif startTime.hour() == 11:
		phfSpeed = 1.0707
	elif startTime.hour() == 15:
		phfSpeed = 1.1422
	'''
	#calculate additional parameters
	#apply peak volume factor when calculating degree of saturation
	X = (volume * phfVol) / capacity
	T0 = 1000 / (speed / 3.6) # minimum travel time for section

	#calculate dealy based of the Akcelik delay function

	Tf = 1.0 # Analysis Flow Period, taken as 1 hour
	Rf = (Tf*3600) / T0 # unitless ratio
	#JA = 0.2
	eightX = (8.0 * JA * X ) / (capacityperlane * Tf)

	Time = T0 *( 1 + 0.25*Rf*((X-1.0)+((X-1.0)**2 + eightX)**0.5)) #give seconds per Km

	# peak hour travel time in seconds
	peakHourTravelTime = (Time * (length / 1000))
```

```
	# peak hour speed in m/s
	peakHourSpeed = length / peakHourTravelTime
	# three hour average speed in m/s
	threeHourAveSpeed = peakHourSpeed * phfSpeed
	# cap the speed at the section maximum speed
	if threeHourAveSpeed > (speed / 3.6):
		threeHourAveSpeed = (speed / 3.6)
	# four hour average travel time in seconds
	threeHourAveTravelTime = length / threeHourAveSpeed

	return (threeHourAveTravelTime /60)

def distCost(context, section, funcVolume):

	'''
	The distance factor adopted from Wellington N2A model
	P:\429\4291565\Technical\300 Technical\320 Models\321 Network Build\N2A_GeneralisedCostDistanceFactor.xlsx

	Assumptions
	Fuel cost                                                    1.75        $/litre
	fuel consumption                                    9.5                  l/100km
	fuel rate                                                    0.16625     $/km
	Assume gc is just fuel cost

	Assumed acg Value of time          16.27    $/hr, 2002 (EEM urban arterial)
	Update factor to 2015                       1.44        EEM
	VoT 2015                                                     23.43       $/hr
	Update factor 2016 estimated 1.01
	VoT 2016 est                                        23.66    $/hr, 2002 (EEM urban arterial)
	Value of time                                       2.536    min/$
	gc of fuel                                                   0.422       mins per km

	Assume 0.4 for Car

	Truck factor was agreed to be 1.0
	'''

	# get the length of the section
	length = section.length3D()/1000 # length in km

	# factor for the distance component (unit: mins/km)
	className = str(context.userClass.getName())
	if className[0:3] == "Car":
		distFactor = 0.5
	else:
		distFactor = 1.0

	# get the user defined cost of the section
	roadTypeFactor = section.getUserDefinedCost()

	# calculate the distance cost
	distanceCost = distFactor * roadTypeFactor * length

	return distanceCost

# this function calculates the speed in km/hr of the section
def calculateSpeed(context, section, funcVolume):
	# convert travel time to seconds
	tTime = travelTime(context, section, funcVolume) * 60.0
	# get the section length in metres
	length = section.length3D()
	# calculate and return the speed in km/hr
	return (length / tTime)*3.6

# this function calculates the truck percentage
def calculateTruckPercentage(context, section, funcVolume):
	# get the car volume
	carVolume = (funcVolume.getVolume(model.getCatalog().findByName('Car - ALL', model.getType('GKVehicle'))) +
	                                  funcVolume.getVolume(model.getCatalog().findByName('Car - L - LOV',
model.getType('GKVehicle'))) +
	                                  funcVolume.getVolume(model.getCatalog().findByName('Car - L - HOV',
model.getType('GKVehicle'))) +
	                                  funcVolume.getVolume(model.getCatalog().findByName('Car - M - LOV',
model.getType('GKVehicle'))) +
	                                  funcVolume.getVolume(model.getCatalog().findByName('Car - M - HOV',
model.getType('GKVehicle'))) +
	                                  funcVolume.getVolume(model.getCatalog().findByName('Car - H - LOV',
model.getType('GKVehicle'))) +
	                                  funcVolume.getVolume(model.getCatalog().findByName('Car - H - HOV',
model.getType('GKVehicle'))) )
	# get the truck volume
	truckVolume = funcVolume.getVolume(model.getCatalog().findByName('Truck', model.getType('GKVehicle')))

	# error handling for zero volume
	if (carVolume + truckVolume) > 0:
		truckPercentage = (truckVolume / (carVolume + truckVolume)) * 100
	else:
		truckPercentage = 0
	# return the truck percenage
	return truckPercentage

def vdf(context, section, funcVolume):

	# assign the global variables
	checkExperimentContext(context, section)

	# calculate average section speed in km/hr
	speed = calculateSpeed(context, section, funcVolume)
```

```
    # calculate the truck percentage on this section
    truckPercentage = calculateTruckPercentage(context, section, funcVolume)

    # calculate total cost
    totalCost = travelTime(context, section, funcVolume) + distCost(context, section, funcVolume)

    return totalCost
```

Volume Delay Function (Connector)

```
def travelTimeConnector(context, connection, funcVolume):

    # work out the time period
    experiment = context.experiment
    scenario = experiment.getScenario()
    trafficDemand = scenario.getDemand()
    duration = trafficDemand.duration()
    durationInHours = duration.toHours()

    #set parameters
    speed = 30.0
    capacity = 200.0 * durationInHours # set to 200 veh/hr, capacity need to be total over three hours
    capacityperlane = 200.0
    JA = 10.0

    volume = funcVolume.getVolume()
    length = connection.length3D()
    totalVolume = volume

    #calculate additional parameters

    X = totalVolume / capacity
    T0 = 1000 / (speed / 3.6) # minimum travel time for section

    #calculate dealy based of the Akcelik delay function

    Tf = 1.0 # Analysis Flow Period, taken as 1 hour
    Rf = (Tf*3600) / T0 # unitless ratio
    #JA = 0.2
    eightX = (8.0 * JA * X ) / (capacityperlane * Tf)

    Time = T0 *( 1 + 0.25*Rf*((X-1.0)+((X-1.0)**2 + eightX)**0.5)) #give seconds per Km

    TotalTravelTime = (Time * (length / 1000))/60

    return TotalTravelTime

def distCostConnector(context, connection, funcVolume):

    '''
    The distance factor adopted from Wellington N2A model
    P:\429\4291565\Technical\300 Technical\320 Models\321 Network Build\N2A_GeneralisedCostDistanceFactor.xlsx

    Assumptions
    Fuel cost                                                   1.75        $/litre
    fuel consumption                                    9.5                 l/100km
    fuel rate                                                   0.16625     $/km
    Assume gc is just fuel cost

    Assumed acg Value of time       16.27       $/hr, 2002 (EEM urban arterial)
    Update factor to 2015                       1.44        EEM
    VoT 2015                                                    23.43       $/hr
    Update factor 2016 estimated 1.01
    VoT 2016 est                                        23.66   $/hr, 2002 (EEM urban arterial)
    Value of time                                       2.536   min/$
    gc of fuel                                                  0.422       mins per km

    Assume 0.4 for Car

    Truck factor was agreed to be 1.0
    '''

    # get the length of the section
    length = connection.length3D()/1000 # length in km

    # factor for the distance component (unit: mins/km)
    className = str(context.userClass.getName())
    dashIndex = className.find(' - ')
    vehName = className[:dashIndex]
    if vehName == "Car" :
        distFactor = 0.5
    elif vehName == "Truck":
        distFactor = 1.0
    else:
        distFactor = 0.0

    # calculate the distance cost
    distanceCost = distFactor * length

    return distanceCost

def vdf(context, connection, funcVolume):
```

```
    # calculate total cost
    totalCost = travelTimeConnector(context, connection, funcVolume) + distCostConnector(context, connection, funcVolume)

    return totalCost
```

Junction Delay Function

```
def travelTime( context, turn, volume, ownVolume, conflictVolume ):
    model = context.experiment.getModel()
    # work out the time period
    experiment = context.experiment
    scenario = experiment.getScenario()
    trafficDemand = scenario.getDemand()
    duration = trafficDemand.duration()
    durationInHours = duration.toHours()

    #define the peak hour factor based on peak
    # get the experiment
    experiment = context.experiment
    # get the scenario
    scenario = experiment.getScenario()
    # get the traffic demand
    trafficDemand = scenario.getDemand()
    # get the start time of the demand
    startTime = trafficDemand.initialTime()
    # assign peak hour factor based on peak
    # use 1.0 to start adjust as required during calibration - base on observed data
    phfVol = 1.0

    if startTime.hour() == 6:
        phfVol = 1.15
    elif startTime.hour() == 11:
        phfVol = 1.02
    elif startTime.hour() == 15:
        phfVol = 1.05

    # assign travel time factor to reduce peak hour travel time to three hour average travel time
    phfTT = 1.0
    '''
    if startTime.hour() == 6:
        phfTT = 0.6946
    elif startTime.hour() == 11:
        phfTT = 0.8726
    elif startTime.hour() == 15:
        phfTT = 0.7902
    '''
    turnType = model.getType('GKTurning')
    userSlopeColumn = turnType.getColumnByExternalName('Turn Capacity Slope',0)

    #set give-way linear parameters and calculate give-way turn capacity
    Slope = turn.getDataValueDouble(userSlopeColumn)
    Intercept = turn.getCapacity ()
    OpposingFlow = (conflictVolume.getVolume() * phfVol) / durationInHours # AIMSUN return total volume over the time period

    overrides = experiment.getNetworkAttributesOverrides()
    targetId = turn.getId()
    for override in overrides:
        objects = override.getObjects()
        for object in objects:
            if object.getId() == targetId:
                for column, value in override.getObjectData(object).iteritems():
                    if column.getName() == 'GKTurning::capacityAtt':
                        Intercept = int(value)

    Capacity = (Intercept - Slope * OpposingFlow) # per hour
```

```
        #calculate dealy based of the Akcelik dealy function
        turnFlow = volume.getVolume()
        if Capacity < 50:
            if Intercept < 50:
                Capacity = Intercept
            else:
                Capacity = 50

        X = (turnFlow * phfVol) / (Capacity * durationInHours)
        TurnLength = turn.length3D()
        TurnSpeed = turn.getSpeed()
        T0 = 1
        Tf = 1.0
        Rf = (Tf*3600) / T0
        JA = 1.0 # Curve Parameter
        eightX = 8.0 * JA * X / (Capacity * Tf)

        Time = (T0 *( 1 + 0.25*Rf*((X-1.0)+((X-1.0)**2 + eightX)**0.5)))/60

        return Time * phfTT

def jdf( context, turn, volume, ownVolume, conflictVolume ):

        TT = travelTime( context, turn, volume, ownVolume, conflictVolume )

        #debugging
        #print 'JDF of turn %i with volume of %f and opposing volume of %f calculated the travel time at %f' % (turn.getId(), volume.getVolume(),
conflictVolume.getVolume(), TT)

        return TT
```

Turn Delay Function

```
'''
Updated 04/05/2017
From built-in Aimsun 8.2 TPF - Example for Signalized Intersection

Updated 01/08/2017
Refined turn saturation flow to be a function of turn speed
'''
experimentId = None
analysisPeriod = 0.0 # [h]
phfVol = 1.0
phfTT = 1.0

def initialiseContext(context):
        global experimentId
        global analysisPeriod
        global phfVol
        global phfTT
        if context.experiment.getId() != experimentId:
            experimentId = context.experiment.getId()
            analysisPeriod = context.experiment.getScenario().getDemand().duration().toHours()
        #define the peak hour factor based on peak
        # get the experiment
        experiment = context.experiment
        # get the scenario
        scenario = experiment.getScenario()
        # get the traffic demand
        trafficDemand = scenario.getDemand()
        # get the start time of the demand
        startTime = trafficDemand.initialTime()
        # assign peak hour factor based on peak
        phfVol = 1

        if startTime.hour() == 6:
            phfVol = 1.15
        elif startTime.hour() == 10:
```

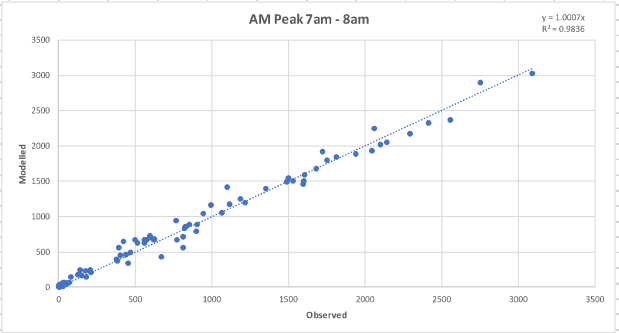
```
                phfVol = 1.02
            elif startTime.hour() == 15:
                phfVol = 1.05

            # assign travel time factor to reduce peak hour travel time to four hour average travel time
            phfTT = 1
            '''
            if startTime.hour() == 6:
                phfTT = 0.6946
            elif startTime.hour() == 10:
                phfTT = 0.8726
            elif startTime.hour() == 15:
                phfTT = 0.7902
            '''
# free flow travel time [min]
def freeFlowTravelTime(turn):
            return turn.length3D()/1000.0 * 60.0/turn.getSpeed()

# actual green duration for actuated phases [s]
# calculated considering the demand and the queue discharge rate
def actualGreen(turn, volume):
            dischargeRate = 0.5 # [veh/s]
            requiredGreen = volume / dischargeRate # [s]
            numberOfCycles = 3600.0 * analysisPeriod / turn.getCycle()
            return min(max(requiredGreen / numberOfCycles, turn.getMinGreenTime()), turn.getMaxGreenTime())

# HCM2010 progression adjustment factor
def progressionAdjustmentFactor(green, cycle):
            g_over_c = green / cycle
            P = min(1.33 * g_over_c, 1.0)
            top_part = (1.0 - P)
            bottom_part = 1.0 - g_over_c
            return top_part / bottom_part

# HCM2010 uniform control delay (quick estimation method) [s]
def uniformControlDelay(volume, capacity, green, cycle):
            g_over_c = green / cycle
            X = (volume * phfVol) / (capacity * analysisPeriod)
            top_part = 0.5 * cycle * (1.0 - g_over_c)**2
            bottom_part = 1.0 - (min(1.0, X) * g_over_c)
            return top_part / bottom_part

# HCM2010 incremental delay (quick estimation method) [s]
def incrementalDelay(volume, capacity):
            X = (volume * phfVol) / (capacity * analysisPeriod)
            return 900.0 * analysisPeriod * ((X - 1.0) + ((X - 1.0)**2 + (4.0 * X / (capacity * analysisPeriod)))**0.5)

# HCM2010 control delay (quick estimation method) [min]
def controlDelay(volume, capacity, green, cycle):
            pf = progressionAdjustmentFactor(green, cycle)
            d_one = uniformControlDelay(volume, capacity, green, cycle)
            d_two = incrementalDelay(volume, capacity)
            res = (pf * d_one) + d_two
            return res / 60.0 * phfTT

def calculateCapacity(turn):
            # get the speed of the turn
            speed = turn.getSpeed()
            # if the speed is less than 50 km/hr
            if speed < 50:
                # calculate saturation flow based on speed
                s = -0.513*speed**2 + 54.81*speed + 553.46
            # else
            else:
                # saturation flow (PCUs/hr)
                s = 2000.0
            # get the turn object as coded (GKTurn)
            turnObject = turn.getMaster()
```

```
        # get the index of the left most lane for this turn
        leftMostLanes = turnObject.getOriginFromLane()
        # get the index of the right most lane for this turn
        rightMostLanes = turnObject.getOriginToLane()
        # calculate number of lanes
        lanes = rightMostLanes - leftMostLanes + 1
        #  the capacity is saturation flow * lanes * green / cycle
        capacity = s * lanes * (turn.getGreenTime() / turn.getCycle())

        return capacity

def tpf(context, turn, volume):
        initialiseContext(context)
        res = freeFlowTravelTime(turn)
        if turn.getCycle() > 0.0:
                green = turn.getGreenTime()
                if turn.getControlJunctionType() == 4: # actuated
                        green = actualGreen(turn, volume.getVolume())
                # error handling for 0 green time in control plan for this turn
                if green > 0:
                        if green < turn.getCycle():
                                res += controlDelay(volume.getVolume(), calculateCapacity(turn), green, turn.getCycle())
                else:
                        print 'turn %u in node %u has no green time in the control plan used' % (turn.getMaster().getId(), turn.getMaster().getNode().getId())
        return res
```

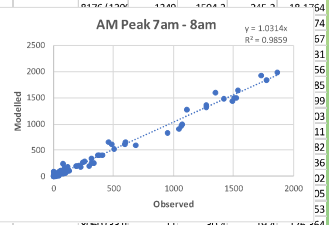
Appendix H

Count Validation Tables

Object	Count - Li	Count - Av	Absolute	Relative D	GEH		Diff^2	Obs/N
11897	670	434.6	-235.4	-35.1343	10.0166	10.0166	55413.16	8.170732
7732	816	557	-259	-31.7402	9.88506		67081	9.95122
16548	424	652.8	228.8	53.9623	9.8606		52349.44	5.170732
12210502	1100	1413	313	28.4545	8.83005		97969	13.41463
16517	393	559.8	166.8	42.4427	7.64206		27822.24	4.792683
7276	144	247.2	103.2	71.6667	7.37896		10650.24	1.756098
7400	500	667.2	167.2	33.44	6.92116		27955.84	6.097561
12210282	770	946.8	176.8	22.961	6.03445		31258.24	9.390244
7104	81	143.6	62.6	77.284	5.90724		3918.76	0.987805
7228	8	34	26	325	5.67367		676	0.097561
7166	457	347.8	-109.2	-23.895	5.44369		11924.64	5.573171
12210663	994	1160.6	166.6	16.7606	5.07583		27755.56	12.12195
15953	599	721.6	122.6	20.4674	4.77111		15030.76	7.304878
7074	1721	1923.8	202.8	11.7838	4.75057		41127.84	20.9878
7092	25	54	29	116	4.61423		841	0.304878
12870	518	626	108	20.8494	4.51571		11664	6.317073
12211719	563	668.8	105.8	18.7922	4.26315		11193.64	6.865854
7438	38	69	31	81.5789	4.23823		961	0.463415
12210270	2	13.8	11.8	590	4.19825		139.24	0.02439
7210	177	234.8	57.8	32.6554	4.02809		3340.84	2.158537
7042	2064	2249.4	185.4	8.98256	3.99222		34373.16	25.17073
7274	2557	2365.2	-191.8	-7.50098	3.8662		36787.24	31.18293
7410	127	174.2	47.2	37.1654	3.84618		2227.84	1.54878
7222	603	701.2	98.2	16.2852	3.84551		9643.24	7.353659
12211551	772	672.4	-99.6	-12.9016	3.70621		9920.16	9.414634
12211562	579	670.2	91.2	15.7513	3.64917		8317.44	7.060976
7524	901	797.2	-103.8	-11.5205	3.5622		10774.44	10.9878
7192	816	719.2	-96.8	-11.8627	3.49388		9370.24	9.95122
17220	30	52.2	22.2	74	3.46284		492.84	0.365854
12211622	1597	1465.4	-131.6	-8.24045	3.3631		17318.56	19.47561
7730	184	143.2	-40.8	-22.1739	3.18984		1664.64	2.243902
7724	947	1045.8	98.8	10.4329	3.12997		9761.44	11.54878
7140	142	180.2	38.2	26.9014	3.00965		1459.24	1.731707
13643	2753	2901.8	148.8	5.40501	2.7984		22141.44	33.57317
15596	563	628.8	65.8	11.6874	2.6955		4329.64	6.865854
7220	2295	2174	-121	-5.27233	2.55974		14641	27.9878
7126	30	17.6	-12.4	-41.3333	2.54175		153.76	0.365854
7390	1601	1501	-100	-6.2461	2.53918		10000	19.52439
15955	2048	1936.4	-111.6	-5.44922	2.50033		12454.56	24.97561
12211544	406	454.2	48.2	11.8719	2.32414		2323.24	4.95122
7540	208	238.6	30.6	14.7115	2.04775		936.36	2.536585
7442	210	240.2	30.2	14.381	2.01289		912.04	2.560976
7356	629	679.4	50.4	8.01272	1.97049		2540.16	7.670732
7428	1187	1254.8	67.8	5.71188	1.94039		4596.84	14.47561
7180	1115	1178.6	63.6	5.70404	1.87808		4044.96	13.59756
7240	2141	2055	-86	-4.01681	1.87757		7396	26.10976
6920	621	667	46	7.40741	1.81265		2116	7.573171
7532	2104	2023	-81	-3.84981	1.78313		6561	25.65854
16027	2417	2331.8	-85.2	-3.52503	1.74849		7259.04	29.47561
12211629	4	1.2	-2.8	-70	1.73649		7.84	0.04878
7066	56	46.2	-9.8	-17.5	1.37093		96.04	0.682927
7118	1941	1883	-58	-2.98815	1.32643		3364	23.67073
12210676	18	12.8	-5.2	-28.8889	1.32508		27.04	0.219512
12210661	855	894	39	4.5614	1.31882		1521	10.42683
12211631	23	29.4	6.4	27.8261	1.25034		40.96	0.280488
7036	47	55.8	8.8	18.7234	1.22744		77.44	0.573171
6964	3093	3026.2	-66.8	-2.15972	1.20766		4462.24	37.71951
12152	1501	1547.8	46.8	3.11792	1.19866		2190.24	18.30488
6962	831	862.2	31.2	3.75451	1.0723		973.44	10.13415
6940	468	491.4	23.4	5	1.06839		547.56	5.707317
12210262	1357	1396.6	39.6	2.9182	1.06723		1568.16	16.54878
12210650	440	461	21	4.77273	0.9894		441	5.365854
7164	152	164.4	12.4	8.15789	0.985867		153.76	1.853659
12210320	1756	1795.8	39.8	2.26651	0.944439		1584.04	21.41463
7106	831	856	25	3.00842	0.86079		625	10.13415
7116	1814	1845.8	31.8	1.75303	0.743384		1011.24	22.12195
12210514	379	392.8	13.8	3.64116	0.702493		190.44	4.621951
7040	57	62.2	5.2	9.12281	0.673566		27.04	0.695122
12126	1530	1504	-26	-1.69935	0.667545		676	18.65854
17011	72	67.2	-4.8	-6.66667	0.575356		23.04	0.878049
16525	1220	1200.2	-19.8	-1.62295	0.569186		392.04	14.87805
12210516	383	372.8	-10.2	-2.66319	0.524701		104.04	4.670732
10618	1608	1588.4	-19.6	-1.21891	0.490276		384.16	19.60976
16119	903	889.4	-13.6	-1.50609	0.454293		184.96	11.0122
7408	1065	1052.2	-12.8	-1.20188	0.393409		163.84	12.9878
7214	38	36.2	-1.8	-4.73684	0.295519		3.24	0.463415
7254	212	208	-4	-1.88679	0.276026		16	2.585366
12211564	24	22.8	-1.2	-5	0.248069		1.44	0.292683
12155	1683	1678.2	-4.8	-0.28521	0.117087		23.04	20.52439
7172	1489	1490	1	0.067159	0.025911		1	18.15854
7098	28	28	0	0	0		0	0.341463
12211534	25	25	0	0	0		0	0.304878
Mean	823.78	841.234	17.4537	2.11873				

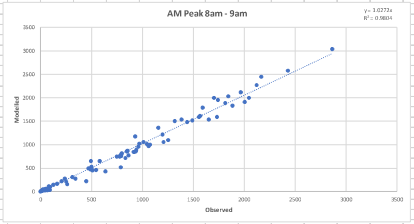


Link		Turn	
<5	85%	<5	84%
<7.5	94%	<7.5	93%
<10	99%	<10	96%
82 RMSE	12%	80 RMSE	19%

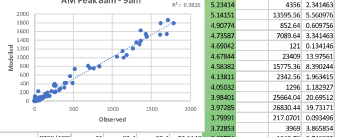


	Object	Count - Li	Count - Av	Absolute	Relative D	GEH		Diff^2	Obs/N
Data issue?	13284072	2	93.6	91.6	4580	13.249		8390.56	0.02439
Rat running	8062 (331	81	236.4	155.4	191.852	12.3357		24149.16	0.987805
	13284134	6	72.4	66.4	1106.67	10.6054		4408.96	0.073171
	13284124	9	68.8	59.8	664.444	9.58796		3576.04	0.109756
	8218 (331(	0	38.6	38.6	inf	8.78635		1489.96	0
	8308 (130(	462	651.8	189.8	41.0823	8.04281		36024.04	5.634146
	13284092	91.6667	164.8	73.1333	79.7818	6.45825		5348.48	1.117887
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.39184		60123.04	16.45122
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.15486		9447.84	3.634146
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.96803		2621.44	0.585366
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.4066		16027.56	5.914634
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.30801		4147.36	1.402439
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.20633		2304	0.743902
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.89065		6988.96	4.073171
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.75553		22022.56	12.78049
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.7224		432.64	0.109756
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.6766		1797.76	0.743902
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.61863		38966.76	21.07317
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.5091		24211.36	13.57317
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.35465		1024	0.463415
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.2883		1971.36	1.036585
	8060 (331(	11	30.4	19.4	176.364	4.26399		376.36	0.134146
	8200 (320	47	22.2	-24.8	-52.766	4.21613		615.04	0.573171
	12426 (13(	38	16.8	-21.2	-55.7895	4.05005		449.44	0.463415
	13284070	947	827.8	-119.2	-12.5871	4.00144		14208.64	11.54878
	13284113	8	0	-8	-100	4		64	0.097561
	8170 (320	320	252.4	-67.6	-21.125	3.99587		4569.76	3.902439
	13284126	97	62.8	-34.2	-35.2577	3.82607		1169.64	1.182927
	13284095	6.33333	20	13.6667	215.789	3.76638		186.7787	0.077236
	8320 (130(	31	55.6	24.6	79.3548	3.73845		605.16	0.378049
	8312 (130(	43	69.8	26.8	62.3256	3.56858		718.24	0.52439
	13284135	682	595	-87	-12.7566	3.44301		7569	8.317073
	13284125	1069	968.2	-100.8	-9.42937	3.15834		10160.64	13.03659
	8318 (130(	23	11.6	-11.4	-49.5652	2.74083		129.96	0.280488
	13562 (340	228	188.6	-39.4	-17.2807	2.72993		1552.36	2.780488
	13284123	76	55	-21	-27.6316	2.59477		441	0.926829
	13284068	1272	1364	92	7.2327	2.53414		8464	15.5122
	8182 (130(	1539	1639.6	100.6	6.53671	2.52345		10120.36	18.76829
	8050 (330(	1866	1975.8	109.8	5.88424	2.50524		12056.04	22.7561
	8228 (330(	1070	991.4	-78.6	-7.34579	2.44825		6177.96	13.04878
	13564 (340	599	660.2	61.2	10.217	2.43904		3745.44	7.304878
	8238 (331(	15	25.6	10.6	70.6667	2.35265		112.36	0.182927
	13284112	2	0	-2	-100	2		4	0.02439
	13284130	245	274.6	29.6	12.0816	1.83642		876.16	2.987805
	13563 (340	127	107.2	-19.8	-15.5906	1.82973		392.04	1.54878
	8316 (130(	370	405.8	35.8	9.67568	1.8177		1281.64	4.512195
	8210 (180(	1418	1482.2	64.2	4.5275	1.68592		4121.64	17.29268
	8056 (330(	15	22.2	7.2	48	1.66946		51.84	0.182927
	8184 (130(	25	17.6	-7.4	-29.6	1.6034		54.76	0.304878
	13284096	2	4.8	2.8	140	1.51851		7.84	0.02439
	8208 (180(	1493	1435.2	-57.8	-3.8714	1.51058		3340.84	18.20732
	8212 (180(	54	65.6	11.6	21.4815	1.50006		134.56	0.658537
	13284121	261	285.8	24.8	9.50192	1.49987		615.04	3.182927
	13284093	1	0	-1	-100	1.41421		1	0.012195
	13284109	1	0	-1	-100	1.41421		1	0.012195
	13284132	100	86.8	-13.2	-13.2	1.36584		174.24	1.219512
	12425 (13(	1777	1832.6	55.6	3.12887	1.30876		3091.36	21.67073
	10379 (330	1272	1318.8	46.8	3.67925	1.3003		2190.24	15.5122
	12404 (13(	31	38.6	7.6	24.5161	1.28832		57.76	0.378049
	10376 (330	316	338.6	22.6	7.1519	1.24921		510.76	3.853659
	8224 (331(	2.33333	0.8	-1.53333	-65.7143	1.22503		2.351101	0.028455
	13566 (340	25	31	6	24	1.13389		36	0.304878
	8232 (331(	6	3.6	-2.4	-40	1.09545		5.76	0.073171
	8236 (330(	11	8	-3	-27.2727	0.973329		9	0.134146
	13284069	26	30.4	4.4	16.9231	0.828568		19.36	0.317073
	12423 (13(	54	60	6	11.1111	0.794719		36	0.658537
	8240 (330(	36	31.4	-4.6	-12.7778	0.792397		21.16	0.439024
	13284131	10	7.8	-2.2	-22	0.737442		4.84	0.121951
	13284097	0.666667	0.2	-0.46667	-70	0.708918		0.217778	0.00813
	10374 (330	115	107.8	-7.2	-6.26087	0.682166		51.84	1.402439
	12118	1527	1502.4	-24.6	-1.611	0.63208		605.16	18.62195
	10378 (33(	503	514	11	2.18688	0.487806		121	6.134146
	13284133	408	399.8	-8.2	-2.0098	0.408016		67.24	4.97561
	8260 (320	1505	1490.6	-14.4	-0.95681	0.372079		207.36	18.35366
	10377 (330	597	605	8	1.34003	0.326327		64	7.280488
	13554	211	207.8	-3.2	-1.51659	0.221137		10.24	2.573171
	13284071	191	194	3	1.57068	0.216225		9	2.329268
	13284073	196	194	-2	-1.02041	0.143223		4	2.390244
	13284108	0	0	0	0	0		0	0
	13284110	0	0	0	0	0		0	0
	Mean	379.313	396.687	17.375	4.58066				

Object	Count - Li	Count - Ai	Absolute	Relative Ch	GEH	12.4186	Diff^2	Obs/N
7540	449	221.6	-227.4	-50.6459	12.4186	51710.76	5.47561	
7732	791	513.2	-277.8	-35.1201	10.8787	7717.84	9.646361	
11897	638	432.2	-205.8	-32.2571	8.89668	42353.64	7.780488	
12210663	928	1174.8	246.8	26.5948	7.61134	60910.24	11.31707	
7098	68	19.8	-48.2	-70.8824	7.27469	2323.24	0.829368	
7730	264	160.6	-103.4	-39.1667	7.09652	10691.56	3.219512	
7240	1703	1994	291	17.0857	6.76836	84681	20.76829	
7066	91	39	-52	-57.1429	6.49481	2704	1.109756	
16548	497	649	152	30.5835	6.34989	23104	6.060976	
12210502	1157	1364.2	207.2	17.9084	5.83581	42931.84	14.10976	
7274	2168	2446.4	278.4	12.8413	5.79598	77506.56	26.43902	
12210262	1319	1507.6	188.6	14.2987	5.05677	35569.96	16.08537	
12210320	1743	1954.6	211.6	12.14	4.9212	44774.56	21.2561	
7074	1592	1786.4	194.4	12.2111	4.72994	37791.36	19.41463	
7228	22	50	28	127.273	4.66667	784	0.268293	
12210661	1209	1057.4	-151.6	-12.5393	4.50346	22982.56	14.7439	
16525	1253	1104.6	-148.4	-11.8436	4.32229	22022.56	15.28049	
7042	1844	2032.2	188.2	10.2061	4.27405	35419.24	22.4878	
12211551	836	717.6	-118.4	-14.1627	4.24812	14018.56	10.19512	
7390	1387	1535.2	148.2	10.6849	3.87711	21963.24	16.91463	
7126	48	25	-23	-47.9167	3.88699	529	0.585366	
17220	41	20	-21	-51.2195	3.8035	441	0.5	
12210270	4	15.8	11.8	295	3.75029	139.24	0.04878	
7254	346	280.2	-65.8	-19.0173	3.71864	4329.64	4.219512	
7036	59	34	-25	-42.3729	3.66618	625	0.719512	
7104	81	117.2	36.2	44.6914	3.6364	1310.44	0.987805	
12210514	546	465.8	-80.2	-14.6886	3.56568	6432.04	6.658537	
12152	1732	1593.6	-138.4	-7.99076	3.39403	19154.56	21.12195	
7220	1968	2120.2	152.2	7.73374	3.36638	23164.84	24	
15596	862	767.2	-94.8	-10.9977	3.32151	8987.04	10.1122	
16027	2123	2276.6	153.6	7.23504	3.27491	23592.96	25.89024	
6964	2867	3038.6	171.6	5.98535	3.15791	29446.56	34.96341	
7164	295	207.6	-87.4	-18.5882	3.11667	7246.76	3.109756	
12210516	512	447.6	-64.4	-12.5781	2.94006	4147.36	6.243902	
7172	1653	1537.4	-115.6	-6.99335	2.89434	13363.36	20.15854	
6962	1060	968	-92	-8.67925	2.88916	8464	12.92683	
13643	2430	2573.6	143.6	5.9094	2.87097	20620.96	29.63415	
12870	581	649.6	68.6	11.8072	2.76554	4705.96	7.085366	
7222	919	846.6	-72.4	-7.87813	2.43673	5241.76	11.20732	
15953	935	862.8	-72.2	-7.72193	2.40816	5212.84	11.40244	
7276	239	277.4	38.4	16.0669	2.38975	1474.56	2.914634	
7408	1077	1004.2	-72.8	-6.75952	2.25678	5299.84	13.13415	
7106	916	849.6	-66.4	-7.24891	2.23479	4408.96	11.17073	
7116	2006	1909.4	-96.6	-4.81555	2.18325	9331.56	24.46341	
15955	1812	1890.2	78.2	4.31567	1.81757	6115.24	22.09756	
7040	73	59	-14	-19.1781	1.72328	196	0.890244	
7140	127	147	20	15.748	1.70872	400	1.54878	
7092	34	44.4	10.4	30.5882	1.66108	108.16	0.419634	
7180	969	1020.2	51.2	5.2838	1.62348	2621.44	11.81707	
12211631	24	32.4	8.4	35	1.58181	70.56	0.292683	
16517	499	534.8	35.8	7.17435	1.57463	1281.64	6.085366	
7336	940	892.6	-47.4	-5.04255	1.56588	2246.76	11.40243	
12211562	796	754.6	-41.4	-5.20101	1.48684	1713.96	9.707317	
7224	1010	1055.8	45.8	4.53465	1.42507	2097.64	12.31707	
6940	470	501.4	31.4	6.68085	1.42677	985.96	5.731707	
10618	1565	1618.8	53.8	3.4377	1.34842	2894.44	19.08537	
7118	1884	1831.8	-52.2	-2.7707	1.27104	2724.84	22.97561	
7438	53	61.8	8.8	16.6038	1.16152	77.44	0.646341	
16119	1045	1008.6	-36.4	-3.48325	1.13595	1324.96	12.7439	
7532	2045	1994.6	-50.4	-2.46455	1.12144	2540.16	24.93902	
12210650	493	469.6	-23.4	-4.74645	1.06662	547.56	6.012195	
12211719	778	749.2	-28.8	-3.7018	1.04222	829.44	9.487805	
11126	1442	1479.4	37.4	2.59362	0.978568	1398.76	17.58537	
7210	209	222.6	13.6	6.50718	0.925791	184.96	2.54878	
12155	1558	1593.2	35.2	2.25931	0.886788	1239.04	19	
12211629	3	1.8	-1.2	-40	0.774597	1.44	0.036585	
12211622	1489	1517.4	28.4	1.90732	0.732504	806.56	18.13854	
12211534	27	30.8	3.8	14.0741	0.706862	14.44	0.329268	
7410	162	170.8	8.8	5.4321	0.682191	77.44	1.97561	
7400	854	874	20	2.34192	0.680414	400	10.41463	
7428	1199	1214.4	15.4	1.2844	0.443124	237.16	6.142195	
7192	798	810.4	12.4	1.55388	0.43726	153.76	9.731707	
7166	502	493.4	-8.6	-1.71315	0.385491	73.96	6.121951	
12211564	24	22.2	-1.8	-7.5	0.376113	3.24	0.292683	
12210676	17	15.6	-1.4	-8.23529	0.346764	1.96	0.207317	
17011	98	101.2	3.2	3.26531	0.320642	10.24	1.195122	
7442	312	315.6	3.6	1.15385	0.200224	12.96	3.804878	
6920	749	744.2	-4.8	-0.64085	0.17567	23.04	9.134146	
7524	792	787.4	-4.6	-0.58081	0.163692	21.16	9.658537	
12210282	960	955.6	-4.4	-0.45833	0.142177	19.36	11.70732	
7214	58	57.4	-0.6	-1.03448	0.078988	0.36	0.707317	
12211544	496	495	-1	-0.2016	0.044924	1	6.04878	
Mean	848.598	856.312	7.71463	0.909104				

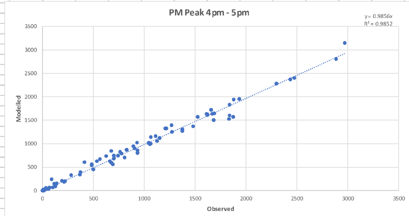


	Object	Count - Li	Count - Ai	Absolute	Relative Ch	GEH	Diff^2	Obs/N
Re-running	8062 (331(	47	233.2	186.2	396.17	15.7312	34670.44	0.573171
Data issue?	13284072	8	115	107	1337.5	13.6441	11449	0.097561
	13284134	10	75.2	65.2	652	9.98948	4251.04	0.121951
	13564 (346	514	736.6	222.6	43.3074	8.90186	49550.76	6.268293
	13284124	16	70.4	54.4	340	8.2767	2959.36	0.195122
	8218 (331(	2	36.2	34.2	1710	7.82546	1169.64	0.02439
	10376 (33(	260	399.2	139.2	53.5385	7.66736	19376.64	3.170732
	12426 (13(	63	16	-47	-74.6032	7.47824	2209	0.768293
	8176 (1300	1360	1619	259	19.0441	6.71088	67081	16.58537
						6.03708	11025	3.04878
						5.23414	4356	2.341463
						5.14151	13595.56	5.560976
						4.90774	852.64	0.609756
						4.73587	7089.64	3.341463
						4.69042	121	0.134146
						4.67844	23409	13.97561
						4.56382	15775.36	8.390244
						4.13831	2342.56	1.963415
						4.05032	1296	1.182927
						3.98401	25664.04	20.69512
						3.97385	26830.44	19.73171
						3.79991	217.0701	0.093496
						3.72853	3969	3.865854
	8206 (180(	61	93.4	32.4	53.1148	3.68754	1049.76	0.743902
	8228 (1300	1183	1060.4	-122.6	-10.3635	3.6606	15030.76	14.42683
	8170 (320(	381	313	-68	-17.8478	3.65043	4624	4.646341
	8240 (330(	65	39.2	-25.8	-39.6923	3.57438	665.64	0.792683
	13284132	100	84.2	-15.8	-29.8333	3.54299	1281.64	1.463415
	8314 (1300	1713	1859.8	146.8	8.56976	3.47326	21550.24	20.89024
	13284108	6	0	-6	-100	3.4641	36	0.073171
	10374 (33(	169	127.2	-41.8	-24.7337	3.43478	1747.24	2.060976
	13284133	488	415.8	-72.2	-14.7951	3.39638	5212.84	5.95122
	10375 (33(	15	30.8	15.8	105.333	3.30171	249.64	0.182927
	13554	271	220.2	-50.8	-18.7454	3.24153	2580.64	3.304878
	8224 (331(	5.33333	0.2	-5.13333	-96.25	3.08618	26.35108	0.065041
	13284073	255	209.6	-45.4	-17.8039	2.97873	2061.16	3.109756
	8182 (330(	1425	1638.6	213.6	7.9193	2.9531	12904.96	17.37805
	8184 (1300	42	25	-17	-40.4762	2.93715	289	0.512195
	8236 (330(	15	5.8	-9.2	-61.3333	2.8528	84.64	0.182927
	12404 (13(	36	54.6	18.6	51.6667	2.76353	345.96	0.439024
	12423 (13(	80	58.4	-21.6	-27	2.59857	466.56	0.97561
	13284112	3	0	-3	-100	2.44949	9	0.036585
	12424 (13(	135	109.2	-25.8	-19.1111	2.33487	665.64	1.646341
	13284092	137.333	165	27.6667	20.1456	2.25024	765.4463	1.674793
	8180 (1300	328	290.4	-37.6	-11.4634	2.1383	1413.76	4
	10377 (33(	707	764.6	57.6	8.1471	2.12345	3317.76	8.621951
	8210 (1800	1611	1530.4	-80.6	-5.0031	2.03371	6496.36	19.64634
	13284071	169	191.6	26.6	16.1212	1.99208	707.56	2.012195
	12422 (13(	133	112.4	-20.6	-15.4887	1.85971	424.36	1.621951
	8317 (1300	53	66	13	24.5283	1.68533	169	0.646341
	13566 (346	41	31.2	-9.8	-23.9024	1.63107	96.04	0.5
	8316 (1300	387	417.8	30.8	7.95866	1.5354	948.64	4.735122
	13284122	1262	1212.4	-49.6	-3.93027	1.41014	2460.16	15.39024
	8060 (331(	41	32.6	-8.4	-20.4878	1.3847	70.56	0.5
	8212 (1800	73	63.8	-11.2	-14.9333	1.34463	125.44	0.914634
	13284126	58	68.6	10.6	18.2759	1.33231	112.36	0.707317
	13284068	1308	1356.4	48.4	3.70031	1.32605	2342.56	15.95122
	13284094	92	103.6	11.6	12.6087	1.17297	134.56	1.121951
	8308 (1300	830	796.8	-33.2	-4	1.16409	1102.24	10.12195
	13284070	1059	1022.4	-36.6	-3.45609	1.13454	1339.56	12.91463
	8202 (1800	161	147.4	-13.6	-8.4472	1.09521	184.96	1.963415
	10375 (33(	1346	1307	-39	-2.89747	1.07081	1521	16.41463
	8318 (1300	39	32.6	-6.4	-16.4103	1.06964	40.96	0.47561
	12118	1438	1478.6	40.6	2.82337	1.06317	1648.36	17.53659
	13562 (346	220	235.4	15.4	7	1.02056	237.16	2.682927
	13284069	39	33	-6	-15.3846	1	36	0.47561
	8238 (331(	18	21.8	3.8	21.1111	0.851838	14.44	0.219512
	8320 (1300	74	68.6	-5.4	-7.2973	0.639512	29.16	0.902439
	13284125	1131	1152	21	1.85676	0.621558	441	13.79268
	8208 (1800	1363	1385.4	22.4	1.64343	0.604259	501.76	16.62195
	8056 (1300	26	28.8	2.8	10.7692	0.534913	7.84	0.317073
	12421 (13(	763	751.6	-11.4	-1.4941	0.414258	129.96	9.304878
	8232 (331(	7	6.2	-0.8	11.4286	0.3114	0.64	0.085366
	13284131	17	16.2	-0.8	-4.70588	0.196355	0.64	0.207317
	13284097	0.666667	0.8	0.133333	20	0.1557	0.017778	0.00813
	8050 (1300	1780	1784.8	4.8	0.269663	0.113694	23.04	21.70732
	13284096	5.66667	5.6	-0.06667	-1.17647	0.028088	0.004444	0.069106
	13284093	0	0	0	0	0	0	0
	13284109	0	0	0	0	0	0	0
	13284110	0	0	0	0	0	0	0
	Mean	405.358	415.447	10.0892	2.48895			



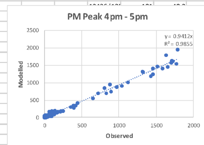
Link			Turn	
<5	85%		<5	85%
<7.5	95%		<7.5	91%
<10	98%		<10	98%
82 RMSE	13%		80 RMSE	19%

Object	Count - S	Count - A	Absolute	Relative D	GEH	11.5248	Diff^2	Obs/N
7228	93	242.2	149.2	160.43	11.5248		22260.64	1.134146
12210663	413	609.2	196.2	47.5061	8.67853		38494.44	5.036585
7172	1836	1531.6	-304.4	-16.5795	7.41821		92659.36	22.39024
7116	1873	1566.8	-306.2	-16.3481	7.38335		93758.44	22.84146
7428	679	844.6	165.6	24.3888	5.99984		27423.36	8.280488
12152	1838	1599	-239	-13.0033	5.76532		57121	22.41463
7540	693	564.6	-128.4	-18.5281	5.12046		16486.56	8.45122
16119	1682	1502.4	-179.6	-10.6778	4.50098		32256.16	20.5122
16517	934	803.8	-130.2	-13.94	4.41699		16952.04	11.39024
7164	568	672.8	104.8	18.4507	4.20751		10983.04	6.926829
12211544	629	735.2	106.2	16.8839	4.06631		11278.44	7.670732
7442	534	628.4	94.4	17.6779	3.9157		8911.36	6.512195
7180	808	707	-101	-12.5	3.6697		10201	9.853659
7210	126	89.2	-36.8	-29.2063	3.54766		1354.24	1.536585
13643	1209	1330.2	121.2	10.0248	3.40149		14689.44	14.7439
12210320	1270	1392.8	122.8	9.66929	3.36546		15079.84	15.4878
7410	101	70	-31	-30.6931	3.35258		961	1.231707
7730	487	559.2	72.2	14.8255	3.15678		5212.84	5.939024
17011	677	597.6	-79.4	-11.7282	3.1452		6304.36	8.256098
7066	61	38.8	-22.2	-36.3934	3.1427		492.84	0.743902
6964	1216	1328	112	9.21053	3.14032		12544	14.82927
7098	36	57.2	21.2	58.8889	3.10558		449.44	0.439024
6962	2972	3143.4	171.4	5.76716	3.09966		29377.96	36.2439
7276	282	335.6	53.6	19.0071	3.05018		2872.96	3.439024
10618	929	1023.8	94.8	10.2045	3.03385		8987.04	11.32927
12210282	1479	1371.4	-107.6	-7.27519	2.85019		11577.76	18.03659
12210270	1	6.2	5.2	520	2.74064		27.04	0.012195
12211719	1375	1277	-98	-7.12727	2.69125		9604	16.76829
16548	484	545	61	12.6033	2.68929		3721	5.902439
12211629	16	7.4	-8.6	-53.75	2.51423		73.96	0.195122
7036	22	11.8	-10.2	-46.3636	2.48117		104.04	0.268293
7390	933	860.2	-72.8	-7.80279	2.43126		5299.84	11.37805
12211631	13	22.6	9.6	73.8462	2.27542		92.16	0.158537
7214	119	145	26	21.8487	2.26301		676	1.45122
7400	1126	1051.6	-74.4	-6.60746	2.25475		5535.36	13.73171
7254	1066	1140.8	74.8	7.01689	2.25183		5595.04	13
7240	763	826.4	63.4	8.30931	2.24899		4019.56	9.304878
7106	502	457.6	-44.4	-8.84462	2.027		1971.36	6.121951
7356	1065	1003.6	-61.4	-5.76526	1.90917		3769.96	12.9878
15955	1054	993	-61	-5.78748	1.90672		3721	12.85366
12211562	1374	1307.4	-66.6	-4.84716	1.8189		4435.56	16.7561
12211622	894	948.4	54.4	6.08501	1.79235		2959.36	10.90244
7192	225	200.2	-24.8	-11.0222	1.70087		615.04	2.743902
7126	213	189.2	-23.8	-11.1737	1.67831		566.44	2.597561
7074	1656	1724.6	68.6	4.14251	1.66856		4705.96	20.19512
12211551	702	746.6	44.6	6.35328	1.6572		1989.16	8.560976
16525	2476	2400.8	-75.2	-3.03716	1.52288		5655.04	30.19512
7274	1111	1161.6	50.6	4.55446	1.50108		2560.36	13.54878
7724	2884	2809.6	-74.4	-2.57975	1.39442		5535.36	35.17073
7524	194	213.6	19.6	10.1031	1.37295		384.16	2.365854
12210661	1880	1939.4	59.4	3.15957	1.35926		3528.36	22.92683
12210676	11	7	-4	-36.3636	1.33333		16	0.134146
7166	829	867.6	38.6	4.65621	1.3253		1489.96	10.10976
12210502	664	630.4	-33.6	-5.06024	1.32075		1128.96	8.097561
11897	369	344.4	-24.6	-6.66667	1.30252		605.16	4.5
7222	2438	2375.2	-62.8	-2.57588	1.28014		3943.84	29.73171
7408	830	867	37	4.45783	1.27021		1369	10.12195
12126	1525	1569.2	44.2	2.89836	1.12373		1953.64	18.59756
7140	142	155.4	13.4	9.43662	1.09888		179.56	1.731707
7220	1045	1009.8	-35.2	-3.36842	1.09818		1239.04	12.7439
7532	1153	1117.2	-35.8	-3.10494	1.06259		1281.64	14.06098
12155	1688	1648	-40	-2.36967	0.979404		1600	20.58537
7732	375	392.8	17.8	4.74667	0.908471		316.84	4.573171
7040	38	43.6	5.6	14.7368	0.876714		31.36	0.463415
12870	703	681.2	-21.8	-3.101	0.828652		475.24	8.573171
7092	37	32.6	-4.4	-11.8919	0.74587		19.36	0.45122
7042	1666	1636	-30	-1.80072	0.738325		900	20.31707
12210516	1272	1248.4	-23.6	-1.85535	0.664802		556.96	15.5122
6940	1613	1639.2	26.2	1.6243	0.649722		686.44	19.67073
7438	136	143.6	7.6	5.58824	0.642777		57.76	1.658537
16027	1046	1027.2	-18.8	-1.79732	0.583919		353.44	12.7561
12210262	781	794.6	13.6	1.74136	0.484541		184.96	9.52439
15953	1935	1954.4	19.4	1.00258	0.439922		376.36	23.59756
7118	2299	2278.2	-20.8	-0.90474	0.434789		432.64	28.03659
7104	40	37.8	-2.2	-5.5	0.352734		4.84	0.487805
12210514	744	750.6	6.6	0.887097	0.241433		43.56	9.073171
12211534	20	19.2	-0.8	-4	0.180702		0.64	0.243902
12210650	1624	1617.6	-6.4	-0.39409	0.15897		40.96	19.80488
17220	73	71.8	-1.2	-1.64384	0.14103		1.44	0.890244
12211564	30	29.8	-0.2	-0.66667	0.036576		0.04	0.365854
6920	1622	1620.6	-1.4	-0.08631	0.034769		1.96	19.78049
15596	1837	1836.8	-0.2	-0.01089	0.004666		0.04	22.40244
Mean	904.366	899.776	-4.59024	-0.50757				



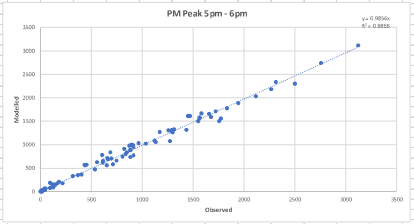
	Link	
	<5	91%
	<7.5	98%
	<10	99%
82	RMSE	10%

	Turn	
	<5	78%
	<7.5	94%
	<10	99%
80	RMSE	19%



Object	Count - S	Count - A	Absolute	Relative D	GEH		Diff^2	Obs/N
8056 (330	64	176.2	112.2	175.312	10.2381		12588.84	0.780488
13284072	7	66.4	59.4	848.571	9.80513		3528.36	0.085366
13284096	3	48.2	45.2	1506.67	8.93343		2043.04	0.036585
10376 (33	67	157.8	90.8	135.522	8.56451		8244.64	0.817073
8062 (331	5	46.4	41.4	828	8.16646		1713.96	0.060976
[illegible]	[illegible]	[illegible]	[illegible]	-60.198	7.23604		3696.64	1.231707
[illegible]	[illegible]	[illegible]	[illegible]	-17.4825	6.92046		62500	17.43902
[illegible]	[illegible]	[illegible]	[illegible]	84.1667	6.91838		6528.64	1.170732
[illegible]	[illegible]	[illegible]	[illegible]	-30.0756	6.50124		14256.36	4.841463
[illegible]	[illegible]	[illegible]	[illegible]	203	6.39549		1648.36	0.243902
[illegible]	[illegible]	[illegible]	[illegible]	312	6.16644		973.44	0.121951
[illegible]	[illegible]	[illegible]	[illegible]	495.714	5.74162		535.1496	0.056911
[illegible]	[illegible]	[illegible]	[illegible]	-13.1451	5.72317		54195.84	21.59756
[illegible]	[illegible]	[illegible]	[illegible]	-14.2641	5.64409		43014.76	17.73171
[illegible]	[illegible]	[illegible]	[illegible]	56.0714	5.24427		3943.84	1.365854
[illegible]	[illegible]	[illegible]	[illegible]	-45.6566	5.17121		2043.04	1.207317
[illegible]	[illegible]	[illegible]	[illegible]	-12.2296	5.13467		40965.76	20.18293
[illegible]	[illegible]	[illegible]	[illegible]	-16.229	5.05366		20909.16	10.86585
[illegible]	[illegible]	[illegible]	14	1400	4.94975		196	0.012195
8318 (130	87	48.6	-38.4	-44.1379	4.66355		1474.56	1.060976
13284133	1041	903.8	-137.2	-13.1796	4.39979		18823.84	12.69512
10379 (33	829	707.2	-121.8	-14.6924	4.39479		14835.24	10.10976
13564 (34	141	198.2	57.2	40.5674	4.39221		3271.84	1.719512
13284123	253	188.2	-64.8	-25.6126	4.36287		4199.04	3.085366
8208 (180	1583	1414.8	-168.2	-10.6254	4.3445		28291.24	19.30488
13566 (34	74	41.4	-32.6	-44.0541	4.2917		1062.76	0.902439
13284108	9	0	-9	-100	4.24264		81	0.109756
8320 (130	652	549.2	-102.8	-15.7669	4.1947		10567.84	7.95122
12421 (13	1635	1796.4	161.4	9.87156	3.89657		26049.96	19.93902
10375 (33	52	83.8	31.8	61.1538	3.85916		1011.24	0.634146
8308 (130	1789	1946.8	157.8	8.82057	3.65115		24900.84	21.81707
13284122	1125	1007.4	-117.6	-10.4533	3.60154		13829.76	13.71951
13284073	218	169	-49	-22.4771	3.52254		2401	2.658537
13284135	416	350.8	-65.2	-15.6731	3.32983		4251.04	5.073171
12118	1703	1574.2	-128.8	-7.56312	3.18185		16589.44	20.76829
10374 (33	357	299.4	-57.6	-16.1345	3.17946		3317.76	4.353659
8180 (130	135	100.6	-34.4	-25.4815	3.16946		1183.36	1.646341
13284068	967	873.4	-93.6	-9.67942	3.08557		8760.96	11.79268
8232 (331	15	5.2	-9.8	-65.3333	3.08365		96.04	0.182927
13284069	34	54	20	58.8235	3.01511		400	0.414634
8312 (130	21	9.4	-11.6	-55.2381	2.97534		134.56	0.256098
8182 (130	1726	1609.2	-116.8	-6.76709	2.8602		13642.24	21.04878
13284112	4	0	-4	-100	2.82843		16	0.04878
13284130	129	99	-30	-23.2558	2.80976		900	1.573171
8224 (331	4.33333	0.2	-4.13333	-95.3846	2.74541		17.08442	0.052845
8240 (330	41	25.4	-15.6	-38.0488	2.70742		243.36	0.5
13284121	52	35.4	-16.6	-31.9231	2.51112		275.56	0.634146
13284109	3	0	-3	-100	2.44949		9	0.036585
13565 (34	164	134.6	-29.4	-17.9268	2.40612		864.36	2
8314 (130	877	946.8	69.8	7.95895	2.31144		4872.04	10.69512
13563 (34	388	344.6	-43.4	-11.1856	2.26763		1883.56	4.731707
8184 (130	220	189.2	-30.8	-14	2.15327		948.64	2.682927
8050 (330	1711	1629	-82	-4.79252	2.00658		6724	20.86585
13284110	2	0	-2	-100	2		4	0.02439
13284113	2	0	-2	-100	2		4	0.02439
12422 (13	182	159.2	-22.8	-12.5275	1.7456		519.84	2.219512
13284126	38	28	-10	-26.3158	1.74078		100	0.463415
12424 (13	131	150.2	19.2	14.6565	1.61923		368.64	1.597561
8212 (180	167	147	-20	-11.976	1.59617		400	2.036585
10378 (33	106	122.6	16.6	15.6604	1.55269		275.56	1.292683
8206 (180	135	153.4	18.4	13.6296	1.53227		338.56	1.646341
8238 (331	12	17.6	5.6	46.6667	1.45565		31.36	0.146341
12425 (13	802	842.4	40.4	5.03741	1.40894		1632.16	9.780488
13562 (34	71	83.2	12.2	17.1831	1.38942		148.84	0.865854
8176 (130	1516	1465.4	-50.6	-3.33773	1.31056		2560.36	18.4878
13284125	1454	1414.6	-39.4	-2.70977	1.04034		1552.36	17.73171
13284132	179	165.4	-13.6	-7.59777	1.03639		184.96	2.182927
13284124	76	84.6	8.6	11.3158	0.959711		73.96	0.926829
13284093	0.333333	0	-0.33333	-100	0.816497		0.111111	0.004065
8202 (180	166	156.2	-9.8	-5.90361	0.772108		96.04	2.02439
8236 (330	10	7.8	-2.2	-22	0.737442		4.84	0.121951
8170 (320	719	701.8	-17.2	-2.39221	0.645323		295.84	8.768293
8058 (330	28	24.8	-3.2	-11.4286	0.622799		10.24	0.341463
8060 (331	76	80.8	4.8	6.31579	0.542105		23.04	0.926829
12404 (13	36	38.4	2.4	6.66667	0.393496		5.76	0.439024
8316 (130	76	79.2	3.2	4.21053	0.363261		10.24	0.926829
10377 (33	1321	1308.8	-12.2	-0.92354	0.336445		148.84	16.10976
13284070	1317	1324.8	7.8	0.592255	0.214615		60.84	16.06098
13284097	0.333333	0.4	0.066667	20	0.110096		0.004444	0.004065
12423 (13	65	65.8	0.8	1.23077	0.098924		0.64	0.792683
Mean	441.633	418.553	-23.0808	-5.22624				

Object	Count - SC	Count - A	Absolute	Relative E	GEH	7.98611	Diff^2	Obs/N
7228	96	191.8	95.8	99.7917	7.98611		9177.64	1.170732
7240	608	782.4	174.4	28.6842	6.61442		30415.36	7.411634
12210663	435	578.4	143.4	32.9655	6.3705		20563.56	5.304878
7172	1759	1510.2	-248.8	-14.1444	6.15382		61901.44	21.45122
7532	1276	1080.6	-195.4	-15.3135	5.69242		38181.16	15.56098
7428	687	840.2	153.2	22.2999	5.54403		23470.24	8.378049
7116	1776	1555	-221	-12.4437	5.41527		48841	21.65854
7390	887	733.2	-153.8	-17.3393	5.40365		23654.44	10.81707
16548	441	557.8	116.8	26.4853	5.23699		13642.24	5.378049
7730	457	572.8	115.8	25.3392	5.10325		13409.64	5.573171
16517	914	766.6	-147.4	-16.1269	5.08488		21726.76	11.14634
12210502	713	589	-124	-17.3913	4.85996		15376	8.695122
7098	39	73.8	34.8	89.2308	4.63383		1211.04	0.47561
6940	1449	1618.8	169.8	11.7184	4.3355		28832.04	17.67073
7222	2503	2310	-193	-7.71075	3.93427		37249	30.52439
12210270	0	7.6	7.6	inf	3.89872		57.76	0
12126	1470	1619.4	149.4	10.1633	3.80127		22320.36	17.92683
7210	127	89	-38	-29.9213	3.65655		1444	1.54878
17011	653	564.4	-88.6	-13.5681	3.59114		7849.96	7.963415
16027	896	1005	109	12.1652	3.5355		11881	10.92683
7220	876	980.4	104.4	11.9178	3.42673		10899.36	10.68293
12210282	1434	1314.4	-119.6	-8.34031	3.23631		14304.16	17.4878
7540	746	665.4	-80.6	-10.8043	3.03407		6496.36	9.097561
7164	557	629.2	72.2	12.9623	2.96465		5212.84	6.792683
13643	1175	1276.8	101.8	8.66383	2.9075		10363.24	14.32927
12211629	16	6.4	-9.6	-60	2.86855		92.16	0.195122
7166	825	907.6	82.6	10.0121	2.80638		6822.76	10.06098
15955	908	990.6	82.6	9.09692	2.68089		6822.76	11.07317
7126	217	180	-37	-17.0507	2.62616		1369	2.646341
7106	535	477.4	-57.6	-10.7664	2.56013		3317.76	6.52439
7400	1133	1052	-81	-7.14916	2.45061		6561	13.81707
12210262	811	744	-67	-8.26141	2.40284		4489	9.890244
12211631	13	23.2	10.2	78.4615	2.39751		104.04	0.158537
7410	97	75.6	-21.4	-22.0619	2.30361		457.96	1.182927
7438	126	152.4	26.4	20.9524	2.23761		696.96	1.536585
7074	1584	1673.6	89.6	5.65657	2.22081		8028.16	19.31707
7036	23	13.6	-9.4	-40.8696	2.19737		88.36	0.280488
12211551	657	714.4	57.4	8.73668	2.19202		3294.76	8.012195
17220	52	68.2	16.2	31.1538	2.08967		262.44	0.634146
7732	403	362.2	-40.8	-10.1241	2.08587		1664.64	4.414634
12152	1677	1596.4	-80.6	-4.8062	1.99228		6496.36	20.45122
7524	182	209.8	27.8	15.2747	1.98622		772.84	2.219512
7274	968	1030	62	6.40496	1.96159		3844	11.80488
12210676	13	7	-6	-46.1538	1.89737		36	0.158537
12210661	2115	2030.8	-84.2	-3.98109	1.84937		7089.64	25.79268
16525	2271	2185.8	-85.2	-3.75165	1.80486		7259.04	27.69512
12870	617	660.8	43.8	7.09887	1.79284		1918.44	7.52439
7066	48	37.2	-10.8	-22.5	1.6547		116.64	0.585366
12211562	1256	1306.8	50.8	4.04459	1.41913		2580.64	15.31707
12210514	838	799.2	-38.8	-4.63007	1.35611		1505.44	10.21951
7192	166	183.6	17.6	10.6024	1.3312		309.76	2.02439
15953	1948	1889.8	-58.2	-2.98768	1.33881		3387.24	23.7561
15596	1834	1784	-50	-2.72628	1.17558		2500	22.36585
12211544	662	691.4	29.4	4.44109	1.13018		864.36	8.073171
7214	1124	1089	-35	-3.11388	1.05219		1225	13.70732
12211534	17	21.6	4.6	27.0588	1.06708		21.16	0.207317
16119	1550	1509.6	-40.4	-2.60645	1.03291		1632.16	18.90244
10618	917	948.2	31.2	3.4024	1.02166		973.44	11.18293
13897	370	350.8	-19.2	-5.18919	1.01137		368.64	4.212195
12211719	1299	1263.4	-35.6	-2.74057	0.994584		1267.36	15.84146
7214	123	133.2	10.2	8.29268	0.901209		104.04	1.5
7092	35	31	-4	-11.4286	0.696311		16	0.426829
7040	40	44	4	10	0.637213		16	0.487805
12210320	1292	1314	22	1.70279	0.609467		484	15.7561
7408	848	832.8	-15.2	-1.79245	0.524125		231.04	10.34146
7104	41	38	-3	-7.31707	0.477334		9	0.5
7180	698	709.6	11.6	1.66189	0.437254		134.56	8.512195
7276	320	327.2	7.2	2.25	0.400247		51.84	3.902439
7356	1034	1021.2	-12.8	-1.23791	0.399299		163.84	12.60976
7724	2759	2739.6	-19.4	-0.70315	0.369991		376.36	33.64634
7118	2316	2333.6	17.6	0.759931	0.365023		309.76	28.2439
7042	1564	1578.2	14.2	0.907928	0.35825		201.64	19.07317
12210516	1314	1326.6	12.6	0.958904	0.346764		158.76	16.02439
7140	149	144.8	-4.2	-2.81879	0.346528		17.64	1.817073
12210650	1565	1574.8	9.8	0.626198	0.247338		96.04	19.08537
12211564	32	33.2	1.2	3.75	0.210171		1.44	0.390244
6920	1722	1714.2	-7.8	-0.45296	0.188179		60.84	21
7442	612	615.6	3.6	0.588235	0.145108		12.96	7.463415
6964	1293	1288.8	-4.2	-0.32483	0.116897		17.64	15.76829
12155	1659	1663	4	0.241109	0.098147		16	20.23171
6962	3171	3117.4	-3.6	-0.11535	0.064459		12.96	38.06098
12211627	887	888.8	1.8	0.202931	0.060407		3.24	10.81707
Mean	886.22	883.149	-3.07073	-0.3465				



Link		
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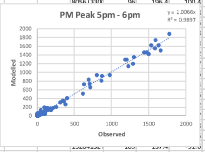
<7.5	99%	
<10	100%	
82 RMSE	9%	

Turn	
<5	84%
<7.5	94%
<10	100%
80 RMSE	14%



Object	Count - SC	Count - A	Absolute	Relative E	GEH		Diff^2	Obs/N
13284072	5	61.2	56.2	1124	9.76837		3158.44	0.060976
10376 (13(	50	137.4	87.4	174.8	9.02904		7638.76	0.609756
13284096	0.666667	40.4	39.7333	5960	8.7685		1578.735	0.00813
13284131	3	43.4	40.4	1346.67	8.38759		1632.16	0.036585
8064 (13(	96	196.4	100.4	104.583	8.30348		10080.16	1.170732
7228	96	191.8	95.8	99.7917	7.98611		9177.64	1.170732
7240	608	782.4	174.4	28.6842	6.61442		30415.36	7.411634
12210663	435	578.4	143.4	32.9655	6.3705		20563.56	5.304878
7172	1759	1510.2	-248.8	-14.1444	6.15382		61901.44	21.45122
7532	1276	1080.6	-195.4	-15.3135	5.69242		38181.16	15.56098
7428	687	840.2	153.2	22.2999	5.54403		23470.24	8.378049
7116	1776	1555	-221	-12.4437	5.41527		48841	21.65854
7390	887	733.2	-153.8	-17.3393	5.40365		23654.44	10.81707
16548	441	557.8	116.8	26.4853	5.23699		13642.24	5.378049
7730	457	572.8	115.8	25.3392	5.10325		13409.64	5.573171
16517	914	766.6	-147.4	-16.1269	5.08488		21726.76	11.14634
12210502	713	589	-124	-17.3913	4.85996		15376	8.695122
7098	39	73.8	34.8	89.2308	4.63383		1211.04	0.47561
6940	1449	1618.8	169.8	11.7184	4.3355		28832.04	17.67073
7222	2503	2310	-193	-7.71075	3.93427		37249	30.52439
12210270	0	7.6	7.6	inf	3.89872		57.76	0
12126	1470	1619.4	149.4	10.1633	3.80127		22320.36	17.92683
7210	127	89	-38	-29.9213	3.65655		1444	1.54878
17011	653	564.4	-88.6	-13.5681	3.59114		7849.96	7.963415
16027	896	1005	109	12.1652	3.5355		11881	10.92683
7220	876	980.4	104.4	11.9178	3.42673		10899.36	10.68293
12210282	1434	1314.4	-119.6	-8.34031	3.23631		14304.16	17.4878
7540	746	665.4	-80.6	-10.8043	3.03407		6496.36	9.097561
7164	557	629.2	72.2	12.9623	2.96465		5212.84	6.792683
13643	1175	1276.8	101.8	8.66383	2.9075		10363.24	14.32927
12211629	16	6.4	-9.6	-60	2.86855		92.16	0.195122
7166	825	907.6	82.6	10.0121	2.80638		6822.76	10.06098
15955	908	990.6	82.6	9.09692	2.68089		6822.76	11.07317
7126	217	180	-37	-17.0507	2.62616		1369	2.646341
7106	535	477.4	-57.6	-10.7664	2.56013		3317.76	6.52439
7400	1133	1052	-81	-7.14916	2.45061		6561	13.81707
12210262	811	744	-67	-8.26141	2.40284		4489	9.890244
12211631	13	23.2	10.2	78.4615	2.39751		104.04	0.158537
7410	97	75.6	-21.4	-22.0619	2.30361		457.96	1.182927
7438	126	152.4	26.4	20.9524	2.23761		696.96	1.536585
7074	1584	1673.6	89.6	5.65657	2.22081		8028.16	19.31707
7036	23	13.6	-9.4	-40.8696	2.19737		88.36	0.280488
12211551	657	714.4	57.4	8.73668	2.19202		3294.76	8.012195
17220	52	68.2	16.2	31.1538	2.08967		262.44	0.634146
7732	403	362.2	-40.8	-10.1241	2.08587		1664.64	4.414634
12152	1677	1596.4	-80.6	-4.8062	1.99228		6496.36	20.45122
7524	182	209.8	27.8	15.2747	1.98622		772.84	2.219512
7274	968	1030	62	6.40496	1.96159		3844	11.80488
12210676	13	7	-6	-46.1538	1.89737		36	0.158537
12210661	2115	2030.8	-84.2	-3.98109	1.84937		7089.64	25.79268
16525	2271	2185.8	-85.2	-3.75165	1.80486		7259.04	27.69512
12870	617	660.8	43.8	7.09887	1.79284		1918.44	7.52439
7066	48	37.2	-10.8	-22.5	1.6547		116.64	0.585366
12211562	1256	1306.8	50.8	4.04459	1.41913		2580.64	15.31707
12210514	838	799.2	-38.8	-4.63007	1.35611		1505.44	10.21951
7192	166	183.6	17.6	10.6024	1.3312		309.76	2.02439
15953	1948	1889.8	-58.2	-2.98768	1.33881		3387.24	23.7561
15596	1834	1784	-50	-2.72628	1.17558		2500	22.36585
12211544	662	691.4	29.4	4.44109	1.13018		864.36	8.073171
7214	1124	1089	-35	-3.11388	1.05219		1225	13.70732
12211534	17	21.6	4.6	27.0588	1.06708		21.16	0.207317
16119	1550	1509.6	-40.4	-2.60645	1.03291		1632.16	18.90244
10618	917	948.2	31.2	3.4024	1.02166		973.44	11.18293
13897	370	350.8	-19.2	-5.18919	1.01137		368.64	4.212195
12211719	1299	1263.4	-35.6	-2.74057	0.994584		1267.36	15.84146
7214	123	133.2	10.2	8.29268	0.901209		104.04	1.5
7092	35	31	-4	-11.4286	0.696311		16	0.426829
7040	40	44	4	10	0.637213		16	0.487805
12210320	1292	1314	22	1.70279	0.609467		484	15.7561
7408	848	832.8	-15.2	-1.79245	0.524125		231.04	10.34146
7104	41	38	-3	-7.31707	0.477334		9	0.5
7180	698	709.6	11.6	1.66189	0.437254		134.56	8.512195
7276	320	327.2	7.2	2.25	0.400247		51.84	3.902439
7356	1034	1021.2	-12.8	-1.23791	0.399299		163.84	12.60976
7724	2759	2739.6	-19.4	-0.70315	0.369991		376.36	33.64634
7118	2316	2333.6	17.6	0.759931	0.365023		309.76	28.2439
7042	1564	1578.2	14.2	0.907928	0.35825		201.64	19.07317
12210516	1314	1326.6	12.6	0.958904	0.346764		158.76	16.02439
7140	149	144.8	-4.2	-2.81879	0.346528		17.64	1.817073
12210650	1565	1574.8	9.8	0.626198	0.247338		96.04	19.08537
12211564	32	33.2	1.2	3.75	0.210171		1.44	0.390244
6920	1722	1714.2	-7.8	-0.45296	0.188179		60.84	21
7442	612	615.6	3.6	0.588235	0.145108		12.96	7.463415
6964	1293	1288.8	-4.2	-0.32483	0.116897		17.64	15.76829
12155	1659	1663	4	0.241109	0.098147		16	20.23171
6962	3171	3117.4	-3.6	-0.11535	0.064459		12.96	38.06098
12211627	887	888.8	1.8	0.202931	0.060407		3.24	10.81707
10374 (13(	314	312.4	-1.6	-0.50955	0.090409		2.56	3.829268
13284113	0	0	0	0	0		0	0
Mean	402.7	409.758	7.0575	1.75255				

Appendix I

Travel Time Validation Tables

AM

Aimsun	Route Nar	Year	Mon	Period	Route ID	Route Nar	Seg ID	From	To	Length	0700-0800 Median Ti	15th Perce	85th Percentile (s	0800-0900 Median Ti	15th Perce	85th Perce	Route Nar	Cumul Dis	0700-0800 Median Ti	15th Perce	85th Perce	0800-0900 Median Ti	15th Perce	85th Perce	0	13284702												
	AM - Pakuranga Rd/Cascades Rd to Mt W Hwy																								7:00-8:00 Av	7:00-8:00 Cumulative	8:00-9:00 Av	8:00-9:00 Cumulative		15 7:15	6 7:30	7 7:45	8 8:00	9 8:15	10 8:30	11 8:45	12 9:00	13 9:15	14 9:30	15 9:45			
									Cascades Road																														
13284775	Ellerslie P	201806	7:00	8:00	55	Ellerslie P	795	Cascades Road	Ti Rakau Drive	2436	333	238	544	298	230	446	Ellerslie P	2.436	5.55	3.966667	3.066667	4.966667	3.833333	7.433333	6.715237134	5.252887086	5.252887086	440.4762	381.5404	386.7261	394.8797	346.6544	275.7413	243.4176	189.8557	173.8853	#N/A	#N/A			100%	
13284791	Ellerslie P	201806	7:00	8:00	55	Ellerslie P	796	Ti Rakau Drive	Jellicoe Road	2379	281	201	520	250	191	360	Ellerslie P	4.815	10.23333	7.316667	17.73333	9.133333	7.016667	13.43333	4.142544307	10.85778144	3.655526584	8.908413669	235.7302	255.7841	254.1436	225.1594	220.0202	226.7243	205.4225	196.219	190.8661	#N/A	#N/A				
13285848	Ellerslie P	201806	7:00	8:00	55	Ellerslie P	797	Jellicoe Road	Mt W Hwy	549	92	61	131	87	62	113	Ellerslie P	5.364	11.76667	8.333333	19.91667	10.58333	8.05	15.31667	1.496765815	12.35454726	1.445537407	10.35395108	87.71831	85.02526	96.67428	88.01156	95.77518	82.33967	80.80258	72.91596	66.866	#N/A	#N/A			OK	OK
	AM - Pakuranga Rd/ Mt W Hwy to Cascades Rd																																					
									Mt W Hwy																														
13285849	Ellerslie P	201806	7:00	8:00	193	Ellerslie P	1628	Mt Wellington Highwa	Jellicoe Road	549	69	47	95	62	44	89	Ellerslie P	0.549	1.15	0.783333	1.583333	1.033333	0.733333	1.483333	1.053888111	1.053888111	1.117161018	1.117161018	58.6654	61.37602	69.65844	71.0786	67.08065	67.206	62.7534	64.68988	64.66237	#N/A	#N/A				
13284792	Ellerslie P	201806	7:00	8:00	193	Ellerslie P	1629	Jellicoe Road	Ti Rakau Drive	2379	252	219	323	251	196	301	Ellerslie P	2.928	5.35	4.433333	6.966667	5.216667	4	6.5	3.473369498	4.527257609	3.586402588	4.703563606	216.1577	202.7737	206.2751	214.7854	219.6861	213.8163	212.4488	200.9834	209.5098	#N/A	#N/A				
13284793	Ellerslie P	201806	7:00	8:00	193	Ellerslie P	1630	Ti Rakau Drive	Cascades Road	2436	230	172	294	257	201	344	Ellerslie P	5.364	9.183333	7.3	11.86667	9.5	7.35	12.23333	3.815852882	8.343110491	3.698984091	8.402547699	217.0994	232.8622	236.892	228.2255	225.4598	217.3337	216.7372	214.5611	192.4057	#N/A	#N/A			OK	OK
	AM - Ti Rakau Dr/Te Irirangi Dr to Mt W Hwy																																					
									Te Irirangi																														
13284776	Ellerslie P	201806	7:00	8:00	193	Ellerslie P	1638	Te Irirangi	Harris Road	1351	141	103	206	180	120	289	Ellerslie P	1.351	2.35	1.716667	3.433333	3	2	4.816667	2.933602381	2.933602381	3.19143616	3.19143616	169.6078	178.2053	180.2353	165.015	180.2173	211.3492	209.3632	162.2794	155.0845	#N/A	#N/A				
13285850	Freight - S	201806	7:00	8:00	32	Freight - S	286	Harris Road	Edgewater Drive	2035	274	163	477	216	166	371	Freight - S	3.386	6.916667	4.433333	11.38333	6.6	4.766667	11	3.423284854	6.356887235	3.264148074	6.455584234	205.697	222.7637	187.7305	188.9014	195.8394	194.4593	204.1954	193.5673	173.2855	#N/A	#N/A				
13284777	Freight - S	201806	7:00	8:00	32	Freight - S	287	Edgewater Drive	Ti Rakau Dr	823	184	94	261	185	97	249	Freight - S	4.209	9.983333	6	15.73333	9.683333	6.383333	15.15	2.291097843	8.647985078	1.348770252	7.804354485	145.67	156.7759	109.9516	83.04348	80.13192	78.86989	81.65957	73.86161	67.44692	#N/A	#N/A				
13284778	Freight - S	201806	7:00	8:00	32	Freight - S	288	Ti Rakau Dr	Pakuranga Highway	1722	121	102	163	106	92	136	Freight - S	5.931	12	7.7	18.45	11.45	7.916667	17.41667	1.745327332	10.39331241	1.420618457	9.224972942	101.5622	110.9832	101.6135	86.12433	85.77199	84.06021	84.99189	84.51595	81.66155	#N/A	#N/A				
13285851	Freight - S	201806	7:00	8:00	32	Freight - S	289	Pakuranga Highway	Carbine Road	826	102	61	153	105	57	181	Freight - S	6.757	13.7	8.716667	21	13.2	8.866667	20.43333	2.772824454	13.16613686	1.756137231	10.98111017	165.1919	167.087	166.8296	137.3861	101.8616	94.86441	87.36082	89.79646	83.38686	#N/A	#N/A				
13284779	Freight - S	201806	7:00	8:00	32	Freight - S	290	Carbine Road	SH1	889	65	53	77	61	51	73	Freight - S	7.646	14.78333	9.6	22.28333	14.21667	9.716667	21.65	0.698801413	13.86502828	0.687764383	11.66884956	41.94585	41.78626	42.06834	41.99305	41.11108	40.7525	41.20683	40.54274	40.07985	#N/A	#N/A			OK	OK
	AM - Ti Rakau Dr/Mt W Hwy to Te Irirangi Dr																																					
									SH1																														
13284780	Freight - S	201806	7:00	8:00	32	Freight - S	290	SH1	Carbine Road	889	61	47	137	60	47	158	Freight - S	0.889	1.016667	0.783333	2.283333	1	0.783333	2.633333	1.056718255	1.056825798	1.056825798	1.055825798	64.4477	61.61637	64.14522	63.33931	62.67607	64.38094	63.00186	64.30032	64.14703	#N/A	#N/A				
13285861	Freight - S	201806	7:00	8:00	32	Freight - S	289	Carbine Road	Pakuranga Highway	826	54	46	70	54	46	70	Freight - S	1.715	1.916667	1.55	3.45	1.9	1.55	3.8	0.806079663	1.862799918	0.810367347	1.886193145	47.90932	47.77321	49.41181	48.5792	48.839	48.75928	48.31069	47.78683	46.38716	#N/A	#N/A				
13284781	Freight - S	201806	7:00	8:00	32	Freight - S	288	Pakuranga Highway	Ti Rakau Dr	1722	127	98	244	182	99	301	Freight - S	3.437	4.033333	3.183333	7.516667	4.933333	3.2	8.816667	2.97181444	4.834612359	3.396308137	5.262501282	165.7252	176.4436	192.7578	223.008	230.1351	196.8289	165.142	175.4729	163.554	#N/A	#N/A				
13284782	Freight - S	201806	7:00	8:00	32	Freight - S	287	Ti Rakau Dr	Edgewater Drive	823	66	57	123	71	61	181	Freight - S	4.26	5.133333	4.133333	9.566667	6.116667	4.216667	11.83333	1.00422865	5.838841009	1.010173131	6.272674413	61.77564	59.16104	59.82447	58.96715	60.55422	60.77331	62.14687	62.85486	58.27952	#N/A	#N/A				
13284783	Freight - S	201806	7:00	8:00	32	Freight - S	286	Edgewater Drive	Harris Road	2035	191	144	236	188	149	239	Freight - S	6.295	8.316667	6.533333	13.5	9.25	6.7	15.81667	3.348044962	9.186885971	4.072943874	10.34561829	192.2772	195.4956	214.8753	221.0975	230.4707	250.5756	275.3627	218.8658	207.7454	#N/A	#N/A				
13285862	Ellerslie P	201806	7:00	8:00	32	Freight - S	787	Harris Road	Te Irirangi	1351	113	94	174	151	102	241	Freight - S	7.646	10.2	8.1	16.4	11.76667	8.4	19.83333	2.408427732	11.5953157	2.427724494	12.77334578	138.7867	140.4843	154.246	136.5582	143.505	149.0925	153.4989	150.2803	148.3059	#N/A	#N/A			OK	OK
	AM - Pakuranga Rd to Pakuranga Highway and vice versa																																					
									Pakuranga Rd																														
13284788	Ti Rakau D	201806	7:00	8:00	197	Ti Rakau D	1642	Pakuranga Rd	Pakuranga Hwy	341	135	77	205	99	56	183	Ti Rakau D	0.341	2	1.283333	3.416667	2	0.933333	3.05	1.96656028	1.96656028	1.790551845	1.790551845	116.9302	118.2226	118.828	109.1476	111.1534	106.0589	103.3725	99.48425	82.47163	#N/A	#N/A			OK	OK
									Pakuranga Hwy																														
13284787	Ti Rakau D	201806	7:00	8:00	196	Ti Rakau D	1641	Pakuranga Hwy	Pakuranga Rd	327	80	31	142	77	33	174	Ti Rakau D	0.668	2	0.516667	2.366667	2	0.55	2.9	2.05992453	2.05992453	2.249934948	2.249934948	116.7869	116.8271	137.1725	131.714	134.9766	141.989	131.3048	110.9097	99.61536	#N/A	#N/A			OK	OK
	AM - Gossamer/Ti Rakau Dr to Pakuranga Rd																																					
									Ti Rakau Dr																														
13284784	Gossamer	201806	7:00	8:00	164	Gossamer	1433	Ti Rakau Dr	Chatsworth Cr / Ennis /	645	52	47	181	56	48	155	Gossamer	0.645	0.866667	0.783333	3.016667	0.933333	0.8	2.583333	0.885232182	0.885232182	0.902051166	0.902051166	55.50934	52.24112	51.59133	54.12953	54.7835	55.25712	52.32212	53.18494	51.87362	#N/A	#N/A				
13285866	Gossamer	201806	7:00	8:00	164	Gossamer	1434	Chatsworth Cr / Ennis /	Reeves Rd	395	35	29	51	40	34	80	Gossamer	1.04	1.45	1.266667	3.866667	1.6	1.366667	3.916667	0.664773858	1.55000604	0.659771456	1.561822622	41.07973	39.97202	38.60754	41.00231	40.60318	38.68965	38.05001	37.52435	37.64223	#N/A	#N/A				
13285870	Gossamer	201806	7:00	8:00	164	Gossamer	1435	Reeves Rd	Larne Ave	454	36	32	44	42	36	49	Gossamer	1.494	2.05	1.8	4.6	2.3	1.966667	4.733333	0.60098122	2.150987276	0.60318482	2.160007442	36.51309	35.9744	35.68913	36.02549	36.57902	36.22032	35.93953	35.81905	37.12194	#N/A	#N/A				
13285874	Gossamer	201806	7:00	8:00	164	Gossamer	1436	Larne Ave	Pakuranga Rd	601	73	53	154	170	81	559	Gossamer	2.095	3.266667	2.683333	7.166667	5.133333	3.316667	14.05	1.730070943	3.881058204	1.807190997	3.972198438	101.7532	106.0285	103.6311	109.0441	106.3685	112.0688	106.2444	101.6535	109.228	#N/A	#N/A			OK	OK
	AM - Gossamer/Pakuranga Rd to Ti Rakau Dr																																					
									Pakuranga Rd																														
13284796	Gossamer	201806	7:00	8:00	164	Gossamer	1436	Pakuranga Rd	Larne Ave	601	49	45	65	71	46	129	Gossamer	0.601	0.816667	0.75	1.083333	1.183333	0.766667	2.15	0.858634454	0.858634454	0.849688087	0.849688087	52.028	51.39223	51.13396	50.38556	52.03655	51.07142	50.43161	50.3199	49.06647	#N/A	#N/A				
13285878	Gossamer	201806	7:00	8:00	164	Gossamer	1435	Larne Ave	Reeves Rd	454	48	38	57	48	39	82	Gossamer	1.055	1.616667	1.383333	2.033333	1.983333	1.416667	3.516667	0.775669683	1.634304117	0.750392167	1.600080254	48.23585	46.50015	44.88444	44.30616	46.77995	44.74986	44.31815	42.05678	42.01707	#N/A	#N/A				
13285882	Gossamer	201806	7:00	8:00	164	Gossamer	1434	Reeves Rd	Chatsworth Cr / Ennis /	395	29	25	33	35	28	104	Gossamer	1.45	2.1	1.8	2.583333	2.566667	1.883333	5.25	0.516202321	2.150506458	0.515693172	2.115773427	31.00559	30.9713	30.93953	30.90586	31.1137	31.00629	30.74051	31.04925	30.96776	#N/A	#N/A				
13285886	Gossamer	201806	7:00	8:00	164	Gossamer	1433	Chatsworth Cr / Ennis /	Ti Rakau Dr	645	72	48	150	154	76	271	Gossamer	2.095	3.3	2.6	5.083333	5.133333	3.15	9.766667	1.696491139	3.846997598	1.797266661	3.913040088	92.74557	110.0827	102.5401	112.0977	105.9941	110.7331	102.5192	98.72786	104.3459	#N/A	#N/A			OK	OK
	AM - Bus													Median Ti	15th Perce	85th Perce	Median Ti	15th Perce	85th Percentile (s										3												
									Botany Town Centre																														
19206840								Botany Town Centre	Panmure Interchange									7.63	38.83333	30.23333	47.01667	27.63333	25.22	36.31667	30.03937771	30.03937771	29.06571162	29.06571162	1750.953	1795.066	1861.068	1743.562	1752.677	1801.477	1678.054	1813.218	1700.757	#N/A	#N/A				
									Panmure Interchange									0	0	0	0	0	0	0	0	0	0	0												
19206842								Panmure Interchange	Botany Town Centre									7.638	27.28333	20.11667	32.88333	30	18	32	26.22906907	26.22906907	28.09448037	28.09448037	1544.36	1496.846	1680.026	1576.824	1668.109	1721.432	1776.311	1604.345	1496.002	#N/A	#N/A				
									Cascades Road									0	0	0	0	0	0	0	0	0	0	0												
19206841								Cascades Road	Panmure Interchange									4.962	20.71667	17.46667	25.39167	20.71667	17.46667	25.39167	22.92836997	22.92836997	22.59312132	22.59312132	1373.438	1380.146	1373.523	1325.09	1426.063	1336.073	1335.122	1266.16	1056.849	#N/A	#N/A				
									Panmure Interchange									0	0	0	0	0	0	0	0	0	0	0												
19206843								Panmure Interchange	Cascades Road									4.897	18	9.533333	19	18	10.66167	19	16.49977349	16.49977349	16.96103015	16.96103015	988.45	973.2352	1008.274	1020.141	1027.344	1026.23	996.9319	986.3285	962.0151	#N/A	#N/A				

PM

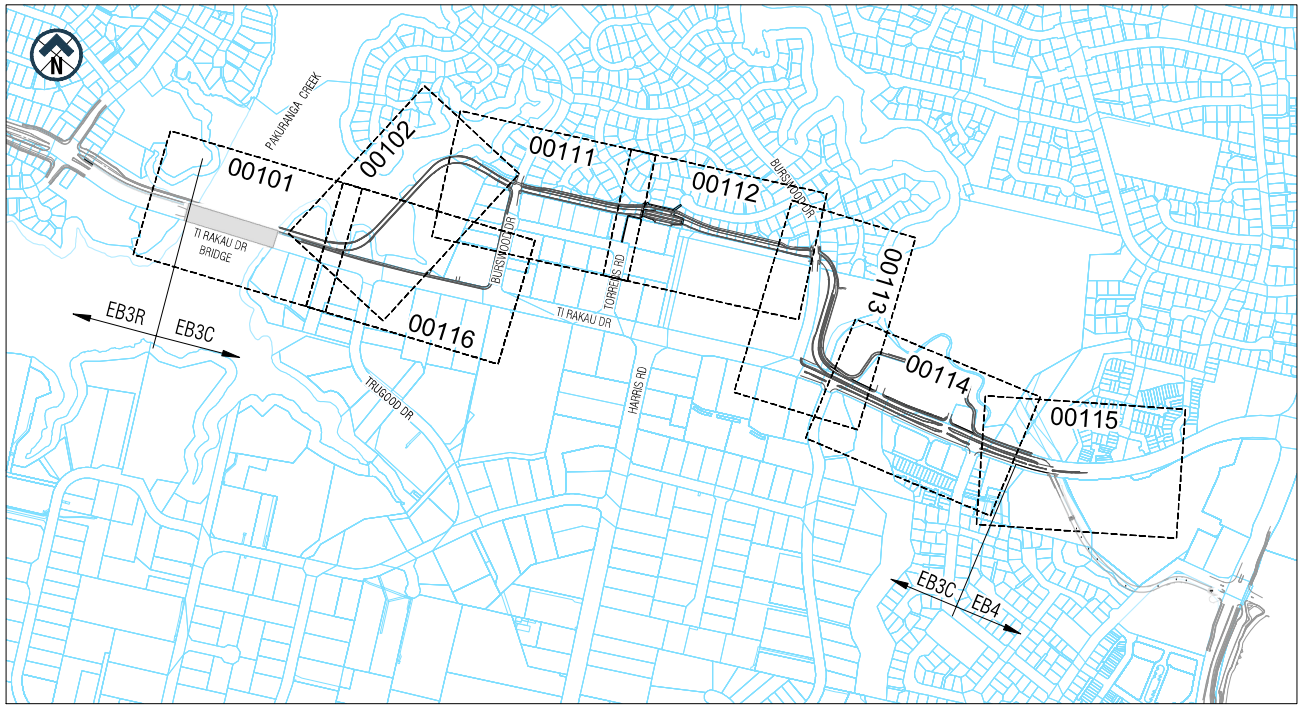
										1600-1700			1700-1800		
Aimsun	Route Nar	Year_Mon	Period	Route ID	Route Nar	Seg ID	From	To	Length	Median Ti	15th Perc	85th Percentile (s	Median Ti	15th Perc	85th Perc
	PM - Pakuranga Rd/Cascades Rd to Mt W Hwy														
								Cascades Road							
13284775	Ellerslie P	201806	7:00-8:00	55	Ellerslie P	795	Cascades Road	Ti Rakau Drive	2436	204	178	271	213	175	307
13284791	Ellerslie P	201806	7:00-8:00	55	Ellerslie P	796	Ti Rakau Drive	Jellicoe Road	2379	214	184	267	231	193	292
13285848	Ellerslie P	201806	7:00-8:00	55	Ellerslie P	797	Jellicoe Road	Mt W Hwy	549	77	51	122	80	48	153
	PM - Pakuranga Rd/ Mt W Hwy to Cascades Rd														
								Mt W Hwy							
13285849	Ellerslie P	201806	7:00-8:00	193	Ellerslie P	1628	Mt Wellington Highwa	Jellicoe Road	549	157	84	228	243	164	312
13284792	Ellerslie P	201806	7:00-8:00	193	Ellerslie P	1629	Jellicoe Road	Ti Rakau Drive	2379	287	208	422	469	295	767
13284793	Ellerslie P	201806	7:00-8:00	193	Ellerslie P	1630	Ti Rakau Drive	Cascades Road	2436	248	209	331	379	303	463
	PM - Ti Rakau Dr/Te Irirangi Dr to Mt W Hwy														
								Te Irirangi							
13284776	Ellerslie P	201806	7:00-8:00	193	Ellerslie P	1638	Te Irirangi	Harris Road	1351	164	117	227	186	122	347
13285850	Freight - S	201806	7:00-8:00	32	Freight - S	286	Harris Road	Edgewater Drive	2035	237	179	356	260	188	424
13284777	Freight - S	201806	7:00-8:00	32	Freight - S	287	Edgewater Drive	Ti Rakau Dr	823	167	92	296	168	87	457
13284778	Freight - S	201806	7:00-8:00	32	Freight - S	288	Ti Rakau Dr	Pakuranga Highway	1722	93	83	136	91	77	129
13285851	Freight - S	201806	7:00-8:00	32	Freight - S	289	Pakuranga Highway	Carbine Road	826	50	41	99	54	43	80
13284779	Freight - S	201806	7:00-8:00	32	Freight - S	290	Carbine Road	SH1	889	53	45	61	51	43	63
	PM - Ti Rakau Dr/Mt W Hwy to Te Irirangi Dr														
								SH1							
13284780	Freight - S	201806	7:00-8:00	32	Freight - S	290	SH1	Carbine Road	889	114	69	178	219	124	327
13285861	Freight - S	201806	7:00-8:00	32	Freight - S	289	Carbine Road	Pakuranga Highway	826	80	54	146	153	96	203
13284781	Freight - S	201806	7:00-8:00	32	Freight - S	288	Pakuranga Highway	Ti Rakau Dr	1722	170	121	237	222	160	297
13284782	Freight - S	201806	7:00-8:00	32	Freight - S	287	Ti Rakau Dr	Edgewater Drive	823	71	60	192	83	61	178
13284783	Freight - S	201806	7:00-8:00	32	Freight - S	286	Edgewater Drive	Harris Road	2035	371	215	537	512	326	680
13285862	Ellerslie P	201806	7:00-8:00	32	Freight - S	787	Harris Road	Te Irirangi	1351	210	156	309	269	167	406
	PM - Pakuranga Rd to Pakuranga Highway and vice versa														
								Pakuranga Rd							
13284788	Ti Rakau D	201806	7:00-8:00	197	Ti Rakau D	1642	Pakuranga Rd	Pakuranga Hwy	341	147	48	279	141	78	238
								Pakuranga Hwy							
13284787	Ti Rakau D	201806	7:00-8:00	196	Ti Rakau D	1641	Pakuranga Hwy	Pakuranga Rd	327	107	37	129	123	60	153
	PM - Gossamer/Ti Rakau Dr to Pakuranga Rd														
								Ti Rakau Dr							
13284784	Gossamer	201806	7:00-8:00	164	Gossamer	1433	Ti Rakau Dr	Chatsworth Cr / Ennis A	645	52	49	58	52	49	63
13285866	Gossamer	201806	7:00-8:00	164	Gossamer	1434	Chatsworth Cr / Ennis A	Reeves Rd	395	36	30	40	34	27	50
13285870	Gossamer	201806	7:00-8:00	164	Gossamer	1435	Reeves Rd	Larne Ave	454	37	34	41	41	35	87
13285874	Gossamer	201806	7:00-8:00	164	Gossamer	1436	Larne Ave	Pakuranga Rd	601	129	82	193	223	109	385
	PM - Gossamer/Pakuranga Rd to Ti Rakau Dr														
								Pakuranga Rd							
13284796	Gossamer	201806	7:00-8:00	164	Gossamer	1436	Pakuranga Rd	Larne Ave	601	48	44	111	49	44	56
13285878	Gossamer	201806	7:00-8:00	164	Gossamer	1435	Larne Ave	Reeves Rd	454	42	38	49	45	34	53
13285882	Gossamer	201806	7:00-8:00	164	Gossamer	1434	Reeves Rd	Chatsworth Cr / Ennis A	395	31	27	37	32	27	45
13285886	Gossamer	201806	7:00-8:00	164	Gossamer	1433	Chatsworth Cr / Ennis A	Ti Rakau Dr	645	56	45	93	57	45	107
	AM - Bus														
								Botany Town Centre							
19206840							Botany Town Centre	Panmure Interchange							
								Panmure Interchange							
19206842							Panmure Interchange	Botany Town Centre							
								Cascades Road							
19206841							Cascades Road	Panmure Interchange							
								Panmure Interchange							
19206843							Panmure Interchange	Cascades Road							

Aimsun			1600-1700			1700-1800						0
	Route Nar	Cumul Dis	Median Ti	15th Perc	85th Perc	Median Ti	15th Perc	85th Perc	16:00-17:00	16:00-17:00	17:00-18:00	17:00-18:00
									Av	Cummulative	Av	Cummulative
		0	0	0	0	0	0	0	0	0	0	0
13284775	Ellerslie P	2.436	3.4	2.966667	4.516667	3.55	2.916667	5.116667	3.672386476	3.672386476	3.729485955	3.729485955
13284791	Ellerslie P	4.815	6.966667	6.033333	8.966667	7.4	6.133333	9.983333	2.966762449	6.639148926	2.960384108	6.689870063
13285848	Ellerslie P	5.364	8.25	6.883333	11	8.733333	6.933333	12.53333	1.175093382	7.814242308	1.176770011	7.866640074
		0	0	0	0	0	0	0	0	0	0	0
13285849	Ellerslie P	0.549	2.616667	1.4	3.8	4.05	2.733333	5.2	1.351156253	1.351156253	1.551183367	1.551183367
13284792	Ellerslie P	2.928	7.4	4.866667	10.83333	11.86667	7.65	17.98333	3.949620592	5.300776845	5.512754337	7.063937704
13284793	Ellerslie P	5.364	11.53333	8.35	16.35	18.18333	12.7	25.7	3.959955448	9.260732294	5.102215299	12.166153
		0	0	0	0	0	0	0	0	0	0	0
13284776	Ellerslie P	1.351	2.733333	1.95	3.783333	3.1	2.033333	5.783333	2.996646152	2.996646152	2.854877477	2.854877477
13285850	Freight - S	3.386	6.683333	4.933333	9.716667	7.433333	5.166667	12.85	3.184632109	6.181278262	3.37198965	6.226867127
13284777	Freight - S	4.209	9.466667	6.466667	14.65	10.23333	6.616667	20.46667	1.671360645	7.852638906	2.542705856	8.769572983
13284778	Freight - S	5.931	11.01667	7.85	16.91667	11.75	7.9	22.61667	1.284673323	9.13731223	1.28951806	10.05909104
13285851	Freight - S	6.757	11.85	8.533333	18.56667	12.65	8.616667	23.95	1.22097178	10.35828401	1.323229088	11.38232013
13284779	Freight - S	7.646	12.73333	9.283333	19.58333	13.5	9.333333	25	0.626877309	10.98516132	0.638241363	12.02056149
		0	0	0	0	0	0	0	0	0	0	0
13284780	Freight - S	0.889	1.9	1.15	2.966667	3.65	2.066667	5.45	1.345064957	1.345064957	3.374359507	3.374359507
13285861	Freight - S	1.715	3.233333	2.05	5.4	6.2	3.666667	8.833333	1.433112498	2.778177455	3.232694485	6.607053992
13284781	Freight - S	3.437	6.066667	4.066667	9.35	9.9	6.333333	13.78333	3.491659509	6.269836964	4.207693114	10.81474711
13284782	Freight - S	4.26	7.25	5.066667	12.55	11.28333	7.35	16.75	1.114326877	7.384163841	1.23034951	12.04509662
13284783	Freight - S	6.295	13.43333	8.65	21.5	19.81667	12.78333	28.08333	6.694758894	14.07892274	7.87886034	19.92395696
13285862	Freight - S	7.646	16.93333	11.25	26.65	24.3	15.56667	34.85	3.981469813	18.06039255	5.038878356	24.96283531
		0	0	0	0	0	0	0	0	0	0	0
13284788	Ti Rakau D	0.341	2	0.8	4.65	2	1.3	3.966667	1.702532323	1.702532323	1.771228996	1.771228996
		0	0	0	0	0	0	0	0	0	0	0
13284787	Ti Rakau D	0.668	1.783333	0.616667	2.15	2.05	1	2.55	1.969262132	1.969262132	1.906575235	1.906575235
		0	0	0	0	0	0	0	0	0	0	0
13284784	Gossamer	0.645	0.866667	0.816667	0.966667	0.866667	0.816667	1.05	0.924053235	0.924053235	0.930076103	0.930076103
13285866	Gossamer	1.04	1.466667	1.316667	1.633333	1.433333	1.266667	1.883333	0.644485482	1.568538716	0.646303777	1.576379881
13285870	Gossamer	1.494	2.083333	1.883333	2.316667	2.116667	1.85	3.333333	0.61376967	2.182308387	0.614425966	2.190805847
13285874	Gossamer	2.095	4.233333	3.25	5.533333	5.833333	3.666667	9.75	1.644612721	3.826921107	1.692846159	3.883652006
		0	0	0	0	0	0	0	0	0	0	0
13284796	Gossamer	0.601	0.8	0.733333	1.85	0.816667	0.733333	0.933333	0.801570582	0.801570582	0.810898816	0.810898816
13285878	Gossamer	1.055	1.5	1.366667	2.666667	1.566667	1.3	1.816667	0.681652994	1.483223576	0.684442075	1.495340891
13285882	Gossamer	1.45	2.016667	1.816667	3.283333	2.1	1.75	2.566667	0.50957196	1.992795536	0.508546463	2.003887354
13285886	Gossamer	2.095	2.95	2.566667	4.833333	3.05	2.5	4.35	2.049160027	4.041955563	1.785142203	3.789029557
			Median Ti	15th Perc	85th Perc	Median Ti	15th Perc	85th Percentile (s)				3
		0	0	0	0	0	0	0	0	0	0	0
19206840		7.63	32	24.98333	39.31667	29.91667	27.06	36.1	34.31789006	34.31789006	41.77545029	41.77545029
		0	0	0	0	0	0	0	0	0	0	0
19206842		7.638	31.69167	27.475	43	31	19.33333	38.23333	30.07516254	30.07516254	35.98015616	35.98015616
		0	0	0	0	0	0	0	0	0	0	0
19206841		4.962	18	16	23	18	16	23	17.94052257	17.94052257	17.82903687	17.82903687
		0	0	0	0	0	0	0	0	0	0	0
19206843		4.897	20	11.26333	23	21	11.31333	25	17.64189456	17.64189456	19.31552166	19.31552166

Aimsun	13284835														
	4	5	6	7	8	9	10	11	12	13	14	15			
	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30	18:45			
13284775	219.7794	218.2562	222.9939	226.2317	217.7831	228.5905	222.4713	219.5799	223.4172	215.0311	#N/A	#N/A		81%	
13284791	176.9659	181.8054	175.2459	177.8604	178.8053	177.8888	175.9376	173.5232	174.5689	175.7231	#N/A	#N/A			
13285848	69.3579	72.02161	70.13729	70.38239	70.37246	70.56143	71.10852	69.54756	67.61011	63.14393	#N/A	#N/A		OK	OK
13285849	74.34868	83.82057	85.03887	93.89767	90.84426	98.01386	89.52822	78.86495	74.08614	68.25999	#N/A	#N/A			
13284792	229.5614	233.9628	247.4075	280.642	302.7486	340.5109	399.1595	481.6804	467.5166	432.7425	#N/A	#N/A			
13284793	213.8126	231.8755	267.1039	285.2944	293.0839	320.1452	326.0083	310.9813	307.0724	271.7908	#N/A	#N/A		OK	:(
13284776	174.9167	184.412	180.0675	172.4086	162.0063	180.2206	170.5351	174.2074	172.8762	179.1294	#N/A	#N/A			
13285850	175.6967	193.4484	204.0887	191.3311	202.0108	208.2878	207.6479	241.3509	287.7392	292.7797	#N/A	#N/A			
13284777	84.0801	95.02923	121.7356	180.4905	142.2249	136.2698	151.2642	170.808	195.1949	170.1465	#N/A	#N/A			
13284778	76.93013	76.58362	77.72745	77.78598	77.66823	77.33698	76.69314	76.5434	76.23417	76.29361	#N/A	#N/A			
13285851	67.99326	70.93437	80.8473	80.82416	79.77451	79.69257	77.28374	75.41792	78.31787	73.91309	#N/A	#N/A			
13284779	37.17142	37.252	38.4145	38.37633	38.7038	38.33495	37.76285	37.56767	37.53474	37.50876	#N/A	#N/A		OK	OK
13284780	75.48622	80.01641	86.60906	165.3861	208.0027	212.9573	223.5001	197.6962	198.629	196.575	#N/A	#N/A			
13285861	55.36503	67.54587	135.0493	194.4563	189.6552	196.2735	195.4616	180.5886	182.8227	197.316	#N/A	#N/A			
13284781	174.3283	211.5984	242.572	250.3782	250.1193	262.7635	246.5854	245.3859	254.4818	268.6982	#N/A	#N/A			
13284782	66.68746	68.36258	65.52881	68.19181	72.22885	78.83919	76.02403	80.6121	82.86103	79.03827	#N/A	#N/A			
13284783	348.2213	405.0955	451.7397	464.8879	510.9525	468.521	446.5651	465.3191	460.2442	472.3467	#N/A	#N/A			
13285862	219.9947	233.6889	262.9809	300.5452	314.9621	301.3707	292.4528	290.3868	253.6829	194.2535	#N/A	#N/A		OK	OK
13284788	99.2407	102.8184	104.3967	108.1075	109.1288	106.201	101.6576	103.6174	104.8745	100.1289	#N/A	#N/A		OK	OK
13284787	116.596	117.7154	120.1557	116.0114	121.3794	100.5643	119.623	130.1888	119.8587	107.1413	#N/A	#N/A		OK	OK
13284784	55.55813	55.03185	55.7396	55.13666	55.70274	56.54814	55.83073	55.61799	55.23948	55.08163	#N/A	#N/A			
13285866	38.7924	38.22575	38.98924	38.59636	38.58211	39.37888	38.55556	38.67347	38.43066	38.22625	#N/A	#N/A			
13285870	37.3418	36.691	36.44574	37.09026	36.69769	36.90775	36.76654	36.68242	36.80475	36.80433	#N/A	#N/A			
13285874	99.7732	99.20631	97.05078	97.6546	99.17301	106.5627	102.8928	98.85815	100.4477	102.5011	#N/A	#N/A		OK	:(
13284796	48.24005	48.1795	47.86315	47.8039	48.45717	49.34373	49.01092	48.25483	48.78706	48.65613	#N/A	#N/A			
13285878	41.40261	40.16048	41.13445	41.0816	41.20696	40.86016	41.11738	40.8232	41.2704	40.67774	#N/A	#N/A			
13285882	30.51677	30.62805	30.57813	30.60602	30.45761	30.57072	30.4168	30.46105	30.8859	30.72589	#N/A	#N/A			
13285886	125.381	113.1702	130.2976	82.40907	113.6328	120.0437	112.3486	95.27297	118.8606	120.795	#N/A	#N/A		:(	OK
19206840	2019.738	2115.785	2041.696	2286.365	2434.836	2614.659	2690.249	2574.8	2622.602	2650.862	#N/A				
19206842	1584.004	1851.134	1978.392	2015.969	2178.627	2190.471	2250.17	2335.352	2289.128	2437.627	#N/A				
19206841	1047.784	1124.981	1056.529	1109.705	1081.476	1034.967	1052.821	1027.834	1035.117	1017.107	#N/A				
19206843	1061.597	1026.393	1087.55	1117.556	1133.384	1166.271	1218.514	1238.809	1235.37	1233.232	#N/A				

Appendix C

EB3C General Arrangement Plans



SHEET LAYOUT KEY PLAN FOR 1:500 (A1) SCALE - GENERAL ARRANGEMENT PLANS - EB3C

DRAWING NO.	DRAWING TITLE
EB234-1-RD-DG-Z3-00100	EB3C - ROAD - DRAWING INDEX, GENERAL NOTES, LEGEND AND KEYPLAN
GENERAL ARRANGEMENT PLANS	
EB234-1-RD-DG-Z3-00101	EB3C - GENERAL ARRANGEMENT PLAN - TI RAKAU DRIVE - SHEET 1 OF 8
EB234-1-RD-DG-Z3-00102	EB3C - GENERAL ARRANGEMENT PLAN - BUSWAY - SHEET 2 OF 8
EB234-1-RD-DG-Z3-00111	EB3C - GENERAL ARRANGEMENT PLAN - BUSWAY - SHEET 3 OF 8
EB234-1-RD-DG-Z3-00112	EB3C - GENERAL ARRANGEMENT PLAN - BUSWAY - SHEET 4 OF 8
EB234-1-RD-DG-Z3-00113	EB3C - GENERAL ARRANGEMENT PLAN - BUSWAY - SHEET 5 OF 8
EB234-1-RD-DG-Z3-00114	EB3C - GENERAL ARRANGEMENT PLAN - TI RAKAU DRIVE - SHEET 6 OF 8
EB234-1-RD-DG-Z3-00115	EB3C - GENERAL ARRANGEMENT PLAN - TI RAKAU DRIVE - SHEET 7 OF 8
EB234-1-RD-DG-Z3-00116	EB3C - GENERAL ARRANGEMENT PLAN - TI RAKAU DRIVE - SHEET 8 OF 8
PLAN AND LONGITUDINAL SECTION	
EB234-1-RD-DG-Z3-00301	EB3C - PLAN AND LONGITUDINAL SECTION - BUSWAY LINK - CONTROL STRING MC30, SHEET 1 OF 4
EB234-1-RD-DG-Z3-00302	EB3C - PLAN AND LONGITUDINAL SECTION - BUSWAY LINK - CONTROL STRING MC30, SHEET 2 OF 4
EB234-1-RD-DG-Z3-00303	EB3C - PLAN AND LONGITUDINAL SECTION - BUSWAY LINK - CONTROL STRING MC30, SHEET 3 OF 4
EB234-1-RD-DG-Z3-00304	EB3C - PLAN AND LONGITUDINAL SECTION - BUSWAY LINK - CONTROL STRING MC30, SHEET 4 OF 4
TYPICAL CROSS SECTIONS	
EB234-1-RD-DG-Z3-00401	EB3C - TYPICAL CROSS SECTIONS - TI RAKAU DRIVE AND BUSWAY - SHEET 1 OF 2
EB234-1-RD-DG-Z3-00402	EB3C - TYPICAL CROSS SECTIONS - TI RAKAU DRIVE AND BUSWAY - SHEET 2 OF 2
DETAILED CROSS SECTIONS	
EB234-1-RD-DG-Z3-00501	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 1 OF 15
EB234-1-RD-DG-Z3-00502	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 2 OF 15
EB234-1-RD-DG-Z3-00503	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 3 OF 15
EB234-1-RD-DG-Z3-00504	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 4 OF 15
EB234-1-RD-DG-Z3-00505	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 5 OF 15
EB234-1-RD-DG-Z3-00506	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 6 OF 15
EB234-1-RD-DG-Z3-00507	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 7 OF 15
EB234-1-RD-DG-Z3-00508	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 8 OF 15
EB234-1-RD-DG-Z3-00509	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 9 OF 15
EB234-1-RD-DG-Z3-00510	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 10 OF 15
EB234-1-RD-DG-Z3-00511	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 11 OF 15
EB234-1-RD-DG-Z3-00512	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 12 OF 15
EB234-1-RD-DG-Z3-00513	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 13 OF 15
EB234-1-RD-DG-Z3-00514	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 14 OF 15
EB234-1-RD-DG-Z3-00515	EB3C - DETAILED CROSS SECTIONS - BUSWAY LINK - CONTROL STRING MC30, SHEET 15 OF 15

LEGEND

- PARCEL BOUNDARY
- WM — EXISTING WATER SUPPLY - TRANSMISSION
- WWM — EXISTING WASTE WATER - TRANSMISSION
- TP HV — EXISTING TRANSPOWER HV U/G
- TP HV — EXISTING TRANSPOWER HV O/H
- EXISTING TRANSPOWER JOINT BAY
- RW — RETAINING WALL
- BRIDGE
- RAISED MEDIAN
- 1500 — BATTER
- CONTROL LINE
- PEDESTRIAN FENCE (AS PER TDM FE0003)
- SECURITY FENCE (AS PER TDM FE0008)
- NW — NOISE WALL

GENERAL NOTES

1. ROAD SIDE BARRIER EXTENTS SHOWN ARE INDICATIVE ONLY. REFER TO ROAD SIDE FEATURES DESIGN PACKAGE FOR DETAILS INCLUDING TRANSITION AND TERMINATION DETAILS.
2. REFER TO SIGNAGE AND ROAD MARKING DESIGN PACKAGE RD-301 FOR DETAILS.
3. REFER TO ITS AND TRAFFIC SIGNALS DESIGN PACKAGE IT-300 FOR DETAILS.
4. REFER TO PAVEMENT DESIGN PACKAGE PV-300 FOR DETAILS.
5. REFER TO GEOTECHNICAL DESIGN PACKAGES GT-300, GT-310 AND GT-330 FOR DETAILS OF TI RAKAU DRIVE BRIDGE, CHINATOWN BRIDGE AND MISCELLANEOUS WALLS.
6. REFER TO STRUCTURAL DESIGN PACKAGES ST-300 AND ST-310 FOR DETAILS OF TI RAKAU DRIVE BRIDGE AND CHINATOWN BRIDGE.
7. REFER TO STORMWATER DESIGN PACKAGE SW-300 FOR DETAILS.
8. REFER TO UTILITIES DESIGN PACKAGE UT-300 FOR DETAILS.
9. REFER TO LANDSCAPE AND URBAN DESIGN PACKAGE UD-300 FOR DETAILS.
10. REFER TO ARCHITECTURAL DESIGN PACKAGE AR-300 FOR DETAILS.
11. ONLY MAJOR UTILITIES ARE SHOWN ON THESE DRAWINGS. SPECIFICALLY THE 220KV TRANSMISSION LINES AND CABLES, THE HUNUA NO.2 WATERMAIN, AND MAJOR WASTEWATER.

Last saved by: DENGK(2023-02-23) Last Plotted: 2023-02-23
Filename: EB234-1-RD-SK-Z3-00100.DWG

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dahl
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

THIS DRAWING MAY CONTAIN COLOUR CONTENT. CORRECTLY PRINTED COPIES OF THIS DOCUMENT WILL DISPLAY ALLIANCE LOGO IN COLOUR.

KEY PLAN

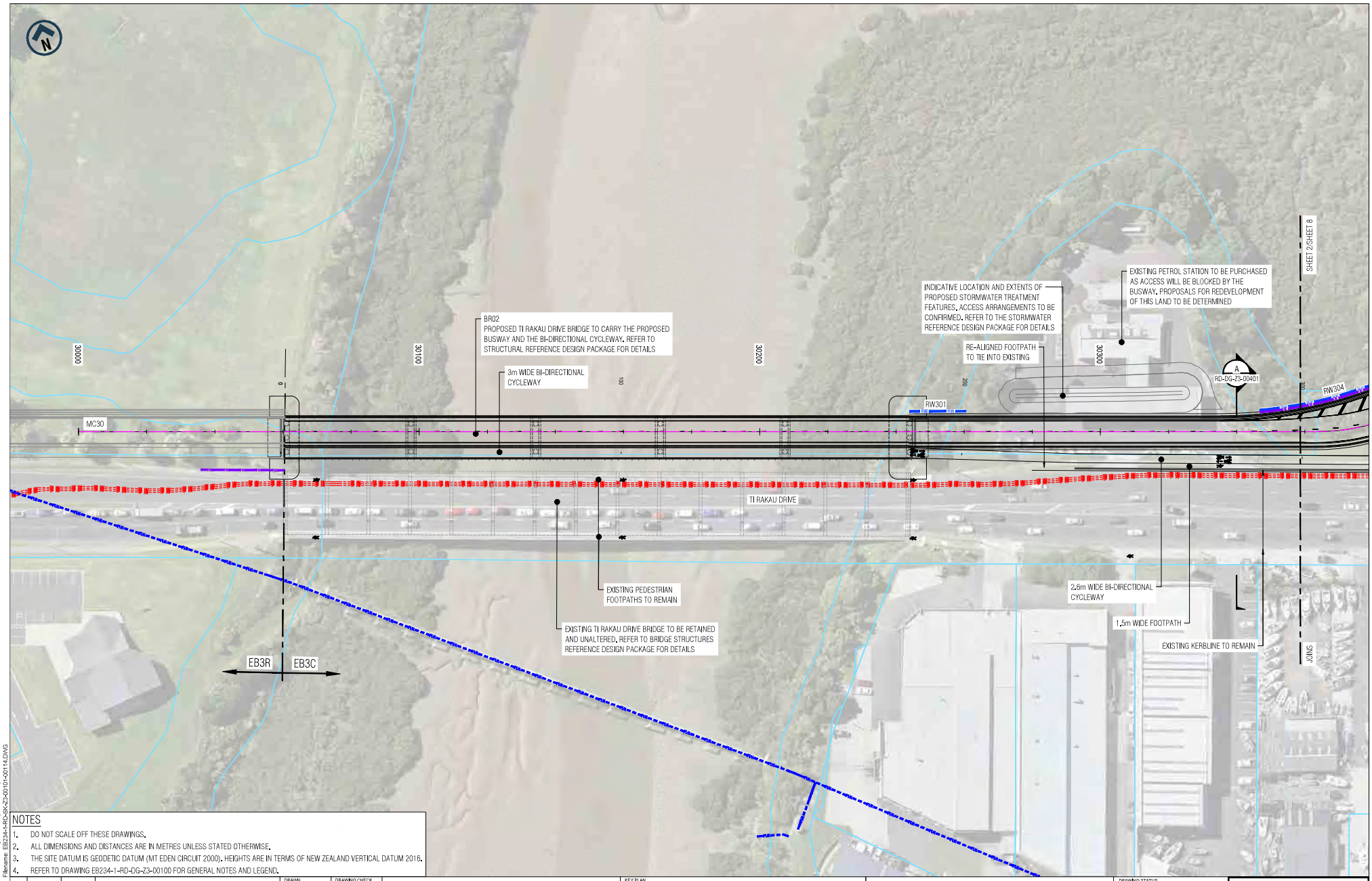
AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE: EB3C - ROAD
DRAWING INDEX, GENERAL NOTES, LEGEND AND KEY PLAN

SCALE	SHEET SIZE	DRAWING No	REV
NOT TO SCALE	A1	EB234-1-RD-SK-Z3-00100	A1



NOTES

1. DO NOT SCALE OFF THESE DRAWINGS.
2. ALL DIMENSIONS AND DISTANCES ARE IN METRES UNLESS STATED OTHERWISE.
3. THE SITE DATUM IS GEODETIC DATUM (MT EDEN CIRCUIT 2000). HEIGHTS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dalvi
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

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0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE
EB3C - GENERAL ARRANGEMENT PLAN
TI RAKAU DRIVE
SHEET 1 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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Last saved by DENGK(2023-02-22) Last Plotted 2023-02-22
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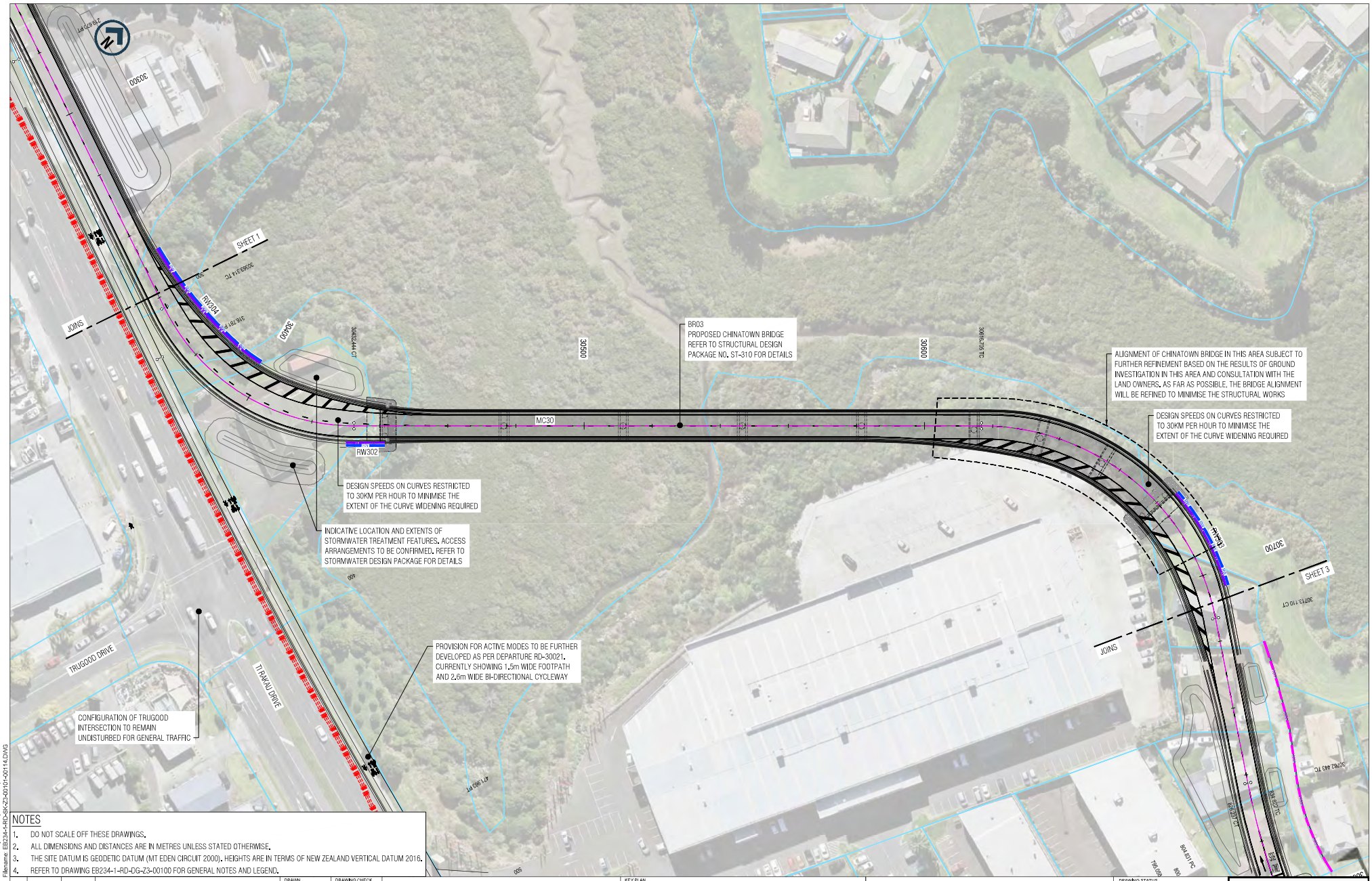

NOTES

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3. THE SITE DATUM IS GEODETIC DATUM (MT EDEN CIRCUIT 2000). HEIGHTS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dahl
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

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0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE
EB3C - GENERAL ARRANGEMENT PLAN
BUSWAY
SHEET 2 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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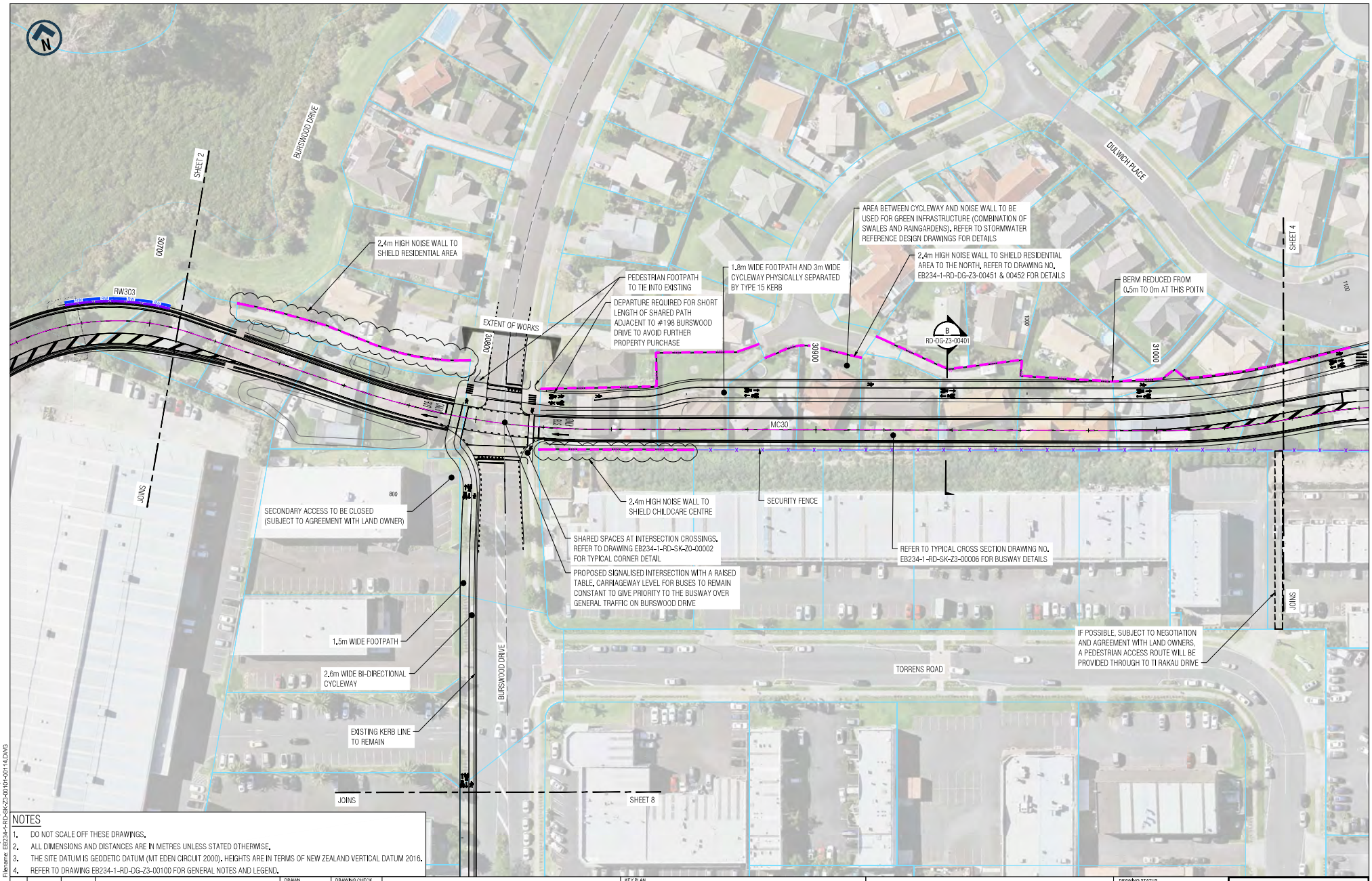

NOTES

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4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dalvi
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB3C - GENERAL ARRANGEMENT PLAN
BUSWAY
SHEET 3 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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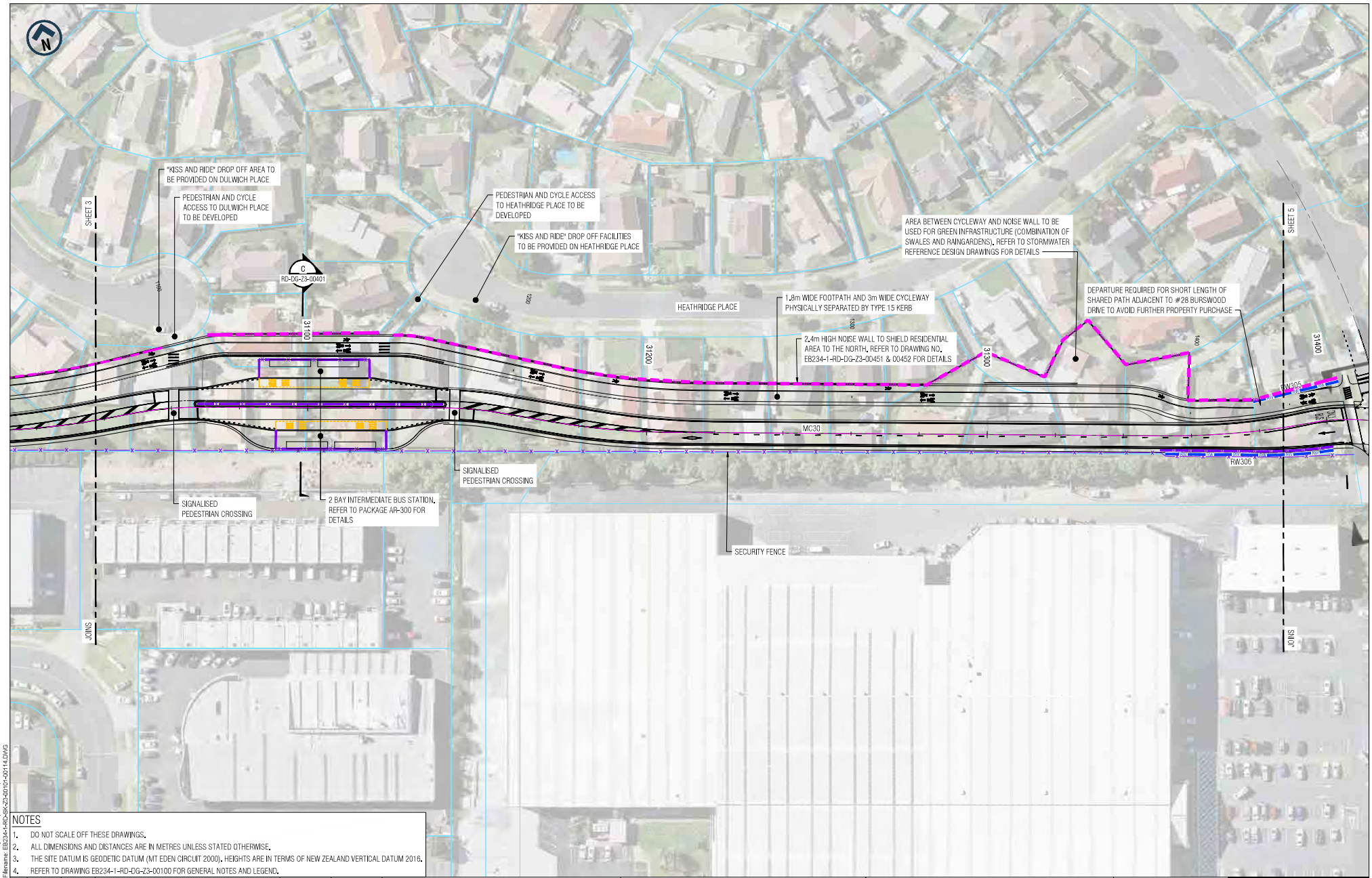

NOTES

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3. THE SITE DATUM IS GEODETIC DATUM (MT EDEN CIRCUIT 2000). HEIGHTS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dalvi
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

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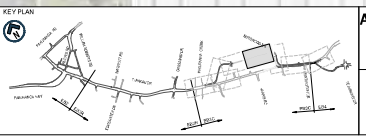
KEY PLAN



AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB3C - GENERAL ARRANGEMENT PLAN
BUSWAY
SHEET 4 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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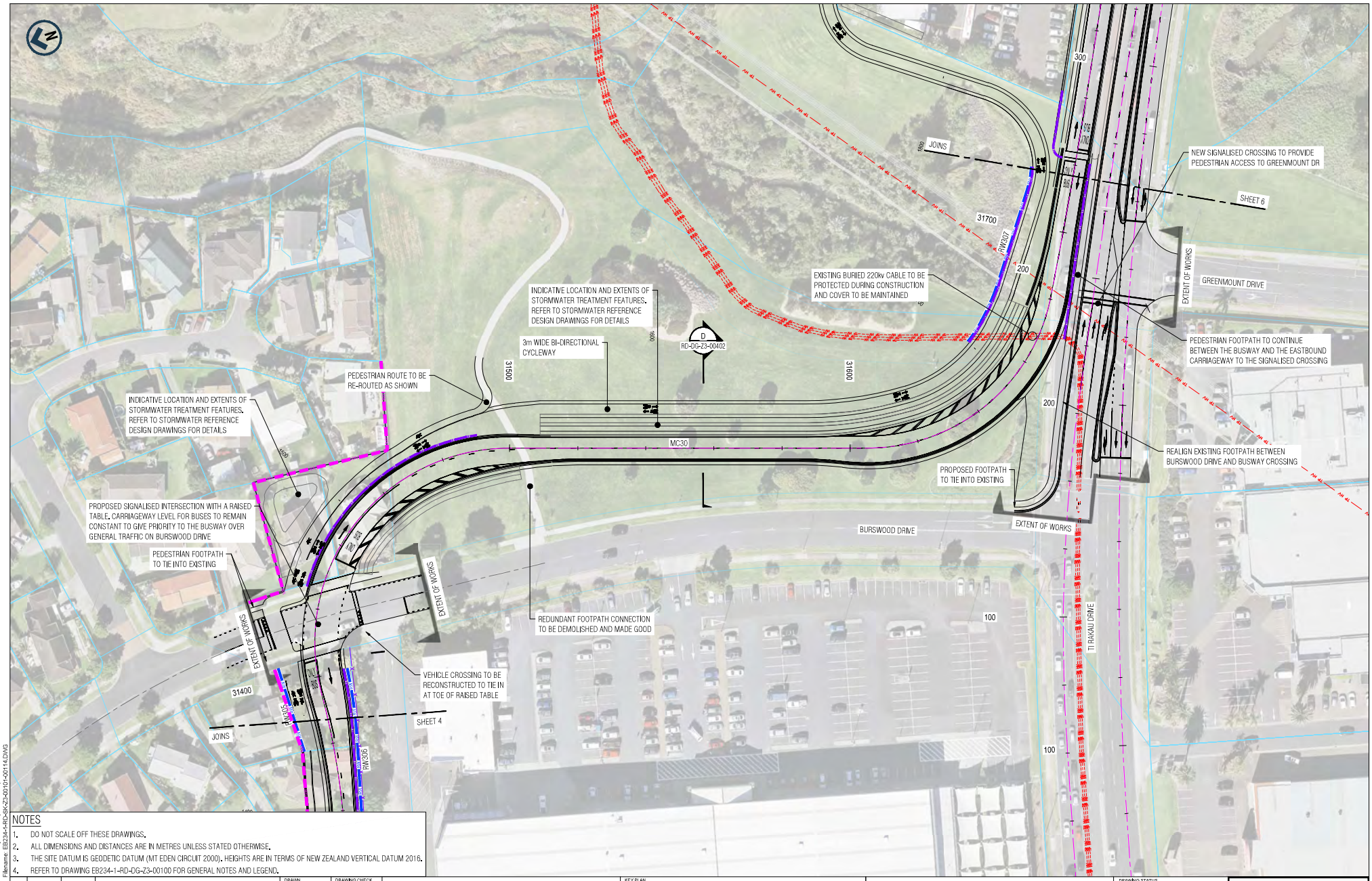

NOTES

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3. THE SITE DATUM IS GEODETIC DATUM (MT EDEN CIRCUIT 2000). HEIGHTS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dahl
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

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AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB3C - GENERAL ARRANGEMENT PLAN
BUSWAY
SHEET 5 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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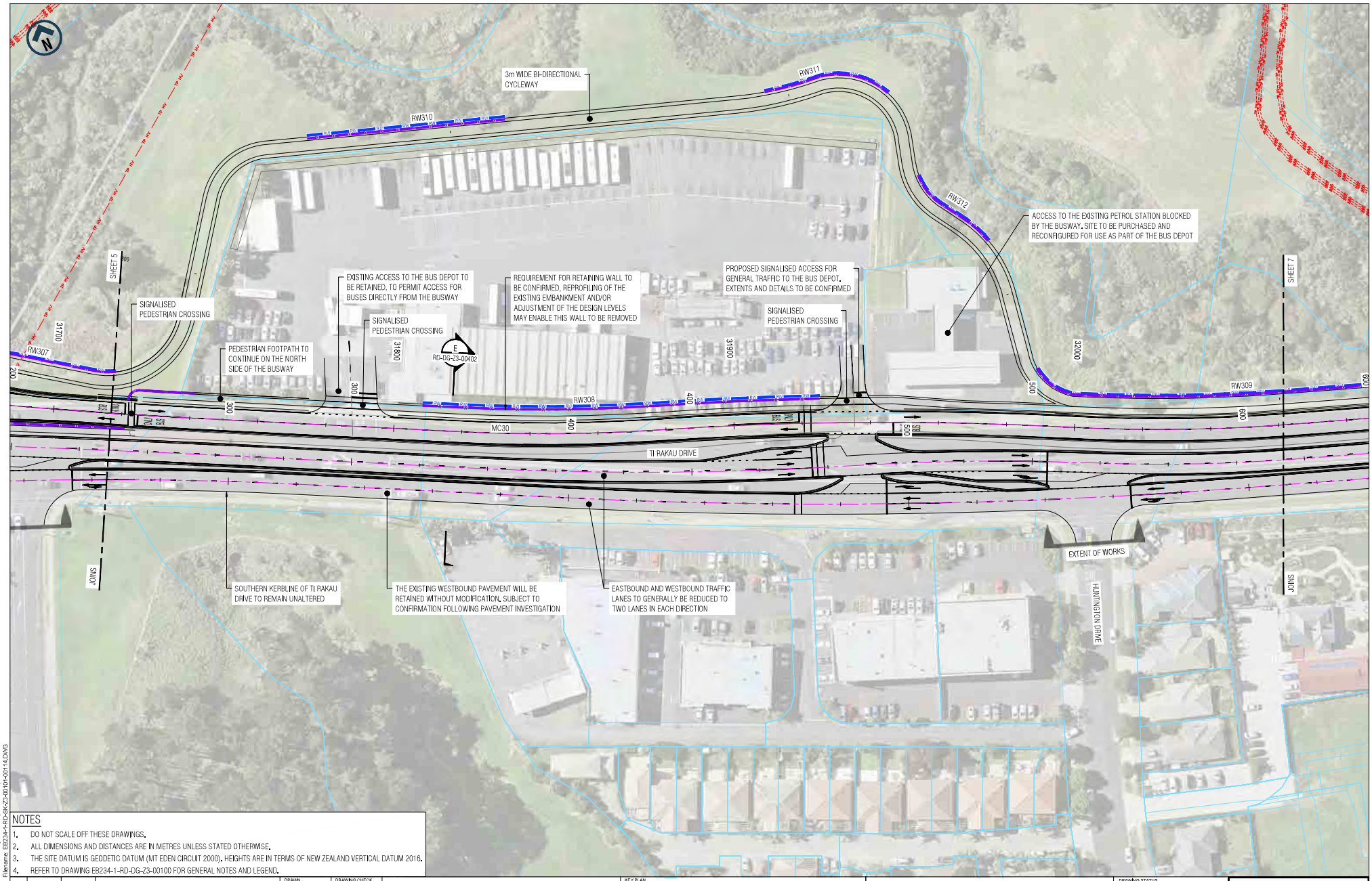

NOTES

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4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dahl
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

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0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB3C - GENERAL ARRANGEMENT PLAN
TI RAKAU DRIVE
SHEET 6 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
1:500 (A1) 1:1000 (A3)	A1	EB234-1-RD-SK-Z3-00114	A1

Last saved by DENGK(2023-02-23) Last Plotted 2023-02-23
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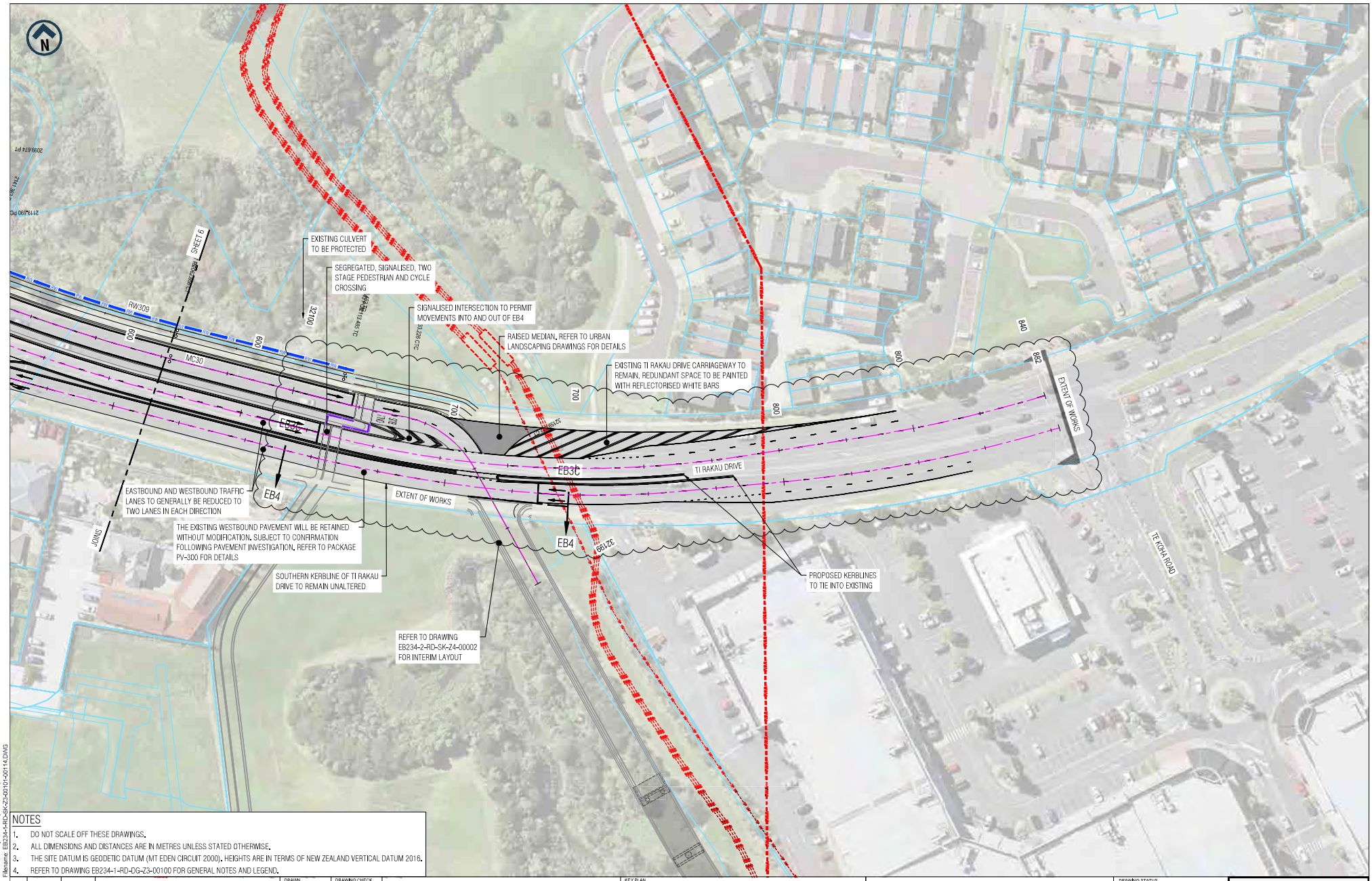

NOTES

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REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dalvi
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

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0 12.5 25 m

1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB3C - GENERAL ARRANGEMENT PLAN
TI RAKAU DRIVE
SHEET 7 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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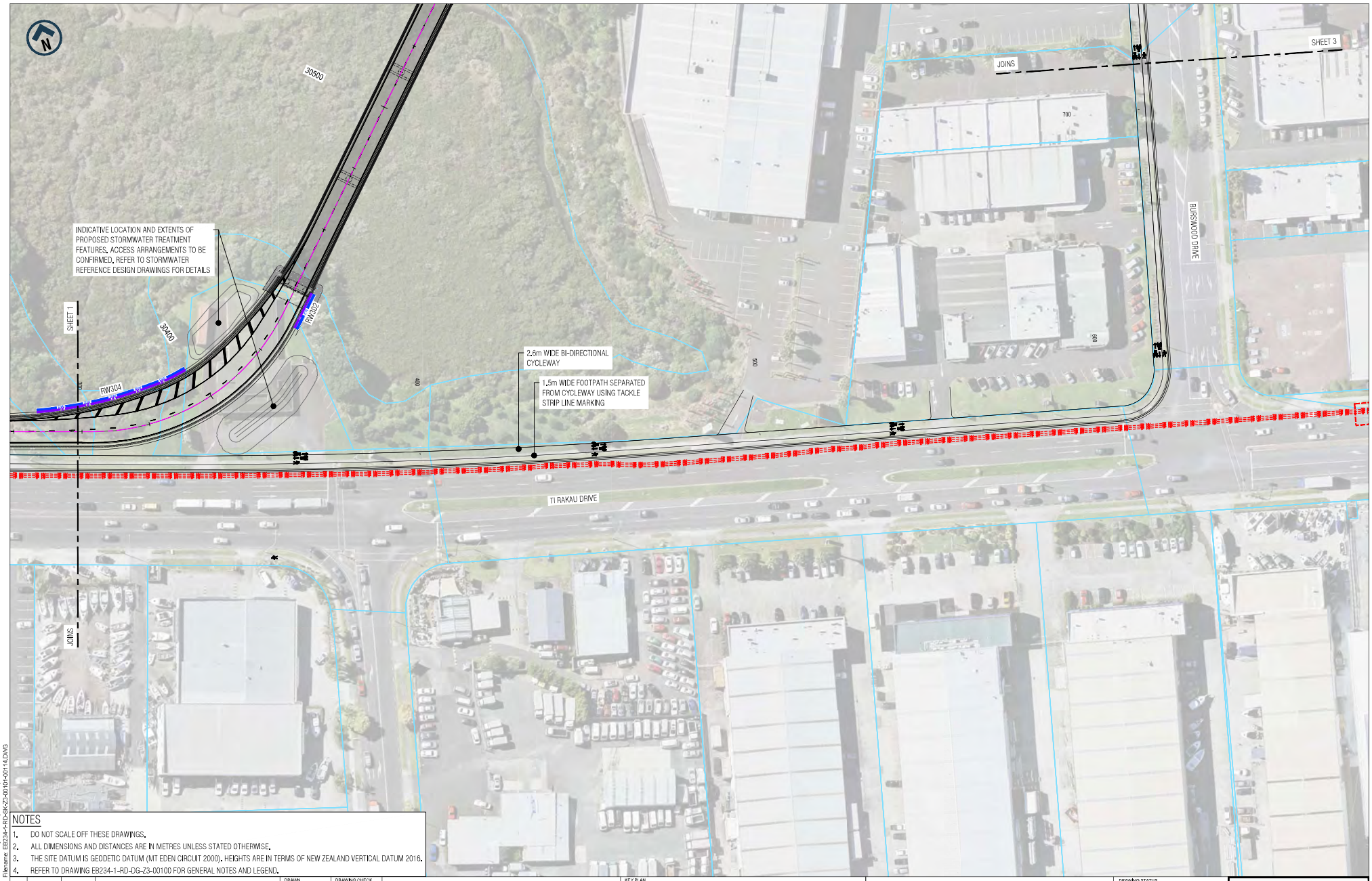

NOTES

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3. THE SITE DATUM IS GEODETIC DATUM (MT EDEN CIRCUIT 2000). HEIGHTS ARE IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016.
4. REFER TO DRAWING EB234-1-RD-DG-Z3-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
1	22/02/2022	K. Deng	ISSUED FOR REFERENCE DESIGN
0	20/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN K. Deng	DRAWING CHECK M. Dahl
DESIGNED J. Aldridge	DESIGN REVIEW D. Angus
APPROVED D. Coutts	APPROVED DATE 22/02/2022

0 10 20 30 40 50 60 70 80 90 100mm

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: PRICING — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB3C - GENERAL ARRANGEMENT PLAN
TI RAKAU DRIVE
SHEET 8 OF 8

SCALE	SHEET SIZE	DRAWING No	REV
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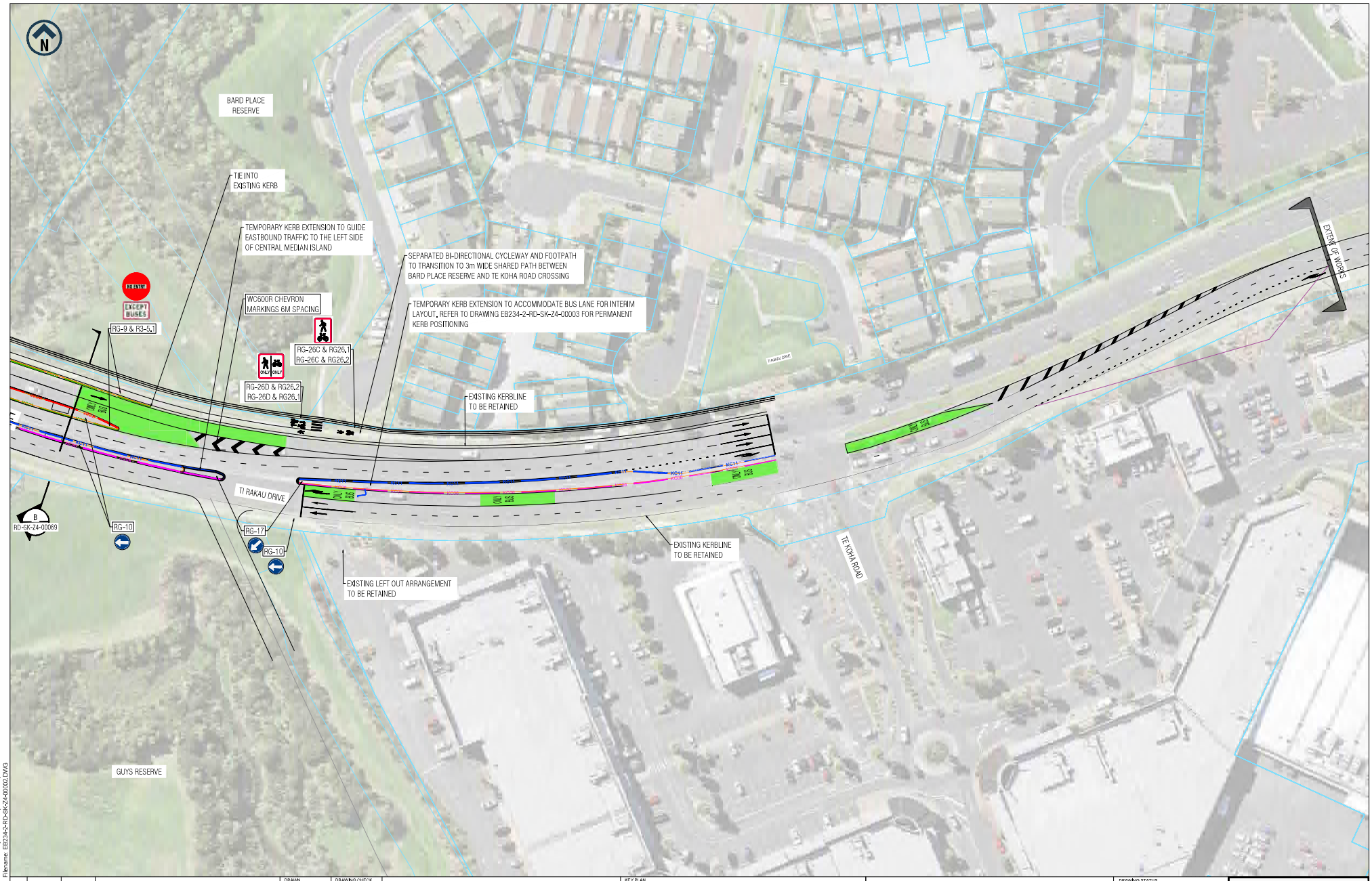
Last saved by DENGK(2023-02-22) Last Plotted 2023-02-22
Filename: EB234-1-RD-SK-Z3-00101-00114.DWG

Appendix D

EB3C/EB4i Transition General Arrangement Plan



Last saved by: DRINKRK(2023-02-22) Last Plotted: 2023-02-22
Filename: EB234-2-RD-SK-Z4-00002.DWG

REV	DATE	DRAWN	REVISION DESCRIPTION

DRAWN	DRAWING CHECK
DESIGNED	DESIGN REVIEW
APPROVED	APPROVED DATE

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0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: FINAL
NOT FOR CONSTRUCTION

EB3C / EB4i TRANSITION INTERIM LAYOUT GENERAL ARRANGEMENT PLAN

SCALE	SHEET SIZE	DRAWING No	REV
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0 10 20 30 40 50 60 70 80 90 100mm

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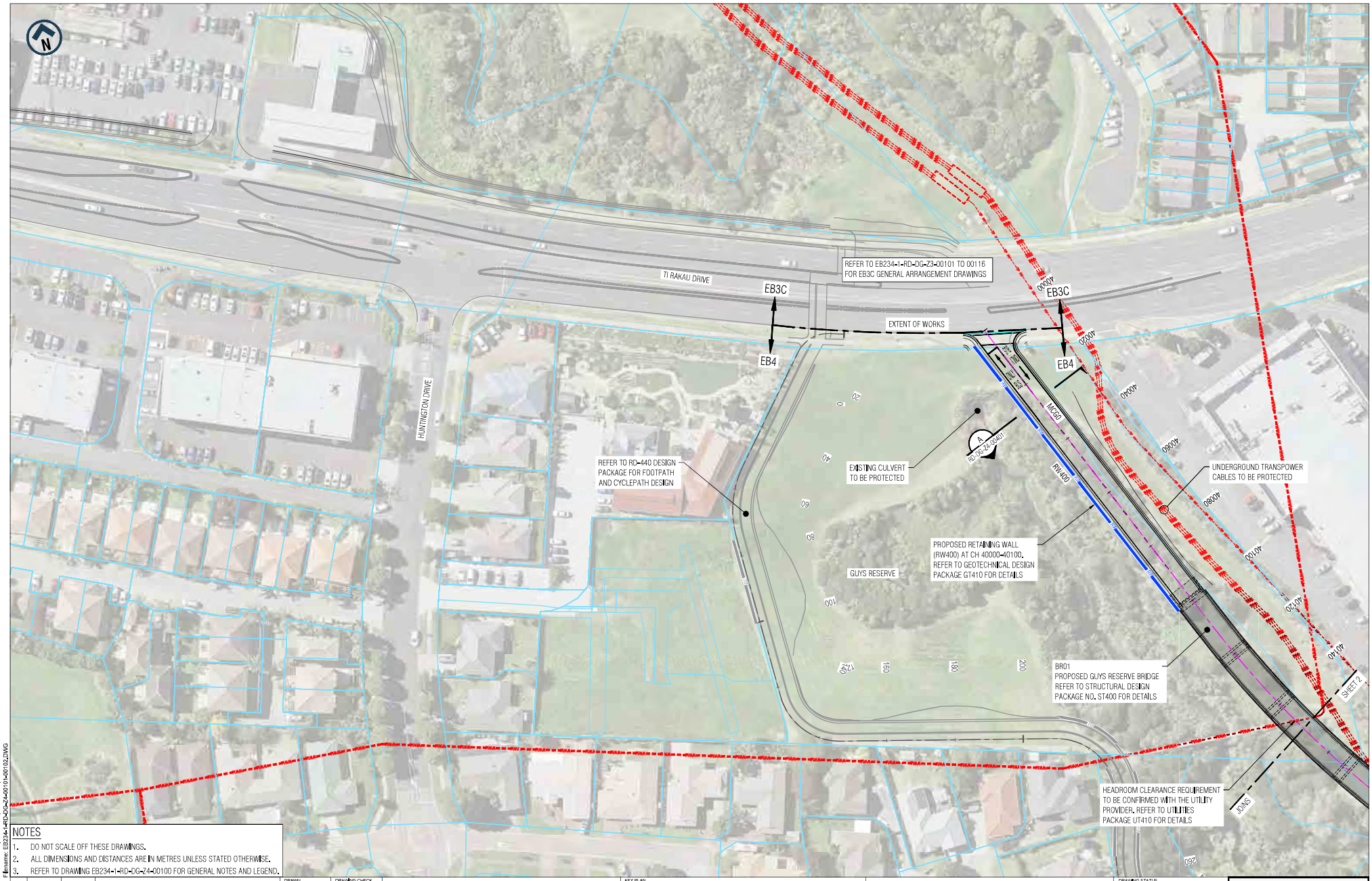
Appendix E

EB4L General Arrangement Plan



Last saved by: MDALM (2021-08-19) Last Plotted: 2021-08-19
Filename: EB234-1-RD-DG-Z4-00101-00102.DWG

NOTES

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3. REFER TO DRAWING EB234-1-RD-DG-Z4-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
0	18/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN M. Santos	DRAWING CHECK M. Dahl
DESIGNED D. deAbreu	DESIGN REVIEW A. Hirani
APPROVED S. Jones	APPROVED DATE 18/08/2021

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: REFERENCE DESIGN — NOT FOR CONSTRUCTION

DRAWING TITLE
EB4 - GENERAL ARRANGEMENT PLAN
GUYS RESERVE
SHEET 1 OF 2

SCALE	SHEET SIZE	DRAWING No	REV
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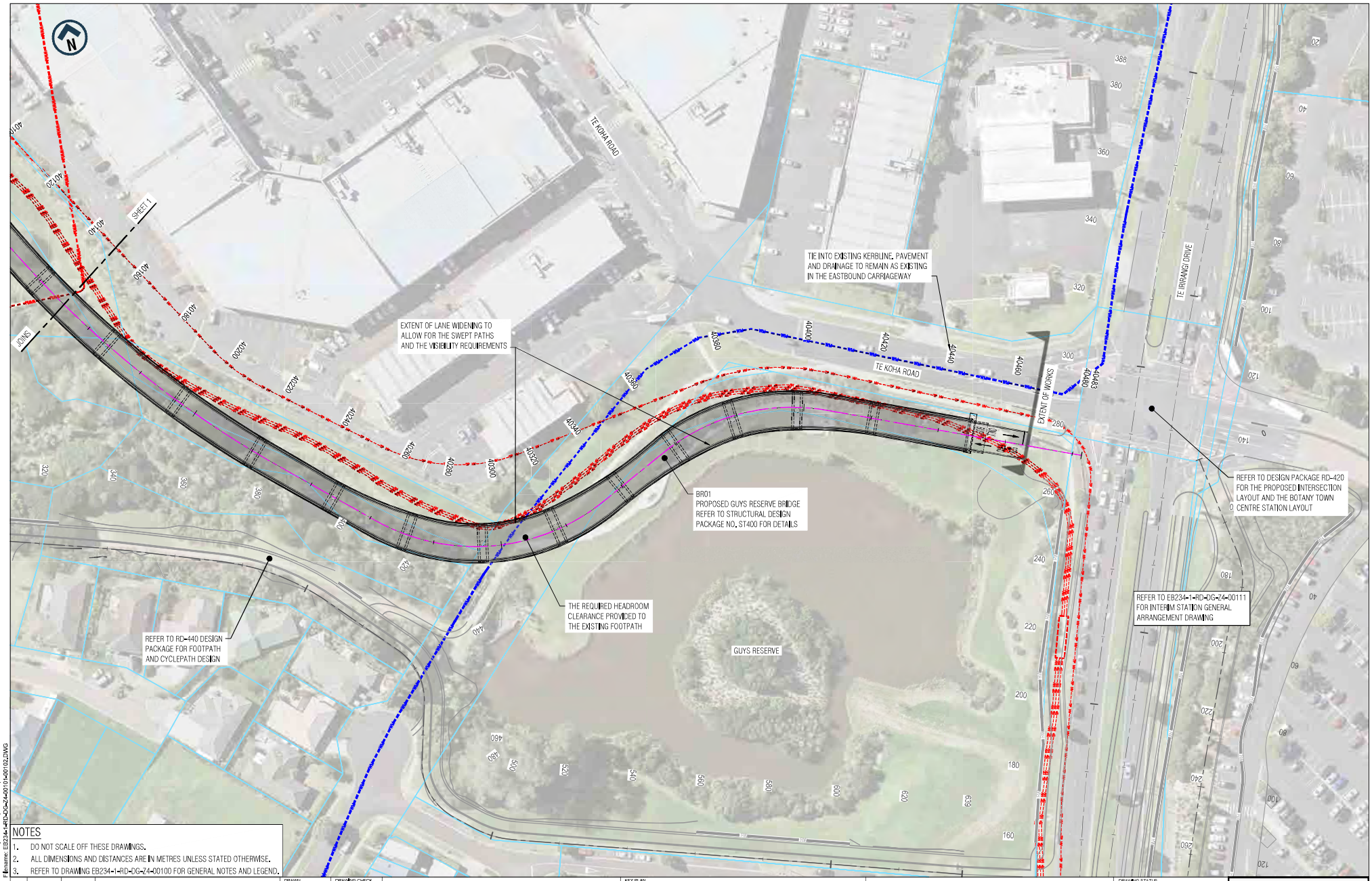

NOTES

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3. REFER TO DRAWING EB234-1-RD-DG-Z4-00100 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
0	18/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN: M. Santos | DRAWING CHECK: M. Dahl
DESIGNED: D. deAbreu | DESIGN REVIEW: A. Hirani
APPROVED: S. Jones | APPROVED DATE: 18/08/2021

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: REFERENCE DESIGN — NOT FOR CONSTRUCTION

DRAWING TITLE:
EB4 - GENERAL ARRANGEMENT PLAN
GUYS RESERVE
SHEET 2 OF 2

SCALE	SHEET SIZE	DRAWING No	REV
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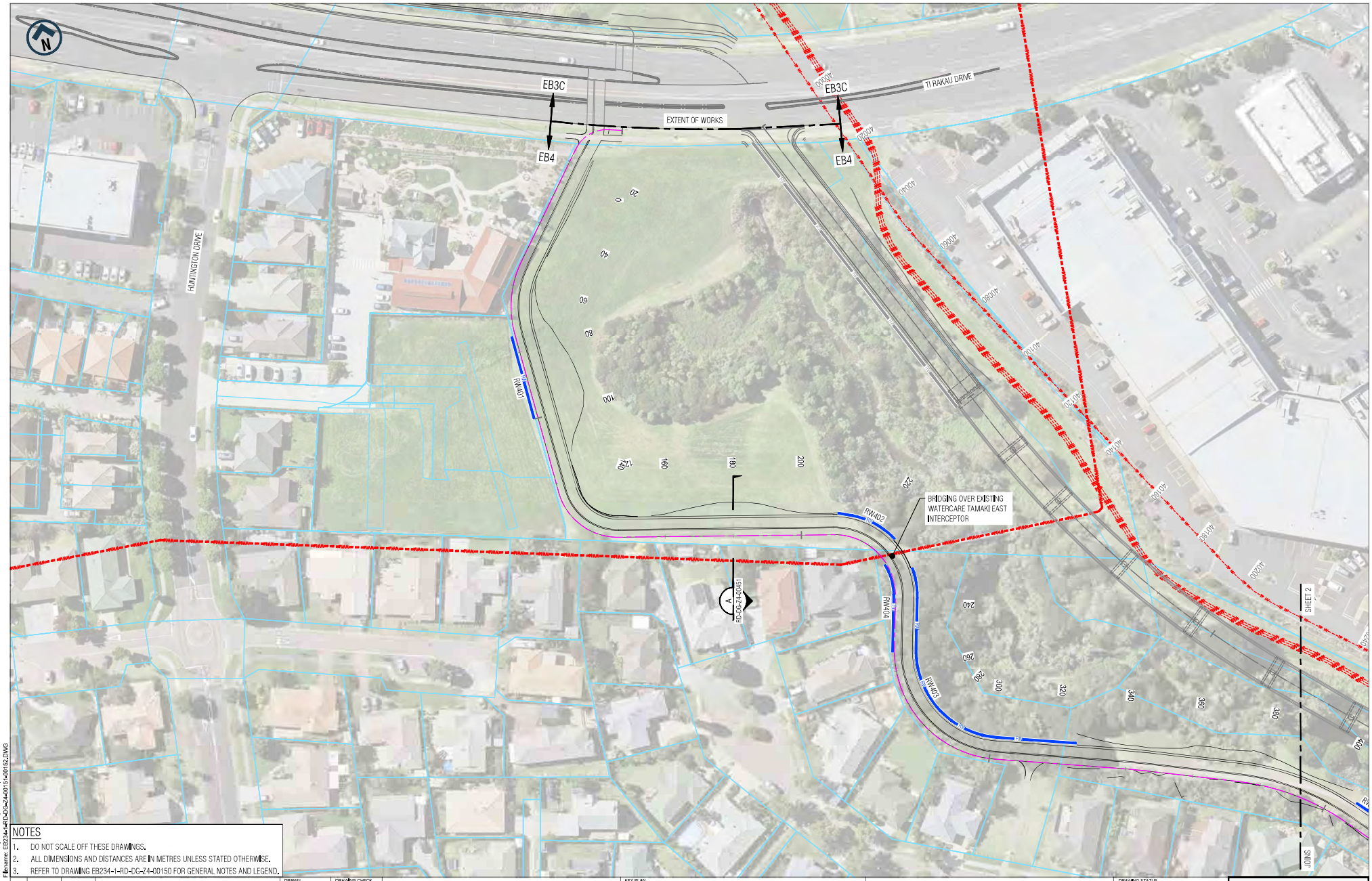

NOTES

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3. REFER TO DRAWING EB234-1-RD-DG-Z4-00150 FOR GENERAL NOTES AND LEGEND.

REV	DATE	DRAWN	REVISION DESCRIPTION
0	18/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN	M. Santos
DRAWING CHECK	M. Dixit
DESIGNED	D. deAbrew
DESIGN REVIEW	A. Hirani
APPROVED	S. Jones
APPROVED DATE	18/08/2021

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

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0 10 20 30 40 50 60 70 80 90 100mm

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: REFERENCE DESIGN — NOT FOR CONSTRUCTION

DRAWING TITLE
EB4 - GENERAL ARRANGEMENT
ACTIVE MODE
SHEET 1 OF 2

SCALE	SHEET SIZE	DRAWING No	REV
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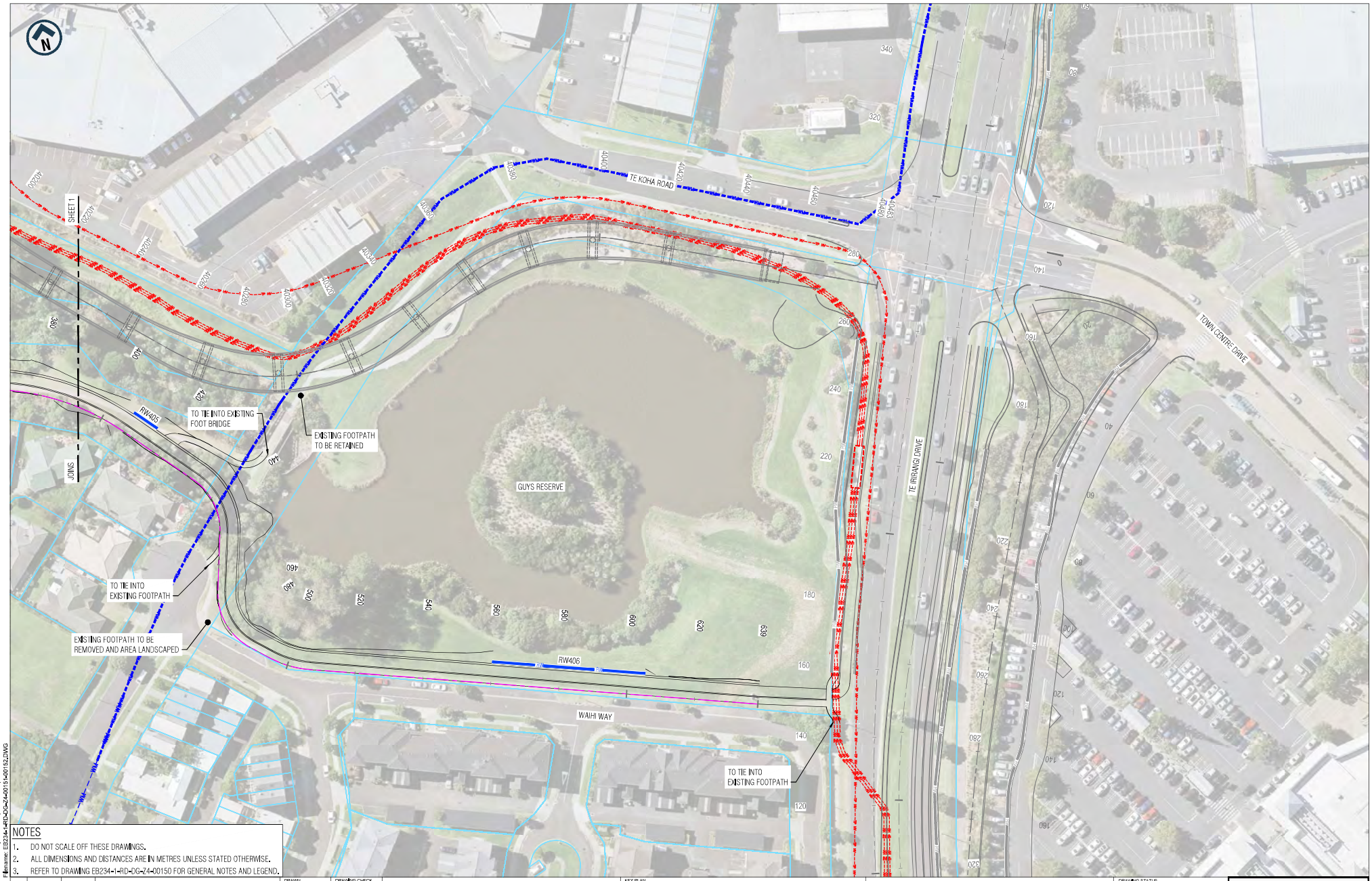

NOTES

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REV	DATE	DRAWN	REVISION DESCRIPTION
0	18/08/2021	M. Santos	ISSUED FOR REFERENCE DESIGN

DRAWN: M. Santos | DRAWING CHECK: M. Dahl
DESIGNED: D. deAbreu | DESIGN REVIEW: A. Hirani
APPROVED: S. Jones | APPROVED DATE: 18/08/2021

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

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0 10 20 30 40 50 60 70 80 90 100mm

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: REFERENCE DESIGN — NOT FOR CONSTRUCTION
DRAWING TITLE: EB4 - GENERAL ARRANGEMENT
ACTIVE MODE
SHEET 2 OF 2

SCALE	SHEET SIZE	DRAWING No	REV
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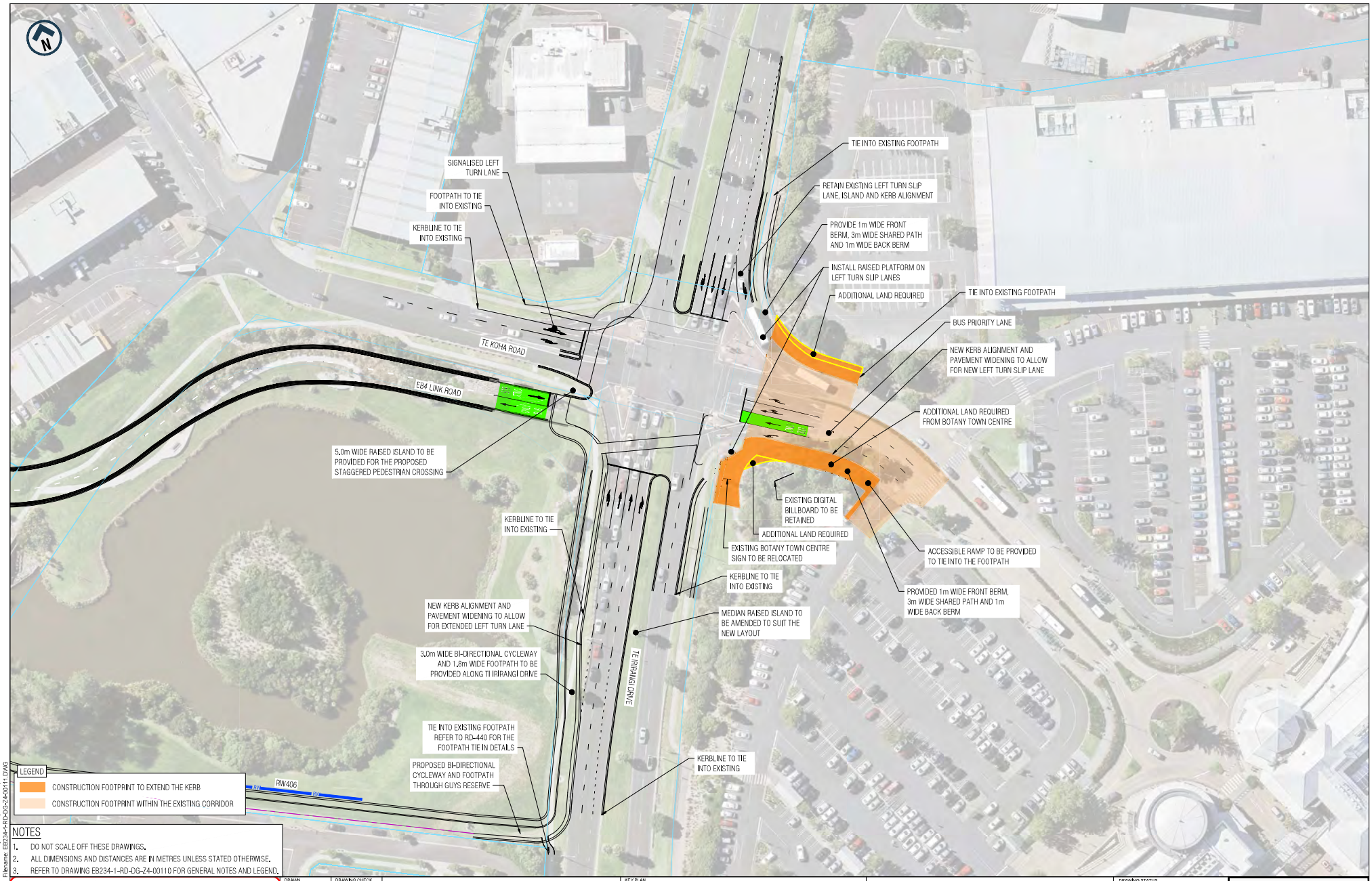

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1. DO NOT SCALE OFF THESE DRAWINGS.
2. ALL DIMENSIONS AND DISTANCES ARE IN METRES UNLESS STATED OTHERWISE.
3. REFER TO DRAWING EB234-1-RD-DG-Z4-00110 FOR GENERAL NOTES AND LEGEND.

NOT TO BE ISSUED
DRAWING CURRENTLY IN PROGRESS

REV	DATE	DRAWN	REVISION DESCRIPTION

DRAWN M. Santos	DRAWING CHECK M. Dahl
DESIGNED D. deAbreu	DESIGN REVIEW A. Hirani
APPROVED S. Jones	APPROVED DATE 18/08/2021

0 10 20 30 40 50 60 70 80 90 100mm

0 12.5 25 m
1:500 @ A1
1:1000 @ A3

KEY PLAN

AUCKLAND MANUKAU EASTERN TRANSPORT INITIATIVE
EASTERN BUSWAY STAGES 2, 3 AND 4
(PAKURANGA TO BOTANY)

Eastern Busway

DRAWING STATUS: REFERENCE DESIGN — NOT FOR CONSTRUCTION

DRAWING TITLE: EB4L - PROPOSED GENERAL ARRANGEMENT WITH LEFT TURN LANE SLIP LANES SKETCH FOR DISCUSSION

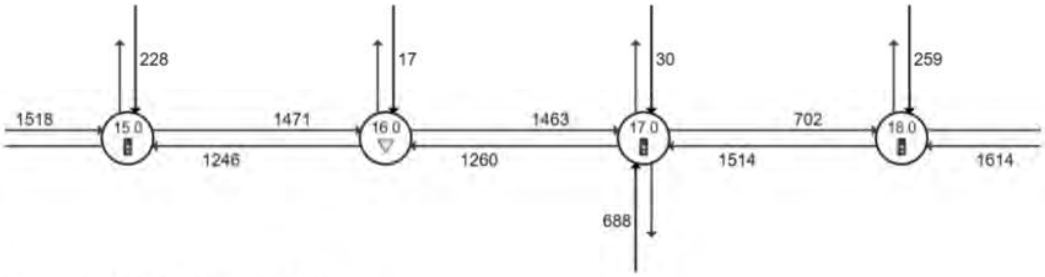
SCALE	SHEET SIZE	DRAWING No	REV
1:500 (A1) 1:1000 (A3)	A1	EB234-1-RD-DG-Z4-00111	0

Last saved by: DENGK(2023-07-26) Last Plotted: 2023-07-26
Filename: EB234-1-RD-DG-Z4-00111.DWG

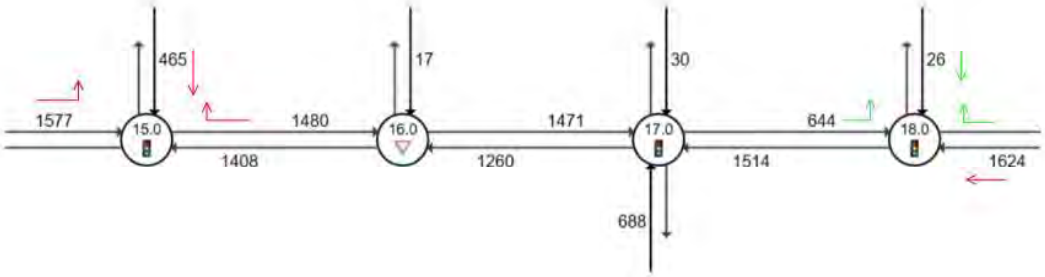
Appendix F

Burswood Drive Closure Assessment Demand Distribution Diagrams

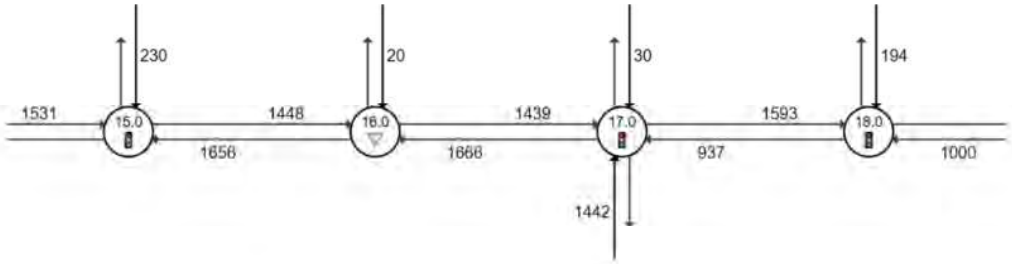
Do Min AM Peak



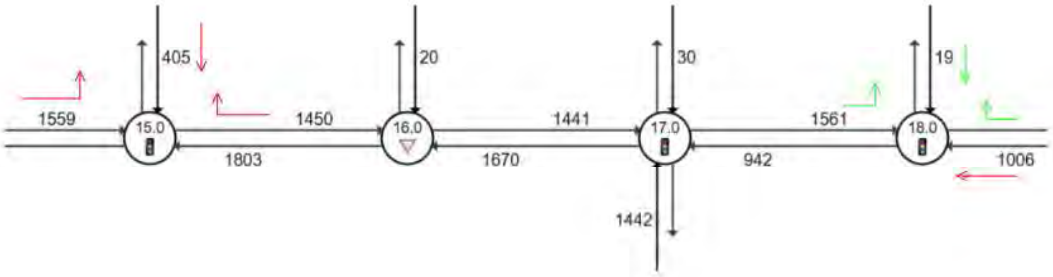
Burswood East Closure AM Peak



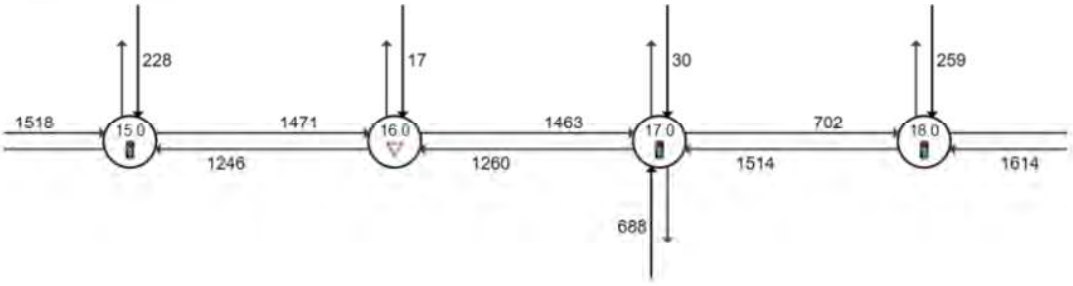
Do Min PM Peak



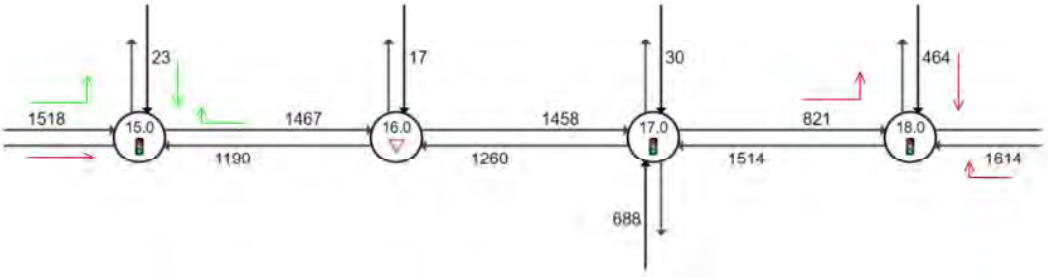
Burswood East Closure PM Peak



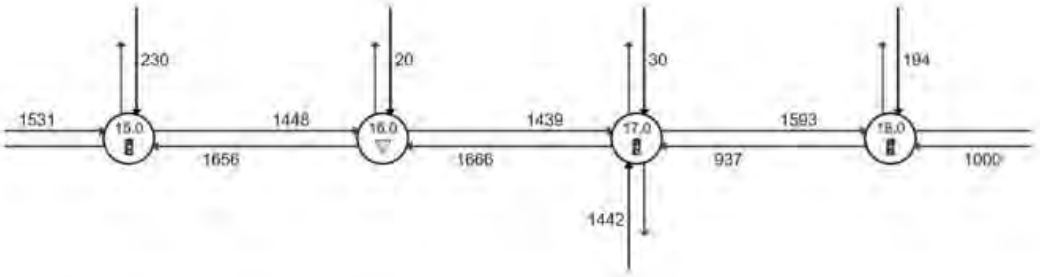
Do Min AM Peak



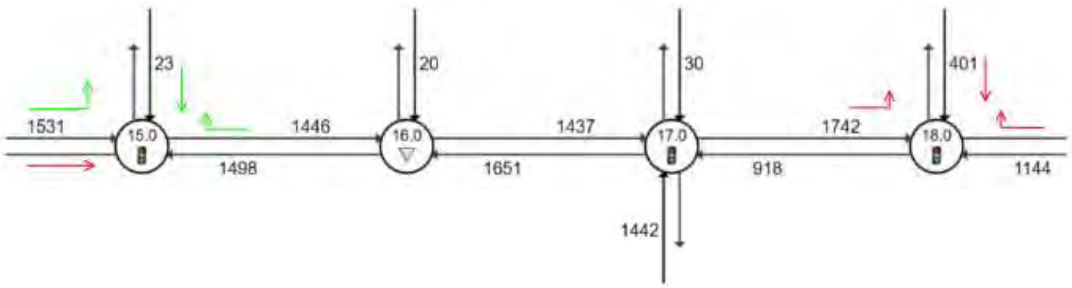
Burswood West Closure AM Peak



Do Min PM Peak



Burswood West Closure PM Peak



Appendix G

EB2/EB3/EB4/L Scenario – Phasing Diagrams

PHASING SUMMARY

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Dr - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Site User-Given Phase Times)

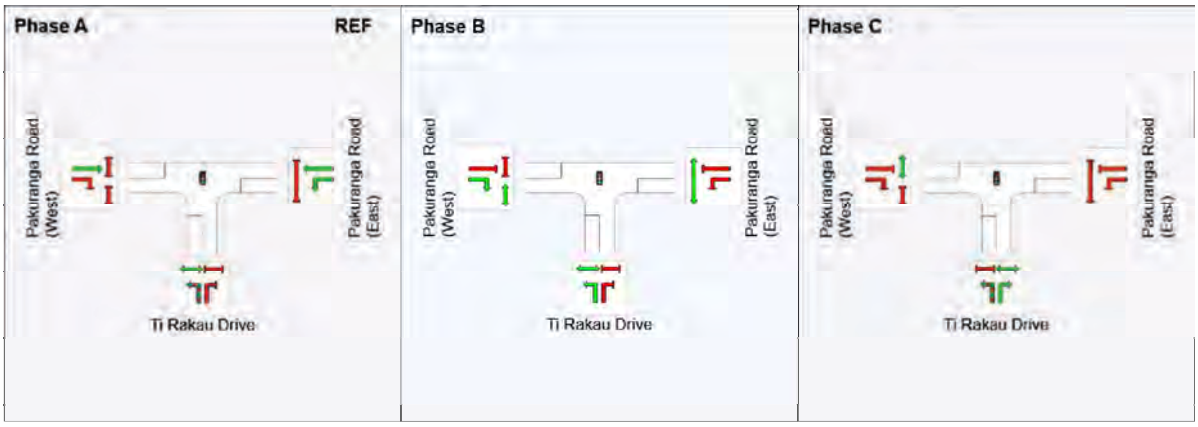
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

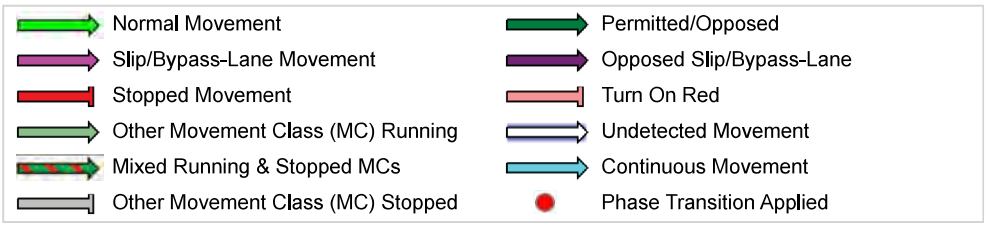
Phase	A	B	C
Phase Change Time (sec)	0	39	69
Green Time (sec)	34	24	25
Phase Time (sec)	40	30	30
Phase Split	40%	30%	30%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 3.0 [3.0 Pakuranga Highway / Pakuranga Rd (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

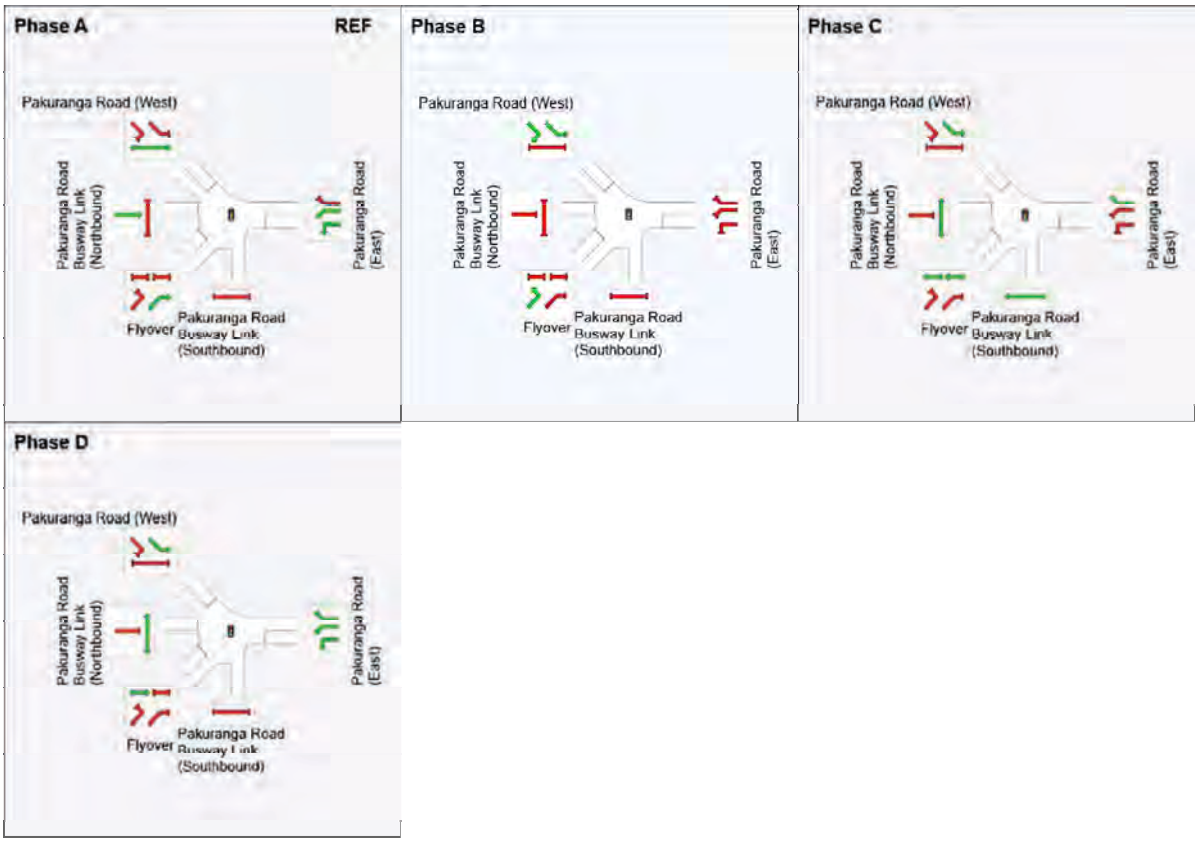
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

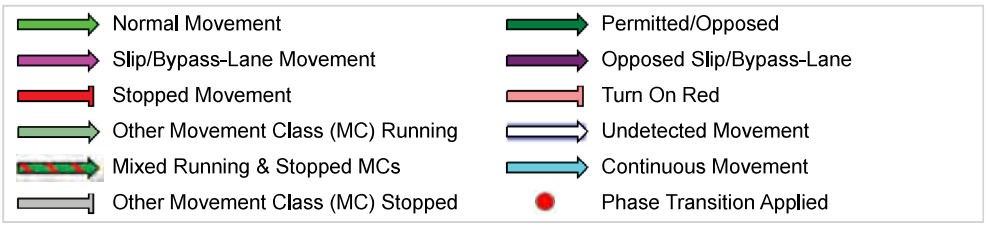
Phase	A	B	C	D
Phase Change Time (sec)	0	43	74	93
Green Time (sec)	37	25	13	51
Phase Time (sec)	43	31	19	57
Phase Split	29%	21%	13%	38%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



CCG PHASING SUMMARY

Common Control Group: CCG3 [Aylesbury/ WR/ Reeves Rd]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Network User-Given Cycle Time)

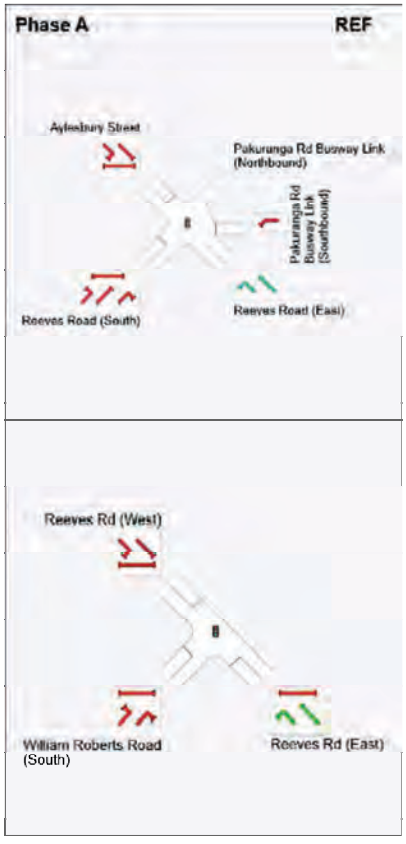
Timings based on settings in the Network Timing dialog
Phase Times specified by the user
Phase Sequence: CCG Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, D2, E
Output Phase Sequence: A, B, C, D, D2, E

Phase Timing Summary (CCG)

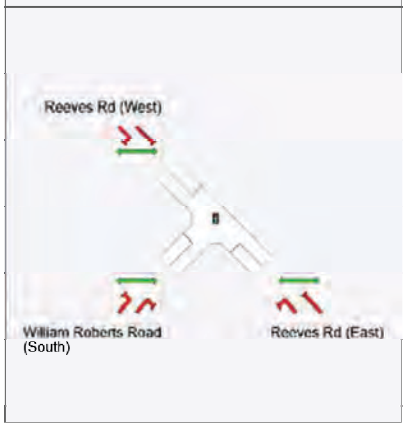
Phase	A	B	C	D	D2	E
Phase Change Time (sec)	0	46	68	81	100	115
Green Time (sec)	40	16	6	13	9	29
Phase Time (sec)	46	23	12	19	15	35
Phase Split	31%	15%	8%	13%	10%	23%

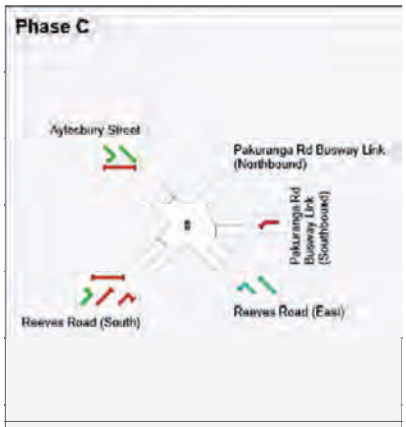
See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

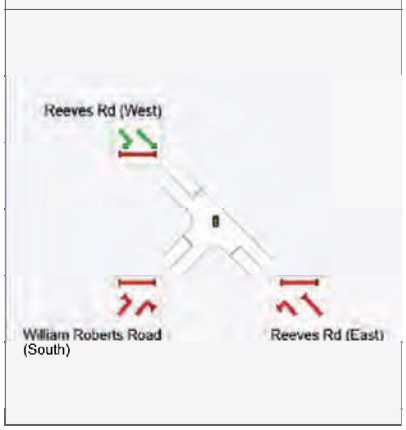
Output Phase Sequence (CCG)

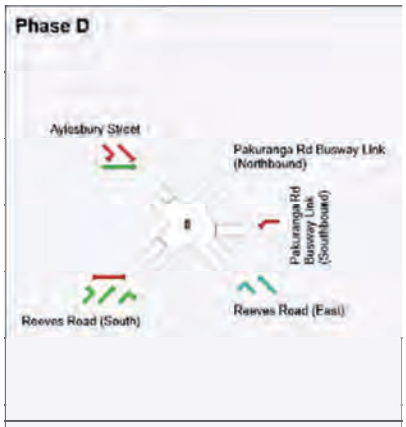


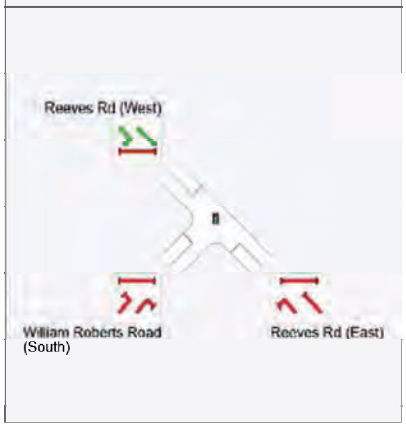

Phase B
Aylesbury Street
Pakuranga Rd Busway Link (Northbound)
Pakuranga Rd Busway Link (Southbound)
Reeves Road (South)
Reeves Road (East)

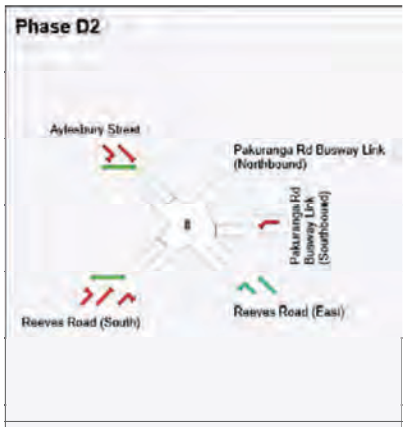

Reeves Rd (West)
William Roberts Road (South)
Reeves Rd (East)

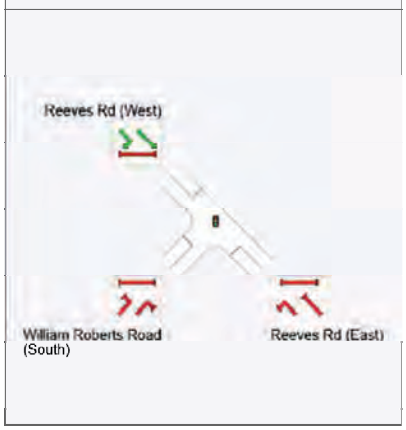

Phase C
Aylesbury Street
Pakuranga Rd Busway Link (Northbound)
Pakuranga Rd Busway Link (Southbound)
Reeves Road (South)
Reeves Road (East)

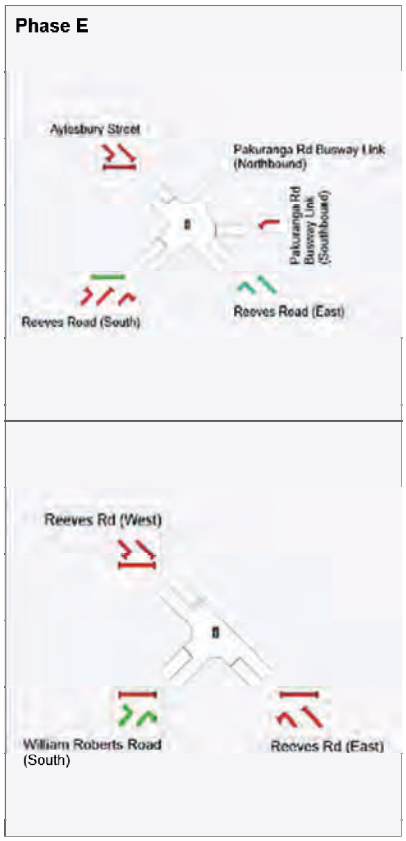

Reeves Rd (West)
William Roberts Road (South)
Reeves Rd (East)


Phase D
Aylesbury Street
Pakuranga Rd Busway Link (Northbound)
Pakuranga Rd Busway Link (Southbound)
Reeves Road (South)
Reeves Road (East)

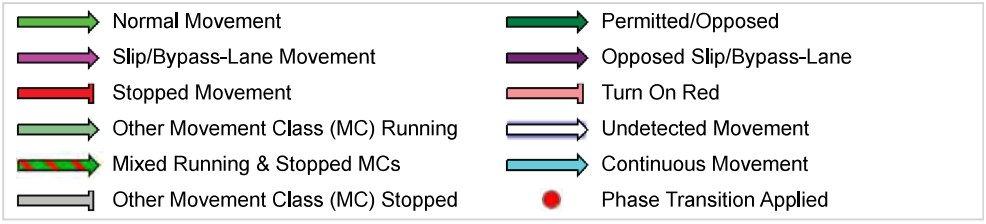

Reeves Rd (West)
William Roberts Road (South)
Reeves Rd (East)


Phase D2
Aylesbury Street
Pakuranga Rd Busway Link (Northbound)
Pakuranga Rd Busway Link (Southbound)
Reeves Road (South)
Reeves Road (East)


Reeves Rd (West)
William Roberts Road (South)
Reeves Rd (East)



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 4.0 [4.0 Palm Ave / Aylesbury St - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site User-Given Phase Times)

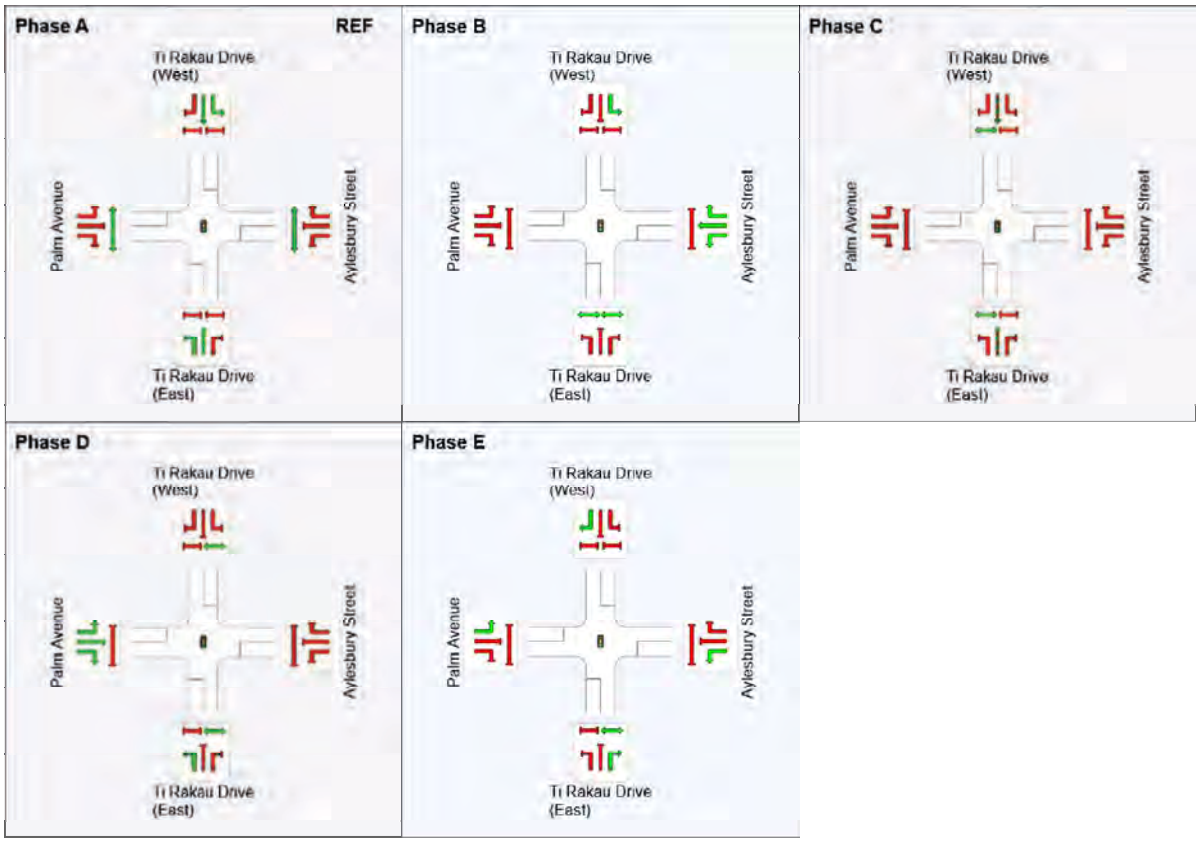
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E
Output Phase Sequence: A, B, C, D, E

Phase Timing Summary

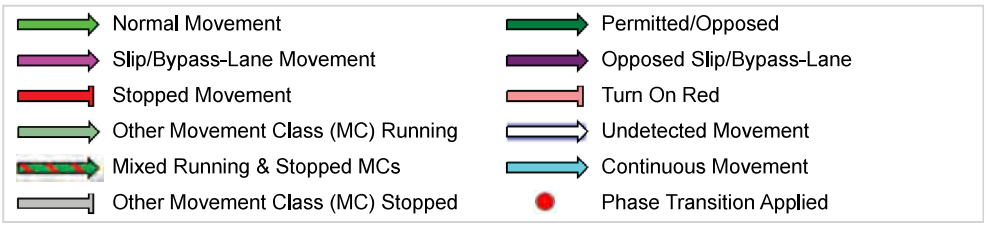
Phase	A	B	C	D	E
Phase Change Time (sec)	0	73	97	114	139
Green Time (sec)	66	18	11	19	6
Phase Time (sec)	72	24	17	24	13
Phase Split	48%	16%	11%	16%	9%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 5.0 [5.0 Pakuranga Highway / Reeves Rd - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Single Point Interchange (Signals) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site User-Given Phase Times)

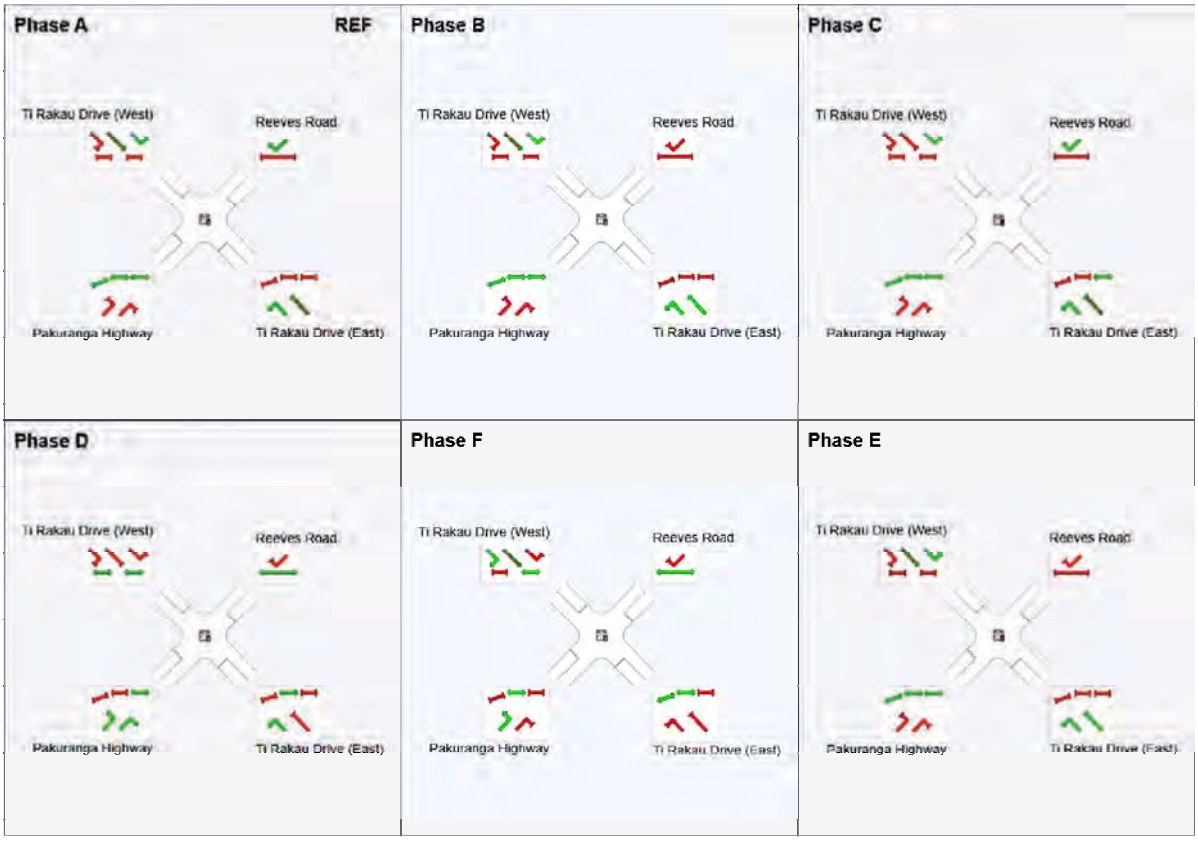
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, F, E
Output Phase Sequence: A, B, C, D, F, E

Phase Timing Summary

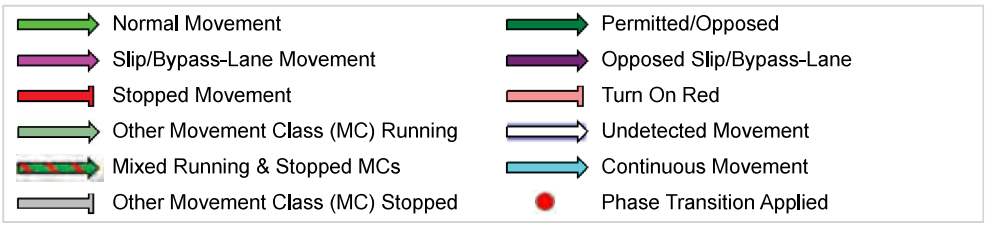
Phase	A	B	C	D	F	E
Phase Change Time (sec)	0	32	52	72	106	131
Green Time (sec)	26	14	14	29	17	11
Phase Time (sec)	32	20	19	37	25	17
Phase Split	21%	13%	13%	25%	17%	11%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 7.0 [7.0 William Roberts Rd/ Mattson Rd/ Ti Rakau Drive - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Scheme Design
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 96 seconds (Site Practical Cycle Time)

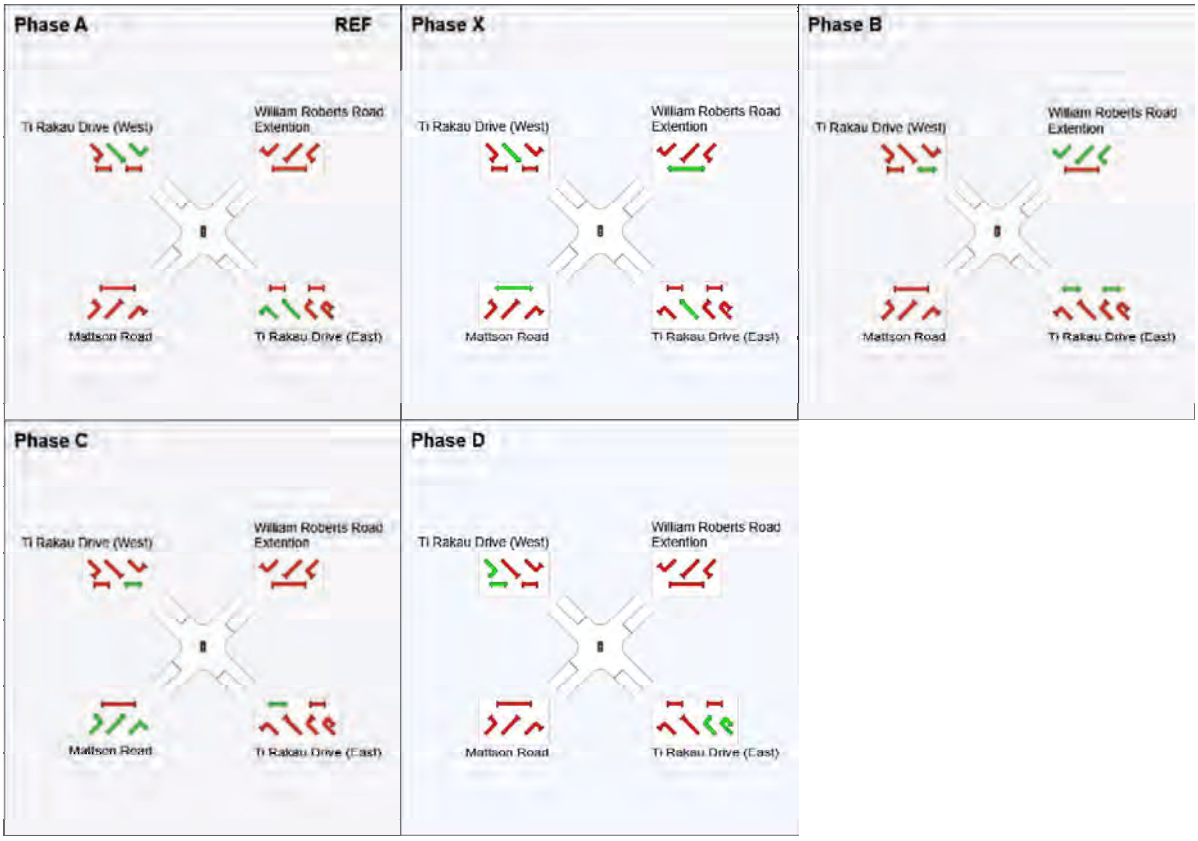
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, X, B, C, D
Output Phase Sequence: A, X, B, C, D

Phase Timing Summary

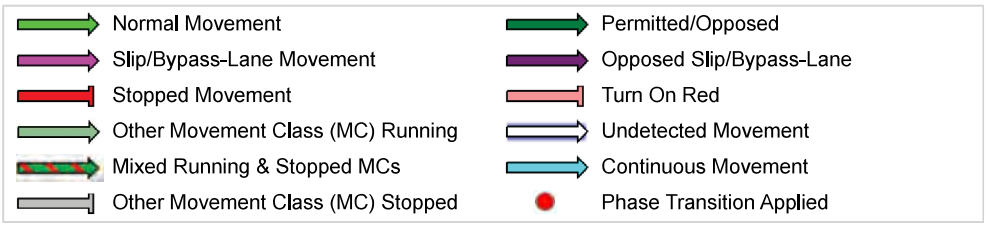
Phase	A	X	B	C	D
Phase Change Time (sec)	0	23	48	64	78
Green Time (sec)	15	19	10	6	12
Phase Time (sec)	21	25	18	12	20
Phase Split	22%	26%	19%	13%	21%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 8.1 [8.1 U-turn - West of Marriot Rd (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 28 seconds (Site Practical Cycle Time)

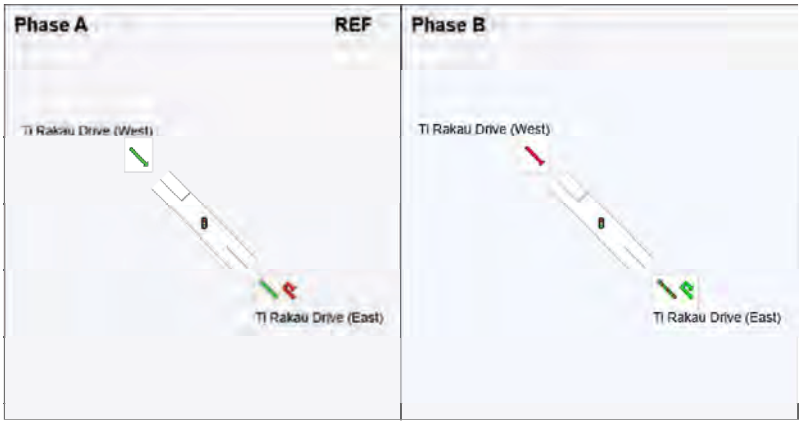
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Opposed Turns
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Summary

Phase	A	B
Phase Change Time (sec)	0	17
Green Time (sec)	12	6
Phase Time (sec)	17	11
Phase Split	61%	39%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

PHASING SUMMARY

Site: 9.1 [9.1 Staggered Crossing - East of Marriot Rd - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 38 seconds (Site Practical Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Two-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B, C*
Output Phase Sequence: A, B, C*
(* Variable Phase)

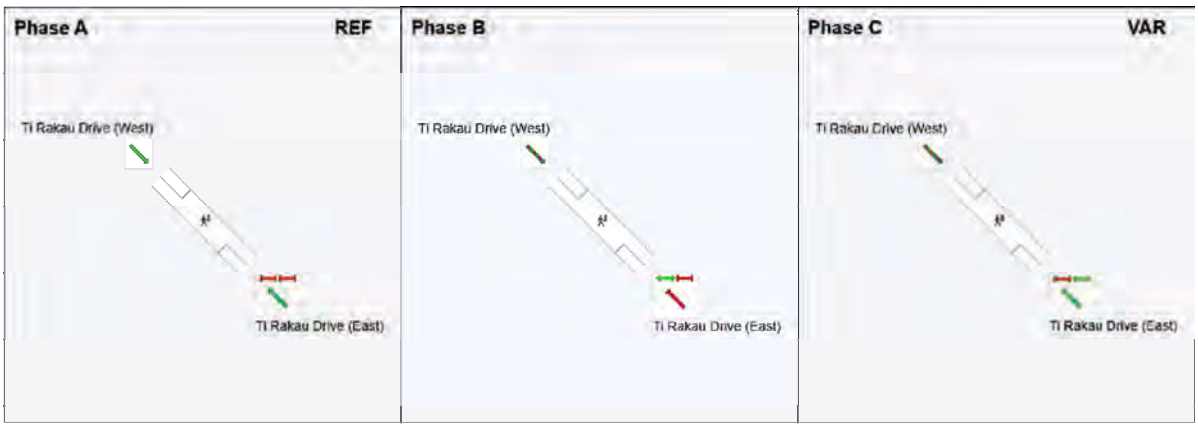
Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	2	22
Green Time (sec)	***	15	11
Phase Time (sec)	2	20	16
Phase Split	5%	53%	42%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

*** No green time has been calculated for this phase because the next phase starts during its intergreen time. This occurs with overlap phasing where there is no single movement connecting this phase to the next, or where the only such movement is a dummy movement with zero minimum green time specified. If a green time is required for this phase, specify a dummy movement with a non-zero minimum green time.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

PHASING SUMMARY

Site: 9.2 [9.2 Staggered Crossing - East of Marriot Rd - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 45 seconds (Site Practical Cycle Time)

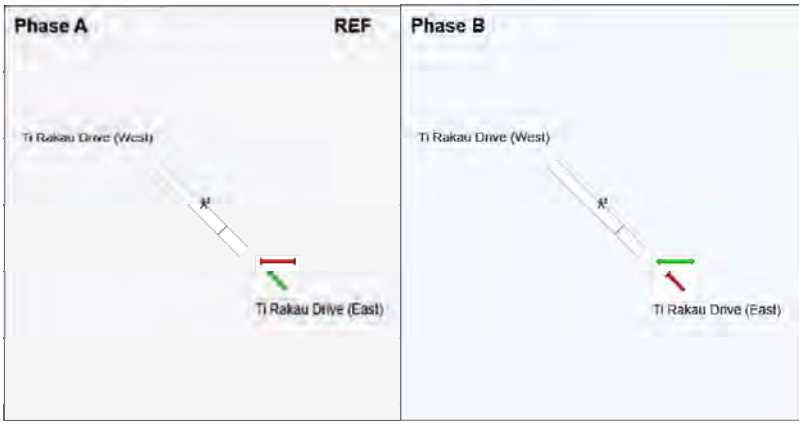
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Two-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Summary

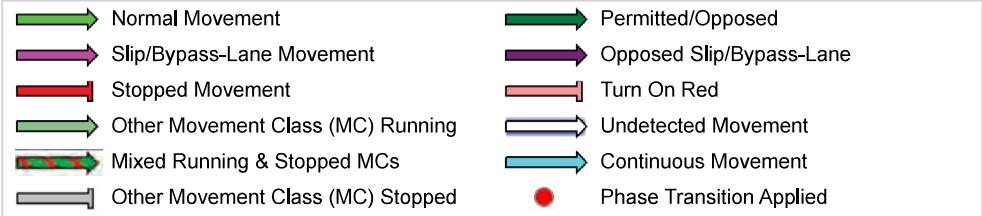
Phase	A	B
Phase Change Time (sec)	0	29
Green Time (sec)	24	11
Phase Time (sec)	29	16
Phase Split	64%	36%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



Project: C:\Users\jacques.vandenheever\Eastern Busway Alliance\PAA - 12 Transport\3-3. Integrated Transport Assessment\ITA 3 - EB2,3R,3C,4i\Version A1\SIDRA and AIMSUN\EB2,3R,3C,4i,4L Final\EB2,3R,3C,4i,4L Final AM 2028_JV Edits_Updates.sip9

PHASING SUMMARY

Site: 101 [12.0 Edgewater Dr (East) / Ti Rakau Dr -Signalised - Import - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 90 seconds (Site Practical Cycle Time)

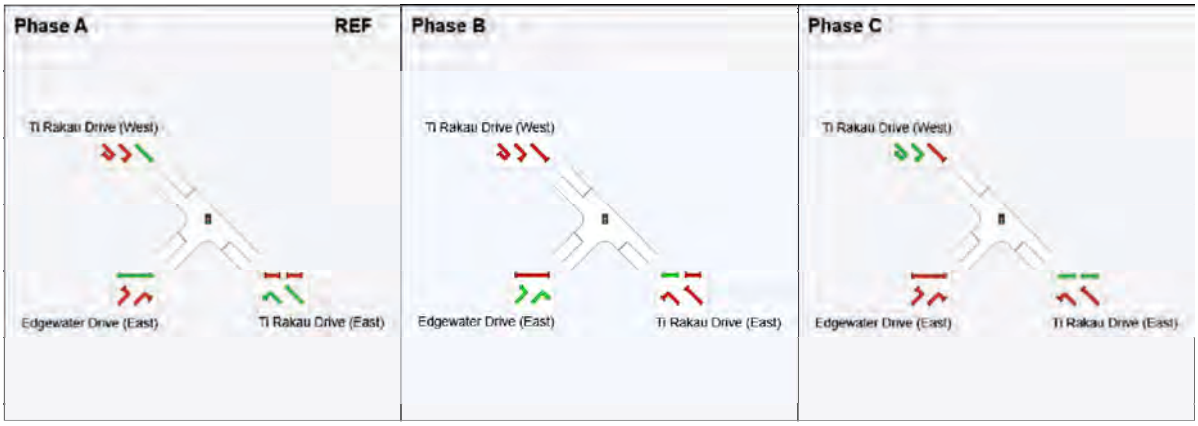
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, D*, C
Output Phase Sequence: A, B, C
(* Variable Phase)

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	60	73
Green Time (sec)	53	6	10
Phase Time (sec)	60	13	17
Phase Split	67%	14%	19%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

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PHASING SUMMARY

Site: 13.0 [13.0 Gossamer Dr / Ti Rakau Dr (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Site Practical Cycle Time)

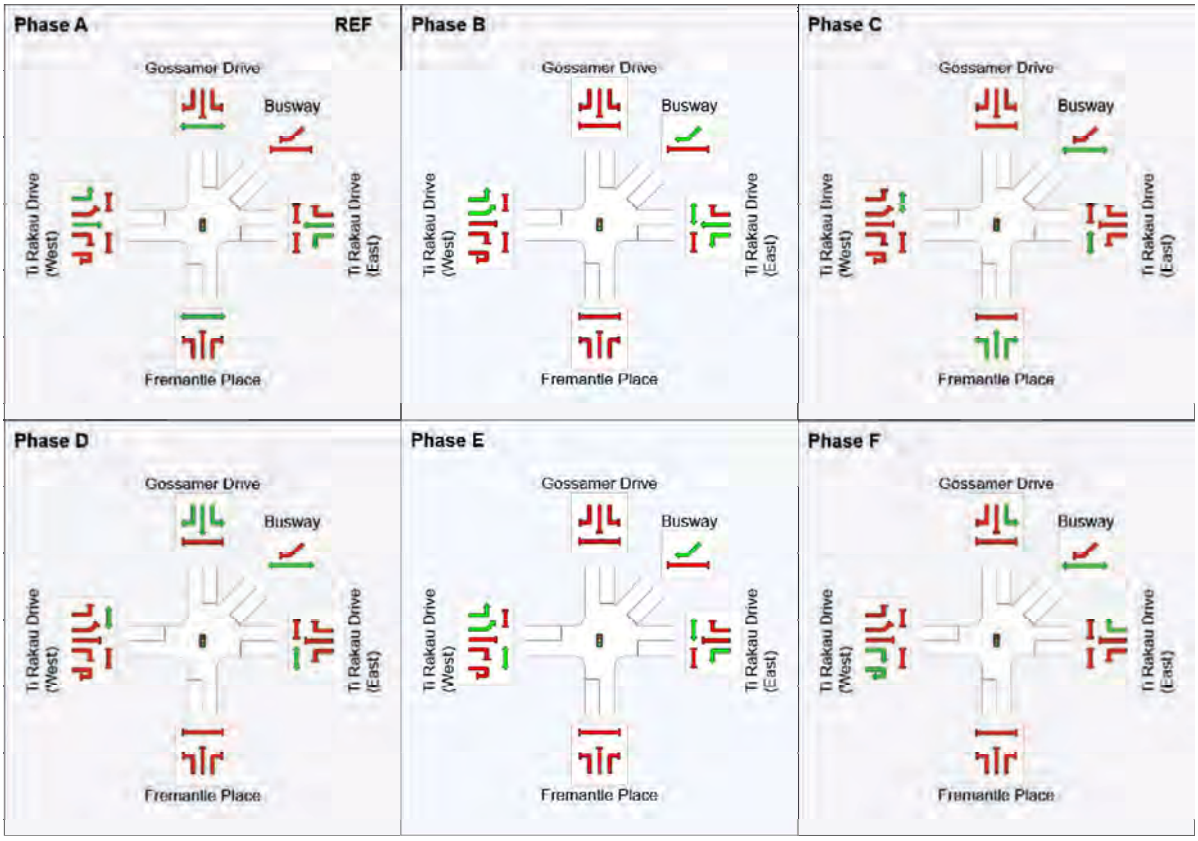
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E, F
Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary

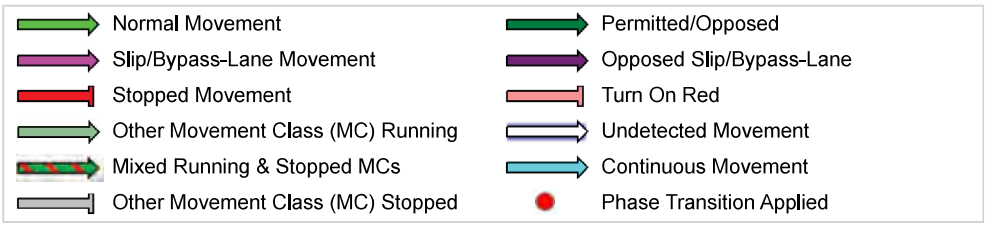
Phase	A	B	C	D	E	F
Phase Change Time (sec)	0	62	79	91	109	126
Green Time (sec)	56	11	6	12	11	18
Phase Time (sec)	62	17	12	18	17	24
Phase Split	41%	11%	8%	12%	11%	16%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 15.B [15.B Burwood Dr (West) / New Offline Busway Rd (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 41 seconds (Site Practical Cycle Time)

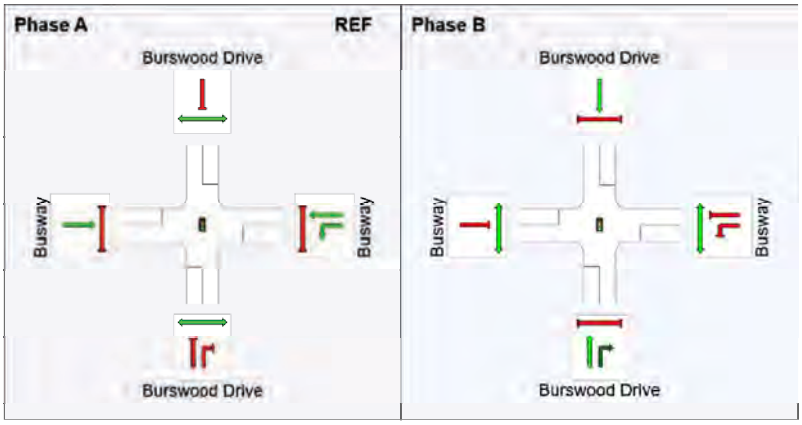
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Two-Phase
Reference Phase: Phase A
Input Phase Sequence: A, B
Output Phase Sequence: A, B

Phase Timing Summary

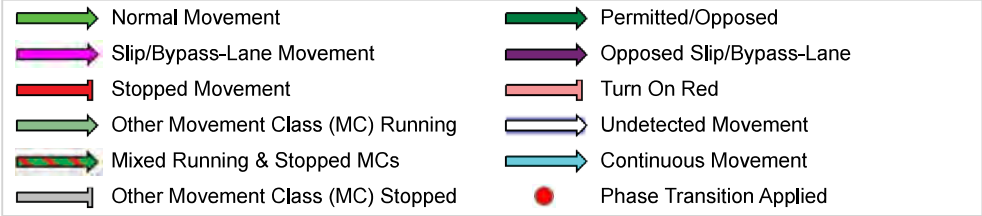
Phase	A	B
Phase Change Time (sec)	0	22
Green Time (sec)	16	13
Phase Time (sec)	22	19
Phase Split	54%	46%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 18.B [18.B Burswood Dr (East) / New Offline Busway Rd - V2 - Import (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 49 seconds (Site Practical Cycle Time)

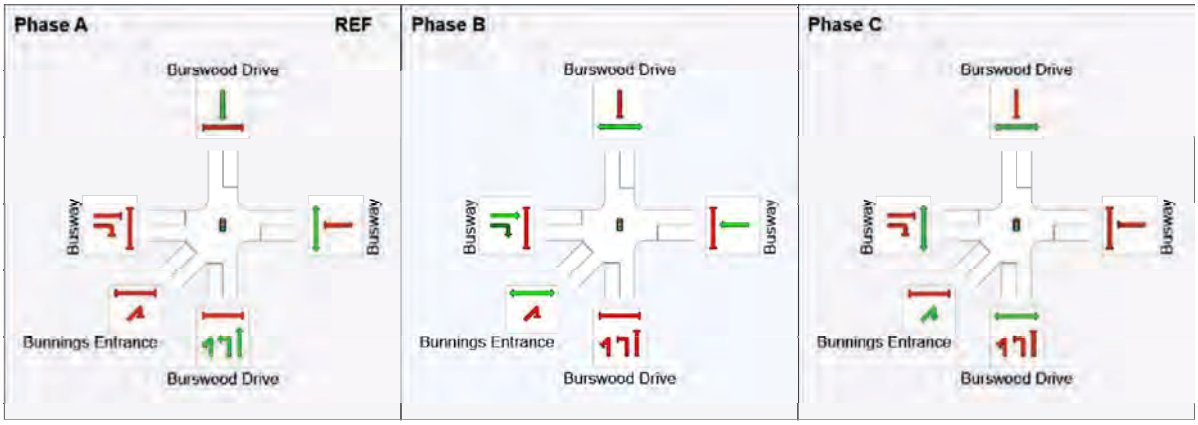
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

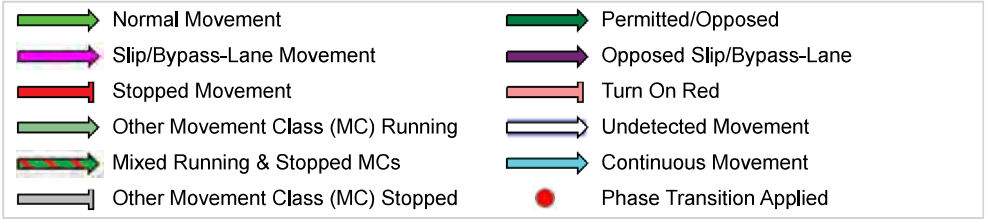
Phase	A	B	C
Phase Change Time (sec)	0	19	31
Green Time (sec)	13	6	12
Phase Time (sec)	19	12	18
Phase Split	39%	24%	37%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



CCG PHASING SUMMARY

Common Control Group: CCG1 [Burswood E/ Greenmount]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Network User-Given Cycle Time)

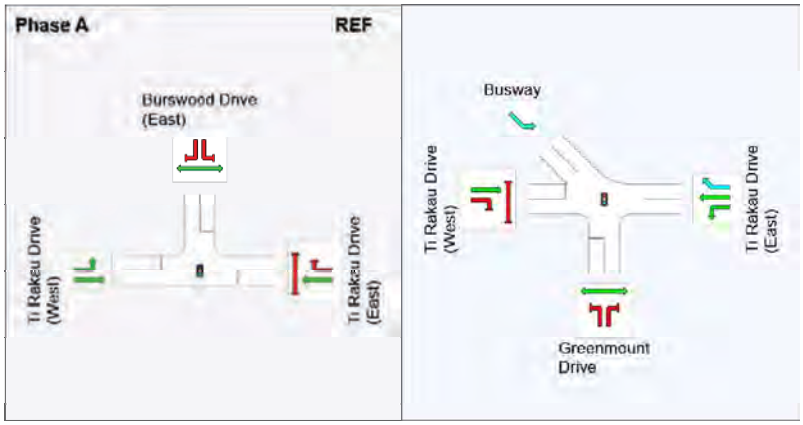
Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Green Split Priority has been specified
Phase Sequence: CCG Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, E
Output Phase Sequence: A, B, C, E

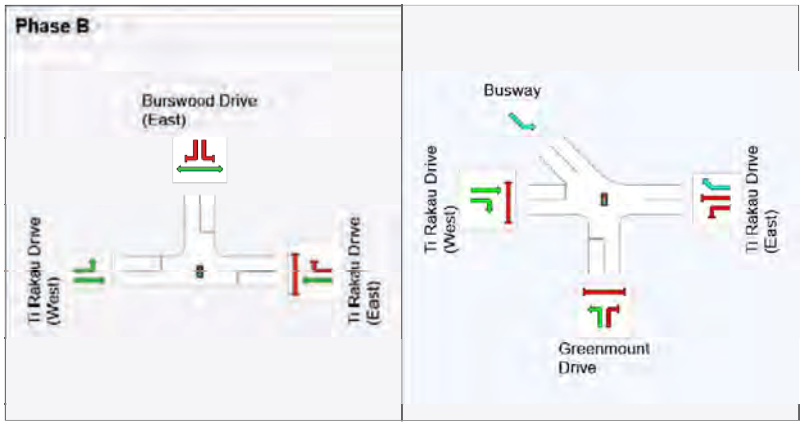
Phase Timing Summary (CCG)

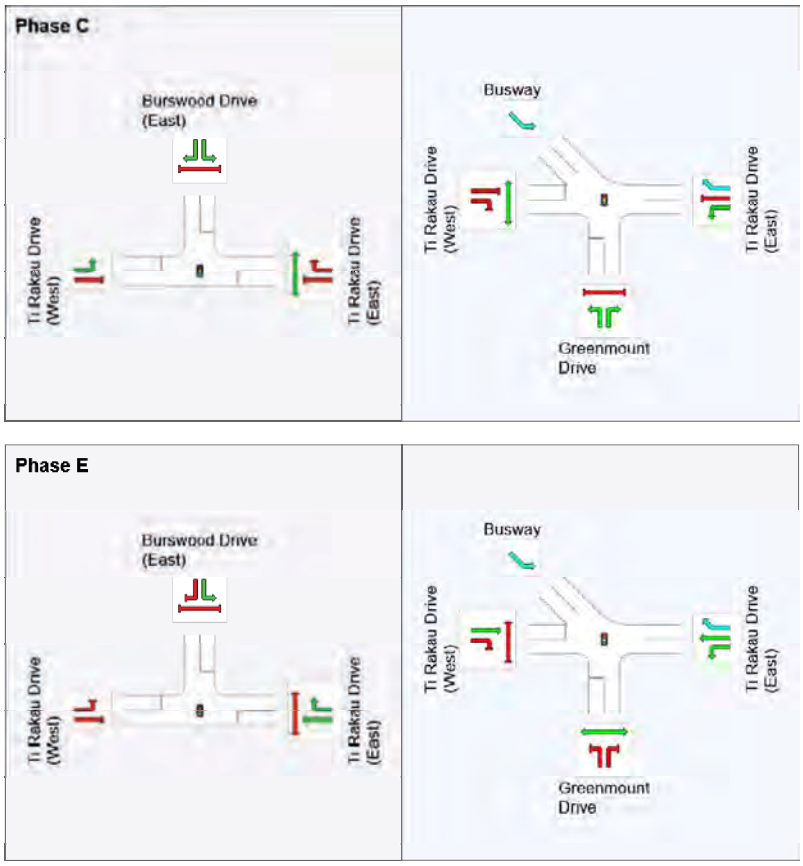
Phase	A	B	C	E
Phase Change Time (sec)	33	121	141	21
Green Time (sec)	82	14	24	6
Phase Time (sec)	88	20	30	12
Phase Split	59%	13%	20%	8%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence (CCG)







REF: Reference Phase
VAR: Variable Phase

Normal Movement	Permitted/Opposed
Slip/Bypass-Lane Movement	Opposed Slip/Bypass-Lane
Stopped Movement	Turn On Red
Other Movement Class (MC) Running	Undetected Movement
Mixed Running & Stopped MCs	Continuous Movement
Other Movement Class (MC) Stopped	Phase Transition Applied

PHASING SUMMARY

Site: 19.B [19.B Bus Depot Entrance (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Network Site User-Given Phase Times)

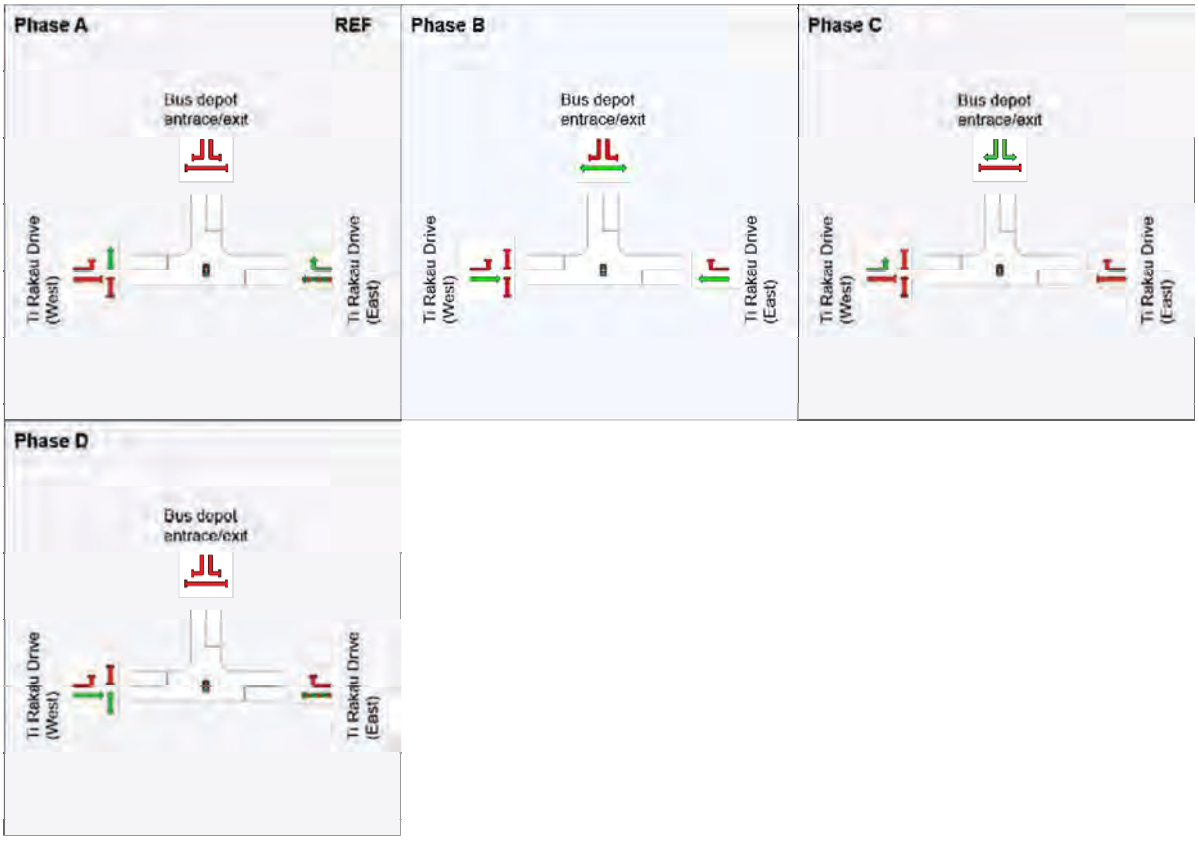
Timings based on settings in the Network Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D
Output Phase Sequence: A, B, C, D

Phase Timing Summary

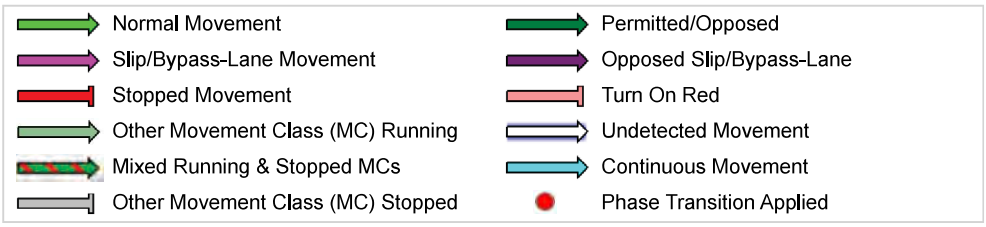
Phase	A	B	C	D
Phase Change Time (sec)	4	34	114	135
Green Time (sec)	24	74	15	13
Phase Time (sec)	30	80	21	19
Phase Split	20%	53%	14%	13%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 20.2 [20.2 Huntington Dr / Ti Rakau Dr (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 150 seconds (Network Site User-Given Phase Times)

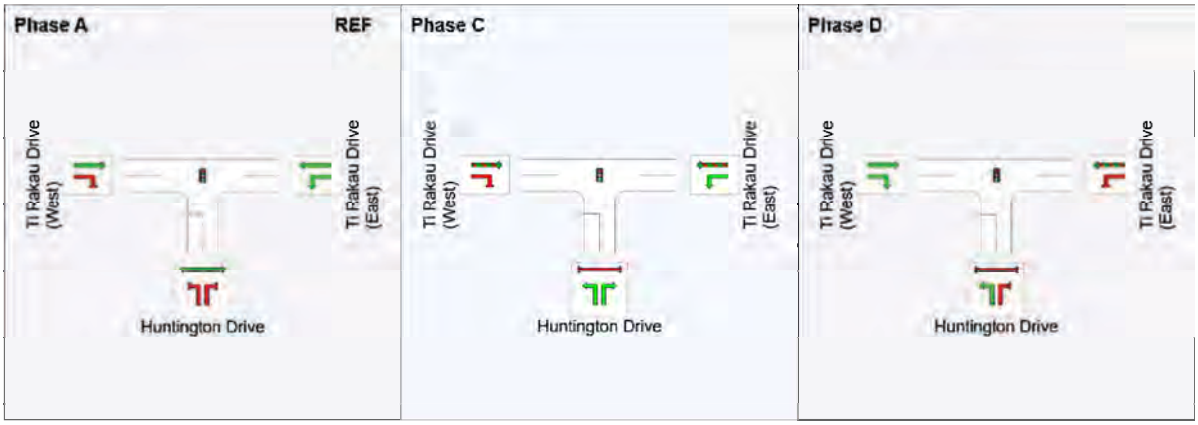
Timings based on settings in the Network Timing dialog
Phase Times specified by the user
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, C, D
Output Phase Sequence: A, C, D

Phase Timing Summary

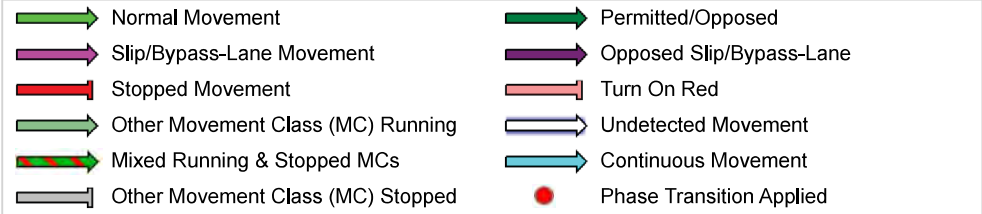
Phase	A	C	D
Phase Change Time (sec)	0	109	134
Green Time (sec)	103	19	10
Phase Time (sec)	109	25	16
Phase Split	73%	17%	11%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



TIME - DISTANCE DIAGRAM

Time – Distance Diagram for the Selected Route

Movement Class: Light Vehicles

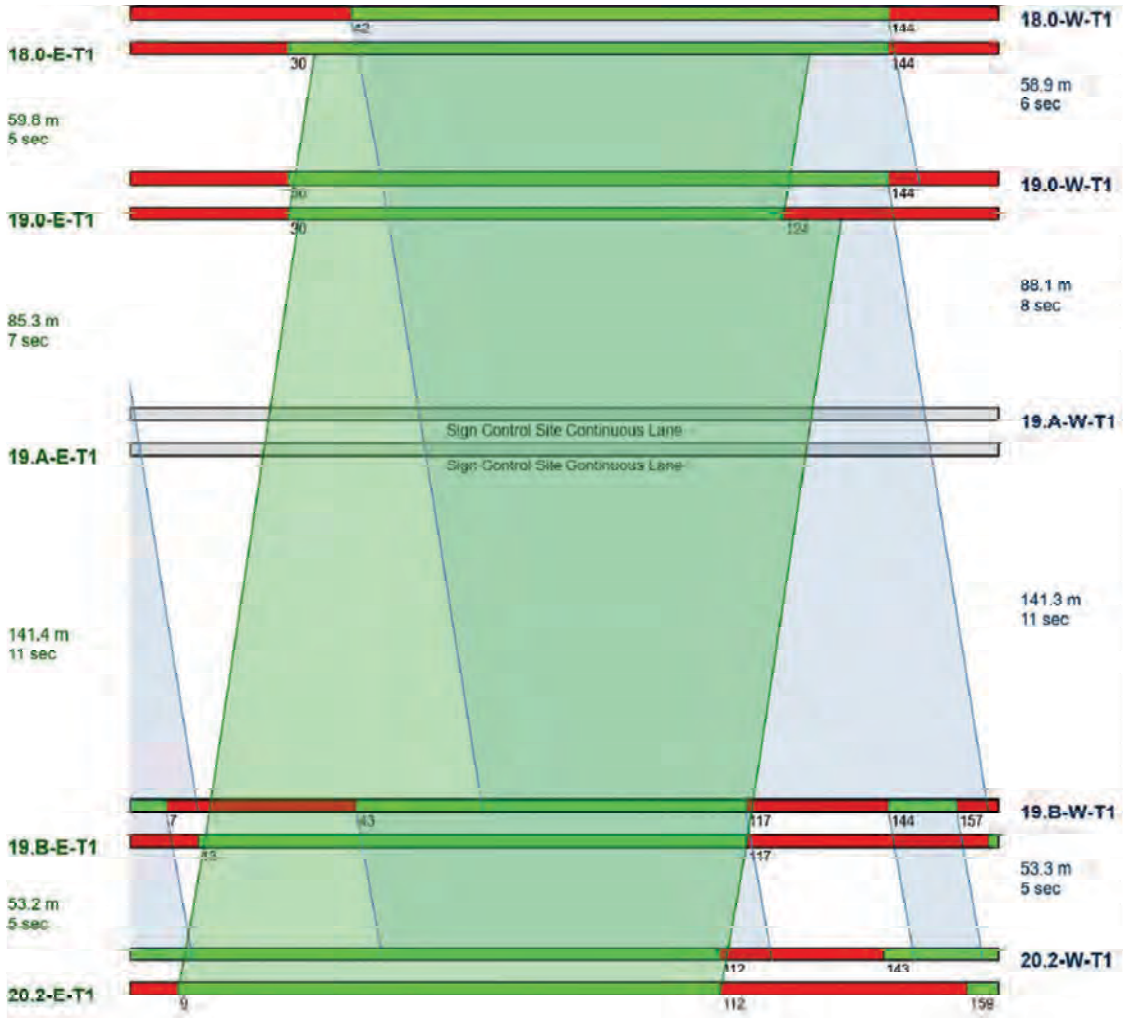
Route: R101 [Route1]

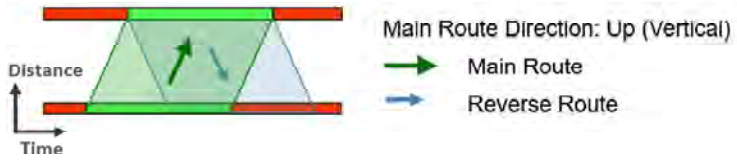
Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

New Route
Network Category: (None)
Network Cycle Time = 150 seconds (Network User-Given Cycle Time)

Signal Offsets option used: User

Interactive Offsets


18.0-E-T1
59.8 m
5 sec
19.0-E-T1
85.3 m
7 sec
19.A-E-T1
141.4 m
11 sec
19.B-E-T1
53.2 m
5 sec
20.2-E-T1
18.0-W-T1
58.9 m
6 sec
19.0-W-T1
88.1 m
8 sec
19.A-W-T1
Sign Control Site Continuous Lane
Sign Control Site Continuous Lane
141.3 m
11 sec
19.B-W-T1
53.3 m
5 sec
20.2-W-T1
30
144
30
144
30
122
7
43
117
144
157
43
117
9
112
159


Distance
Time
Main Route Direction: Up (Vertical)
Main Route
Reverse Route

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PHASING SUMMARY

Site: 20a.2 [20a.2 Ti Rakau Dr Busway crossover - EB4i,EB4L (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 132 seconds (Site User-Given Phase Times)

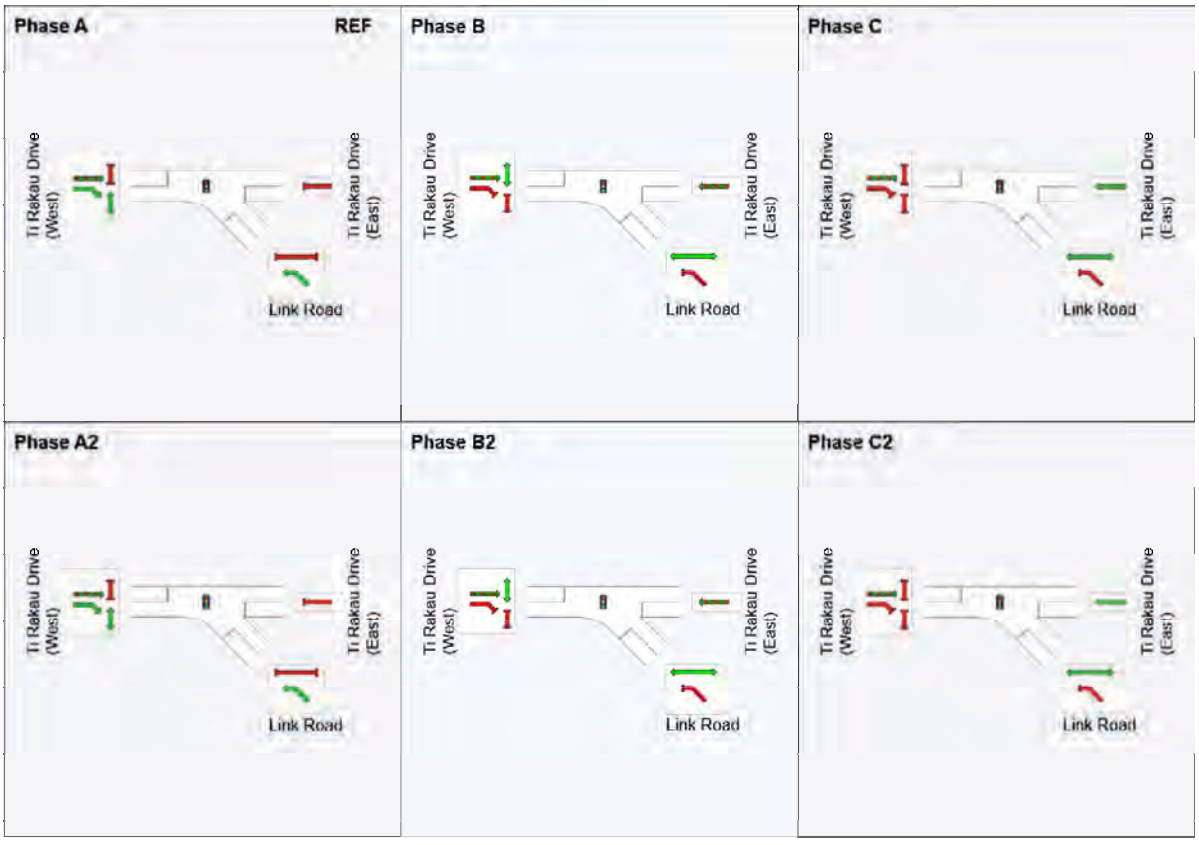
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C, A2, B2, C2
Output Phase Sequence: A, B, C, A2, B2, C2

Phase Timing Summary

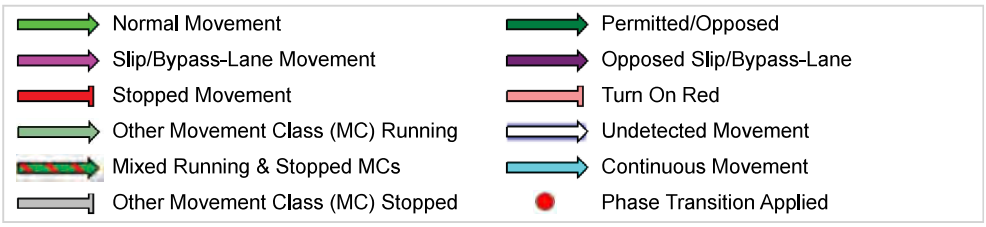
Phase	A	B	C	A2	B2	C2
Phase Change Time (sec)	0	12	58	66	78	124
Green Time (sec)	10	42	2	10	42	2
Phase Time (sec)	14	48	4	14	48	4
Phase Split	11%	36%	3%	11%	36%	3%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 21.2 [21.2 Te Koha Rd/ Ti Rakau Dr - EB4i (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150 seconds (Site User-Given Phase Times)

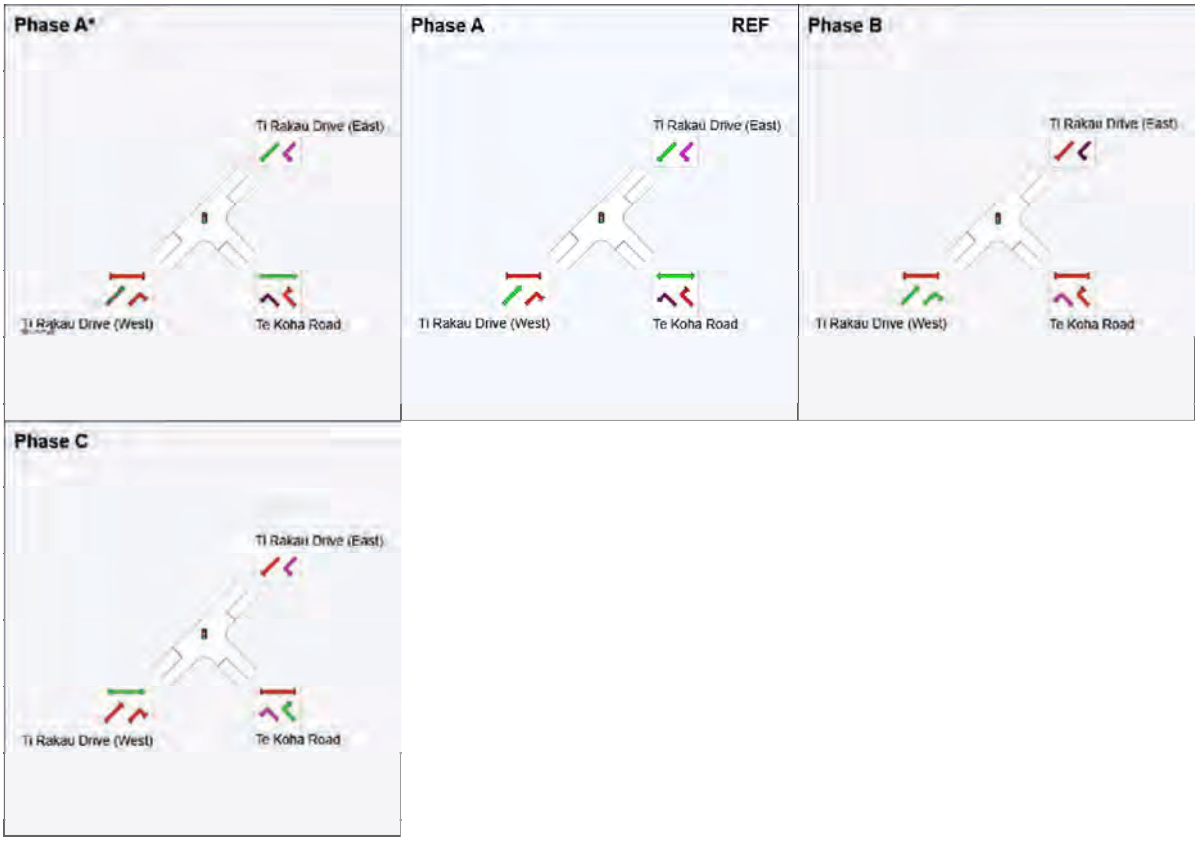
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A*, A, B, C
Output Phase Sequence: A*, A, B, C

Phase Timing Summary

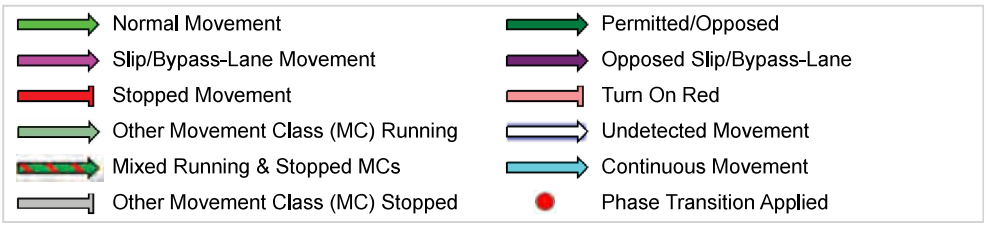
Phase	A*	A	B	C
Phase Change Time (sec)	139	0	101	115
Green Time (sec)	6	101	8	18
Phase Time (sec)	6	107	14	23
Phase Split	4%	71%	9%	15%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 22.0 [22.0 Te Irirangi Dr / Ti Rakau Dr - EB4i (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 94 seconds (Site Practical Cycle Time)

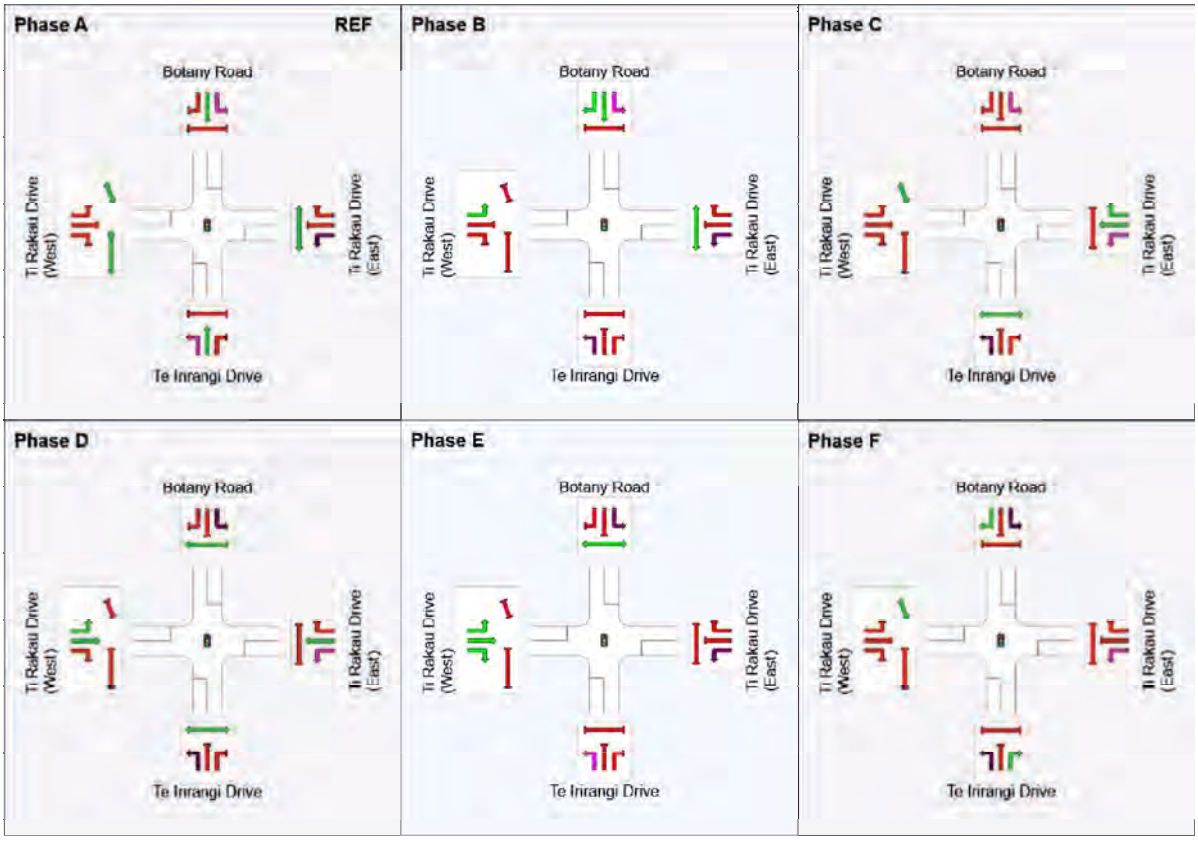
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C, D, E, F
Output Phase Sequence: A, B, C, D, E, F

Phase Timing Summary

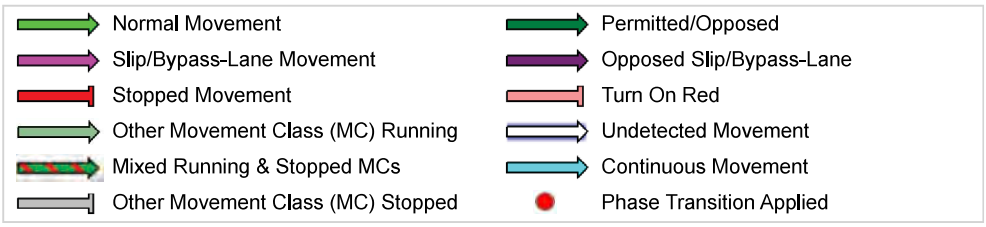
Phase	A	B	C	D	E	F
Phase Change Time (sec)	0	24	39	51	63	75
Green Time (sec)	18	9	6	6	6	13
Phase Time (sec)	24	15	12	12	12	19
Phase Split	26%	16%	13%	13%	13%	20%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 23.2 [23.2a Te Irirangi Dr / Te Koha Rd / Town Centre Dr - EB4i,EB4L_2 (Site Folder: AM)]

Network: N101 [AM_Town centre drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 140 seconds (Site User-Given Phase Times)

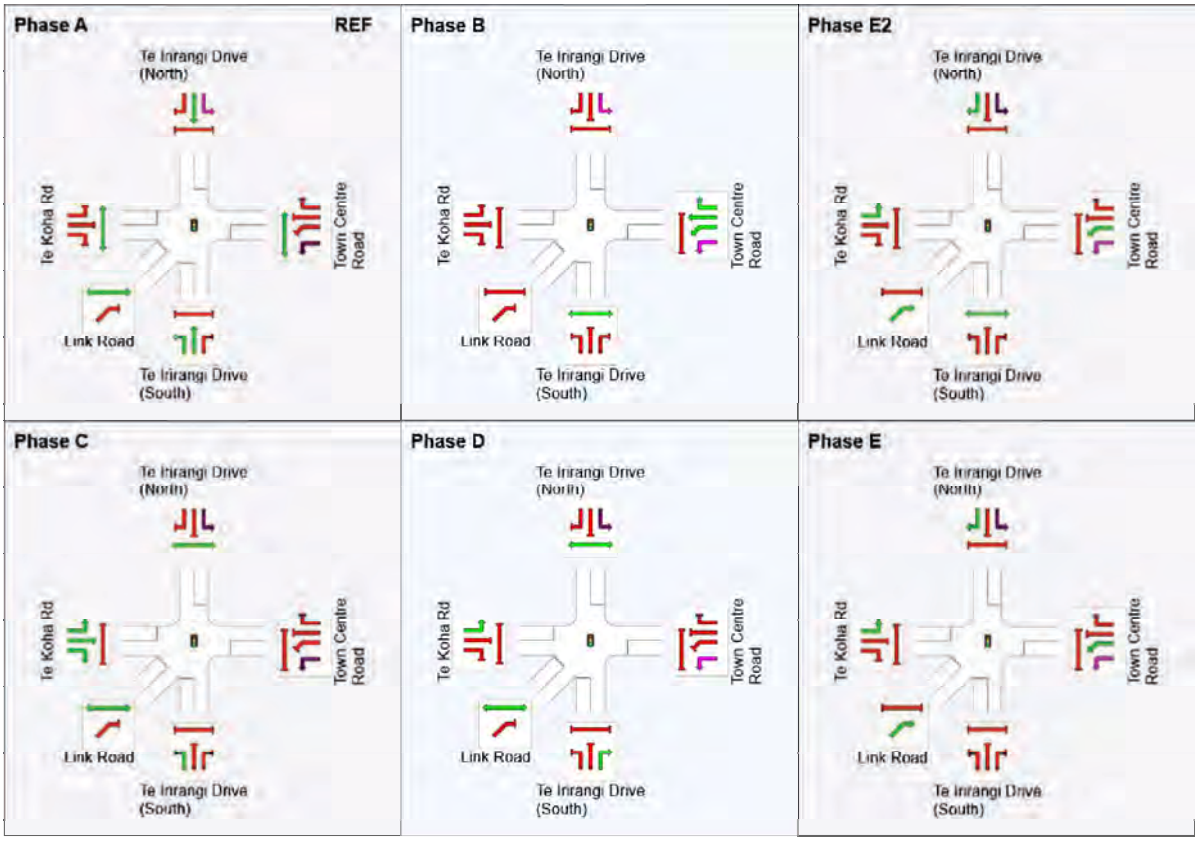
Timings based on settings in the Site Phasing & Timing dialog
Phase Times specified by the user
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, E2, C, D, E
Output Phase Sequence: A, B, E2, C, D, E

Phase Timing Summary

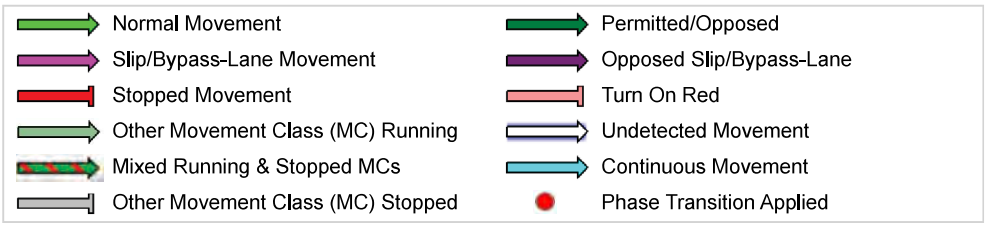
Phase	A	B	E2	C	D	E
Phase Change Time (sec)	0	56	70	86	102	120
Green Time (sec)	50	8	11	11	12	14
Phase Time (sec)	56	13	16	17	18	20
Phase Split	40%	9%	11%	12%	13%	14%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



PHASING SUMMARY

Site: 1.0 [1.0 Pakuranga Rd / Ti Rakau Dr - Import (Site Folder: PM)]

Network: N101 [PM - Town Centre Drive four lanes (Network Folder: General)]

Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 96 seconds (Site Practical Cycle Time)

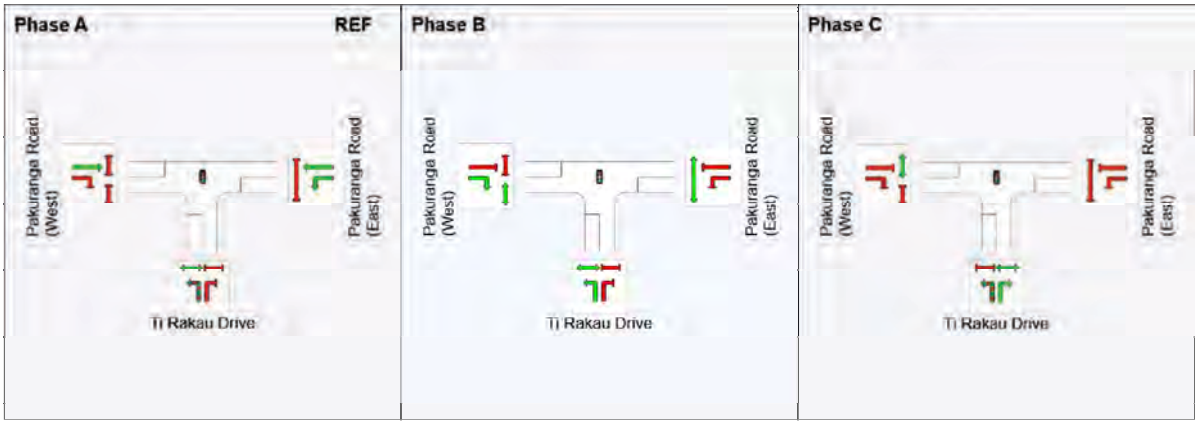
Timings based on settings in the Site Phasing & Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Variable Phasing
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Phase Timing Summary

Phase	A	B	C
Phase Change Time (sec)	0	33	63
Green Time (sec)	27	24	27
Phase Time (sec)	33	30	33
Phase Split	34%	31%	34%

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase