



Section 4 Infrastructure and Services

4.1 Master Plan of Circulation

The proposed circulation plan for The Avenue Specific Plan provides for safe and efficient movement of vehicular traffic through the project, while also providing a safe environment for pedestrian movement and bicycle traffic, reducing the reliance on the automobile as a means of travel.

Access to The Avenue Specific Plan from surrounding areas is provided by Archibald Avenue bisecting the site in a north and south direction; also running in a north to south direction is Haven Avenue on the eastern boundary and Carpenter Avenue on the western boundary; running in an east to west direction is Edison Avenue on the southern boundary and Schaefer Avenue on the northern boundary. Hellman Avenue bisects the site in a north to south direction between Archibald and Carpenter in the western portion of the plan area. Bus turnouts will be provided on Edison Avenue, Schaefer Avenue, Haven Avenue, and Archibald Avenue to the satisfaction of the City Engineer and Omnitrans.

A primary interior circulation element for The Avenue Specific Plan is the central “Avenue” which features enhanced setbacks and travel lanes to allow for vehicle, bicycle, and pedestrian access linking residential areas with retail and commercial, recreational, and the school sites within the plan area. Improvements to non-NMC streets will be made by the developer/applicant based on the data from the Environmental Impact Report and traffic study. The traffic study will also determine the additional right of way that may be needed at critical intersections to accommodate additional right and left turn lanes. The “Circulation Plan”, Exhibit 15, establishes the hierarchy and general location of these roadways within the plan area.

Streetscapes within The Avenue are critical in maintaining the perception of community theming, unification and quality. These common landscape areas link vehicular and pedestrian traffic to neighborhoods and community elements.

The streetscapes in The Avenue are treated as critical community spaces providing quality pedestrian and vehicular circulation ways including jogging and bicycle paths and well-buffered pedestrian walks. For pedestrian and vehicle safety, reflective street signs will be provided on all proposed streets within the City. Shrubs and low groundcovers from the New Model Colony Streetscape Master Plan will be used to the greatest extent feasible to reduce maintenance, conserve resources and provide a buffered separation between pedestrian and vehicular traffic. The 8’ expanded sidewalks, at an enlarged width, are designed to provide a better travel way along the Avenue.

Streetscape landscape treatments were developed to form a hierarchy of community importance and use characteristics. Landscaped parkways are enlarged beyond the city street right-of-way to reinforce this hierarchy consistent with the pathway system, residential orientation, and traffic volumes. These “landscape edges” are indicated on the streetscape sections.

The Avenue

SPECIFIC PLAN

The New Model Colony

ONTARIO, CALIFORNIA

The Avenue's design concept is focused on the use of earth tone materials and colors, meandering drifts and groves of plant material and trees and the limited but appropriate use of turf. Soldiered trees are at a uniform spacing reinforcing the linear design of the vehicular circulation system to provide a welcoming feel to those entering the community.

The unique and vital streetscape concept for The Avenue is focused on the treatment of the divided collector streetscape cross section. The design of the streetscape provides a strong and significant landscape while providing pedestrian pathway choices for residents.

Although the Avenue is designed for maximum benefit of the community residents, the overall plan provides convenient access points to allow vehicles to maximize road travel on the perimeter urban arterials and neighborhood collectors instead of the Avenue. This is intended to reduce interior traffic and maximize resident, pedestrian, and bicycle enjoyment of the streetscapes.

Edison Avenue, Schaefer Avenue, Haven Avenue, and Archibald Avenue streetscapes are designed to provide additional landscape area beyond the street right-of-way. The Avenue is planned to focus internally. These perimeter streetscapes will allow reasonable buffering along with the appropriate landscape treatments to properly introduce the community while maintaining consistency along the overall arterial streetscape.

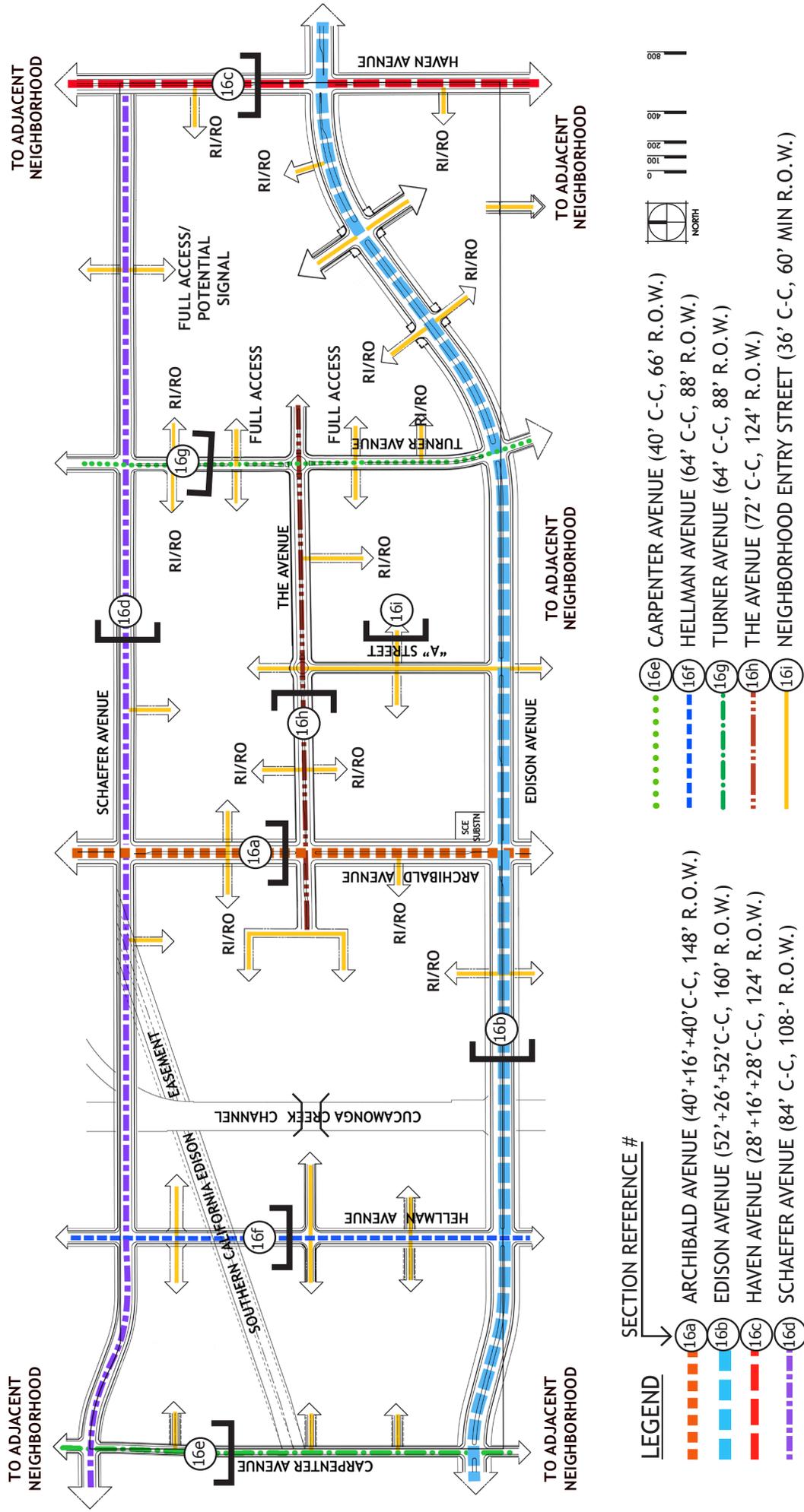
Carpenter Avenue and Hellman Avenues are north/south trending collectors while Turner Avenue is a north/south trending divided collector all which contain relatively balanced landscape zones beyond their respective right-of-ways. These collectors provide access to community facilities, recreation areas, school sites, retail centers and the arterial avenues of Schaefer, Edison, Haven, and Archibald.

4.1.1 Street Plans and Sections

Primary access to The Avenue Specific Plan is provided by seven (7) major Avenues: Edison, Haven, Schaefer, Turner, Hellman, Carpenter and Archibald Avenues. Within the plan area public streets of varying design will provide access to the residential, commercial, school, and park areas.



Pedestrians on The Avenue

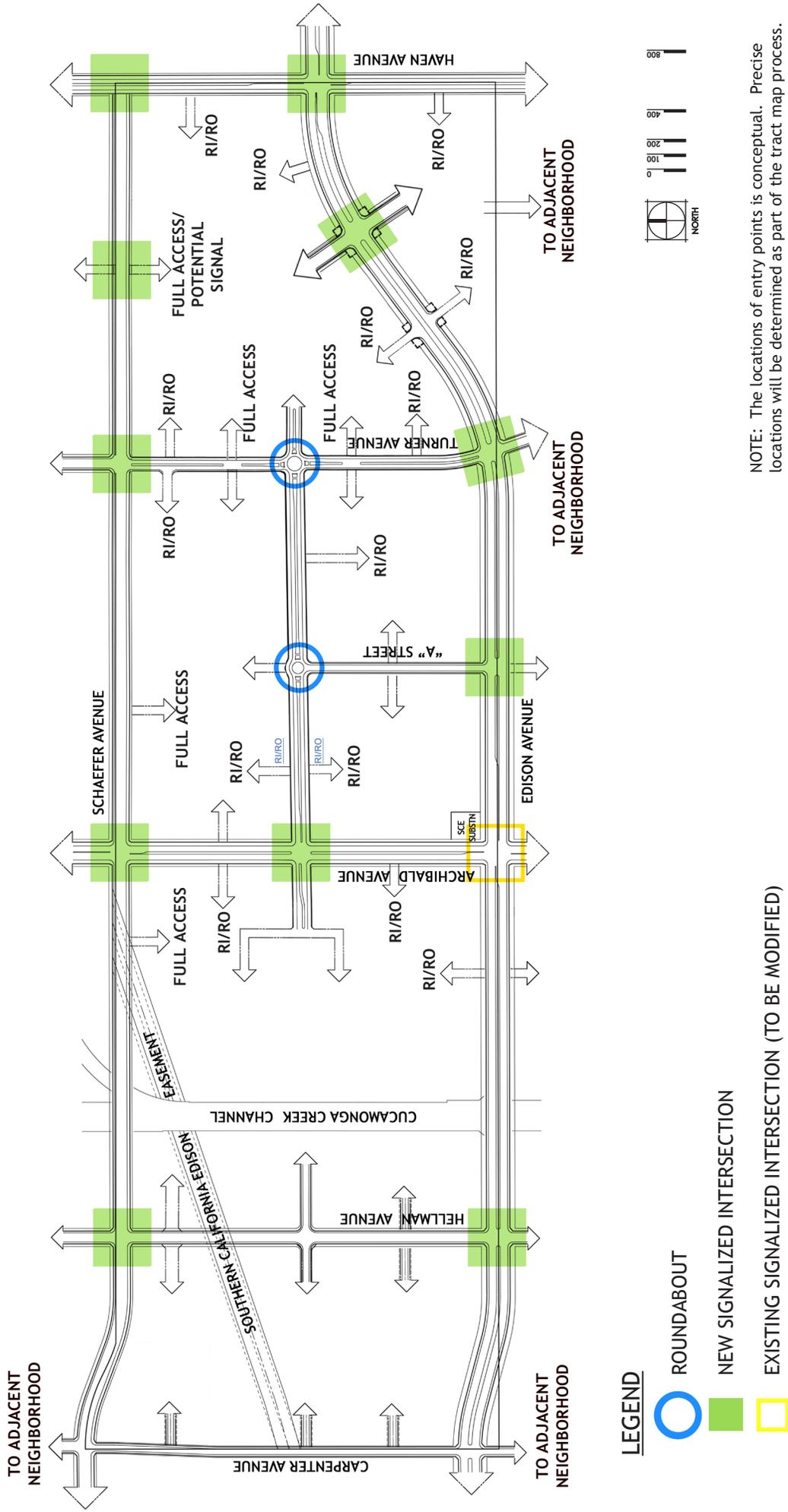


The Avenue

SPECIFIC PLAN

The New Model Colony • Ontario, California

Circulation Plan



The Avenue

SPECIFIC PLAN

The New Model Colony • Ontario, California

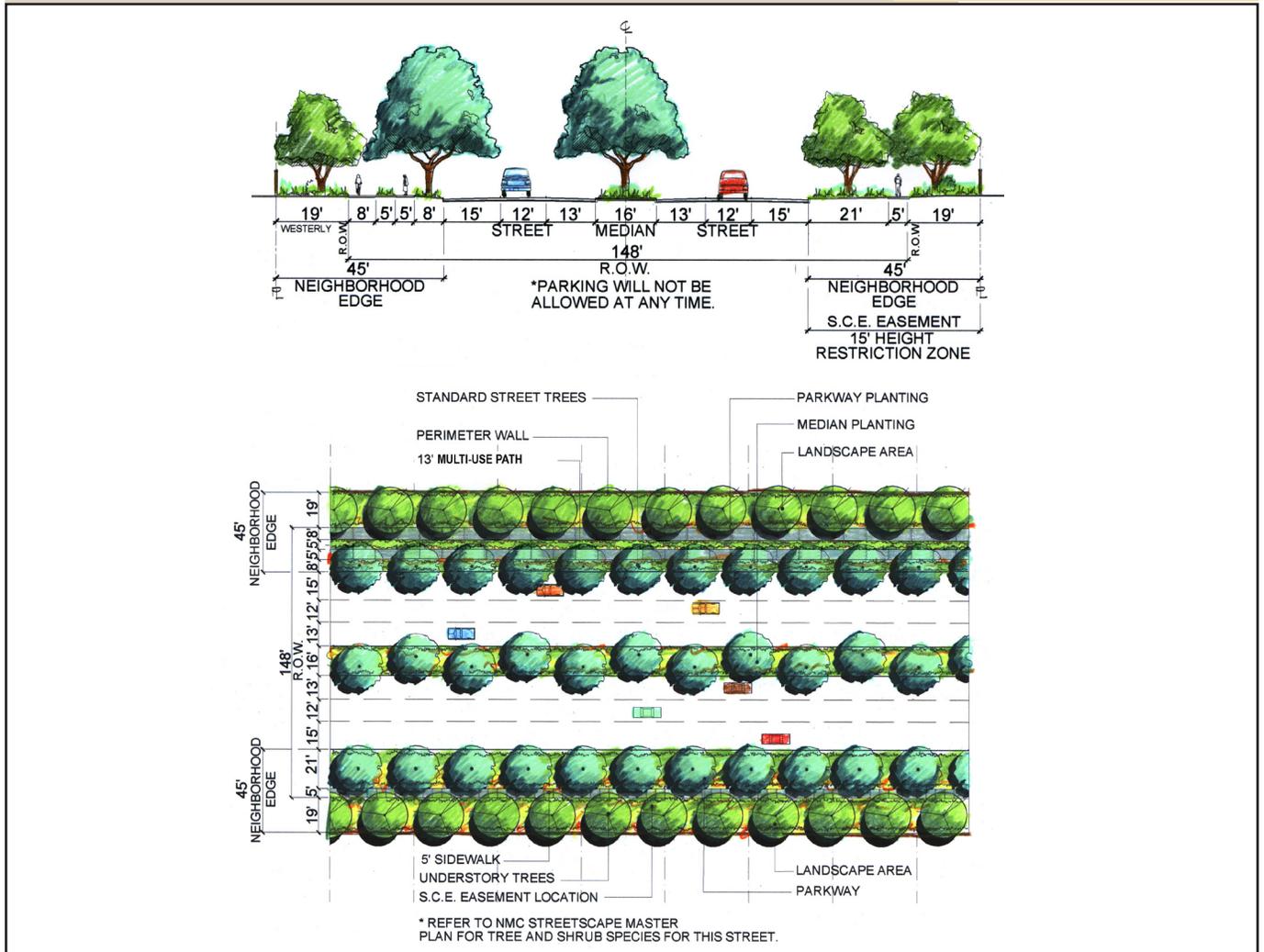
Exhibit 16

Entries and Signalization

Archibald Avenue

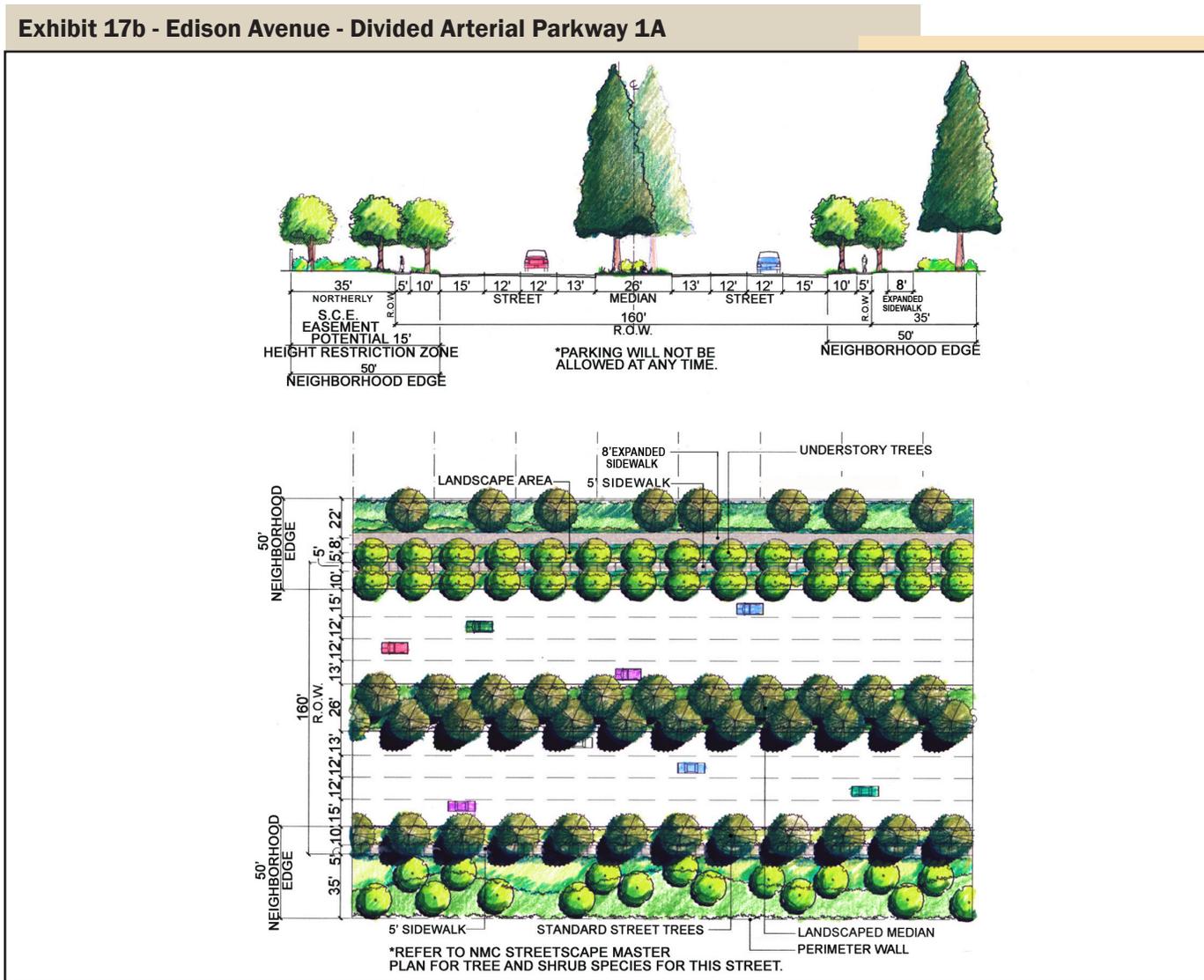
Archibald Avenue bisects The Avenue Specific Plan in a north/south direction in the central portion of the plan area. Archibald Avenue is designated as a “Divided Arterial Parkway 1-2” with a total right of way of 148 feet with 80 feet of paved travel area separated by a 16-foot wide raised median. There are 19-foot wide landscape lots on both sides of the street serving as a buffer between homes and the right-of-way. The west side of the street has a 13-foot multi-use path (5’ sidewalk may be divided from the 8’ expanded sidewalk at the discretion of the City) separated from the street by a 13-foot landscaped parkway. The east side of the street has a 5-foot sidewalk separated from the street by a 21-foot landscaped parkway. Along Archibald Avenue, bus turnouts will be located to the satisfaction of the City Engineer and Omnitrans. The developer will be responsible for those improvements to Archibald Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The Archibald Avenue cross-section is illustrated below:

Exhibit 17a - Archibald Avenue - Divided Arterial Parkway 1-2



Edison Avenue

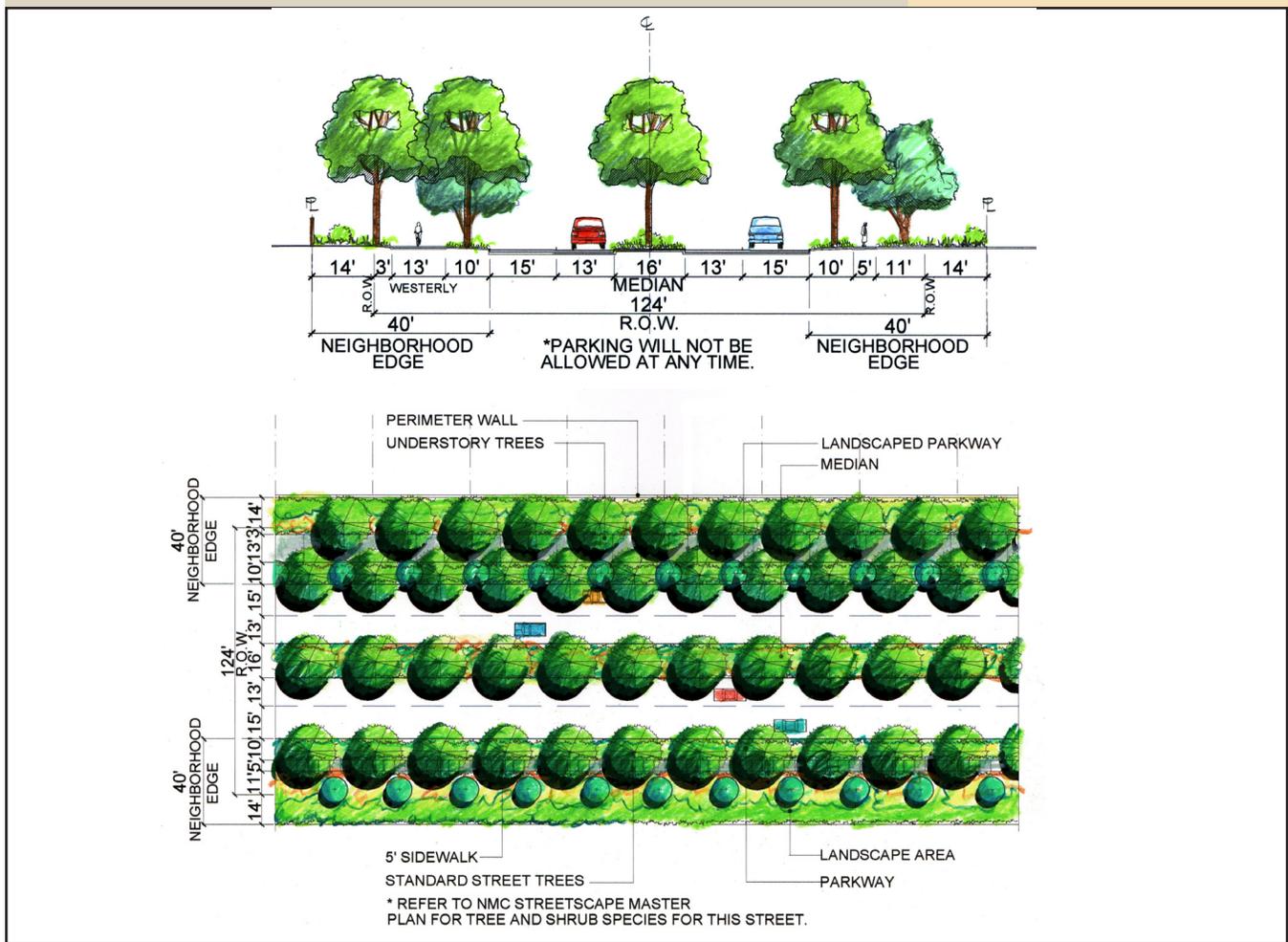
Edison Avenue is designated as “Divided Arterial Parkway 1A” and borders the plan area on the south. Edison Avenue has a total right-of-way of 160 feet with 104 feet of paved travel area separated by a 26-foot wide raised median. Along Edison Avenue, bus turnouts will be located to the satisfaction of the City Engineer and Omnitrans. A 50-foot landscape edge on both sides of the street contains a 35-foot landscape buffer with a 5-foot sidewalk separated from the street by a 10-foot landscaped parkway and a multi-use path on the south. The S.C.E. Easement exists within the northerly 50-foot Landscape Edge and may be relocated within the Landscape Edge in the future. The developer will be responsible for those improvements to Edison Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The Edison Avenue cross-section is illustrated below:



Haven Avenue

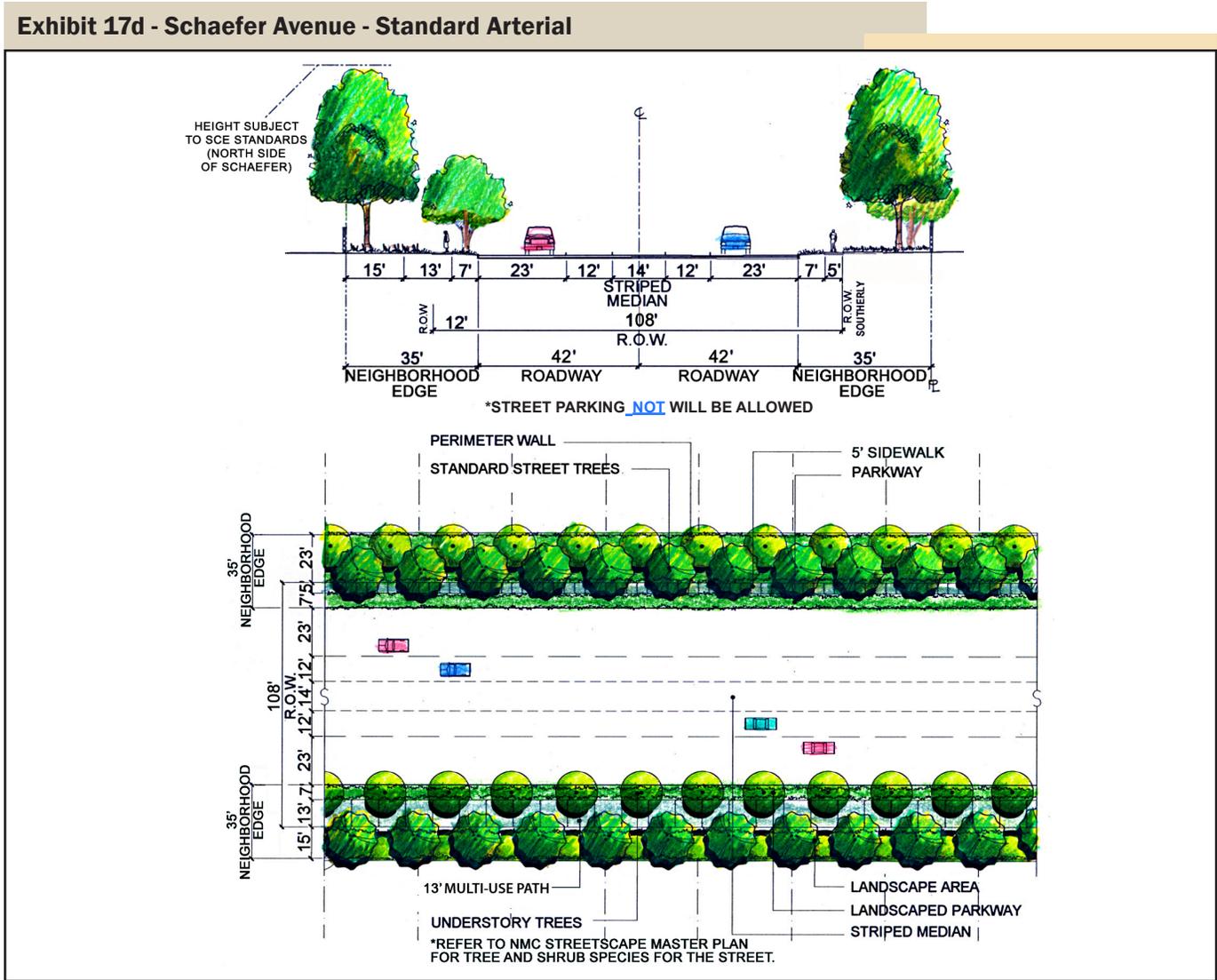
Haven Avenue is designated as “Divided Arterial Parkway 2-2” and borders the plan area on the east. Haven Avenue has a total right-of-way of 124 feet, with 56 feet of paved travel area separated by a 16-foot wide raised median. The west side of the street has a 40-foot Neighborhood Edge with 14 feet of landscape buffer between the property line and the right-of-way. Along Haven Avenue, bus turnouts will be located to the satisfaction of the City Engineer and Omnitrans. A 13-foot multi-use path y (5’ sidewalk may be divided from the 8’ expanded sidewalk at the discretion of the City) that is separated from the street by a 10-foot parkway and an additional 3 feet of landscape to the right-of-way edge. The east side of the street also has a 40-foot landscape edge with 14 feet of landscape buffer to the right-of-way. A 5-foot sidewalk is separated from the street by a 10-foot parkway and the right-of-way by an additional 11 feet of landscape. The developer will be responsible for those improvements to Haven Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The Haven Avenue cross-section is illustrated below:

Exhibit 17c - Haven Avenue - Divided Arterial Parkway 2-2



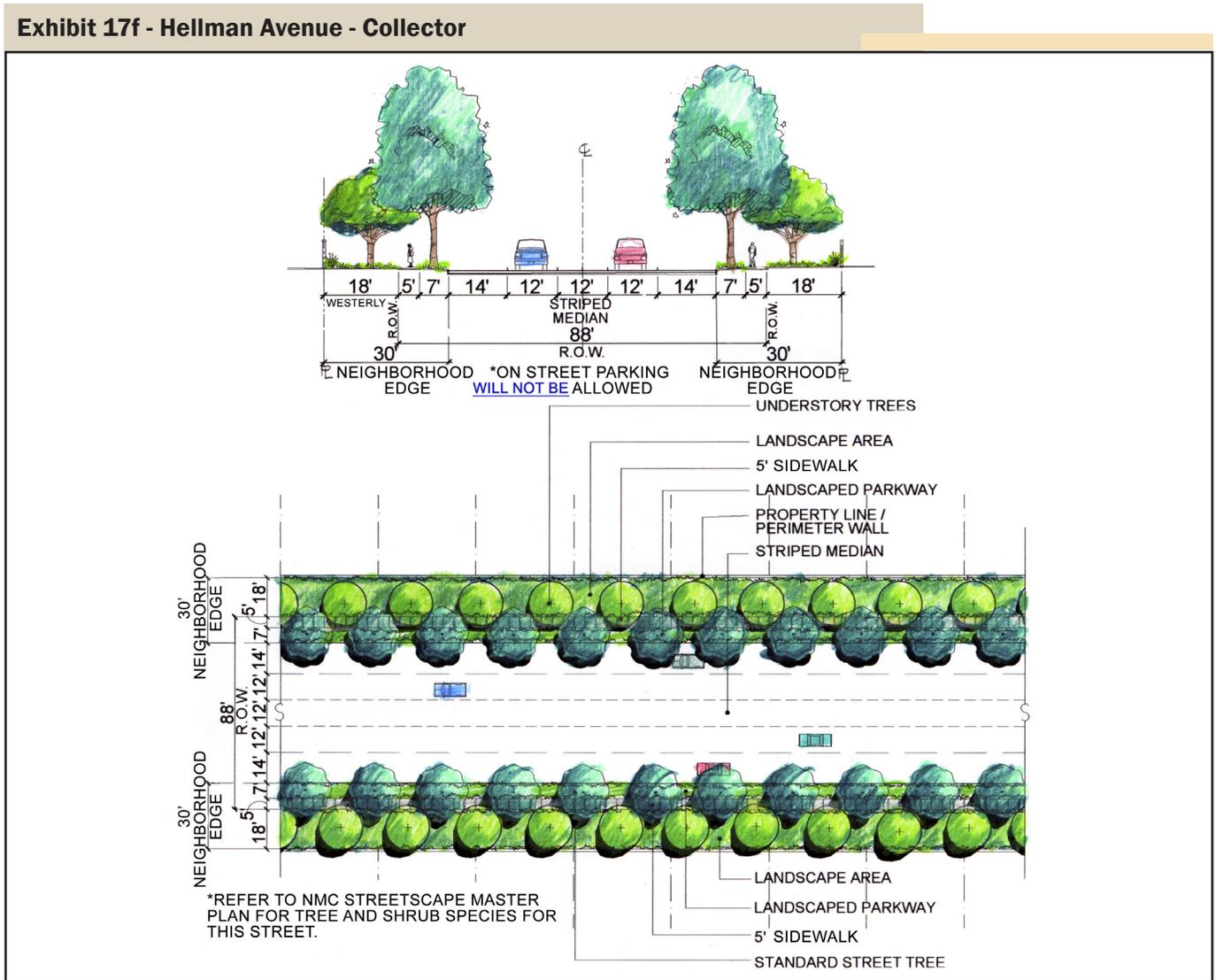
Schaefer Avenue

Schaefer Avenue is designated as “Standard Arterial” and borders the plan area on the north. Schaefer Avenue has a total right-of-way of 108 feet with 84 feet of paved travel area. Along Schaefer Avenue, bus pads will be located to the satisfaction of the City Engineer and Omnitrans. On the north side of the street there is a 23-foot landscape lot and 13-foot multi-use path separated from the street by a 7-foot parkway. The south side of Schaefer will have a 23-foot wide landscape lot and a 5-foot sidewalk adjacent to a 7-foot parkway. The developer will be responsible for those improvements to Schaefer Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The Schaefer Avenue cross-section is illustrated below:



Hellman Avenue

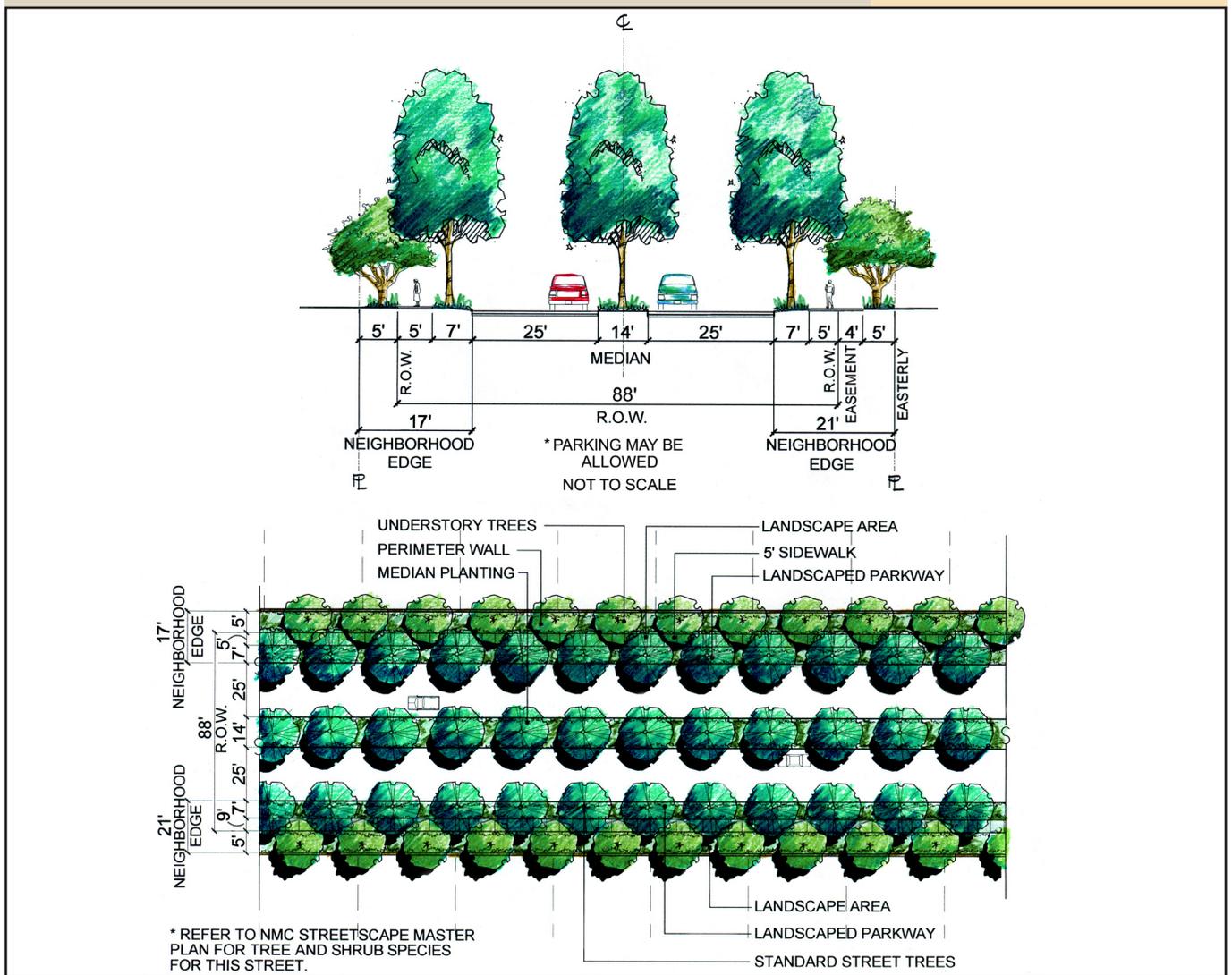
Hellman Avenue is designated as “Collector” and bisects the plan area in a north/south direction in the western portion. Hellman Avenue has a total right-of-way of 88 feet with 64 feet of paved travel area. There is a 12-foot parkway on each side of the street which includes a 5-foot sidewalk separated from the street by a 7-foot landscaped parkway. In addition, there is an 18-foot wide “landscaped lot” adjacent to both sides of the street. The developer will be responsible for those improvements to Hellman Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The developer will be responsible for those improvements to Hellman Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The Hellman Avenue cross-section is illustrated below:



Turner Avenue

Turner Avenue is designated as “Collector” and bisects the plan area in a north/south direction in the eastern portion. Turner Avenue has a total right-of-way of 88 feet through the Specific Plan Area, with a 14-foot landscaped median separating two paved 25-foot travel lanes. The east side of the street includes a 9-foot sidewalk and and the west side includes a 5-foot sidewalk, both separated from the street by a 7-foot landscaped parkway. The developer will be responsible for those improvements to Turner Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. Turner Avenue shall be constructed such that the westerly curb and gutter shall be located completely off Assessor’s Parcel Number 218-201-19 with the parkway and neighborhood edge on the west side to be deferred until such time APN: 218-201-19 develops in accordance with The Avenue Specific Plan.

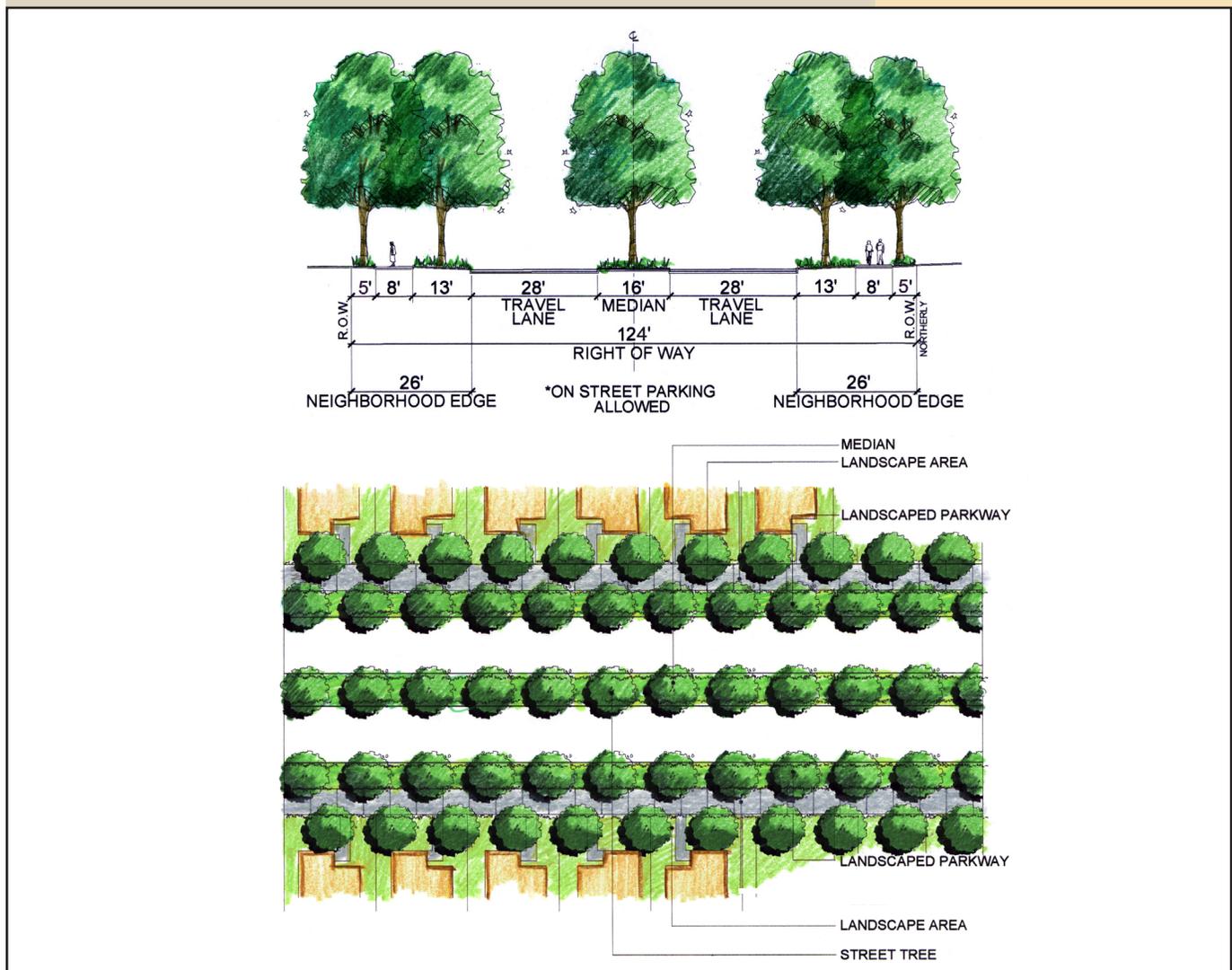
Exhibit 17g - Turner Avenue - Collector



The Avenue

The Avenue, designated as a “Divided Arterial Parkway 2-2”, is a centrally-located avenue connecting community amenities to the residential neighborhoods. The Avenue has a total right-of-way of 124 feet with two 28-foot one-way avenues with on-street parking, separated by a 16-foot wide raised median. This pedestrian oriented street, with generously landscaped median and parkways, links the recreation centers, schools and parks. The Avenue presents a strong image, emphasizing homes fronting along the street with 8-foot expanded sidewalk on both sides of the street separated by 13-foot landscaped parkways and 5-foot landscape lots. The developer will be responsible for those improvements to The Avenue as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. No portion of The Avenue right of way or neighborhood edge shall be located on the property identified as Assessor’s Parcel Number 218-201-19.

Exhibit 17h - The Avenue - Divided Arterial Parkway 2-2

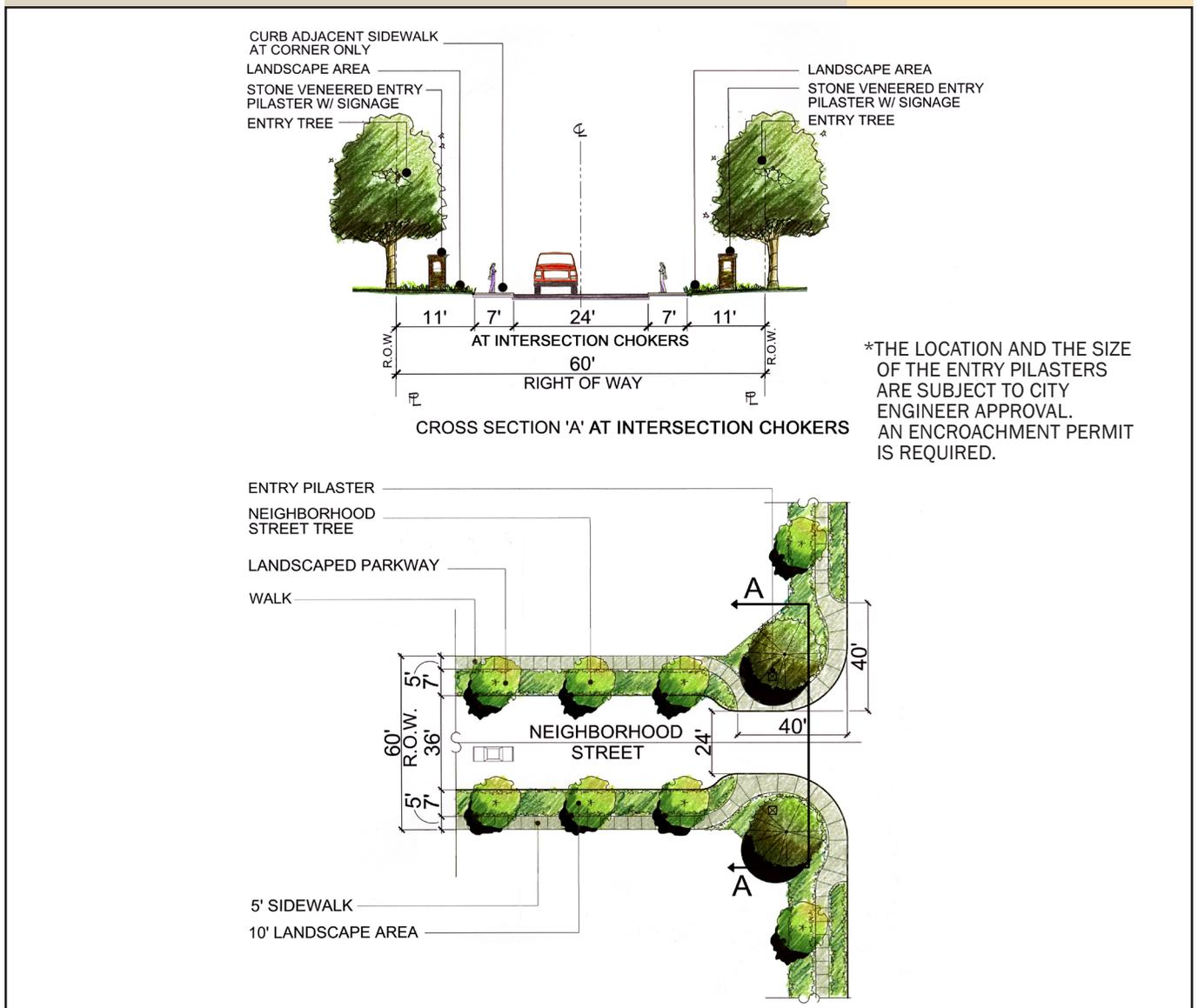


The Avenue

Neighborhood Entry Street

Neighborhood Entry Streets are designed to distribute vehicular traffic from the arterial and collector streets into the residential neighborhoods. These streets have a 60 foot minimum total right-of-way with 36 feet of paved travel area. There is a 15-foot wide parkway within the right-of-way which provides for a 5-foot wide sidewalk separated from the street by a 10-foot wide landscaped area. The developer will be responsible for those improvements to Neighborhood Entry Streets as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project. The Neighborhood Entry Street cross-section is illustrated below:

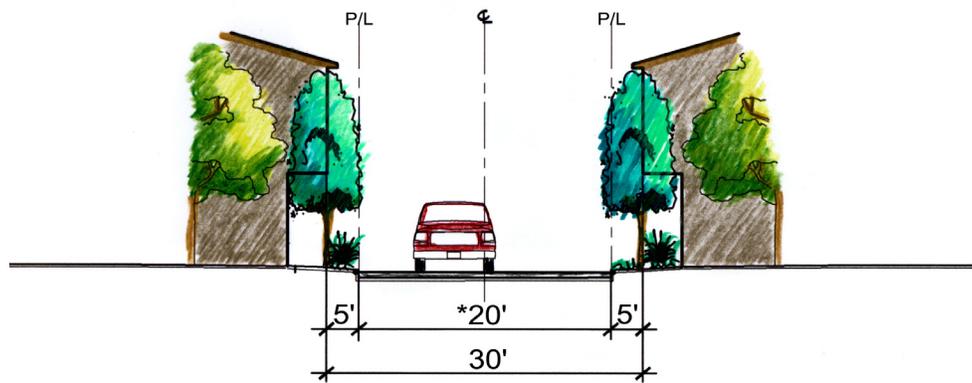
Exhibit 17i - Neighborhood Entry Street



Alley

Private alleys within the plan area will consist of 20 feet of paved travel area with 5 feet of landscaped parkway on each side. The alleys will incorporate tapers at the entrance to alleys to slow traffic in these areas and to provide a visual element to discourage drivers from using alleys as a through street. Pavement may expand to 24 feet for Fire use. Final alley design shall be subject to review and approval by the Planning, Engineering, and Fire Departments. The developer will be responsible for those improvements to Alleys as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project.

Exhibit 17k - Alley (Cross-Section and Plan)



* Pavement may expand to 24' for Fire use. Final Alley design shall be subject to review and approval by the Planning, Engineering, and Fire Departments.

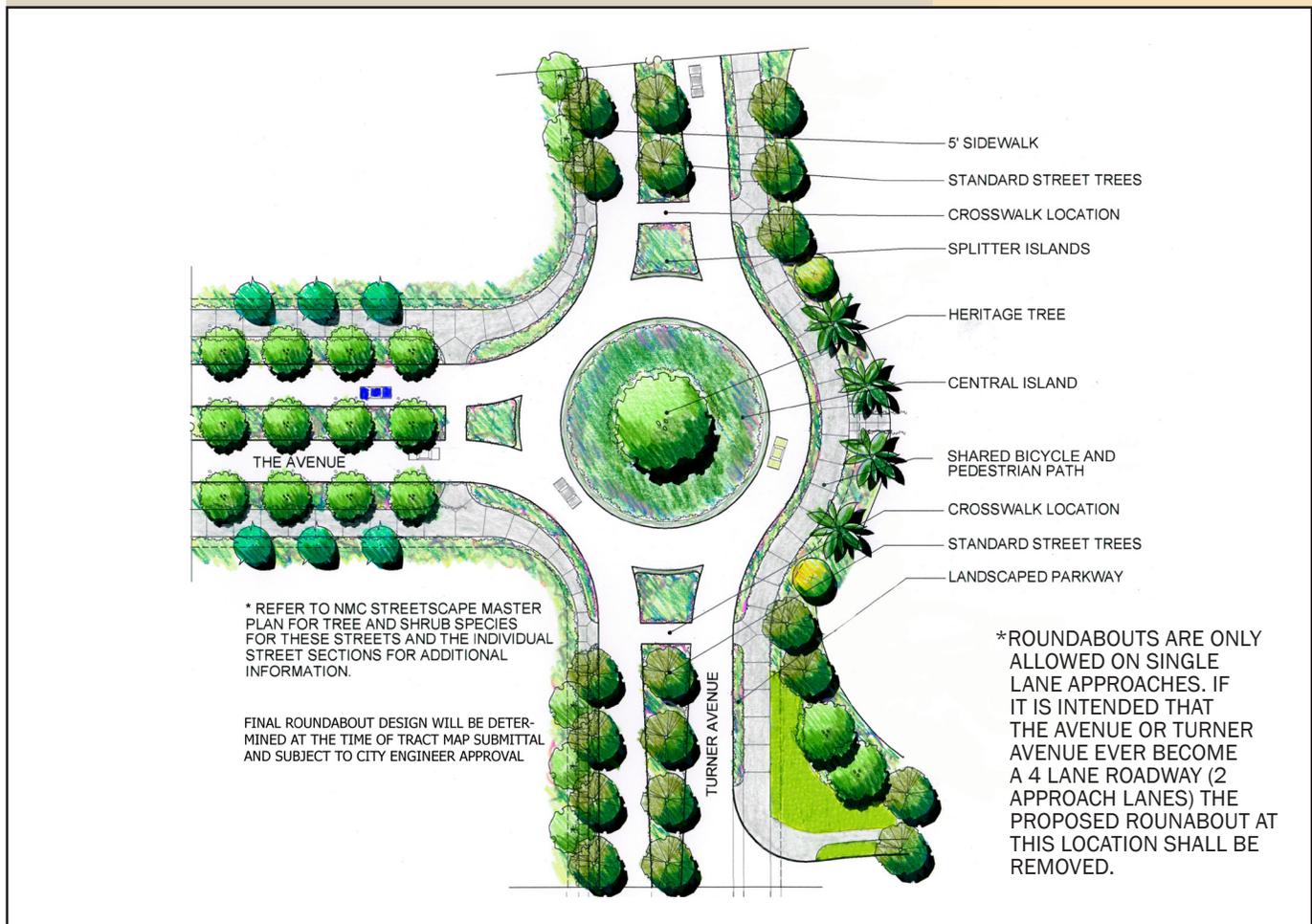


* PAVEMENT MAY EXPAND TO 24' FOR FIRE USE. FINAL ALLEY DESIGN SUBJECT TO REVIEW AND APPROVAL BY THE PLANNING, ENGINEERING, AND FIRE DEPARTMENTS.

Roundabout

Roundabouts have been strategically located throughout the plan to calm traffic through the center of the project, facilitate traffic movement and reduce air pollution by avoiding mandatory stops from all directions at the conceptual locations shown in Exhibit 16I, "Typical Roundabout". These roundabouts will follow the City adopted guidelines/standards and their final design will require City planning and engineering department approval as part of the tentative tract map review process. The developer will be responsible for those improvements to Roundabouts as determined by the City Engineer and pursuant to the mitigation measures identified in the EIR and/or the Conditions of Approval established on the approved tentative maps for the project.

Exhibit 17I - Typical Roundabout (The Avenue and Turner Avenue)



4.1.2 Traffic Calming

The Avenue Specific Plan provides for traffic calming within residential neighborhoods to contribute to safer and more livable neighborhoods in which to walk, bike and drive. According to the Federal Highway Administration (FHWA) document FHWA-HRT-06-047 HRTC-01/01-06(1M)E, *Roundabouts Safety and Design*, 2006 some of the benefits of roundabouts are:



- Crashes are less severe than other intersection crashes.
- Safer than traditional intersections.
- Cost-effective way to improve intersection safety.
- Increased traffic capacity and improved traffic flow.
- No signal equipment to maintain.
- Aesthetic benefits.

There are also environmental benefits to roundabouts. The FHWA Publication FHWA-RD-00-067 *Roundabouts, An Informational Guide*, June 2000 states that “The environmental benefits of a project are most readily quantified in terms of reduced fuel consumption and improved air quality. Of these, reductions in fuel consumption and the benefits associated with those reductions are typically the simplest to determine.”

4.1.3 Pedestrian/Bicycle Trails and Connectivity

A primary recreational trail will be provided through the improvement of a portion of the SCE owned property (SCE Corridor) within the plan area as shown on Exhibit 18b, “SCE Easement Trail”. The developers of the Specific Plan Area will be responsible for the construction of this trail. These improvements represent a part of the City’s Master Planned multi-use path system planned for the New Model Colony. This SCE trail will extend from Vineyard Avenue, located west of the plan area to the Cucamonga Creek Channel. The trail will then head north along the west side of the Channel, where it will meet the Multi-Use path on Schaefer Avenue. This series of trails will provide access to Archibald Avenue and the trail on the East side of the Channel, which also runs north-south within the flood control right of way connecting Schaefer to Edison. The trail also provides points of connection to parks, The Avenue corridor, residential neighborhoods and the retail centers.

The Specific Plan proposes a steel truss bicycle/pedestrian bridge crossing over the Cucamonga Creek Channel to connect the east and west sides of the channel and encourage school children west of the Channel to walk or bike to school. The developer will be required to pay for the bridge and its construction. An encroachment permit will be needed from San Bernardino County Flood Control to construct the bridge crossing. A minimum 12-foot easement will need to be recorded to the City of Ontario in order to maintain the pedestrian bridge and provide public access across the channel. The SCE and flood control channel trails are important components in the overall trail system design of the New Model Colony and are an important component of the city’s master plan trail system. The residential users will find that the trail is useful in reaching many of The Avenue’s amenities, as well as the surrounding community. The improved trails will be landscaped with approved evergreen, deciduous, and flowering plant material. There will be several points in the trail system linking to secondary paths that will lead to The Avenue’s retail/commercial areas, as well as to the neighborhoods.



LEGEND

--- NMC MASTER PLAN MULTI-USE PATH

--- 8' EXPANDED SIDEWALK

--- PROPOSED MULTI-USE BRIDGE ACROSS CHANNEL

NOTE: The precise locations of the trails are conceptual and will be determined as part of the tract map approval process. The location of the proposed multi-purpose bridge is shown as conceptual and subject to Planning Department and Traffic Engineering Department review and approval.

The Avenue

SPECIFIC PLAN

Trail Master Plan

Multi-use paths are provided within the plan area along Archibald, Haven, Edison and Schaefer Avenues. These paths are provided adjacent to the major drainage easement, along Hellman Avenue, and along the spine road (The "Avenue") which traverses the center of the plan area in an east-west direction.

Multi-use paths shall provide benches/seatwalls along path at appropriate locations with adequate lighting and trash receptacles at seating areas. In addition, these paths should provide clear directional signage (subject to Engineering and Planning Department approval) to facilitate movement to and from crosswalks

Exhibit 18a - Cucamonga Creek Channel Trail

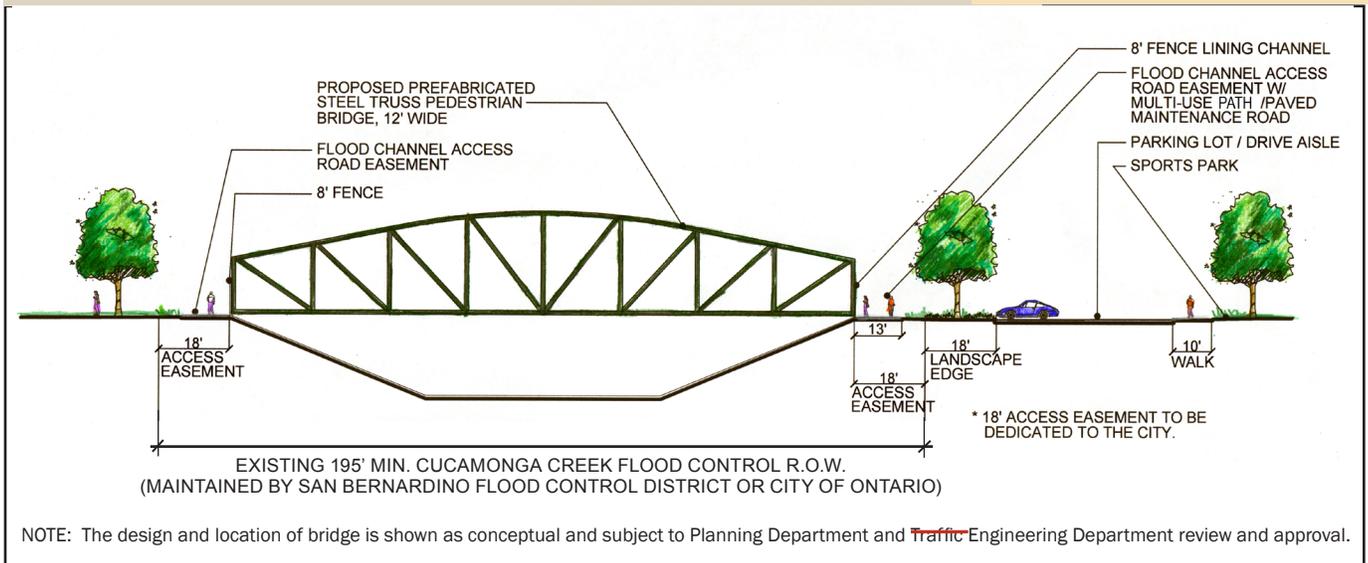
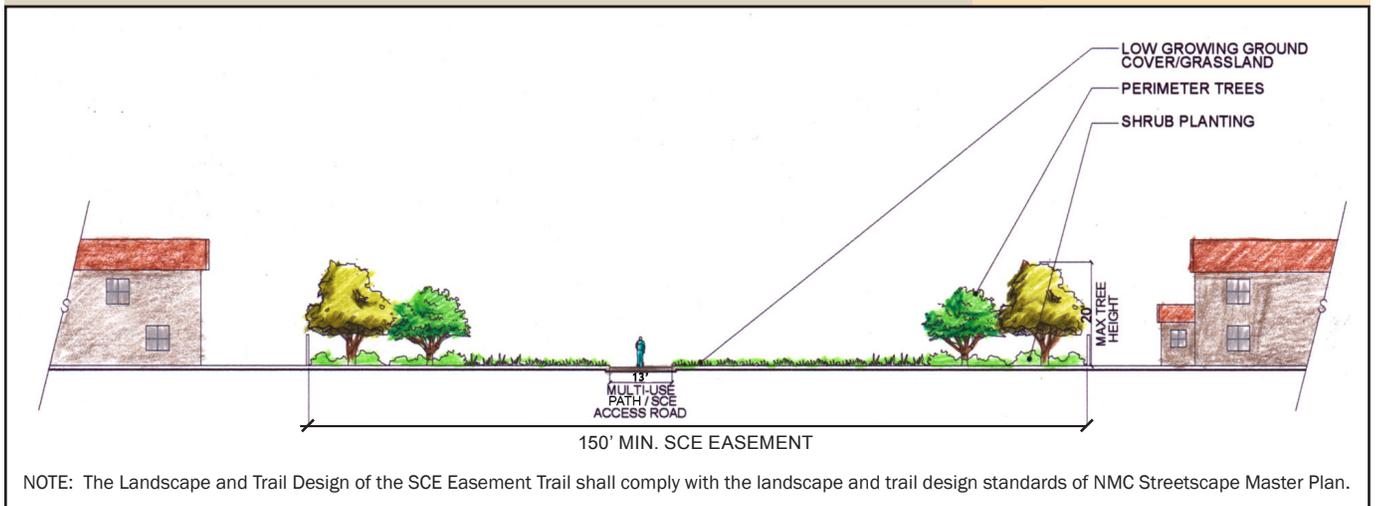


Exhibit 18b - SCE Easement Trail



and entry points. Bike racks at destination locations serving as a point of departure to and from bike path will also be available on Class I bike paths. The bicycle trail system provides access and connectivity to the various land use components of the plan area (parks, schools, retail and commercial centers, and residential neighborhoods) as shown in Exhibit 18, “Trail Master Plan”.

4.2 Infrastructure Plans

The improvement plans for the various infrastructure facilities, including water, recycled water, sewer, and storm drainage are intended to provide The Avenue Specific Plan with essential services in a safe and efficient manner.

Water, recycled water and sewer utilities may be designated as “public utilities” if located within public or private streets. All public utilities within private streets shall be designed and constructed per City standards and contained within easements acceptable to the City. The CC&RS shall contain language that requires all proposed work by the HOA within said easements to be plan checked and inspected by the City, including applicable fees. Generally, utilities will not be accepted as public within alleys, parking areas or driveways. Utilities within commercial and industrial parking lots and loading areas shall be designated as private. The extent to which said utilities will be accepted as public utilities for maintenance shall be determined, at the full discretion of the City, during final design plan review. The following sections describe each of the infrastructure facilities in detail.

4.2.1 Water

Domestic water will be provided by the City of Ontario. The Master Planned (MP) programs new potable water facilities to include: 30 and 24-inch Francis loop main extension from existing Zone 925 reservoir facilities within Milliken, Merrill, Archibald and Edison Streets. The remainder of The Avenue will be served by a series of new Master Planned 12-inch mains as follows: Edison extending to Haven, Schaefer from Carpenter to Haven, Haven from Edison to Schaefer, Archibald from Edison to Schaefer and Hellman from Edison to Schaefer. Construction of the Master Planned water mains service network improvements is required prior to issuance of project related building permits for The Avenue. Master Planned domestic and recycled water main lines serving, surrounding and within the Specific Plan, as identified in the 2006 Water Master Plan Update, shall be constructed prior to issuance of first occupancy. Sizing of non-master planned facilities is subject to City review and approval of the required Hydraulic Analysis.

The existing 12-inch CDA water line in Archibald Avenue is connected to the existing 12-inch waterlines within the 1010 PZ in Archibald Avenue just north of Schaefer Avenue. Water from the 1010 PZ can and will be conveyed to 925 PZ via a Master Planned pressure reducing station located in Archibald Avenue north of Schaefer Avenue.

New domestic water mains to be constructed as part of the development of The Avenue will include: 12-inch mains within Turner Avenue from Edison to Schaefer and within The Avenue street from the proposed Elementary school site easterly of Archibald extending to Turner Avenue. These two 12-inch mains form the interior backbone loops connecting to Master Planned potable water facilities. The remainder of all interior streets within The Avenue project, including Carpenter and “A” Street located between Archibald and Turner will have 8-inch domestic mains.

Higher fire flow demands for medium to high density residential and non-residential projects should be identified in accordance with the Water Design Guidelines. Fire flow demands in excess of 1500gpm for single family residential may require upsizing certain distribution to 12-inch pipelines as shown in Exhibit 20, “Domestic Water Master Plan”. A hydraulic modeling analysis report is required to demonstrate that the proposed water system will meet peak demands including maximum day plus fire demand and peak hour demand.

4.2.2 Recycled Water

Recycled water will be provided by Inland Empire Utilities Agency (IEUA). All of The Avenue will be served within recycled water zone 930. Initial service will generate from an existing 30-inch main line facility running north-south within the existing and future alignment of Carpenter Street. A future IEUA 48-inch recycled main is also proposed within Carpenter Street. The proposed Master Planned recycled water improvements construction will include: a 24-inch facility within Archibald from Edison to Schaefer; a 16-inch facility within Haven fronting the easterly boundary of The Avenue project; a 12-inch line within Edison from the Haven intersection extending westerly to joint the existing IEUA 30-inch transmissions main within Carpenter. Schaefer will have a 16-inch main from the intersection of Haven extending westerly to Archibald intersection. In addition, a 12-inch line in Shaefer Avenue from Archibald Avenue will extend to the westerly limits of the SP. All new Master Planned recycled water mains will have the potential to interconnect to the proposed future 48-inch transmission facility within Carpenter. New recycled water facilities to be constructed as part of The Avenue will include: a 8-inch main within Turner from Edison to Schaefer; a 8-inch main within The Avenue from Archibald westerly to the Elementary school site and from Archibald to Turner. All remainder interior streets built with The Avenue project will connect to the Master Planned recycled water facilities and The Avenue backbone facilities to serve the project landscape edges, parkways, neighborhood, parks, street medians, etc. via 8-inch mains within the interior streets, as required, and irrigation sleeving at intersections and appropriate mid-block crossings to serve The Avenue landscaping improvements irrigation needs. Sizing of non-master planned facilities is subject to review and approval of the required Hydraulic Analysis.

The Avenue (Subarea 18) Specific Plan shall comply with City Ordinance 2689 and make use of recycled water for all approved uses, including but not limited to irrigation of parks, schools, street landscaping, recreational trails, HOA maintained on-site common areas and commercial/industrial landscaping. An Engineering Report approved by the City and the Department of Health Services is required prior to the use of recycled water.

4.2.3 Sewer

Initial Sewer service (Phase I Development sewer) for The Avenue will be provided by the City of Ontario and IEUA. via the existing IEUA Eastern Trunk sewer within Archibald Avenue extending northerly from the existing Kimball interceptor trunk line (48-inch) to northerly of Chino Avenue. 33-inch and 36-inch mains are located in Archibald within The Avenue project between Edison and Schaefer. The Archibald Eastern Trunk sewer will serve The Avenue project from Cucamonga Channel to Haven Avenue at the east boundary of the project. Sizing of non-master planned facilities is subject to review and approval of the required Hydraulic Analysis. A sewer study will be performed to demonstrate that the proposed sewer system will meet peak loading conditions.

There is also a sewer (15-inch and 12-inch) to be located within Carpenter Avenue which will connect to the Kimball Interceptor at the County line. The Carpenter Avenue sewer will extend northerly to Schaefer Avenue and will serve the Avenue project development area westerly of Cucamonga Channel and easterly of Vineyard Avenue.

There is a conceptual IEUA Western Trunk sewer (Phase II Development sewer) facility also to be located within Vineyard Avenue extending northerly of Schaefer to Chino Avenue. The main body of the western trunk sewer will connect to the existing IEUA Kimball interceptor (60-inch) trunk with a proposed join located at Euclid. The western trunk sewer is anticipated to be located within the following streets extending northerly to the intersection of Chino and Ontario Avenue: Euclid to future Bellegrave (Merrill) then easterly to Walker Avenue, then northerly to Schaefer, then easterly to Carpenter Avenue. This area west of Vineyard Avenue cannot be provided with sewer service until the western trunk facility improvements are constructed.

New sewer facilities to be constructed as part of The Avenue will include: 15-inch sewer in The Avenue from Archibald easterly to Turner; 10-inch sewer in The Avenue from Archibald westerly to the Elementary school site; 10 inch sewer in "A" Street from Edison terminating near The Avenue intersection; 12-inch sewer in Turner from The Avenue intersection northerly to Schaefer and 8 inch sewer in Turner from Edison terminating near The Avenue intersection.

A 12-inch sewer will be constructed in Edison from Hellman westerly to join the master plan sewer in Carpenter Avenue. All remaining interior streets within The Avenue, when developed, will have 8-inch minimum sewer main lines as shown in Exhibit 23, "Sewer Master Plan."

4.2.4 Drainage

The New Model Colony Master Plan of Storm Drains report, prepared by LD King Engineers and updated NMC Improvements Hydrology Analysis provided by Stantec Engineers considered the entire Master Plan zoning area drainage analysis of which The Avenue (Planning Area 18) is included. The City of Ontario will be the maintenance agency for Master Planned and The Avenue storm drainage system facilities.

All Avenue drainage will eventually discharge into the existing Bellegrave County Line Drainage Channel facility located approx. 7,000' located south of The Avenue. The Master Planned improvements will utilize existing Cucamonga Channel County of San Bernardino Flood Control facility, which drains north to south and joins the east-west Bellegrave County Line Drainage Channel. The Master Planned Storm Drain Improvements will construct a new network of storm drain lines within existing and proposed north-south streets extending northerly from the Bellegrave County Line Flood Control facility. Also, east-west storm drain lines will be built periodically joining the existing Cucamonga Channel Flood Channel facility. The Master Planned Storm Drain Improvements will include the following: a 84-inch storm drain within Haven fronting the easterly edge of The Avenue and extending southerly joining the Bellegrave Flood Channel with a 96-inch line; a 66-inch storm drain within Turner, which will accept northerly offsite flows from a 60-inch line serving the West Haven project; the Turner storm drain will extend southerly eventually joining the Bellegrave Flood Channel with a 96-inch line; Archibald Avenue accepts flows from a 36-inch line within Schaefer easterly of Archibald intersection and has 36-inch and 48-inch mains within The Avenue project. The Archibald main extends southerly eventually joining the Bellegrave Flood Channel with a 96-inch line. Hellman storm drain accepts flows from a 24-inch line northerly of Schaefer and 24-inch lines within Schaefer east and west of Hellman intersection.



Cucamonga Creek Channel

The Hellman storm drain extends southerly through The Avenue as a 48-inch line and joins a 72-inch line within Edison from the west and a 24-inch line within Edison from the east. The Hellman storm drain extends southerly to future Merrill Street as a 96-inch line, then travels easterly on Merrill as a 6' x 11' box culvert to join the existing Cucamonga Flood Channel. Edison Street west of the Cucamonga Flood Channel has a 24-inch storm drain easterly of Hellman intersection and 60-inch and 72-inch lines respectively extending from west to east from Vineyard to Hellman intersection. Edison storm drain easterly of the Cucamonga Channel begins as a 48-inch and 54-inch storm drain line extending westerly to join the Turner intersection 66-inch

main; 24-inch and 48-inch storm drain lines respectively extend westerly within Edison to join the Archibald intersection 72-inch main. A 72-inch storm drain extends easterly from the existing Cucamonga Channel within Edison terminating mid-block between the channel and Archibald intersection.

Storm drain facilities to be constructed as part of The Avenue will include: a 30-inch line in Carpenter from Edison northerly to mid-block between Schaefer; a 36-inch line paralleling the easterly side of the existing Cucamonga Flood Channel to serve the Park/Elementary school sites and extending northerly to serve the future retail site adjacent and southerly of Schaefer; a 30-inch line within "A" street – between Archibald and Turner – extending northerly to The Avenue intersection then easterly within The Avenue to the Middle School site; the individual planning areas within The Avenue will have storm drain pick-up laterals (18-inch minimum) joining Master Planned Improvements and The Avenue backbone storm drain facilities.

Ultimate development of The Avenue requires construction of all proposed Master Planned Storm Drain Improvements. The existing Avenue site generally sheet flows from north to south. Grading of individual planning areas is anticipated to occur prior to completion of Master Planned Storm Drain Improvements. Although no permanent detention basins for The Avenue are proposed, the use of interim runoff temporary detention



Landscape Setback Swale System

basins for individual planning areas site grading will be needed should Master Planned Storm Drain facilities not be constructed in the immediate vicinity of an individual planning area. These interim temporary detention basins will be located generally on the southerly side of the individual development planning areas. Each temporary basins will be sized to accept upstream undeveloped flow conditions in accordance with the State Water Quality Resources Control Board requirements and will provide 100-year storm overflow spillway designs.

4.2.5 Grading

The Avenue existing topography may be described as flatland terrain which gently slopes to the south varying from 0.6% to 1.1% across the site as shown in Exhibit 5, "Existing Topography". The high elevation is elevation 750 at the northeast corner of the site. The low elevation is 706 located at the intersection of Archibald and Edison Streets. Existing land uses vary from vacant land to agricultural with the majority of land being existing or vacated dairy farm operation. The dairy farm operations contain many ponding areas for acceptance/filtration of dairy livestock excrement runoff. The dairy farms on the site have varying thickness layers of manure which will require offsite disposal from The Avenue project.

Due to the varied number of development ownership of The Avenue planning areas, it is anticipated that mass grading of the entire site will not occur. Individual planning area owners will be responsible for obtaining any rough grading and precise grading permits along with remedial grading, removal of manure deposits and dairy bog pond sediments disposal.

4.2.6 NPDES Compliance

The grading and drainage of The Avenue Specific Plan area shall be designed to detain, filter and treat surface runoff, in a manner and combination which is practical, to comply with the most recent requirements of the San Bernardino County NPDES Stormwater Program's Water Quality Management (WQMP) for significant new development projects. The objective of the WQMP for this project is to minimize the detrimental effects of urbanization on the beneficial uses of receiving waters, including effects caused by increased pollutants and changes in hydrology. These effects may be minimized through the implementation of site designs that reduce runoff and pollutant transport by minimizing impervious surfaces and maximizing on-site infiltration, Source Control Best Management Practices (BMP's) and/or either on-site structural Treatment Control BMP's, or participation in regional or watershed-based Treatment Control BMP's.

Prior to the issuance of a grading or construction permit, a Storm Water Pollution Prevention Plan (SWPPP) will also be prepared. The SWPPP will be prepared to comply with the California State Water Resources Control Board's (State Water Board) current, "General Permit to Discharge Storm Water Associated With Construction Activity" and the current Areawide Urban Storm Water Runoff (Regional NPDES Permit). The SWPPP will identify and detail all appropriate Best Management Practices (BMPs) to be implemented or installed during construction of the project.

In addition to the preparation of a SWPPP for construction-related activities, and as part of the approval of any grading plans within the Specific Plan Area, the applicant will be required to submit a Water Quality Management Plan (WQMP) on the regional model form provided by the City. The WQMP shall identify and detail all Site Design BMPs, Source Control BMPs and Treatment Control BMPs to be implemented or installed at this site in order to reduce storm water pollutants and site runoff.

A proposed regional storm water runoff treatment facility for the sub-watershed area that this project lies within is being considered for construction. This regional treatment facility would be part of an overall solution for storm water treatment. If an approved regional storm water treatment facility is constructed, it may serve as an alternative to complete on-site treatment of all pollutants of concern. If the regional storm water treatment facility is not completed and operational prior to construction of this project, all necessary on-site treatment control BMPs and/or temporary water quality devices will be installed pursuant to the requirements of the current regional NPDES Permit and the approved Water Quality Management Plan for this project.

4.2.7 Solid Waste

The City of Ontario will provide solid waste collection services to The Avenue Specific Plan area. The following addresses additional solid waste issues:

- An integrated waste management plan is required and shall be submitted prior to DAB approval of each subdivision.
- Commercial – Developer shall comply with Municipal Code Sec. 6-3.314 Commercial Storage Standards, and Sec. 6-3.601 Business Recycling Plan.
- Apartment – For apartments using commercial bin service developer shall comply with Municipal Code Sec. 6-3.314 Commercial Storage Standards and Sec. 6-3.601 Business Recycling Plan.
- Residential – For curbside automated container service developer shall comply with Municipal Code Sec. 6-3.308.9(a) and (d), Residential Receptacles, Placement.
- Recycling Requirements – Developer shall comply with Municipal Code Article 6. Recycling Requirements for Specified Business Activity, Sec. 6-3.601 Business Recycling Plan, and Sec. 6-3.602 Construction and Demolition Recycling Plan.
- Site Improvement Plans shall follow the City of Ontario refuse collections standards

4.2.8 Gas

The Gas Company will provide natural gas to the Project Site. Gas mains will be installed to the Project Site by the Gas Company, as necessary.

4.2.9 Electric

Southern California Edison will provide electricity to the plan area from existing facilities in the vicinity. Proposed new facilities to serve the project will be owned and operated by the City of Ontario and located underground.

4.2.10 Telephone

Verizon will provide telephone service to the plan area. The City will provide a fiberoptic network to the home, accommodating voice mail data, cable and video on demand. Proposed on-site facilities will be placed underground.

4.2.11 Cable Television

Adelphia will provide cable television service to the plan area. The City will provide coaxial/fiber cable to the home, accommodating cable television, internet services, voice mail data, cable and video on demand. Proposed on-site facilities will be placed underground.

4.2.12 Fiber Optics

A Master Plan scale entity will provide a fiber optic conduit network to the home, accommodating voice mail data, cable and video on demand. Proposed on-site facilities will be placed underground within a duct and structure system that will be installed by the Developer, as shown in Exhibit 19, "Fiber Optics Plan." Maintenance of the installed system will be the responsibility of the City and/or Special District fiber optic entity and not Developer, Private Homeowners Association or Private Homeowners. At the time of the development, if the Master Planned Fiber Optics have not been installed, the developer shall be responsible to install the necessary conduits and fiber for the traffic signal systems communications.

4.3 Community Facilities

4.3.1 Schools

The Mountain View School District serves the K-8 school needs of the proposed The Avenue Specific Plan. The Chaffey Etiwanda Joint Union School District serves the school needs of grades 9-12 within the plan area. Colony High School is located to the north of the plan, for the high school students living in the plan area. In addition, the proposed The Avenue Specific Plan is providing sites for both a ten (10) acre elementary school and a twenty (20) acre middle school.

4.3.2 Library

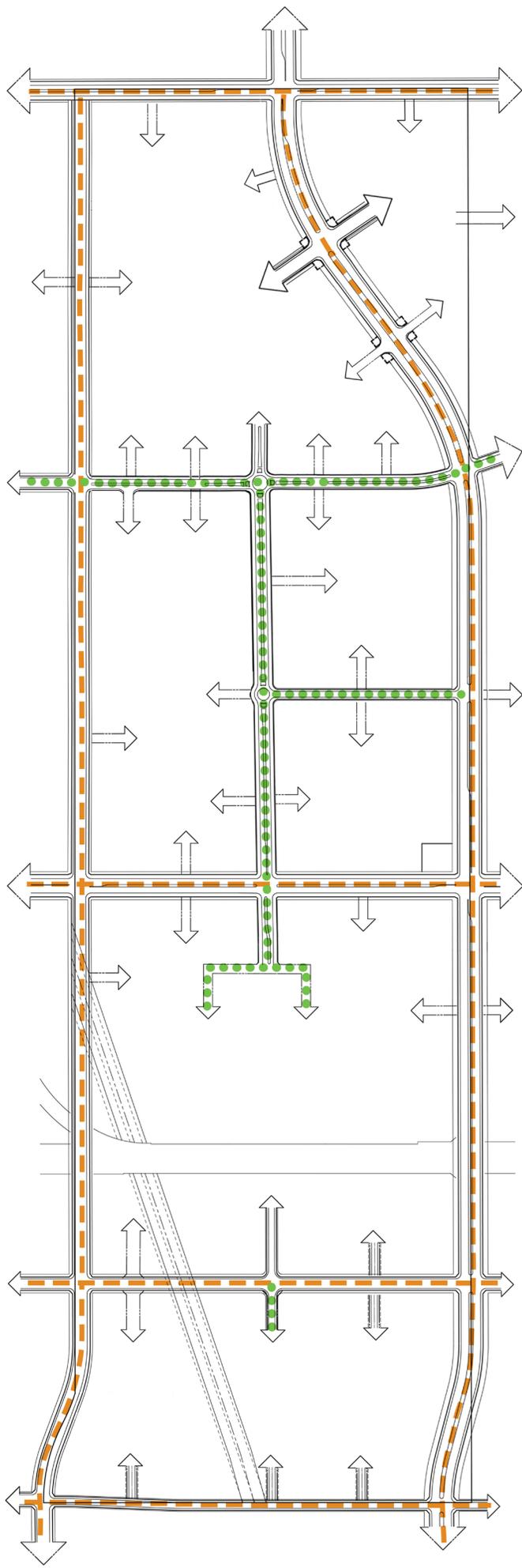
The City of Ontario will provide library services to The Avenue Specific Plan area.

4.3.3 Fire

The City of Ontario will provide fire protection services to The Avenue Specific Plan area.

4.3.4 Police

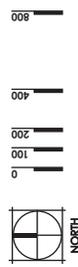
The City of Ontario will provide police services to The Avenue Specific Plan area.



LEGEND

— MASTER PLANNED (MP) INFRASTRUCTURE

● CONSTRUCTED BY DEVELOPERS



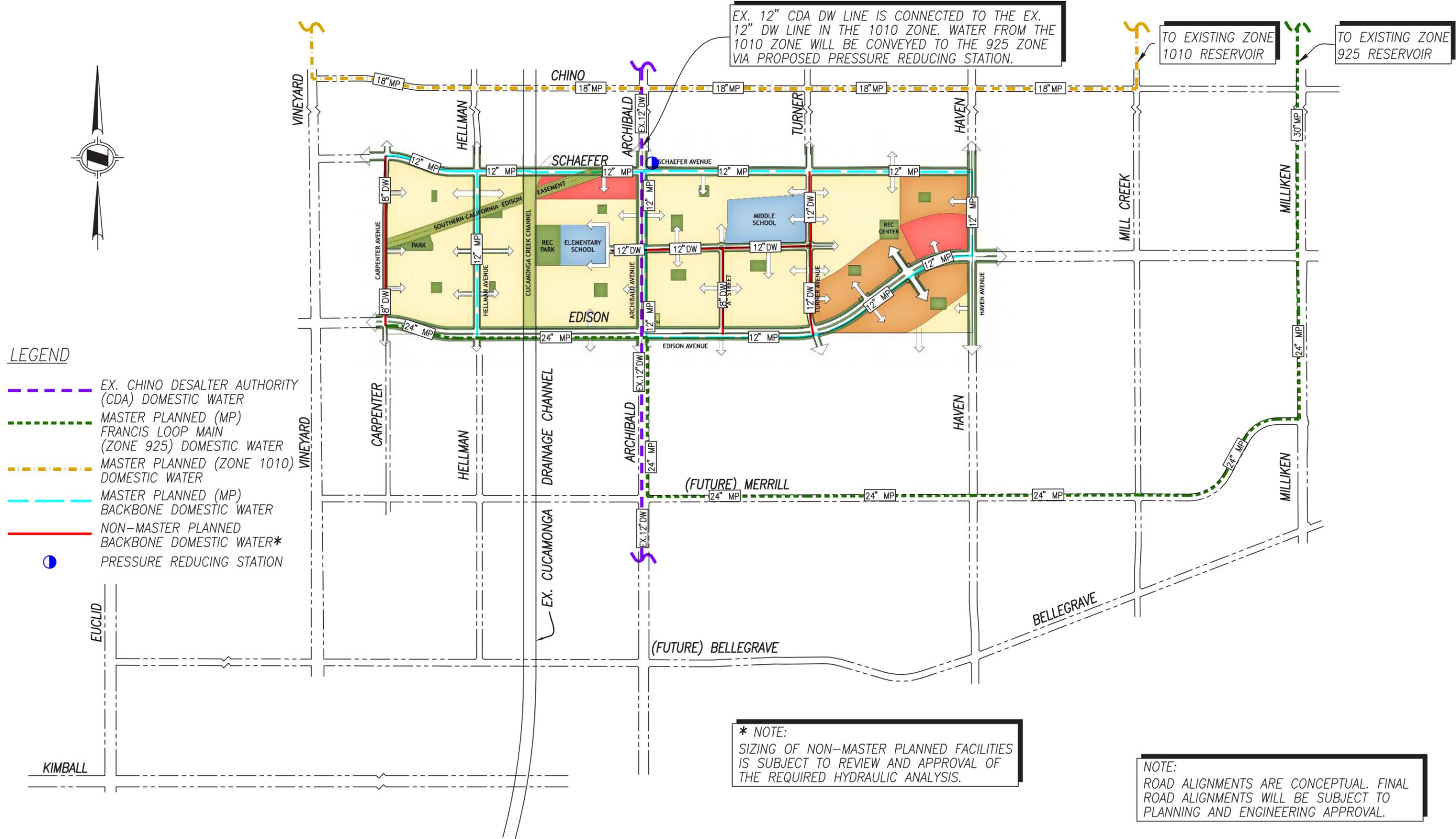
The Avenue

SPECIFIC PLAN

Fiber Optics

The New Model Colony • Ontario, California

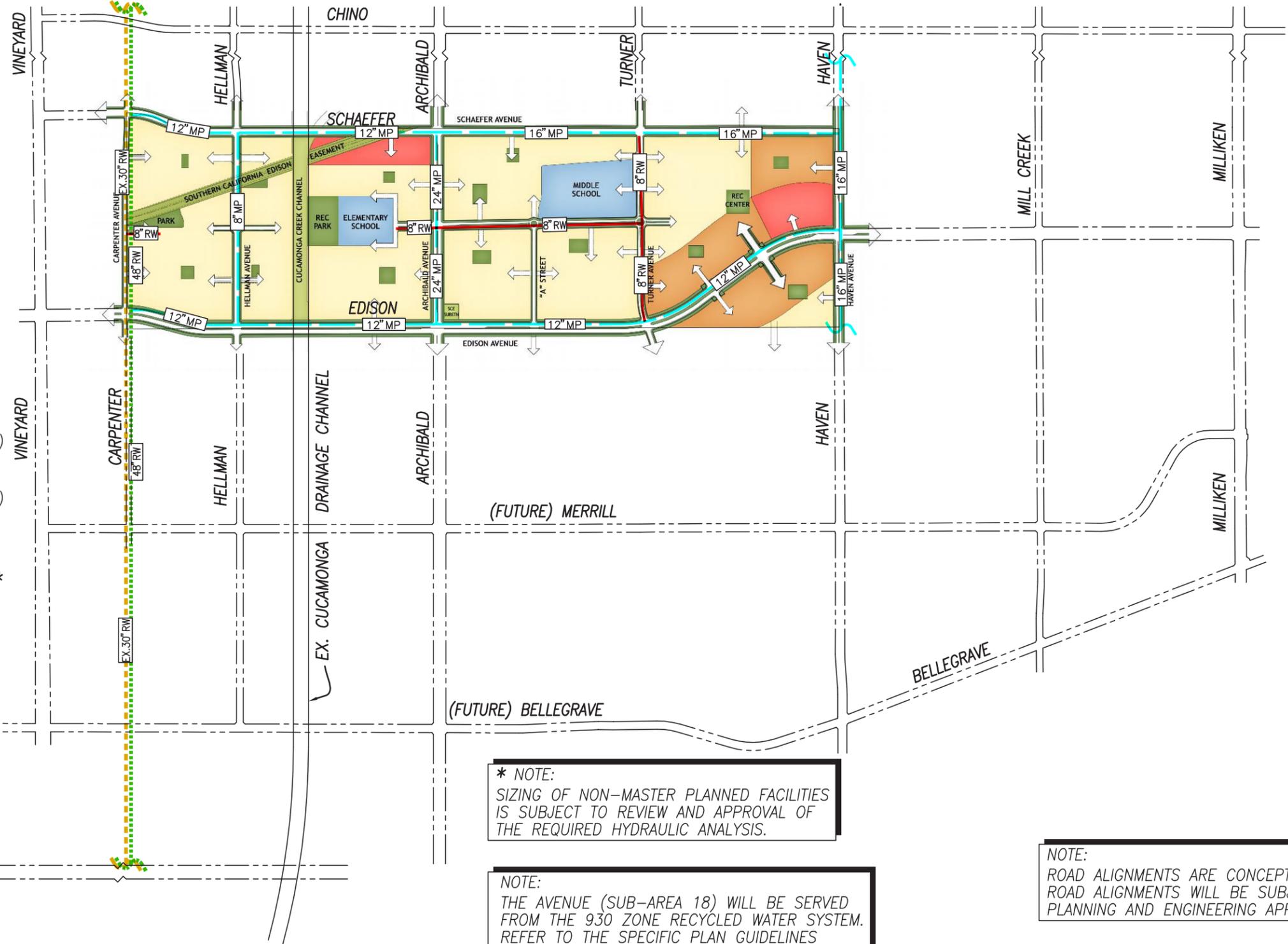
Exhibit 19





LEGEND

- - - EX. INLAND EMPIRE UTILITY AGENCY RECYCLED WATER (ZONE 930)
- - - PROPOSED INLAND EMPIRE UTILITY AGENCY RECYCLED WATER (ZONE 930)
- - - MASTER PLANNED (MP) BACKBONE RECYCLED WATER
- - - NON-MASTER PLANNED BACKBONE RECYCLED WATER*



EUCLID
KIMBALL

*** NOTE:**
SIZING OF NON-MASTER PLANNED FACILITIES IS SUBJECT TO REVIEW AND APPROVAL OF THE REQUIRED HYDRAULIC ANALYSIS.

NOTE:
THE AVENUE (SUB-AREA 18) WILL BE SERVED FROM THE 930 ZONE RECYCLED WATER SYSTEM. REFER TO THE SPECIFIC PLAN GUIDELINES 1050 AND 930 ZONE RECYCLED WATER EXHIBIT FOR ADDITIONAL DETAILS.

NOTE:
ROAD ALIGNMENTS ARE CONCEPTUAL. FINAL ROAD ALIGNMENTS WILL BE SUBJECT TO PLANNING AND ENGINEERING APPROVAL.

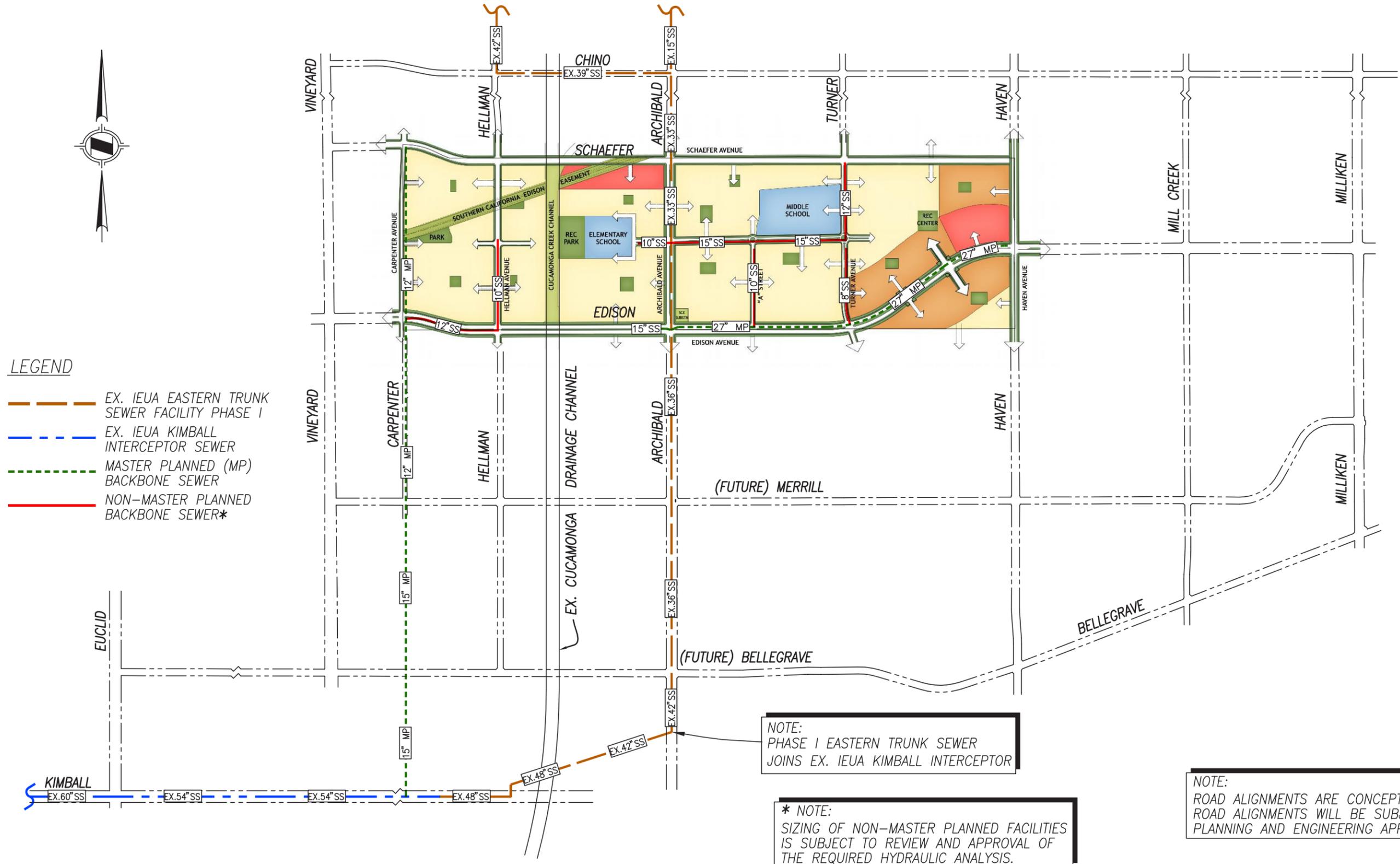


LEGEND

- EX. COUNTY LINE DRAINAGE FACILITY
- EX. CUCAMONGA CREEK DRAINAGE FACILITY
- MASTER PLANNED (MP) BACKBONE STORM DRAIN *
- NON-MASTER PLANNED BACKBONE STORM DRAIN
- APPROXIMATE LIMIT OF TRIBUTARY AREA
- NON-MASTER PLANNED STORM DRAIN PICKUP LATERAL
- INTERIM RUNOFF TEMPORARY DETENTION BASIN

* NOTE:
 MASTER PLAN OF HYDROLOGY FACILITIES HAS BEEN UPDATED PER MASTER PLANNED EAST BACKBONE IMPROVEMENTS HYDROLOGY REPORT

NOTE:
 ROAD ALIGNMENTS ARE CONCEPTUAL. FINAL ROAD ALIGNMENTS WILL BE SUBJECT TO PLANNING AND ENGINEERING APPROVAL.



LEGEND

- EX. IEUA EASTERN TRUNK SEWER FACILITY PHASE I
- EX. IEUA KIMBALL INTERCEPTOR SEWER
- MASTER PLANNED (MP) BACKBONE SEWER
- NON-MASTER PLANNED BACKBONE SEWER*

NOTE:
PHASE I EASTERN TRUNK SEWER JOINS EX. IEUA KIMBALL INTERCEPTOR

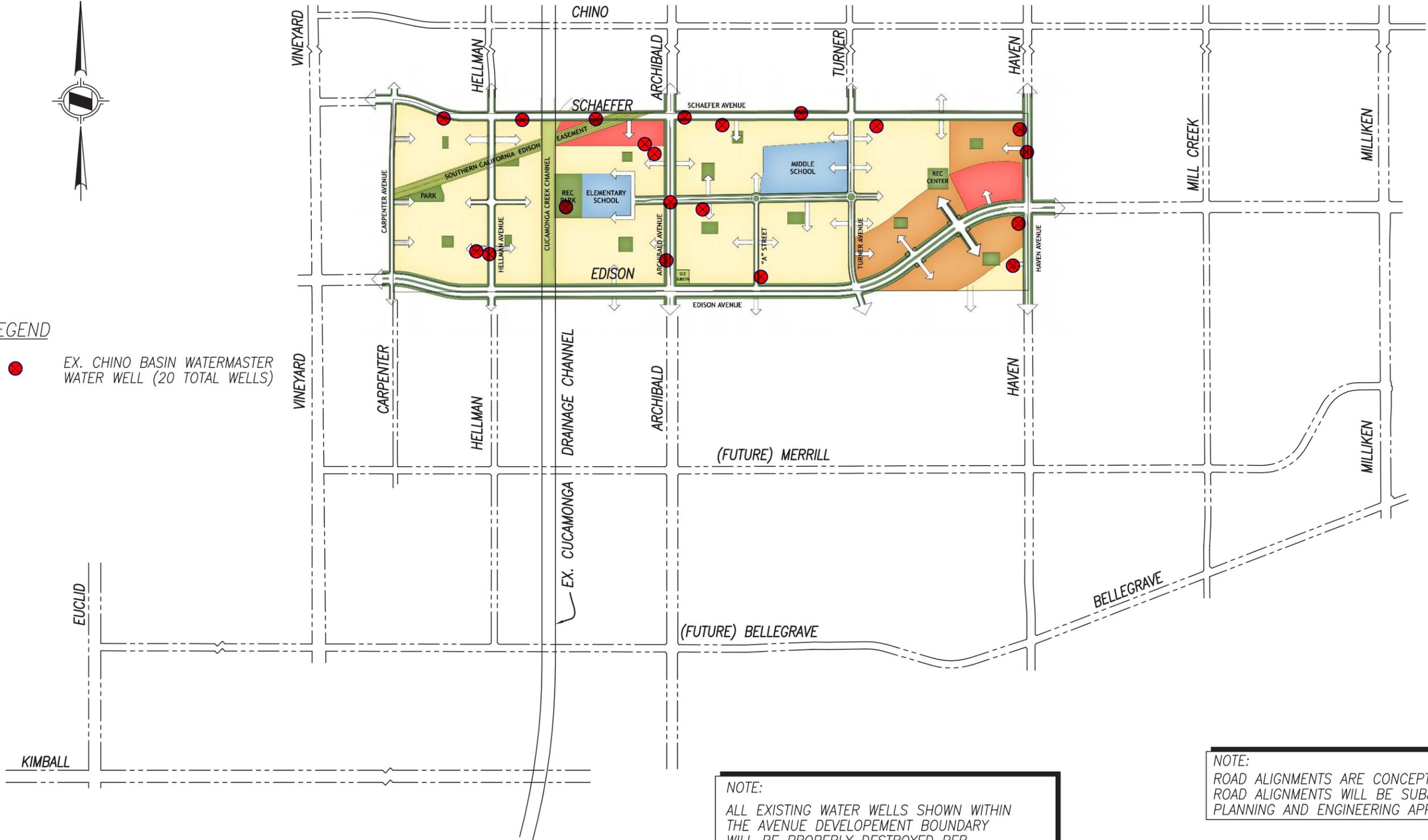
* NOTE:
SIZING OF NON-MASTER PLANNED FACILITIES IS SUBJECT TO REVIEW AND APPROVAL OF THE REQUIRED HYDRAULIC ANALYSIS.

NOTE:
ROAD ALIGNMENTS ARE CONCEPTUAL. FINAL ROAD ALIGNMENTS WILL BE SUBJECT TO PLANNING AND ENGINEERING APPROVAL.



LEGEND

EX. CHINO BASIN WATERMASTER WATER WELL (20 TOTAL WELLS)



NOTE:
 ALL EXISTING WATER WELLS SHOWN WITHIN THE AVENUE DEVELOPMENT BOUNDARY WILL BE PROPERLY DESTROYED PER CALIFORNIA DEPARTMENT OF HEALTH GUIDELINES

NOTE:
 ROAD ALIGNMENTS ARE CONCEPTUAL. FINAL ROAD ALIGNMENTS WILL BE SUBJECT TO PLANNING AND ENGINEERING APPROVAL.