Case Study: Pacific Coast Land Design NEMETSCHEK Vectorworks

# A NEW START for an old town



Once a bustling trading center for the Tataviam Native American tribe and then home to the saloons and boardwalks of the Wild West, Newhall, California became a popular backdrop for western films in the early 20th century. But the area would eventually experience dramatic decline as the sprawling suburbs of nearby Los Angeles drew people away, leaving behind struggling businesses and high vacancy rates.

More recently, an active City Council launched a revitalization effort to alter Newhall's fate, calling on regional landscape architecture firm Pacific Coast Land Design (PCLD) to make it all happen. The result is Old Town Newhall, an emerging, mixedused, pedestrian-oriented village with a redeveloped streetscape. PCLD's six-person design team, known for their expertise in public works projects, worked with the Council to re-envision the central corridor of Main Street, from which the City had diverted traffic to a nearby roadway and added a roundabout to improve the flow of through-traffic.

PCLD's design incorporates elements from the town's bygone days, which lends a historical authenticity to the site while balancing the flow of pedestrians, cyclists, and commuters using the nearby Metrolink station that services Southern California's regional passenger rail system. Streetlights crafted to resemble old gas lamps illuminate the six-block stretch of road lined with wide brick sidewalks.



AERIAL PHOTO - Preexisting Conditions



STREETSCAPE SITE PLAN - Phases 1, 2 & 3





The streetscape honors the city's 19th century history with the use of wood, steel, stone, and brick to create an honest expression of its western heritage. The sidewalk is flanked on both sides by native and adapted planting that, along with permeable brick and decomposed granite paving, filter and infiltrate sidewalk runoff.

This application contributes to the classic ambiance of the area and highlights 87 terrazzo and bronze plaques placed within the pedestrian walkway that make up the Western Walk of Stars, honoring the legends of western films. PCLD preserved the existing plaques during their demolition and reconstruction of the sidewalk while leaving plenty of room for future honorees to have their stars added. Designers also incorporated wooden lodge pole horse ties to protect the plant features from anticipated foot traffic, as well as to direct pedestrians from their cars to the sidewalk. Themed amenities like benches, trash receptacles, and signage further accentuate the old town motif. "The City tasked us with drawing upon the town's history and the character of the surrounding environment to make Main Street an attraction. The area's rural, equestrian character and distinctive past are important community values that were almost lost. We wanted to strengthen the community's heritage and instill a new sense of pride in downtown Newhall."

-PCLD Principal Chris Roberts

In addition to relying on the area's history, PCLD turned to the surrounding area to inform their landscape decisions. Boulders and decomposed granite create seating areas at curb flare locations to emulate the meandering Newhall Creek located nearby. This shape is further supported through the installation of native and adapted flowering plants that imitate the waterway's coastal scrub plant character. Native oak and sycamore trees, as well as regionally adapted mesquite trees, line the refurbished Main Street, and the bollards providing bicycle parking emulate hewn local stone along the sidewalk.

# **BIM Tools Assist Sustainability Goals**

PCLD's plan for the site introduced sustainable features, ensuring the project would function efficiently into the future. To do this, PCLD relied on Vectorworks<sup>®</sup> Landmark design software. "We have to provide water budget calculations for each site, which can become time-consuming if you don't have the right tools," says PCLD Principal Mike Zielsdorf. "We can input all of our data into our worksheet and use smart calculations in Vectorworks Landmark to do all the budgeting for us. When irrigation outputs change, the smart calculator updates automatically, which saves us a lot of time. We don't have to update figures individually; everything happens with the click of a button."



Seating areas with rustic planting, boulders, and decomposed granite emulate the character of nearby Newhall Creek while bollards emulating hewn local stone provide bicycle parking.









TYPICAL SECTION- ALL YL SERIES BENCHES



B WOOD BENCHES- SITECRAFT 'YL SERIES'

To realize its vision for the site, PCLD also utilized Vectorworks software's Building Information Modeling (BIM) capabilities. The team created a file that served as single source of information, which gave the project lasting value for the construction team and the owners. Data from the Vectorworks hardscape and planting area objects was keyed into dynamic project worksheets, allowing the team to maintain up-to-date quantity calculations for the various paving materials and landscape features as the design progressed. Landscape areas with defined water use hydrozones, where plants requiring similar



amounts of water are grouped together into smaller, distinct units, also allowed the team to easily produce state-mandated, estimated water use calculations.

Focusing on water-efficient design and drought resilience, Zielsdorf adds that all of the plants in the landscape are either native to Newhall's climate zone or regionally adapted to it. In addition, much of the sidewalk space on Main Street is water-pervious thanks to permeable brick pavers, decomposed granite paving, and building and curbside planters, which have the added benefit of bio-filtering the runoff water before it enters a storm drain.



Construction detailing: Recycled lumber boardwalk with sub-surface drainage

- 1"x6" 'TREX' COMPOSITE DECKING. ALLOW 1/4" HORIZONTAL GAP BETWEEN BOARDS. FASTEN TO 2"x4" STRINGERS W/ (#10) 2 1/2" STAINLESS STEEL DECK SCREWS, OR EQUAL.
- 2"x4" PRESSURE TREATED 'DOUGLAS FIR' STRINGER. RAMSET TO CONCRETE BASE W/ 3 1/2" ZINC COATED, GALVANIZED MASONRY NAIL.
- (3) SET 2"x4" STRINGER FLAT ATOP 5" SQUARE RAISED CONCRETE SEAT. PROVIDE 1/2" MIN. AIRSPACE BETWEEN BOTTOM OF 2"x4" AND FINISHED CONCRETE SURFACE TO ALLOW FOR WATER FLOW TO DRAIN INLET. EDGES & ENDS OF STRINGERS TO BE 1/2" FROM CONCRETE. STRINGER ENDS TO HAVE A BUTT GAP (SPACE) OF 1/2" TO 3/4".
- (4) 4" THICK CONCRETE BASE W/ FORMED CONCRETE SEATS FOR 2"x4" STRINGER SUPPORT. SLOPE SURFACE TO AREA DRAIN.
- 5 #3 BAR HORIZONTAL BOTH WAYS @ 24" O.C. CENTER IN CONCRETE.
- (6) AREA DRAIN. SEE L1.3 FOR MODEL. 2" MIN. SOIL COVER OVER DRAIN PIPE. SEE CIVIL PLANS FOR CONNECTION TO STORM DRAIN SYSTEM
- (7) COMPACTED SUBGRADE TO 95%
- (8) CRUSHED AGGREGATE BASE
- (9) ADJACENT BRICK PAVER BAND. POUR CONCRETE BASE CONTINUOUS W/ BRICK BAND BASE. SEE DETAIL 'G' L2.1 FOR COORDINATION.

The landscape planters retain 60 percent of the sidewalk rainwater runoff themselves, utilizing available water to irrigate the plants rather than taking it from the city's supply. Other important components of the site's irrigation system are the root watering devices, where permanent, subsurface point irrigation only delivers water to each plant's root-zone, which uses less water and reduces surface runoff and sprinkler evaporation.

"We incorporate as many advanced design features as we can into every project, making sure that everything works together to ensure that not a single drop of water is wasted," says Roberts. "We want to create a landscape that is both beautiful and can last for years to come no matter how the climate changes."

PCLD's water preservation efforts are made even more precise by combining their use of hydrozones with weather-based irrigation controls, so that only the necessary amount of water is used on a day-to-day basis. PCLD also utilized recycled materials to construct design elements for the site. Tree grates, detectable warning surfaces, drain grates, painted benches, and trash receptacles are all made of post-consumer recycled materials, and recycled content composite lumber was used in the project, as well.

# **Community Connections**

Old Town Newhall's sustainability features are just one reason why community members in and around the downtown area grew to love PCLD's design. These positive sentiments took time to develop, however. At the project's onset, local businesses were worried that ongoing construction would hurt their already-sinking bottom lines. Similarly, commuters thought the planned roundabout would delay and challenge their drives.

The City and PCLD addressed these concerns by engaging the project's end users. PCLD is heavily involved in community engagement for all of its public-focused projects. Designers do everything from writing newspaper articles and attending local meetings to keeping up with local politics to truly understand the mindset of their project's eventual users, and they adjust their designs as necessary to reflect the input they receive.



Renderings of the roundabout helped to address concerns of local drivers and reassured business owners of how beautiful the site would become



"Visualization was critical during the design process for Old Town Newhall," says Zielsdorf. "We generated several 3D design renderings to communicate our ideas to the community at workshops, and we used their feedback right up until construction began." For example, renderings of the roundabout helped the City address the concerns of local drivers, and business owners were reassured by the detailed drawings that exhibited how beautiful the site would become.

Another presentation tool that PCLD utilized to streamline the process of aligning the 3D model with site photographs was CameraMatch, a third-party Vectorworks plugin. With CameraMatch, PCLD created renderings that were more realistic and easily recognizable by stakeholders and users in context with the existing site and its surroundings.

"Community residents and business owners were so happy that we truly wanted their input and weren't just trying to convince them to do something," Roberts adds. "At a time when businesses in other areas are closing, new businesses here are opening their doors and betting on the success of Old Town Newhall's Main Street." Completed in 2014, and now anchored by a county park and a newly constructed library on either end, the downtown area is bustling with pedestrian traffic, weekly farmers markets, live music events, and satisfied business owners.







PCLD relied on detailed renderings and the alignment of its 3D model with actual photographs using CameraMatch to give their designs context with the existing site.



(L-R) PCLD's Eric Berg, Chris Roberts, Mike Zielsdorf, Brooke McDonnell, and Jon Humphries provide all the services of a large firm while retaining the attention to client needs and project details that only a smaller firm can offer.

# **Vectorworks Aids Success**

PCLD's success has earned them numerous local and regional awards, and most of their design work has been constructed. "But it's the quality of our drawings and renderings that has been the basis of our growth," adds Zielsdorf. "Vectorworks allows us to use one file from the start, beginning at the conceptual phase and moving into construction, all while letting us pull out reports and diagrams to communicate our design to anyone who needs to see it. Vectorworks is an incredibly important part of our process."

Imagining the potential of a site and bringing it to reality with stunning visualizations is Roberts' favorite aspect of his work. "Yes, the economy has gotten better, but I think that our recent success can be attributed to more than that," Roberts says. "All of us have worked really hard to create detailed visualizations, and it's changed how people look at our firm and what we do. This will be our best year ever, and our business has grown as a result of the visualization and project development tools that Vectorworks has made available to us."

# Acknowledgements

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