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Granite Construction

Digging Deep on Midfield Satellite
Concourse North Project at the
Los Angeles International Airport



A large-scale construction site at the Los Angeles International Airport. The image shows a deep excavation pit with concrete retaining walls. A yellow backhoe loader is positioned on a dirt path in the foreground. In the background, there are various construction materials, scaffolding, and a large building under construction. The sky is clear and blue.

Granite Construction Digging Deep on Midfield Satellite Concourse North Project at the Los Angeles International Airport

By Brian Hoover, Senior Editor

Above: Need caption.

Depending on the source, the Los Angeles International Airport (LAX) is said to be the second or third busiest airport in the United States with more than 80 million passengers passing in and out of their gates this past year. LAX has functioned as an airport since 1928, with the main terminal complex being constructed in 1961. In recent years, LAX has embarked upon a multibillion-dollar modernization program designed to provide state-of-the-art facilities to travelers worldwide.

The Midfield Satellite Concourse (MSC) North Project is the latest part of the LAX Master Plan that was formed back in 2004. The MSC facility is located west of Tom Bradley International Terminal (TBIT), which is in the central area of the airfield and underwent a \$2.1 billion

remodel and expansion that was concluded in 2015. The MSC Program includes a new passenger concourse and will be completed in independent phases. Phase 1 (MSC North Project) will improve the terminal operations, concessions facilities, and overall passenger experience at LAX for both domestic and international flights. The MSC North Project will also provide LAX with the flexibility to accommodate passengers with additional gates, while other LAX terminals undergo modernization. In addition, the MSC Project will include a five-story concourse building. The new 750,000-square-foot terminal will come complete with several lounges, retail and dining concessions, as well as a state-of-the-art baggage system. The building will be connected to the

Bradley terminal via a 1,000-foot passenger tunnel equipped with moving walkways. Phase 1 of the MSC project began in September 2016 and is scheduled for completion in 2020.

City officials broke ground on Phase 1 of the massive \$1.6 billion LAX renovation project in February 2017. Turner/PCL Joint Venture is the general contractor on the MSC North Project and they awarded a \$59 million sub-contract to Granite Construction Incorporated (Granite Construction) who will be performing a variety of tasks. Granite Construction's scope of work includes demolition of over 80,000 cubic yards of existing concrete and asphalt surfaces and the demolition of more than 13,000 feet of existing utilities. Their responsibilities also include

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Top Left: Granite Construction uses a Komatsu 490 excavator rented from Savala Equipment Rentals to place slide rail in the 24' sewer trench at phase 1 of the MSC North project at LAX.

Top Right: Left to Right: Al Scappaticci, Israel Canal, Trench Shoring Company, Stephan Urban, Granite Construction Inc., Jerry Maletich, Joel Vargas, Leo Carlson and Clyde Small, Granite Construction Company at the MSC North project at LAX.

Above Left: Hitachi 870 excavator and Cat 336 excavator work together to install slide rail for oil and water separation at the MSC North project at LAX.

Above Right: Granite Construction uses a Cat 349 excavator rented from LaLonde Equipment Rentals inside the 56' deep receiving tunnel for the new Thomas Bradley International Terminal at LAX.

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more than 350,000 cubic yards of mass grading, structural excavation and backfill, and installation of over 28,000 feet of new domestic and fire water, storm drain, sanitary sewer, and natural gas utilities, along with nearly 3,000 cubic yards of utility structures including the construction of five pump stations.

Stephan Urban is the Superintendent in charge of overseeing the wet utility portion of Phase 1 of this project for Granite Construction. "We began our work in October 2016, and are performing all of the dirt work and wet utility construction on the site." According to Urban, Granite Construction has completed approximately 2,500 feet of

domestic with only a few hundred feet left, as well as 2,500 feet of firewater with roughly 3,000 feet left to complete. "Typically and commonly, your deepest utility would go first, which would be sewer, but that is not the case on this project," says Urban. "This is primarily due to the phasing of the job and in this case, the sewer work is scheduled in the middle of the construction process. This means we will have to cross over some of the utilities that we have already installed and consequently support those structures accordingly."

By jobs end, Granite Construction will have installed 7,760 linear feet of 24" ductile iron pipe for firewater (fully restrained), 2,867 linear feet of 16" ductile iron pipe

for the domestic water (also 100 percent fully restrained), 13,585 linear feet of storm drain from 54" down to 18" RCP. There will also be another 685 linear feet of 48" ductile iron for the storm drain, along with around 4,000 linear feet of 6" natural gas lines. "At one point, we had six pipe crews on-site and are now down to four," says Urban. "A standard pipe crew is typically a foreman, two operators, and three laborers." Urban points out that the success of this project so far is due all of the great crewmembers and foreman. "We have four really strong, knowledgeable, industry-leading underground foreman on this project who deserve both credit and recognition. They are Jerry

Maletich, David Sharpe, Tim Foster and John Wolfe," says Urban. "The decision was also made to promote Sean Berry to a general foreman position where he is focusing on the storm drain portion of the project. This decision has helped put us back on track and with so many wet utilities to manage, this has certainly relieved some of the pressure off me in the process." Urban also has a glowing review for Granite's project engineer, Jacqueline Rigor. "Jackie has been my right arm out here and her work ethic has been amazing, to say the least," says Urban. "She is a great engineer, but she takes that a step further by her deep understanding of underground construction and what it actually requires to get this all safely into the ground. She is out in the field working with the foreman and not just pushing paper. These are the sort of individuals that separate Granite from the pack."

Urban says that challenges include a tight schedule and the stacking of trades on the MSC

North Project. "The site is only so big and this is one of those rare jobs where the building is going to be constructed before all of the utilities are installed," says Urban. "The timeframe has been compressed due in part to the heavy rains from last year, which has required our crews to work underneath and around utilities and other trades." Even with these challenges, Granite Construction remains on track and are confident that everything will be completed on time and to the strict specifications of Los Angeles World Airports (LAWA).

When performing work for LAWA it is now a requirement that contractors use only Tier IV Final heavy machinery and low emission technology on-site. According to Urban, Granite construction has 2 water trucks, wheel loader, and excavator on-site. The remainder and majority of the heavy equipment are being rented from LaLonde Equipment Rental and also Coastline Equipment. Additionally, they are renting articulated trucks from Volvo and an excavator

from Savala Equipment Rentals. They also have cranes on-site to lift equipment in and out of the 40 foot-plus trenches and drill pits. "We have a wide variety of Tier IV Final equipment on this job, to include excavators that range from a John Deere 35G (7,760 lb.) compact excavator to a Hitachi (ZX)870(LC-5) (193,255 lb.) hydraulic excavator, which is still working on-site," says Urban. "We also purchased a new Cat 336 excavator specifically for this job, and are using it and a Cat 349 for a great deal of the general excavation work that will run from 3 feet to 25 feet on an average day. The Hitachi 870 is going to be in use for around 8 months for all of the sewer manhole work where we will need to excavate to depths of 48 feet."

Due to the tremendous amount of excavation for utilities on this project, Granite Construction is utilizing a long list of shoring solutions. "We are renting vast amounts of shoring equipment from our "go to" vendor, Trench Shoring Company," says Urban. "They are or will be supplying us



Above: Granite team members working on the 48" storm drain under existing utilities.

Below: 42' jack and bore pit for sewer.



Above: 24" pipe in fire water trench.

Below: Placing tie-in to bypass existing domestic water.



with everything from trench plates, trench shields, hydraulic trench shores and modular aluminum panel systems to various SBH Slide Rail Systems for variously sized excavations. We will also be renting pneumatic testing equipment, along with confined space equipment. The budget for shoring is staggering and is a good measurement to illustrate just how much deep excavation is required for this project." Granite Construction has been relying on Trench Shoring Company for many years and according to Urban, it is their customer service that keeps them coming back time and time again. "We work almost exclusively with Trench Shoring Company for all of our shoring needs. Israel Canal is our representative and I just can't say enough about the service he has provided us over the years," says Urban. "Israel will take my call no matter what the time, day or night. That comes in handy when we are running crews around the clock

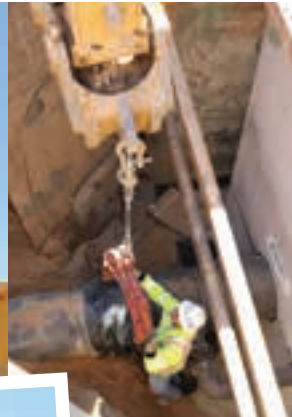
on jobs like this one. Trench Shoring Company and Israel Canal are always there for me when I need them."

Urban points to the fact that it is always a challenge when they work on active airport projects and the MSC North job at LAX is certainly no exception. "You know the air traffic comes first and just like with our company, safety is the number one concern. This is why a lot of our work is being done at night after the flights have been discontinued," says Urban. "We were working two shifts a day for five months and our carpenters will soon be working four shifts a day for nearly six weeks in order to construct several structures."

The Midfield Satellite Concourse North Project is part of an ongoing \$14-billion modernization of LAX. The second phase of construction could bring an addition seven gates in the future and officials estimate that all of this work could provide around 6,000 jobs

and more than \$300 million in wages. Additionally, at least 15 percent of the work will be done by small businesses with more than half of the 250-plus contractors being based in Los Angeles County.

Granite Construction Incorporated is one of the nation's largest infrastructure contractors and construction materials producers. They specialize in complex infrastructure projects, including transportation, industrial and federal contracting and they are a proven leader in alternative procurement project delivery services. Granite is also an award-winning firm in safety, quality and environmental stewardship. They have been honored as one of the World's Most Ethical Companies by Ethisphere Institute for eight consecutive years. For more information, visit graniteconstruction.com or call their Watsonville corporate offices at (831) 724-1011. **Cc**



Top Left to Right: Cat 336 excavator places pipe while Granite team member works inside 24" pipe fire water pit.

Below Left: One of four Volvo haul trucks on-site.

Below Middle: John Deere 35 compact excavator works inside 42' jack and bore pit.

Below Right: Newly purchased Cat 336 Tier IV excavator compacting.

