

South Outfall Stormwater Improvements

Project Partners

Phase II Culverts: City of Brighton | JR Engineering | Duran Excavating
Channel Maintenance: MHFD | Valles Construction



Splendid Valley
Farmland Preserve



The City of Brighton started the South Outfall Phase II Stormwater Improvements to right-size flood flows within City right-of-way and 148th Ave Channel. The engineering design was finalized with a line-item for muck. During the Request for Bids, Sable Boulevard threatened to overtop as the channel continued to fill with sediment within the Splendid Valley agricultural preserve and cattails prevailed. The City reached out to MHFD as the muck tickets piled up to burgeon the scope of work at hand. The City needed more than additional box culverts for flood control, as stormwater would hit a wall of sediment several feet tall otherwise. With great partners, we finished before the rainy season.

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On the verge of overtopping a busy county road at the city limits, the project burgeoned forward to add floodwater culverts. Entirely funded by the city, three 7' by 3' culverts were in the budget as additions to the existing two 5' by 3' culverts on Sable Boulevard along the 148th Ave Channel. At the design phase, mucking was called out for the bid schedule. Though sedimentation piled up through successive farm irrigation seasons to threaten emergency closure during every successive rain event during the bid process of South Outfall Phase II Stormwater Improvements.

The City of Brighton reached out to Mile High Flood District (MHFD) as possible partners to remove excess sedimentation that just kept piling up within the massive stormwater conveyance channel. The South Outfall Stormwater Improvements added stormwater conveyance for the south side of the city where grades were abysmally flat. Upstream of the Sable culverts, a concrete pan helped define the limits of maintenance. Though downstream a native channel, rife with cattails, struggled to cut a flow path between agricultural fields and commerce. Through MHFD's generous partnership, survey and contractor efforts defined what the channel should be restored to, with engineering design input, for floodwater conveyance capacity.

↙ Channel



Other portions of the mile-long South Outfall project extended up to agricultural land at what would be future 19th/148th Ave for an additional 36" parallel pipe to the 5'x3' box culvert, and across Chambers Boulevard with an additional 6'x5' parallel box culvert to the 7'x5'. The backwaters from the box culverts under Sable created a massive area so wet that the farmer couldn't farm the land. The frequently irrigated farmland used ditches to flood irrigate seasonally, adding a load of sediment and nutrient. A cascade of effect of the South Outfall brought many partners together to result in a channel that the city would have a better chance at continued maintenance.

Photos Before Construction and Maintenance



Future 148th/19th Ave upstream side (left) and downstream side (right)



Chambers Road east side facing south (left) and west side facing east (right)



Sable upstream side (left) and downstream side (right)



Sable
Blvd: east
(left) and
west (right)

Photos After Construction



Future 148th/19th Ave: upstream facing southeast (left) and downstream side facing west (right)



Chambers Road: west side downstream facing south (left) and facing east (right)



Sable Blvd: west side facing south (left) and facing west to a wall of sediment (right)



Sable Blvd: east side facing south