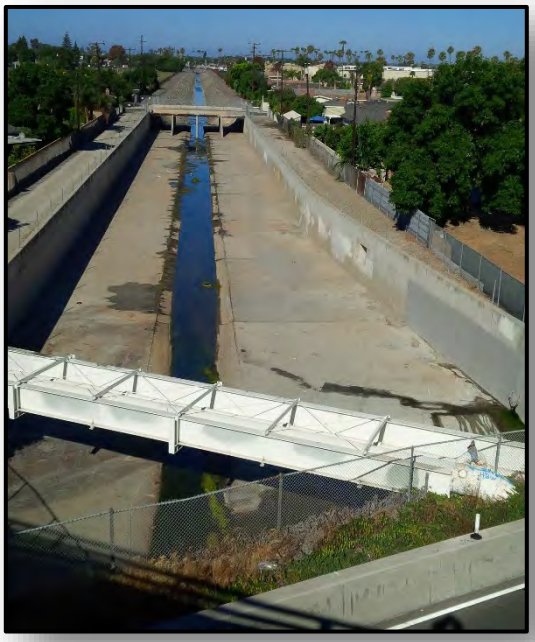
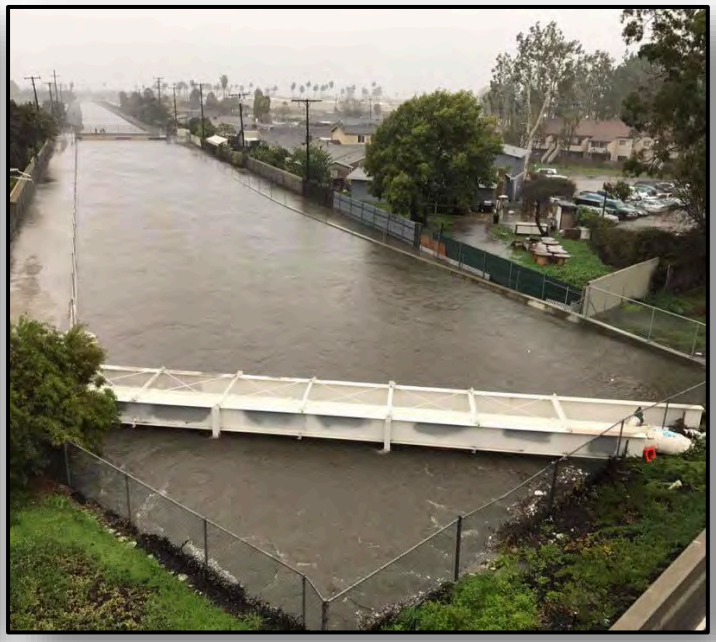
APPENDIX D - REAL ESTATE PLAN

For

WESTMINSTER, EAST GARDEN GROVE, CA

FLOOD RISK MANAGEMENT STUDY





April 2020

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Contents

1.	**PURPOSE**	1
2.	**AUTHORITY**	2
3.	**NON-FEDERAL SPONSOR(S)**	3
4.	**PROJECT DESCRIPTION**	3
5.	**PROJECT LOCATIONS AND MAPS**	16
6. A	**STANDARD ESTATES – NED Plan**	17
6. B	**STANDARD ESTATES – LPP**	18
7.	**NON-STANDARD ESTATES**	19
8.	**INDUCED FLOODING**	19
9.	**NAVIGATION SERVITUDE**	20
10.	**EXISTING FEDERAL PROJECTS**	20
11.	**FEDERAL-OWNED LAND**	20
12.	**SPONSOR-OWNED LAND**	20
13.	**ENVIRONMENTAL CONSIDERATIONS**	20
14.	**RELOCATION ASSISTANCE BENEFITS (P.L. 91-646)**	22
15.	**MINERAL/TIMBER ACTIVITY**	22
16.	**UTILITY/FACILITY RELOCATIONS**	23
17.	**ZONING**	27
18.	**SCHEDULE**	27
20.	**SPONSOR CAPABILITY**	30
21.	**PROJECT SUPPORT AND OWNER ATTITUDE/ISSUES**	30
22.	**SPONSOR NOTIFIED OF RISK OF ADVANCED ACQUISITION**	30
23.	**OTHER RELEVANT REAL ESTATE ISSUES**	31

WESTMINSTER, EAST GARDEN GROVE
FLOOD RISK MANAGEMENT STUDY
ORANGE COUNTY, CA

REAL ESTATE PLAN

1. PURPOSE

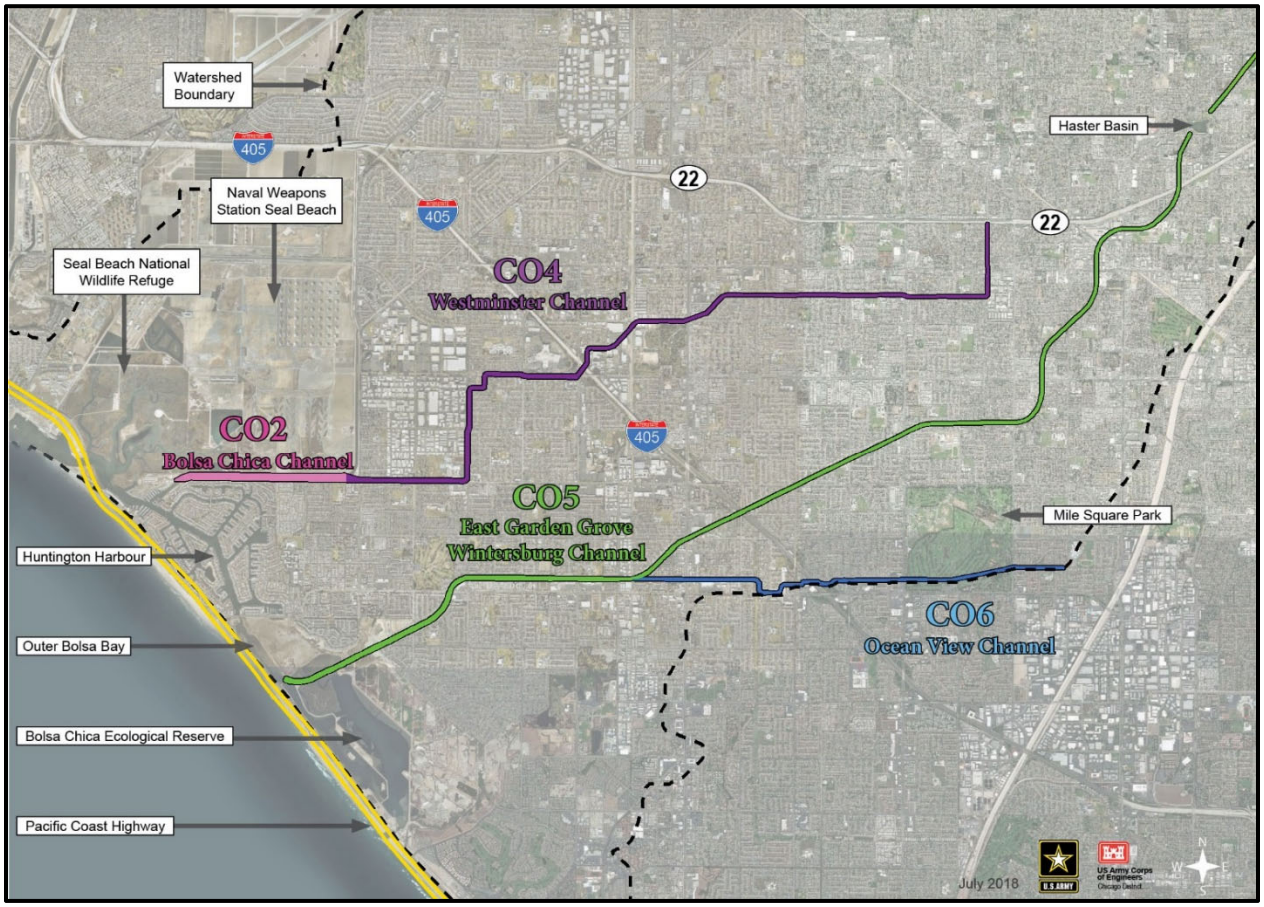
This Real Estate Plan (REP) report, prepared in accordance with ER 405-1-12, presents the real estate requirements for Westminster, East Garden Grove, Flood Risk Management (FRM) Study and supports the Integrated Feasibility Report, Environmental Impact Statement (EIS), & Environmental Impact Report (EIR). This REP is Appendix D to the Feasibility Report. The study area is located entirely within the Westminster Watershed in western Orange County, California, approximately 25 miles southeast of the City of Los Angeles. This Plan is tentative in nature, subject to change, and is preliminary for planning purposes only. The Plan includes estimated land values and costs associated with the acquisition of lands, easements, and rights-of-way, relocations and disposal areas (LERRDs) required for construction and operation and maintenance of the recommended Plan(s). It also identifies any facility/utility relocations necessary to implement the Plan(s). Anticipated requirements for lands, easements, rights-of-way, relocations and disposal areas (LERRD) are based on information furnished by the project development team. The final real property acquisition lines and estimates of value are subject to change after approval of the report. This REP replaces all prior Real Estate reports. This REP will be refined further and greater detail added as more detailed plans become available, including updated LERRD estimates in accordance with 3x3x3 SMART Planning, utility and facility relocations including final opinions of compensability, and a more detailed real estate map.

The study was developed to a level of detail sufficient to identify a National Economic Development (NED) Plan, as well as a Locally Preferred Plan (LPP). It should be noted that the real estate requirements for each plan are presented separately in this REP.

- **Study Area -** The study and project area is located within the Westminster watershed in western Orange County, California, approximately 25 miles southeast of the City of Los Angeles. The watershed is approximately 87 square miles in area and is almost entirely urbanized. Cities in the watershed include Anaheim, Stanton, Cypress, Garden Grove, Westminster, Fountain Valley, Los Alamitos, Seal Beach, and Huntington Beach. The study focused on modifications to the existing channels that include:
    - C02 – Bolsa Chica Channel (1.5 miles)
    - C04 – Westminster Channel (7.8 miles)
    - C05 – East Garden Grove/Wintersburg Channel (11.6 miles)
    - C06 – Ocean View Channel (4.1 miles)

For reference going forward the channels will be referred by number only. Other project areas of significance are Outer Bolsa Bay in the Bolsa Chica Ecological Reserve (BCER) which will be discussed later.

Westminster Study Reaches



2. AUTHORITY

The Westminster feasibility study was conducted in accordance with the study resolution adopted by the House of Representatives Committee on Public Works on May 8, 1964 (Flood Control Act of 1938), which reads:

> *"Resolved by the Committee on Public Works of the House of Representatives, United States, that the Board of Engineers for Rivers and Harbors is hereby requested to review the reports on (a) San Gabriel River and Tributaries, published as House Document No. 838, 76th Congress, 3d Session; (b) Santa Ana River and Tributaries, published as House Document No. 135, 81st Congress, 1st Session; and (c) the project authorized by the Flood Control Act of 1936 for the protection of the metropolitan area in Orange County, with a view to determining the advisability of modification of the authorized projects in the interest of flood control and related purposes."*

3. NON-FEDERAL SPONSOR(S)

The primary non-federal sponsor (NFS) is Orange County and Orange County Flood Control District (OCFD) managed by Orange County Public Works (OCPW). USACE and OCPW executed a Feasibility Cost Sharing Agreement (FCSA) in September 2003. OCPW is a Division of Orange County government and will be responsible for providing all lands, easements, rights-of-way, relocations and disposal areas (LERRD) as part of its 35 percent cost-share. OCPW has been notified of the Corps of Engineer regulations for acquiring real estate as part of a cost-shared project to include P.L. 91-646 requirements. The non-federal sponsor has requested consideration of a Locally Preferred Plan (LPP). The details of the real estate requirements of the National Economic Development (NED) Plan and LPP are included in this report. OCPW has participated in USACE FRM projects as a NFS, including the Santa Ana River FRM Project. OCPW is considered Moderately Capable, per the Non-Federal Sponsor Capability Assessment (See Exhibit B).

Additionally the State of California State Lands Commission (CSLC) may act as a non-federal sponsor in order to provide the LERRDs required for mitigation and other project features on land owned by them in the Bolsa Chica Ecological Reserve. CSLC has been notified of the Corps of Engineer regulations for acquiring real estate as part of a cost-shared project to include P.L. 91-646 requirements. It is unknown at this time to what extent CSLC will participate but it is likely that they will act as a more limited "LERRDs-only" sponsor. Negotiations on CSLC participation will begin early in the Pre-construction Engineering and Design (PED) phase of the project. CSLC is considered Fully Capable, per the Non-Federal Sponsor Capability Assessment (See Exhibit B).

4. PROJECT DESCRIPTION

Urbanization of the Westminster watershed since the 1950s has increased the potential for flood related damages, and life safety impacts associated with the overtopping of the C02/C04 and C05/C06 channel systems during short duration, high intensity rainfall events. Urbanization has also increased the total amount of impermeable area, resulting in higher volumes of stormwater being directed to the drainage channels due to limited infiltration opportunities. Historically, the watershed included large agricultural tracts with limited residential development. Current land use in the watershed is predominantly residential, but includes commercial, military, light industrial, schools, and parks. The main drainage channels within the watershed were originally built in the 1950s and the 1960s to convey residual flood waters after the channelization of the Santa Ana River. The channel systems were mostly designed to contain the 25-year event, although some segments were constructed to 65% of the 25-year capacity. The combination of increased runoff and undersized conveyance channels results in increased flood risk for the residents of the Westminster watershed.

Flooding also impacts traffic on area roadways. For example, portions of the Pacific Coast Highway, a major transportation route in the region, flood during storm events and/or during extreme tide conditions. Interstate-405 (I-405), that connects Orange County to both Los Angeles County to the north and San Diego County to the south, is also affected by storm events. I-405 within Orange County is one of the top three most heavily used freeways in California according to 2016 CalTrans Data. Flows from the C04, C05, and C06 channels inundate I-405 during

frequent storm events, causing major delays to commercial, commuter, and emergency traffic in the watershed.

An additional area of flood risk is related to the possible spread of contaminants in BCER resulting from large storm events that overtop C05 upstream of the reserve and inundate the oil fields within it. If C05 flood waters inundate the oil fields, widespread distribution of oil-laden runoff could potentially be transported to previously completed ecosystem restoration projects and eventually the Pacific Ocean as flood waters recede. Chemicals transported in flood waters from the oil fields could prove detrimental to sensitive natural areas.

The outlet of Outer Bolsa Bay into Huntington Harbour at Warner Avenue constricts flows and creates a backwater effect through Outer Bolsa Bay and up into the C05 channel. Similarly, the existing tide gates at the downstream end of C05 constrict discharge from the channel during high flow events. These existing downstream conditions in Outer Bolsa Bay limit flows being discharged from the C05 channel and increase flood risk to the oil facilities within BCER and to homes located upstream as well.
:
The study analyzes potential management measures to reduce flood risks within the watershed. Structural measures include channel lining, channel geometry modifications, and flood storage reservoirs. Nonstructural measures, including debris removal, regulations and response planning were also considered to address residual flood risks. Alternative plans, in addition to the No Action Alternative, were formulated using management measures that were determined to be both feasible and acceptable.

The range of study alternatives was refined based on preliminary analyses of effectiveness and cost. The alternatives that remained consisted of either increasing channel conveyance efficiency (Minimum Channel Modifications Plan) or increasing storage capacity (Maximum Channel Modifications Plan). Each of the four channels was further subdivided into reaches to facilitate engineering and economic analyses. A total of 23 reaches were identified. Minimum channel modifications include re-grading of the existing earthen or riprap lined channel to accommodate a concrete lining while maintaining the original channel cross section. Maximum channel modifications include installation of floodwalls/levees and the excavation of the existing earthen or riprap lined channel, resulting in an increase of the channel cross section.

The Minimum Channel Modifications Plan produces higher net benefits than the Maximum Channel Modifications Plan, making it the National Economic Development (NED) Plan per USACE guidance. However, the NED Plan does not meet the non-federal sponsor's objective of containing the 1% ACE storm event (100 year recurrence interval) within the conveyance channels and reducing the size of the mapped floodplain.

The Maximum Channel Modifications Plan does meet the sponsor's objective of containing the 1% ACE (100 year recurrence interval) storm event within the channel system. Consequently, this plan has been identified as the Locally Preferred Plan (LPP).

<u>C02 – Bolsa Chica Channel</u>

For the C02 channel, this study focuses only on the portion that extends from the confluence with the C04 channel, near the southeastern corner of the Naval Weapons Station Seal Beach (NWSSB), to where the channel discharges into Huntington Harbour. This channel segment is approximately 1.5 miles long and provides flood risk management for Huntington Beach, Huntington Harbour, and the NWSSB.

C04 – Westminster Channel
The C04 channel is approximately 7.8 miles in length and provides flood risk management for the cities of Garden Grove, Westminster, and Huntington Beach. The channel begins south of Highway 22 and flows westward past Westminster Memorial Park Cemetery, I-405, and the Westminster Mall, joining with the C02 channel near the southeastern corner of the NWSSB.

C05 – East Garden Grove/Wintersburg Channel
The C05 channel is approximately 11.6 miles in length and provides flood risk management for the cities of Santa Ana, Garden Grove, Westminster, and Huntington Beach. The channel begins west of the intersection of I-5, Highway 57, and Highway 22 in the city of Santa Ana and flows southwest through Haster Basin, under I-405, and through the BCER, ultimately discharging into Outer Bolsa Bay and eventually the Pacific Ocean. Haster Basin is a detention basin that controls flows entering the C05 channel downstream with a pump system.

C06 – Ocean View Channel
The C06 channel is approximately 4.1 miles in length and provides flood risk management for the cities of Fountain Valley and Huntington Beach. The channel begins 0.5 miles east of Mile Square Regional Park in the City of Fountain Valley and flows westward through Mile Square Regional Park and under I-405, ultimately discharging into the C05 channel at the confluence near Gothard Street in Huntington Beach. Mile Square Regional Park is a 640 acre park that is home to multiple golf courses, a 55 acre recreation center, and two lakes. This park is located in the city of Fountain Valley but is a key recreation resource for the communities throughout the watershed.

Bolsa Chica Bay Marsh Area (at the downstream end of C05)
Bolsa Chica Bay Marsh Area is a biologically sensitive area that is environmentally protected. The area includes a multitude of existing and migrating species within a fresh water body.

The Non-functioning Tide Gate and Tidal Influence on the C05 Channel is currently a series of tide gates in Reach 1 of the C05 channel that serves to regulate and manage the coastal tidal influence, however, existing conditions indicate that the gates are not functioning as designed. Therefore, the lower reaches of the C05 channel convey urban runoff from upstream, yet are tidally influenced from the Pacific Ocean inlet at Bolsa Chica Bay. The tide gate is operated by OCPW.

The Minimum Channel Modifications Plan produces higher net benefits than the Maximum Channel Modifications Plan, making it the National Economic Development (NED) Plan per USACE guidance. However, the NED Plan does not meet the non-federal sponsor's objective of containing the 1% ACE storm event (100 year recurrence interval) within the conveyance channels and reducing the size of the mapped floodplain.

The Maximum Channel Modifications Plan does meet the sponsor's objective of containing the 1% ACE (100 year recurrence interval) storm event within the channel system. Consequently, this plan has been identified as the Locally Preferred Plan (LPP).

Generally the NED plan is referred to as the minimum channel modifications alternative while the LPP is the maximum channel modifications alternative. Non-structural measures were considered but not included in either plan.

Description of NED Plan – Minimum Channel Modifications

The Minimum Channel Modifications Alternative would address flood risk by lining existing drainage channels to improve flow. This alternative would reduce flood risk within the watershed by improving conveyance efficiency of existing channels. Trapezoidal channels within C02, C04, C05, and C06 that currently have an earthen bottom and either earthen or riprap banks would be lined with concrete. There would be no alteration to reaches that are rectangular in shape or lined with concrete, nor to reaches of in-channel box and pipe structures.

The leveed areas in the downstream reaches of C02 and C05 (reaches 23 and 01, respectively) would be improved to reduce the risk of levee failure. Modifications in reach 01 would include installation of dual-steel sheet pile channel walls and preservation of existing soft bottom, tidally-influenced habitat. In Reach 23, a single line of sheetpile would be driven at the crest of the existing levee along the entire south side of the channel within the reach and tied back into C04 near Bolsa Chica Street. This would reduce the risk of levee failure in this reach.

Typical existing trapezoidal channels. The picture on the left shows a typical existing riprap lined trapezoidal channel in the study area (before). On the right is a trapezoidal channel lined with concrete to improve conveyance efficiency (after).

Additional downstream measures would be combined with the in-channel measures to address existing flooding in Outer Bolsa Bay and to compensate for increased flow volumes that result from increased conveyance capacity in the channels.

The tide gates on C05 would be removed in order to improve the flow conditions through the lower reaches of the C05 channel. The current tide gates leak and therefore allow saltwater habitat to exist upstream in C05 in the future without project condition. This saltwater influence extends upstream of Outer Bolsa Bay for approximately 2.5 miles.

This alternative also includes the widening of the Outer Bolsa Bay channel just upstream of the Warner Avenue Bridge. Widening of the channel would require that the Warner Avenue Bridge and the pedestrian bridge at the Bolsa Chica Conservancy be expanded. Widening of the Outer Bolsa Bay channel would improve conveyance as well as the hydraulic efficiency of the lower reaches of C05.

Minimum Channel Modifications	
Nonstructural Measures	Removal of Impediments to Flow
In-Channel Modifications	Lining Channels with Concrete
Downstream Modifications	Removal of Tide Gates on C05
	Widening the Existing Bottleneck at Warner Avenue

NED Plan - Channel Right of Way Summary			
Reach	**Acres**	**Estate**	**Owner**
C05 R01	70.72	Channel Improvement Easement	OCPW
C05 R02	7.15	Channel Improvement Easement	OCPW
C05 R03	13.44	Channel Improvement Easement	OCPW
C05 R04	16.79	Channel Improvement Easement	OCPW
C05 R05	15.89	Channel Improvement Easement	OCPW
C05 R06	no action	None	OCPW
C05 R07	no action	None	OCPW
C05 R08	no action	None	OCPW
C05 R09	no action	None	OCPW
C05 R10	no action	None	OCPW
C05 R11	no action	None	OCPW
C05 R12	no action	None	OCPW
C06 R13	12.66	Channel Improvement Easement	OCPW
C06 R14	no action	None	OCPW
C06 R15	no action	None	OCPW
C06 R16	no action	None	OCPW
C06 R17	4.41	Channel Improvement Easement	OCPW
C06 R18	no action	None	OCPW
C06 R19	3.9	Channel Improvement Easement	OCPW
C02 R23	57.01	Channel Improvement Easement	OCPW
C04 R20	27.8	Channel Improvement Easement	OCPW
C04 R21	no action	None	OCPW
C04 R22	29.02	Channel Improvement Easement	OCPW
Total	**258.79**	**Channel Improvement Easement**	

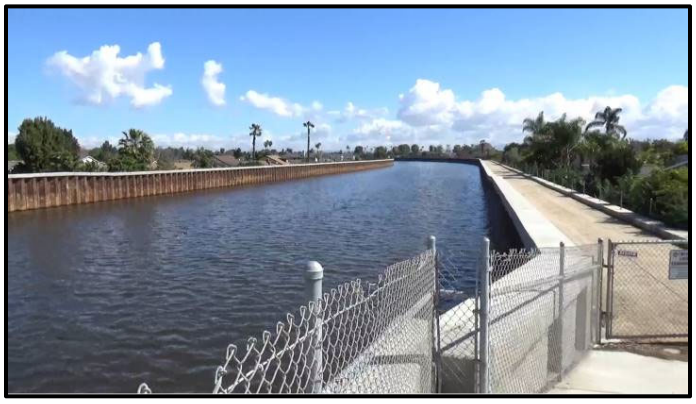
Description of Locally Preferred Plan (LPP) - Maximum Channel Modifications

The Maximum Channel Modifications Alternative would address flood risk by changing existing trapezoidal channels into rectangular channels in order to increase storage volume and flow for flood waters. This alternative will reduce flood risk within the watershed by improving both conveyance efficiency and capacity of existing channels. Trapezoidal channels within C02, C04, C05, and C06 will be replaced with rectangular concrete (or steel sheet pile) channels to contain a 1% ACE storm event. This would also necessitate making alterations to existing crossings (roads and pedestrian paths) to accommodate the new channel geometry.

Where altering channel geometry is not feasible or would not contain the 1% ACE storm event, the Maximum Channel Modifications Alternative would seek to utilize other retained flood damage risk reduction measures (diversion/bypass channels) to provide the additional capacity required. Westminster Mall is one such area where altering the channel may not be feasible.

Additionally, floodwalls would be constructed in the existing channel right of way where necessary to contain the 1% ACE storm event. Soft channel bottoms would be preserved in the tidally influenced downstream reaches of C02 and C05 to reduce impacts to marine habitat.

The leveed areas in the downstream reaches of C02 and C05 (reaches 23 and 1, respectively) would be improved to reduce the risk of levee failure. Modifications in Reach 1 would include installation of dual-steel sheet pile channel walls and preservation of existing soft bottom, tidally-influenced habitat. In Reach 23, a sheetpile and anchor system would be installed on the south side of the channel, and the existing channel slope would be excavated. This would increase channel capacity (and soft-bottom habitat) as well as the risk of levee failure in this reach.



Examples of channel reaches with rectangular cross-sectional geometry to increase capacity and improve conveyance efficiency. On the left is a typical concrete lined rectangular channel. On the right is a soft bottom rectangular channel reach constructed using steel sheet pile walls.

Additional downstream measures would be combined with the in-channel measures to address existing flooding in Outer Bolsa Bay and to compensate for increased flow volumes that result from increased conveyance capacity in the channels.

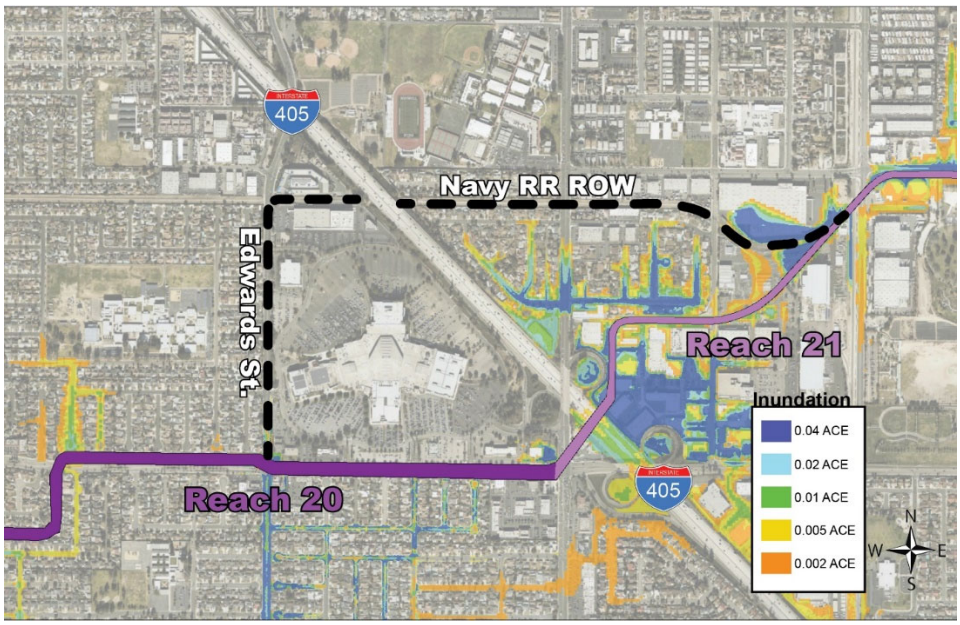
The tide gates on C05 would be removed in order to improve the flow conditions through the lower reaches of the C05 channel. The current tide gates leak and therefore allow saltwater habitat to exist upstream in C05 in the future without project condition. This saltwater influence extends upstream of Outer Bolsa Bay for approximately 2.5 miles.

This alternative also includes the widening of the Outer Bolsa Bay channel just upstream of the Warner Avenue Bridge. Widening of the channel would require that the Warner Avenue Bridge and the pedestrian bridge at the Bolsa Chica Conservancy be expanded. Widening of the Outer Bolsa Bay channel would improve conveyance as well as the hydraulic efficiency of the lower reaches of C05.

Maximum Channel Modifications	
Nonstructural Measures	Removal of Impediments to Flow
In-Channel Modifications	Altering Channel Geometry
	Floodwalls
Upstream Modifications	Diversion/Bypass Channels
Downstream Modifications	Removal of Tide Gates on C05
	Widening the Existing Bottleneck at Warner Avenue

Diversion Channel at Westminster Mall

To address flooding caused by a restriction where flows in C04 are directed into a long reach of covered conduit that runs under I-405 and the Westminster Mall, a bypass channel would be constructed to direct flows around this existing bottleneck. This diversion would span 2 reaches in C04 (reaches 20 and 21) and be a combination of open channel and reinforced concrete box (RCB). It would split off of reach 21 at the intersection of Hoover and Hazard streets, run west along an abandoned U.S. Navy railroad line to the north of Westminster Mall, and then turn south underneath Edwards Street until it reconnects with reach 20 (where reach 20 goes underground) near the intersection of Edwards Street and Bolsa Avenue.



All of the acreage required for the Channel Improvement Easement areas for modification to the channels is owned/controlled by OCPW.

LPP Summary - Channels in Maximum Plan			
Reach	**Acres**	**Estate**	**Owner**
C05 R01	70.72	Channel Improvement Easement	OCPW
C05 R02	7.15	Channel Improvement Easement	OCPW
C05 R03	13.44	Channel Improvement Easement	OCPW
C05 R04	16.79	Channel Improvement Easement	OCPW
C05 R05	15.89	Channel Improvement Easement	OCPW
C05 R06	1.34	Channel Improvement Easement	OCPW
C05 R07	1.72	Channel Improvement Easement	OCPW
C05 R08	5.86	Channel Improvement Easement	OCPW
C05 R09	7.27	Channel Improvement Easement	OCPW
C05 R10	1.68	Channel Improvement Easement	OCPW
C05 R11	no action	None	OCPW
C05 R12	no action	None	OCPW
C06 R13	12.66	Channel Improvement Easement	OCPW
C06 R14	1.2	Channel Improvement Easement	OCPW
C06 R15	2.91	Channel Improvement Easement	OCPW
C06 R16	2.08	Channel Improvement Easement	OCPW
C06 R17	4.41	Channel Improvement Easement	OCPW
C06 R18	no action	None	OCPW
C06 R19	3.9	Channel Improvement Easement	OCPW
C02 R23	57.01	Channel Improvement Easement	OCPW
C04 R20	27.8	Channel Improvement Easement	OCPW
C04 R21	8.69	Channel Improvement Easement	OCPW
C04 Diversion Channel	13.47	Channel Improvement Easement	OCPW & RR ROW & Private
C04 R22	29.02	Channel Improvement Easement	OCOW
Total	**305.01**	Channel Improvement Easement	

Mitigation – NED Plan & Locally Preferred Plan

Mitigation would be required for both the NED Plan and the LPP to compensate for unavoidable adverse impacts to natural resources as a result of implementing the plans.

Modifications to the channels and increasing the span of Warner Avenue Bridge require compensatory mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899, due to loss of wetland and soft-bottom habitat. The Minimum Channel Modifications Alternative would directly and indirectly impact approximately 22.73 acres of upland, soft-bottom/wetland, and eelgrass habitat while the Maximum Channel Modifications Alternative would directly impact approximately 16.13 acres of upland, soft-bottom/wetland habitat, and eelgrass habitat.

Alternative	Potentially Mitigable Acres		
	Channels		Warner Avenue Bridge
	Wetlands	Eelgrass (indirect)	
NED Plan	17.9	4.08	0.75
LPP	11.3	4.08	0.75

Mitigation Parcels		
Parcel	**Owner**	**Notes**
110-016-01	State of California	Eel Grass Planting
110-016-09	State of California	Tide gates, Channel Work, Inlet to Muted Tidal Pocket
110-016-12	State of California	Muted Tidal Pocket
110-017-01	State of California	Excavation for Warner Ave Bridge Expansion
110-017-05	State of California	Eel Grass Planting
110-017-09	State of California	Full Tidal Basin, Channel work in existing ROW only
110-017-13	State of California	Tern Islands
110-017-54	State of California	Muted Tidal Pocket
		***All above parcels zoned as OS - Open Space*

Note: The exact acreage required on each tract is not available at this time. Total acreage is estimated but it likely to include some portion of the above tracts.

Maps depicting the real estate requirements for mitigation are included in Exhibit A.

Note: The engineering work completed for this report is at a conceptual or feasibility level. Therefore, significant uncertainties remain in the plans as currently outlined in this document. Due to schedule and budget constraints, minimal field data were obtained during the feasibility phase, and minimal engineering analysis of the recommended measures was completed. If the project proceeds to the USACE's Preconstruction Engineering and Design (PED) phase, all recommended engineering measures would be analyzed further. Accordingly, all LERRDs will be reevaluated as the PED phase progresses.

Staging Areas – NED Plan & Locally Preferred Plan

The identification of staging areas is a conceptual exercise. OCPW has demonstrated through construction of similar reaches that staging for channel improvement is possible within the established Right of Way. These tables are presented only as a demonstration that adequate public and open space (parks, parking lots, roads, etc.) exists within each reach should staging and storage areas be required. A more detailed analysis during PED will be completed to determine whether staging areas are necessary and required in order to construct the project.

NED - Conceptual Staging Areas			
Parcel	**Owner**	**Acres**	**Estate**
096-190-82	Southern California Edison	2	Temp Work Area Easement
000-000-00	US Navy (Former?)	2.2	Temp Work Area Easement
000-000-00	US Navy (Former?)	2.03	Temp Work Area Easement
195-461-02	Krausz One	1.26	Temp Work Area Easement
000-000-00	ROW	0.11	Temp Work Area Easement
000-000-00	ROW	0.3	Temp Work Area Easement
000-000-00	ROW	0.16	Temp Work Area Easement
163-271-28	City of Huntington Beach	0.94	Temp Work Area Easement
000-000-00	ROW	1.45	Temp Work Area Easement
163-252-61	City of Huntington Beach	0.72	Temp Work Area Easement
146-311-17	Plains West Coast Terminals LLC	0.46	Temp Work Area Easement
142-172-01	Piland Properties II LLC	0.17	Temp Work Area Easement
107-220-68	School Ocean View Dsitrict	1.58	Temp Work Area Easement
107-220-69	School Ocean View Dsitrict	0.33	Temp Work Area Easement
107-220-70	Dayton-Hudson Corp	0.49	Temp Work Area Easement
107-220-47	City of Huntington Beach	0.55	Temp Work Area Easement
TBD	ROW	1.42	Temp Work Area Easement
TBD	ROW	0.62	Temp Work Area Easement
143-095-37	School Garden Grove unified District	0.48	Temp Work Area Easement
143-401-23	ROW	0.35	Temp Work Area Easement
108-090-33	City of Santa Ana	0.88	Temp Work Area Easement
108-090-23	Moran Street Partners	0.45	Temp Work Area Easement
100-251-01	School Garden Grove unified District	0.25	Temp Work Area Easement
100-130-54	Orange County Transit District	0.29	Temp Work Area Easement
101-080-66	Garden Grove Hotel LLC	2.22	Temp Work Area Easement
101-080-61	School Garden Grove unified District	1.66	Temp Work Area Easement
000-000-00	ROW	0.68	Temp Work Area Easement
107-573-35	Southern California Edison	0.27	Temp Work Area Easement
107-573-34	Southern California Edison	0.29	Temp Work Area Easement
143-294-01	Huish, John M Trust	0.33	Temp Work Area Easement
143-163-03	School Fountain Valley	0.39	Temp Work Area Easement
144-051-04	School Garden Grove unified District	0.48	Temp Work Area Easement
144-182-02	School Garden Grove Unified High District	0.12	Temp Work Area Easement
178-301-01	Harmony Cove LLC	0.61	Temp Work Area Easement
110-017-01	State of California	1.02	Temp Work Area Easement
	Total	**27.56**	Temp Work Area Easement

LPP - Conceptual Staging Areas			
Parcel	**Owner**	**Acres**	**Estate**
096-190-82	Southern California Edison	2	Temp Work Area Easement
000-000-00	US Navy (Former?)	2.2	Temp Work Area Easement
000-000-00	US Navy (Former?)	2.03	Temp Work Area Easement
195-461-02	Krausz One	1.26	Temp Work Area Easement
000-000-00	ROW	0.11	Temp Work Area Easement
000-000-00	ROW	0.3	Temp Work Area Easement
000-000-00	ROW	0.16	Temp Work Area Easement
163-271-28	City of Huntington Beach	0.94	Temp Work Area Easement
000-000-00	ROW	1.45	Temp Work Area Easement
163-252-61	City of Huntington Beach	0.72	Temp Work Area Easement
146-311-17	Plains West Coast Terminals LLC	0.46	Temp Work Area Easement
142-172-01	Piland Properties II LLC	0.17	Temp Work Area Easement
107-220-68	School Ocean View Dsitrict	1.58	Temp Work Area Easement
107-220-69	School Ocean View Dsitrict	0.33	Temp Work Area Easement
107-220-70	Dayton-Hudson Corp	0.49	Temp Work Area Easement
107-220-47	City of Huntington Beach	0.55	Temp Work Area Easement
Public ROW	Public Row	1.42	Temp Work Area Easement
Public ROW	Public Row	0.62	Temp Work Area Easement
143-095-37	School Garden Grove unified District	0.48	Temp Work Area Easement
143-401-23	ROW	0.35	Temp Work Area Easement
108-090-33	City of Santa Ana	0.88	Temp Work Area Easement
108-090-23	Moran Street Partners	0.45	Temp Work Area Easement
100-251-01	School Garden Grove unified District	0.25	Temp Work Area Easement
100-130-54	Orange County Transit District	0.29	Temp Work Area Easement
101-080-66	Garden Grove Hotel LLC	2.22	Temp Work Area Easement
101-080-61	School Garden Grove unified District	1.66	Temp Work Area Easement
000-000-00	ROW	0.68	Temp Work Area Easement
107-573-35	Southern California Edison	0.27	Temp Work Area Easement
107-573-34	Southern California Edison	0.29	Temp Work Area Easement
143-294-01	Huish, John M Trust	0.33	Temp Work Area Easement
143-163-03	School Fountain Valley	0.39	Temp Work Area Easement
144-051-04	School Garden Grove unified District	0.48	Temp Work Area Easement
144-182-02	School Garden Grove Unified High District	0.12	Temp Work Area Easement
095-030-34	Naval Weapons Station Seal Beach	2.86	Temp Work Area Easement
000-000-00	ROW	0.69	Temp Work Area Easement
000-000-00	ROW	0.83	Temp Work Area Easement
145-081-05	School District Huntington Beach Union High	0.55	Temp Work Area Easement
000-000-00	ROW	0.34	Temp Work Area Easement
000-000-00	ROW	0.28	Temp Work Area Easement
000-000-00	ROW	0.28	Temp Work Area Easement
000-000-00	ROW	0.48	Temp Work Area Easement
000-000-00	ROW	0.4	Temp Work Area Easement
145-301-27	ROW	0.23	Temp Work Area Easement
145-301-27	ROW	0.19	Temp Work Area Easement
000-000-00	ROW	0.38	Temp Work Area Easement
097-090-27	Walsh Properties LLC	1.35	Temp Work Area Easement
098-631-01	School Garden Grove unified District	0.35	Temp Work Area Easement
099-173-10	Sabella, Angela C	2.22	Temp Work Area Easement
000-000-00	ROW	0.14	Temp Work Area Easement
000-000-00	ROW	0.17	Temp Work Area Easement
000-000-00	ROW	0.59	Temp Work Area Easement
178-301-01	Harmony Cove LLC	0.61	Temp Work Area Easement
110-017-01	State of California	1.02	Temp Work Area Easement
	Total	**39.89**	Temp Work Area Easement

5. PROJECT LOCATIONS AND MAPS

The study and project area is located within the Westminster watershed in western Orange County, California, approximately 25 miles southeast of the City of Los Angeles. The watershed is approximately 87 square miles in area and is almost entirely urbanized. Cities in the watershed include Anaheim, Stanton, Cypress, Garden Grove, Westminster, Fountain Valley, Los Alamitos, Seal Beach, and Huntington Beach. The below maps depict the existing condition of the channels. Specifically whether there is an existing rectangular or trapezoidal channel, and whether it is a hard or soft bottom. Detailed mapping of parcels, estates, and acreage is included in Exhibit A.

6. A STANDARD ESTATES – NED Plan

OCPW owns the channel Right of Way in fee simple. The minimum real estate interest required for the channel improvements within their Right of Way is a Channel Improvement Easement. The Channel Improvement Easement allows for a variety of improvement features as recommended in the main feasibility report. OCPW will certify ownership of each construction reach as required. For the mitigation areas and other features owned by the State of California, it is possible that the California State Lands Commission (CSLC) will provide the LERRDs as a non-federal sponsor, and that no non-standard estates are required. However, CSLC has indicated their preference to work through OCPW to provide the lands required as opposed to acting as a project partner. Temporary Work Area Easements have been identified for conceptual staging and storage areas. OCPW has indicated the improvements can be accomplished within the Channel ROW however the conservative approach is to identify the availability of the work areas as part of feasibility planning. Should they not be needed they can be eliminated during PED phase.

CHANNEL IMPROVEMENT EASEMENT 258.79 ACRES

A perpetual and assignable right and easement to construct, operate, and maintain channel improvement works on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____) for the purposes as authorized by the Act of Congress approved_____, including the right to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, buildings, improvements and/or other obstructions therefrom; to

excavate: dredge, cut away, and remove any or all of said land and to place thereon dredge or spoil material; and for such other purposes as may be required in connection with said work of improvement; reserving, however, to the owners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements far public roads and highways, public utilities, railroads and pipelines.

FEE - Mitigation **22.73 ACRES**

The fee simple title to (the land described in Schedule A), Subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

TEMPORARY WORK AREA EASEMENT **27.56 ACRES**

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) for a period not to exceed 2 years, beginning with date possession of the land is granted to the OCPW, for use by the OCPW, its representatives, agents, and contractors as a (work area), including the right to move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the Westminster East Garden Grove Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

6. B STANDARD ESTATES – LPP

OCPW owns the channel Right of Way in fee simple. The minimum real estate interest required for the channel improvements within their Right of Way is a Channel Improvement Easement. The Channel Improvement Easement allows for a variety of improvement features as recommended in the main feasibility report. OCPW will certify ownership of each construction reach as required. For the mitigation areas and other features owned by the State of California, it is possible that the California State Lands Commission (CSLC) will provide the LERRDs as a non-federal sponsor, and that no non-standard estates are required. However, CSLC has indicated their preference to work through OCPW to provide the lands required as opposed to acting as a project partner. Temporary Work Area Easements have been identified for conceptual staging and storage areas. OCPW has indicated the improvements can be accomplished within the Channel ROW however the conservative approach is to identify the availability of the work areas as part of feasibility planning. Should they not be needed they can be eliminated during PED phase.

CHANNEL IMPROVEMENT EASEMENT **258.79 ACRES**

A perpetual and assignable right and easement to construct, operate, and maintain channel improvement works on, over and across (the land described in Schedule A for the purposes as

authorized by the Act of Congress approved (TBD), including the right to clear, cut, fell, remove and dispose of any and all timber, trees, underbrush, buildings, improvements and/or other obstructions therefrom; to excavate: dredge, cut away, and remove any or all of said land and to place thereon dredge or spoil material; and for such other purposes as may be required in connection with said work of improvement; reserving, however, to the owners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements far public roads and highways, public utilities, railroads and pipelines.

FEE - Mitigation **16.13 ACRES**

The fee simple title to (the land described in Schedule A), Subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

TEMPORARY WORK AREA EASEMENT **39.89 ACRES**

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) for a period not to exceed 2 years, beginning with date possession of the land is granted to the OCPW, for use by the OCPW, its representatives, agents, and contractors as a (work area), including the right to move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the Westminster East Garden Grove Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

7. NON-STANDARD ESTATES

It is not anticipated non-standard estates will be utilized. This plan has been drafted based on the assumption and direction of the Project Development Team that the California State Lands Commission will provide the LERRDs as a non-federal sponsor. At this time that is the best working assumption. However, should the CSLC decide not to participate OCPW would need to enter in to a non-standard agreement, or perform a land-swap, with CSLC that could be considered non-standard. We are not recommending any non-standard estates at this time, however it should be noted that this represents a schedule risk to the project should a non-standard estate be required in the future.

8. INDUCED FLOODING

The conclusion of the Hydraulics and Hydrology branch of the Chicago District is that there will be no adverse effect on flooding from the project. While the project increases flood capacity within the existing channel, no flooding is expected to occur outside of the channel which would cause flood damages to surrounding property or communities.

9. NAVIGATION SERVITUDE

The proposed work is not located on or near navigable waters. Therefore, navigational servitude does not apply to this project.

10. EXISTING FEDERAL PROJECTS

There are no federal projects within the real estate footprint of the project, with the exception of Interstate 405. Projects in the area include the Prado Dam and the Santa Ana Flood Control Project.

11. FEDERAL-OWNED LAND

Currently there are no federally owned lands identified in the Channel Improvement or Fee Simple areas. Some temporary work areas have been indicated on lands owned by the Navy, however if those are not available alternate lands would be identified.

12. SPONSOR-OWNED LAND

OCPW owns the channel Right of Way throughout the entire project area. A total of 291.54 acres of Right of Way are owned by OCPW for the LPP. A total of 258.79 acres of Right of Way are owned by OCPW for the NED. The State of California owns the mitigation and other project feature lands such as the channel that would be excavated at the downstream outlet of channel C05 near Warner Avenue Bridge. 22.73 fee simple acres are owned by the State of California for the LPP. 16.13 fee simple acres are owned by the State of California for the NED. The State could provide land as a non-federal sponsor but has indicated they prefer to work with Orange County to provide necessary lands. OCPW has extensive GIS mapping capabilities and has provided original as-built drawings of the Right of Way for review.

13. ENVIRONMENTAL CONSIDERATIONS

Engineer Regulation (ER) 1165-2-132, Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works projects, dated June 26, 1992, provides guidance for consideration of HTRW issues and problems within project boundaries or which may affect/be affected by USACE Civil Works projects. A summary of the HTRW analysis follows:

Channels C02, C04, C05, and C06
In general, review of Environmental Data Resources (EDR) database returns on or adjacent to channels C02, C04, C05, and C06 suggests that there are leaking underground storage tanks (LUSTs) adjacent to within the study area that have not been fully remediated. In addition, there are several service stations with active underground storage tanks (USTs), and a facility with a potential surface impoundment, directly adjacent to the potential work areas.

Channel C02

The Seal Beach Department of Defense (DoD)/Formerly Used Defense Sites (FUDS)/Unexploded Ordnance (UXO) Remedial Action Sites are adjacent to Channel C02. The Installation Restoration Program (IRP) at NWSSB began in 1985 with an Initial Assessment Study in which 25 locations of potential contamination were identified. A further Resource Conservation and Recovery Act Facility Assessment in 1989 and subsequent discoveries brought this total up to 76 locations. During the course of these and later studies, 49 sites were determined to contain no significant contamination, five currently operating permitted facilities were removed from the program, and two additional sites were transferred to other environmental programs specializing in USTs. Fifteen sites have had remedial actions completed. The remaining five IRP sites are in various stages of active study or remediation. A Military Munitions Response Program (MMRP) Preliminary Assessment was conducted in late 2008, with five MMRP sites recommended for Site Inspections. As a result of these investigations two sites were recommended for no further action and remaining three sites will undergo more detailed analysis. Sites with ongoing remedial actions are presented below:

- Site 7 – Station landfill. Previous disposal of solvents, transformer oil, lubricants, paint sludge, asbestos, photo solutions, and mercury. Remedial action complete, monitoring ongoing,
- Site 22 – Oil Island. Oil production waste-holding impoundments. Site being used and monitored.
- Site 70 – Research, Testing and Evaluation Area. Enhanced bioremediation and monitored natural attenuation ongoing for trichloroethylene (TCE) contamination.
- Site 74 – Old Skeet Range. Final remediation strategy being developed for metals (lead and antimony) and polycyclic aromatic hydrocarbons (PAHs) from previous skeet shooting activities. Close to SBNWR
- Site 75 – Agricultural Groundwater Well (well designation KAYO-SB). Groundwater contamination, chlorinated solvents. Site being inspected and Navy working with regulatory agencies on remedial action plan.
- UXO 1 – Primer Salvage Yard and POLB Mitigation Pond. Remedial investigation ongoing for munitions and explosives of concern, munitions constituents.
- UXO 6 – Westminster Port of Long Beach (POLB) Fill Area. Remedial investigation ongoing for munitions and explosives of concern, munitions constituents. AOC 2 – Explosives Drop Test Tower. Remedial investigation ongoing for munitions constituents.

Channel C05

In 1997, the Bolsa Chica Lowland Restoration Project, adjacent to channel C05, began with the acquisition of private property that had supported oil exploration for decades and a continuing oil field operation. A prerequisite to that acquisition was completion of a voluntary cleanup agreement among the State Lands Commission (SLC), the oil company operating the oil field lease, CalResources LLC, and the property seller, Signal Bolsa Corporation. The cleanup agreement established that the project would characterize the nature and extent of contamination on the site, the parties would agree on remedial goals, and the oil company and seller would see that the contamination was remediated under the oversight of the RWQCB. The project was expected to be under construction by October 1, 2004 and completed in spring of 2007 and

would address soils contaminated with metals, oil & grease, petroleum hydrocarbons, and PCBs. Activities to remediate the contamination in the oil fields appear to be ongoing. Recently developed oil field remedial plans consist of completion of the final elements of remediation and/or removal of contaminated soils that haven't been addressed through previous remedial activities.

It is not anticipated the HTRW described in the preceding summary will affect the ability of OCPW or CSLC to provide the LERRDs.

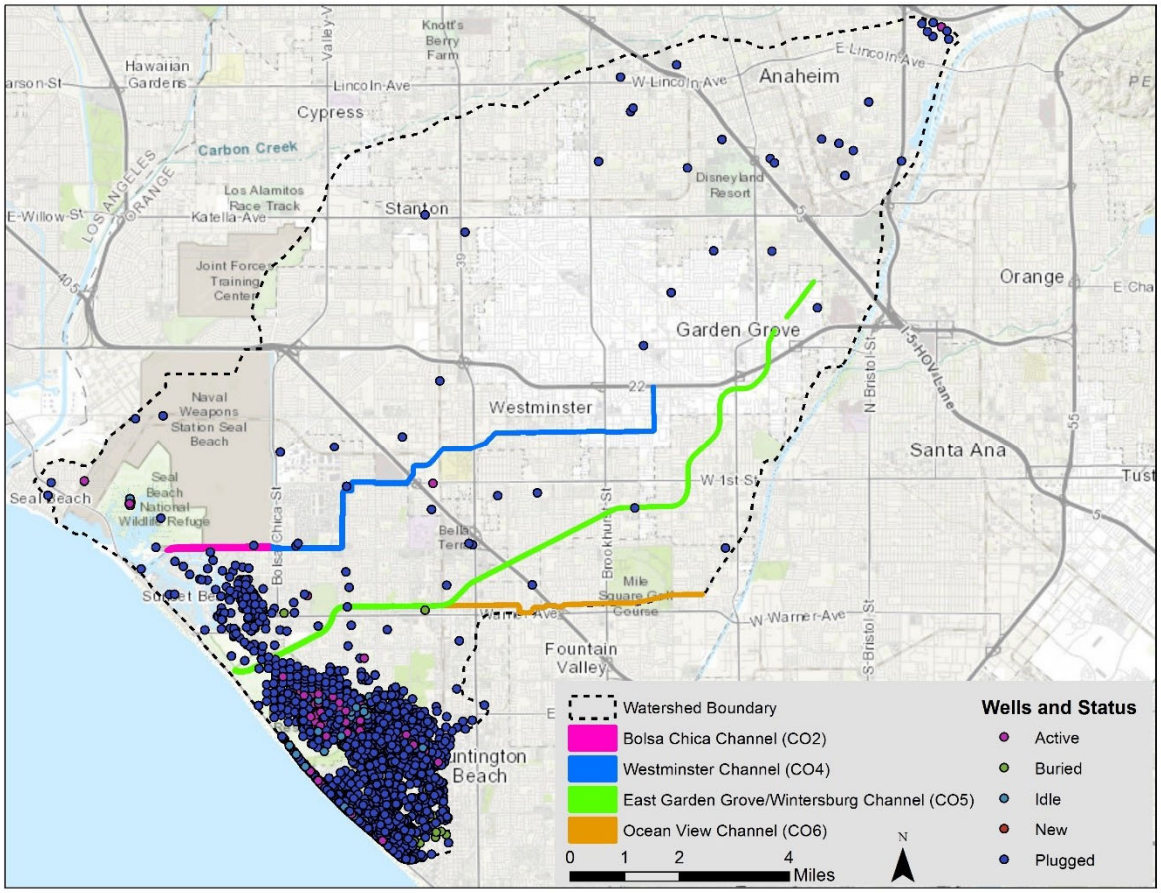
14. RELOCATION ASSISTANCE BENEFITS (P.L. 91-646)

No residential or commercial relocations are identified in the current plan. None of the work within the Channel Right of Way will displace homeowners or businesses. It should be noted that detailed Right of Way plans for the relocation of the Locally Preferred Plan bridges have not been completed. Should expanded or raised (not likely) bridges be required there could be a need for additional right of way acquisition that could require relocation of residential homes or businesses within the project area. The uncertainty associated with the level of design for the LPP bridges is identified in the risk register.

15. MINERAL/TIMBER ACTIVITY

Mineral extraction data was obtained from the California Department of Conservation Division of Oil, Gas, and Geothermal Resources website. Within the Westminster watershed there are approximately 275 active wells, 32 new wells, 177 idle wells, 22 buried wells, and 2,562 plugged wells. Of the 275 active wells, 227 are oil and gas production well types. The remaining 48 wells are injection type wells of which 47 are water flood and 1 is water disposal.

Within the immediate vicinity of the study area, oil production is currently occurring in an undeveloped area adjacent to the west end of Reach 1 (Bolsa Chica). The oil production is operated by CalResources LLP and includes numerous active oil wells and wells for water injection.



In regards to aggregate resources, sand and gravel are the principal mineral resources in Orange County. It is not anticipated the oil/gas and mineral extraction activity will impact the real estate required for the project.

16. UTILITY/FACILITY RELOCATIONS

Facility Relocations (Bridges)

The majority relocations of facilities are in the LPP reaches and involve relocation of bridges across the channels in order to modify the structures in order to increase or improve conveyance. In most circumstances it is assumed the bridge will need to be modified substantially and/or replaced.

Of primary concern to this feasibility study is the analysis of the NED Plan relocations as they directly affect the cost-benefit ratio for the project. As such priority was given to analyzing the following relocations:

- Warner Avenue Bridge
- Tide Gate Replacement Crossing
- Oil Field Bridge

- Springdale Street Bridge
- Edward Street Bridge

A preliminary opinion of compensability was conducted by Office of Counsel in accordance with 3x3x3 SMART Planning PGL 31. A preliminary opinion was conducted since total costs to modify the bridges does not exceed 30 percent of total project costs. The conclusion of the analysis is that the NED relocations are compensable. Specifically, each owner has a compensable interest for their respective bridge.

During the feasibility process detailed bridge information was requested by USACE from OCPW. OCPW provided detailed information on each crossing including, as-built and Right of Way drawings, ownership information, related easement or permits associated with the bridge, and the specific purpose of the bridge (pedestrian, vehicle, etc.). This information greatly helped the analysis of the remaining LPP relocations.

In summary, the remaining LPP relocations are considered compensable. An analysis of the ownership as provided by OCPW documentation and the purpose and use of the bridge showed each was likely compensable. A summary chart of relocations, ownership, and bridge purpose is included as Exhibit C.

Summary of NED and LPP Bridges / Channel Crossings

CHANNEL	REACH	CROSSING	STATION	FORMULATION
C05	R01	Tide Gate Replacement Crossing	006+25.87	NED/LPP
C05	R01	Oil Field Bridge	036+47.63	NED/LPP
C05	R01	Springdale St.	112+90.43	NED/LPP
C05	R01	Edward st.	139+22.21	NED/LPP
C05	R03	Pedestrian Bridge	201+66.90	LPP
C05	R03	Beach/Heil	225+93.00	LPP
C05	R04	Magnolia/Edinger	285+04.14	LPP
C05	R04	Pedestrian Bridge	307+60.50	LPP
C05	R04	Bushard st.	313+68.64	LPP
C05	R05	McFadden / Brookhurst	344+03.30	LPP
C05	R05	Pedestrian Bridge	355+13.40	LPP
C05	R05	Ward St.	370+48.00	LPP
C05	R05	Deming	387+49.00	LPP
C05	R05	Euclid st.	397+01.00	LPP
C05	R05	Bolsa st.	425+12.20	LPP
C05	R06	Fifth st.	438+50.90	LPP
C05	R07	Hazard/ New Hope	456+86.00	LPP
C05	R08	W. Fay Circle	467+47.00	LPP
C05	R08	Morningside Ave	475+96.40	LPP
C05	R08	Westminster Ave	487+80.70	LPP
C05	R09	OCTD Yard	503+04.60	LPP
C05	R09	Harbor Blvd	515+38.10	LPP
C05	R09	Pedestrian Bridge	530+71.20	LPP
C05	R09	Trask	535+58.60	LPP
C05	R09	Pearce st	546+49.50	LPP
C05	R10	Aspenwood	576+80.00	LPP
C06	R13	Beach Blvd #3	027+42.07	LPP
C06	R13	Newland	053+16.13	LPP
C06	R15	Magnolia	086+40.00	LPP
C04	R20	McFadden Avenue	191+66.06	LPP
C04	R20	Bolsa Avenue	223+42.68	LPP
C04	R20	Edwards Street	241+97.05	LPP
C04	R22	Beach Blvd/W. Hazard	336+62.66	LPP
C04	R22	Pedestrian Bridge	346+78.00	LPP
C04	R22	Newland Street	366+59.84	LPP
C04	R22	Magnolia Street	393+28.75	LPP
C04	R22	Brookhurst Street	447+00.11	LPP
C04	R22	Ward St.	473+82.00	LPP
C04	R22	Westmister Avenue	489+73.11	LPP
C04	R22	Ranney Avenue	502+73.22	LPP
C04	R22	Blake Street	510+33.34	LPP
C04	R22	Woodbury Road	513+08.63	LPP
C04	R22	Teal Drive	516+04.06	LPP
C04	R22	Mallard Avenue	519+07.99	LPP

Utility Relocations

The Channel System bisects numerous utilities. These utility lines provide natural gas, sewer, water, and oil services. The majority of the utility lines that bisect the channel system follow under roadways that extend over the existing channels. It is not known which of these utilities will need to be relocated as part of the project. This list is intended to demonstrate the existence of the utilities and types of utilities in the footprint or vicinity of the project. A brief analysis indicates that the types of utilities identified would be compensable. The determination on relocating specific utilities will be made during the PED phase.

Utility	Location
C05 Channel	
14-inch H.P. Gas	2900 feet Southwest of Graham St.
8-5/8-inch oil line, 15-inch VCP Sewer, 16-inch H.P. Gas	Under Golden West Street Bridge
Three 30-inch VCP Sewer Siphon	At C06 Confluence
96-inch RCP Sewer	Under I-405
Two 8-inch Sewer	Ward Street
36-inch Sewer	Euclid Street
12-inch Encased Water	Harbor Boulevard
12-inch Water	Garden Grove Boulevard
12-inch Encased Water	Allard Avenue
C06 Channel	
22-inch Steel Water, 6-foot by 7-foot RCB Sewer Siphon	Newland Street
12-inch Encased Sewer Siphon	Asari Lane
16-inch Encased Water	Magnolia Street
48-inch Sewer	Bushard Street
9-inch Steel Pipe Crossing	600 feet West of Brookhurst Street
12-inch Water	Brookhurst Street
12-inch Water	Euclid Street
C02 Channel	
4-3-1/2” ACD, 8-3-1/2” ACD, 18” Water Main, Aerial Crossing, 30” Sewer Force Main	Westminster Avenue

12” Irrigation Line, 20” Sewer Force Main, 14” H.P. Gas Main	D/S FWY Culvert
12” Water Main	Through Culvert
34” Gas Main	Lampson Avenue
17” Irrigation Line	D/S Cerritos Avenue
Aerial Crossing	Cerritos Avenue

ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REPORT THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION TO BE PERFORMED BY THE NFS AS PART OF ITS LERRD RESPONSIBILITIES IS PRELIMINARY ONLY. THE GOVERNMENT WILL MAKE A FINAL DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE PROJECT AFTER FURTHER ANALYSIS AND COMPLETION AND APPROVAL OF FINAL ATTORNEY’S OPINIONS OF COMPENSABILITY FOR EACH OF THE IMPACTED UTILITIES AND FACILITIES.

17. ZONING

No rezoning is necessary to support the project LERRD requirements.

18. SCHEDULE

At this time there is no detailed construction schedule as the Project is not authorized. It is anticipated the schedule will proceed in each reach as it is funded and designed through PED. More detailed real estate maps and clearer identification of staging areas will be needed. A detailed plan of the schedule for relocations of the bridge facilities will also be required. A conceptual schedule for a particular reach or phase for the project is presented below. The general project schedule is phased over approximately 15 years.

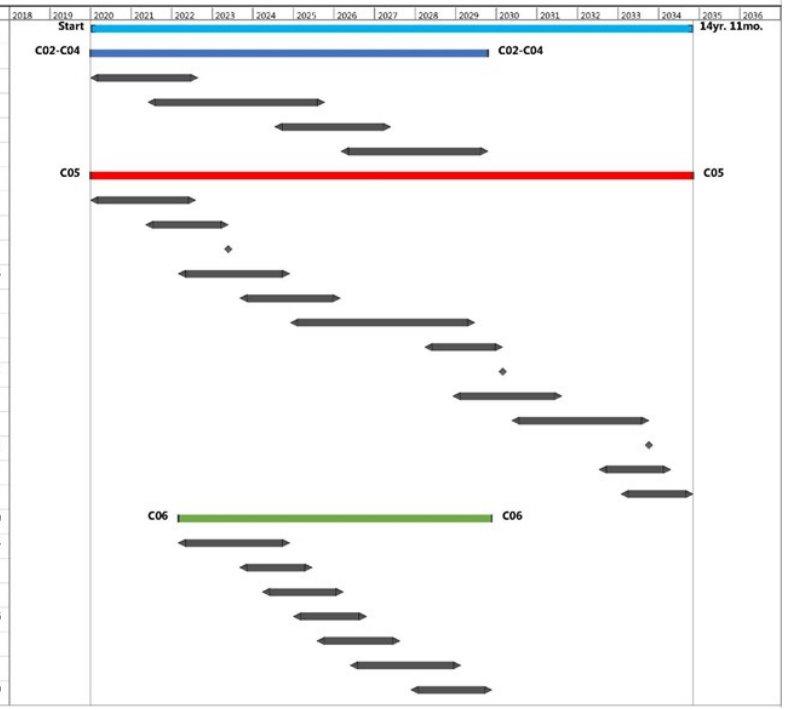
This schedule represents an example of a typical reach.

Activity	Timeframe
Real Estate Map Complete – During PED Phase	0 months
Notice to Acquire / Relocate Utilities/Facilities Sent To NFS	Real Estate Map + 6 months
NFS Begins Acquisition / Relocations	Notice to Acquire + 3 months
Real Estate Acquisition /Relocations Complete	NFS Begins Relocation + 24-36 Months
Certification of Real Estate	Real Estate Acquisition Complete + 3 months
Construction Contract Ready To Advertise Date	Certification of Real Estate + 1 month
Total	**49 months**

A slightly more detailed overall project implementation plan is presented below:

PROJECT SCHEDULE: **DESIGN - BID - BUILD**

ID	Task Name	Duration	Start	Finish
1	Westminster Watershed Project	3875 days	Wed 1/1/20	Tue 11/7/34
2	C02-C04	2555 days	Wed 1/1/20	Tue 10/16/29
3	REACH 23_C02	690 days	Wed 1/1/20	Tue 8/23/22
9	REACH 20_C04	1135 days	Wed 6/2/21	Tue 10/7/25
25	REACH 21_C04	745 days	Wed 7/17/24	Tue 5/25/27
32	REACH 22_C04	945 days	Wed 3/4/26	Tue 10/16/29
48	C05	3875 days	Wed 1/1/20	Tue 11/7/34
49	REACH 1a	675 days	Wed 1/1/20	Tue 8/2/22
55	REACH 1b	530 days	Wed 5/12/21	Tue 5/23/23
62	REACH 2 (completed)	0 days	Tue 5/23/23	Tue 5/23/23
64	REACH 3	715 days	Wed 3/2/22	Tue 11/26/24
75	REACH 4	645 days	Wed 9/6/23	Tue 2/24/26
82	REACH 5	1185 days	Wed 12/4/24	Tue 6/19/29
98	REACH 6	500 days	Wed 3/29/28	Tue 2/26/30
104	REACH 7 (completed)	0 days	Wed 2/27/30	Wed 2/27/30
106	REACH 8	700 days	Wed 12/6/28	Tue 8/12/31
117	REACH 9	880 days	Wed 5/22/30	Tue 10/4/33
128	REACH 10 (completed)	0 days	Wed 10/5/33	Wed 10/5/33
130	REACH 11	460 days	Wed 7/14/32	Tue 4/18/34
136	REACH 12	465 days	Wed 1/26/33	Tue 11/7/34
142	C06	2015 days	Wed 3/2/22	Tue 11/20/29
143	REACH 13	715 days	Wed 3/2/22	Tue 11/26/24
154	REACH 14	465 days	Wed 9/6/23	Tue 6/17/25
160	REACH 15	520 days	Wed 3/27/24	Tue 3/24/26
167	REACH 16	470 days	Wed 1/1/25	Tue 10/20/26
173	REACH 17	535 days	Wed 7/30/25	Tue 8/17/27
179	REACH 18	710 days	Wed 5/27/26	Tue 2/13/29
185	REACH 19	520 days	Wed 11/24/27	Tue 11/20/29



19. BASELINE COST ESTIMATE

It was previously discussed the conceptual nature of the staging areas and the determination has yet to be made whether they are required at all. At this time the identification of staging areas is merely conceptual. As such a conservative contingency estimate has been applied for use of public and private lands for staging for both the LPP and NED.

The main acquisition requirement is in the LPP and is associated with the diversion channel to be acquired through public right of way, an abandoned RR Right of Way and a portion of a parking lot. This diversion is part of the LPP and does not factor in to the cost benefit analysis, however for feasibility purposes we have provided a cost estimate.

Due to the unknown mitigation requirements, and effectively being conceptual at this point, a per acre value has been applied to the maximum LPP mitigate acreage for both the LPP and NED.

WESTMINSTER REAL ESTATE COSTS				
A) 01 Lands and Damages (Non-Federal)				
NED PLAN		**Acres/Unit**		**Total**
	Channel Improvement Easement		$	40,000
	(Warner Ave. ROW only)			
	Temporary Work Area Easement	27.56	$	1,595,000
	Fee Simple (Mitigation)	22.73	$	583,000
	Acquisition Costs		$	150,000
	Incremental Costs	10%	$	236,800
	Total Lands, Easements, Rights of Way		$	2,604,800
			$	2,605,000
	Total NED Plan		**$**	**2,605,000**
	Federal Admin Costs		**$**	**3,300,000**
LOCALLY PREFERRED PLAN		**Acres/Unit**		**Total**
	Channel Improvement Easement		$	1,542,000
	(Diversion ROW)			
	Temporary Work Area Easement	39.89	$	1,595,000
	Fee Simple (Mitigation)	16-22.73	$	583,000
	Acquisition Costs		$	150,000
	Incremental Costs	10%	$	387,000.0
	Total Lands, Easements, Rights of Way		$	4,257,000
	Total Locally Preferred Plan		**$**	**179,000**
	Federal Admin Costs		**$**	**3,300,000**
B) 02 Reloctions				
NED PLAN		Utilities	$	2,304,383
		Bridges	$	37,398,432
		Total	**$**	**39,702,815**
LOCALLY PREFERRED PLAN		Utilities	$	15,506,575
		Bridges	$	197,985,109
		Total	**$**	**213,491,684**
	Note:See Appendix C for more detail			

The value of the lands, relocations, and disposal areas required for the Project was determined by a cost estimate/contingency level analysis. The type of analysis was determined in accordance with Planning Guidance Letter No. 31.

The estimated value of LERRD is a preliminary estimate which may decrease or increase upon completion of an appraisal. In addition to the limitations of the valuation processes and methods used to develop the estimates, there are areas of risk identified that potentially could impact the estimates significantly. To the extent possible, these risk items have been quantified and added as incremental costs.

The Federal administrative costs are estimated to be $3,300,000. This includes funds for NFS oversight, landowner's meetings, and review of utility relocation agreements. This amount is an estimate and may increase or decrease based on actual acquisition and oversight needs. Further, NFS acquisition costs may rise significantly if the real estate requirements of the Channel Improvement Easement and Bridge/Utility Relocations increase.

20. SPONSOR CAPABILITY

OCPW has performed the duties of a non-federal sponsor for USACE projects in the past, including Santa Ana River Flood Risk Management Project. Since significant acquisition is not required, the main analysis is the capability of the sponsor to perform the utility and facility relocations. Based on discussions with the sponsor they have performed similar relocations in the project area to date successfully and understand the requirements for doing so. As such we have determined OCPW is a capable sponsor. Additionally CSLC may provide the lands as a non-federal sponsor for the mitigation areas and other project features but has indicated a preference not to act as a sponsor and to provide necessary lands through working with Orange County. The State of California has performed the duties of a non-federal sponsor for prior USACE projects and is also considered capable. Sponsor capability assessments are included as Exhibit B.

21. PROJECT SUPPORT AND OWNER ATTITUDE/ISSUES

There is no known opposition to the project currently. OCPW is supportive of the study and the feasibility-level findings included in the report. Throughout development of this feasibility report, there has been significant coordination with OCPW, its contractor, relevant federal agencies, the State of California, and other stakeholders. A landowners meeting is not required due to the limited real estate acquisition required for the project.

22. SPONSOR NOTIFIED OF RISK OF ADVANCED ACQUISITION

The lead sponsor, OCPW has been working on this project with USACE since the recon phase in 2003. It had been indicated that the local district provided notice of acquisition at that time, however the sponsor has since been notified again in writing as of Dec 2019. The risks of advanced acquisition are low as the OCPW and CSLC own the LERRDs. However of greater

concern is the risk of advanced bridge relocations which was specifically mentioned in the most recent notice.

23. OTHER RELEVANT REAL ESTATE ISSUES

The level of design and planning completed thus far is very preliminary. Much more detailed analyses will be required during the PED phase and commensurate with the level of design details that become available. The Real Estate Plan at this time should be considered preliminary, commensurate with the level of planning completed thus far, and subject to change as each reach is planned further. As the sponsor has indicated/requested a LPP it is likely the timeline and design details will be dictated by OCPW in accordance with their schedule.

This analysis has included the possibility that the CSLC will participate as a non-federal sponsor and provide the LERRDs. Should that assumption not hold and OCPW remains the sole sponsor it is likely a non-standard estate will need to be pursued for use of the mitigation lands and other project features as CSLC is likely unable by state law to sell lands for this purpose.

There are no cemeteries within the Project area.

The Chicago District has completed this feasibility with support from the Detroit District Real Estate Division. At some point after feasibility the project will be turned over to the Los Angeles District. The Los Angeles District Real Estate Division will coordinate, monitor, and assist with all real estate activities undertaken by the non-Federal Sponsor. If any acquisition activities are required by the non-Federal Sponsor, the Real Estate Division will assure that the acquisition process is conducted in compliance with Federal and State Laws, specifically, the requirements under the Federal Uniform Relocation and Acquisition Act (P.L. 91-646). The Real Estate Division will attend district team meetings, and also review and provide input into draft and final reports prepared by the district team.

Prepared By:

ROHDE.MICHAEL.B.1387945357

Digitally signed by ROHDE.MICHAEL.B.1387945357
Date: 2020.01.28 14:11:16 -06'00'

MICHAEL B. ROHDE
Realty Specialist
Buffalo, Chicago, & Detroit Districts

Approved By:

CONNETT.CHERYL.L.1231861358 Digitally signed by CONNETT.CHERYL.L.1231861358 Date: 2020.01.30 18:08:14 -08'00'

Cheryl Connet
Chief, Real Estate
Los Angeles District

EXHIBIT A

MAPS

OBJECTID	APN	Acres
1	096-182-23	0.511675
2	096-182-01	0.280082
3	195-351-01	0.1659
4	195-351-02	0.166284
5	195-351-03	0.166283
6	195-351-04	0.166276
7	195-351-05	0.166256
8	195-351-06	0.166275
9	195-351-07	0.166272
10	195-351-08	0.166275
11	195-351-09	0.166255
12	195-351-10	0.166275
13	195-351-11	0.166276
14	195-341-01	0.166256
15	195-341-02	0.166255
16	195-341-03	0.166275
17	195-341-04	0.170791
18	195-341-05	0.186965
19	195-341-06	0.23816
20	195-341-21	0.018882
21	195-362-17	0.167212
22	195-362-16	0.168552
23	195-362-15	0.168574
24	195-362-14	0.168565
25	195-362-13	0.168545
26	195-362-12	0.168546
27	195-362-11	0.168549
28	195-362-10	0.168528

OBJECTID	APN	Acres
29	195-362-09	0.168531
30	195-362-08	0.168503
31	195-362-07	0.168505
32	195-362-06	0.168485
33	195-362-05	0.168488
34	195-362-04	0.168477
35	195-362-03	0.168468
36	195-362-02	0.168471
37	195-362-01	0.167863
38	195-463-06	0.154048
39	195-463-07	0.138134
40	096-181-07	0.194218
41	096-181-03	0.286648
42	195-373-26	1.025737
43	000	2.114889
44	195-063-73	0.178847
45	195-063-74	0.160544
46	195-063-75	0.152902
47	195-373-19	0.707452
48	195-063-76	0.152889
49	195-063-77	0.152895
50	195-063-78	0.152887
51	195-063-79	0.152875
52	195-063-80	0.174915
53	195-373-20	1.604062
54	195-062-07	0.14503
55	195-062-06	0.144072
56	195-041-42	0.143836

OBJECTID	APN	Acres
57	195-373-10	11.646494
58	195-041-31	0.14075
59	195-041-30	0.140799
60	195-041-19	0.14075
61	195-041-18	0.139758
62	195-041-07	0.140179
63	195-041-06	0.138368
64	195-373-17	30.612208
65	195-373-15	3.619614
66	195-023-06	0.144321
67	195-373-16	11.436962
68	195-021-59	0.172859
69	195-021-58	0.168048
70	195-462-02	0.516522
71	195-021-57	0.168061
72	195-021-56	0.168028
73	195-021-55	0.152238
74	195-462-01	8.054125
75	195-021-54	0.161996
76	195-461-02	1.374524
78	195-151-35	0.434798
79	195-151-34	0.601107
80	195-461-01	3.364716
161	096-190-71	8.303158
162	096-190-79	6.452724
163	096-190-78	1.74354
164	096-190-68	5.251182
166	096-190-76	0.491766

OBJECTID	APN	Acres
167	096-482-01	0.174928
168	096-482-02	0.1648
169	096-482-03	0.167143
170	096-482-04	0.167829
171	096-482-05	0.163848
172	096-482-06	0.164042
173	096-482-07	0.168328
174	096-482-08	0.165281
175	096-482-09	0.166739
196	096-190-63	7.941485
217	096-190-29	0.491922
218	096-190-87	5.764028
220	096-190-85	6.049282
221	096-481-05	1.164995
222	096-481-06	1.195505
223	096-481-04	0.939115
224	096-181-10	0.516461
225	096-181-09	0.312836
226	096-181-12	0.164338
227	096-181-14	0.411514
230	096-190-69	1.125273
231	096-190-70	2.552121
232	096-190-82	0.992642
233	096-190-83	0.992642
234	096-190-86	2.159901

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Parcels | Diversion Channel | Reach 20 | Reach 21

0 500 1,000
Feet

N

Westminster, East Garden Grove FRM

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August 2019

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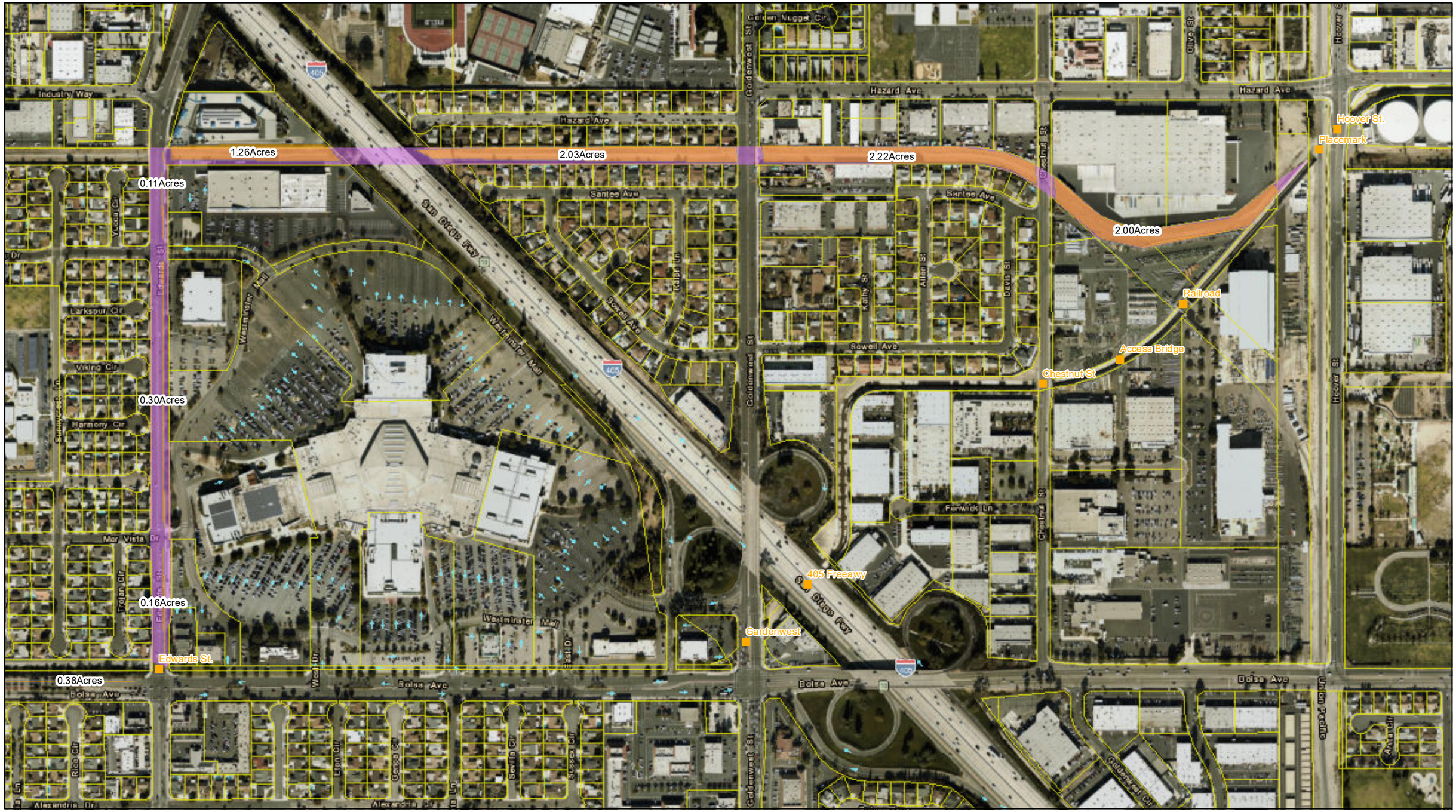

U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.077 miles

Westminster

Real Estate Staging Areas
NED - Minimum
DIVE. CHANNEL

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September 2019

Diversion
13.47 Acres

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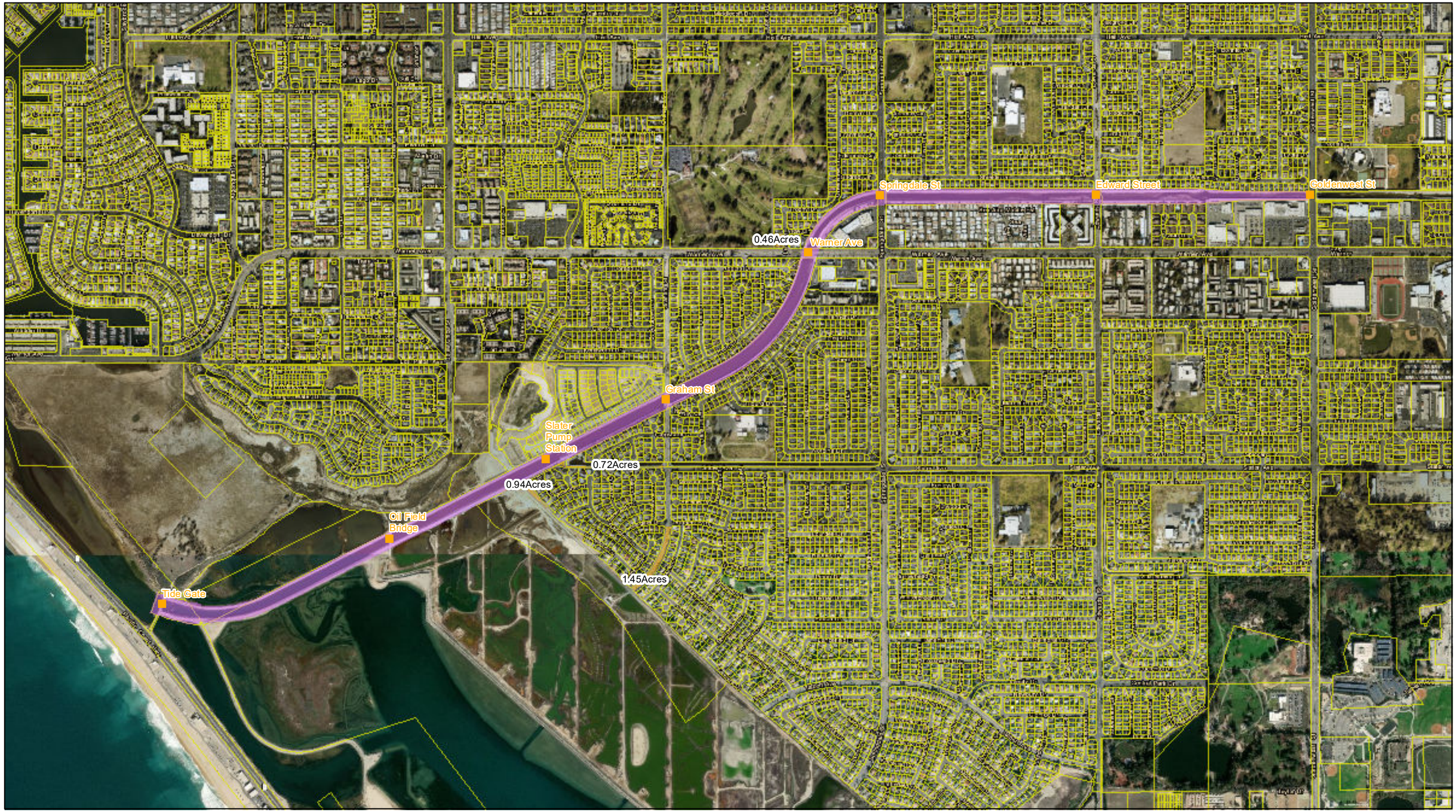

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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.21 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 01
70.72 Acres

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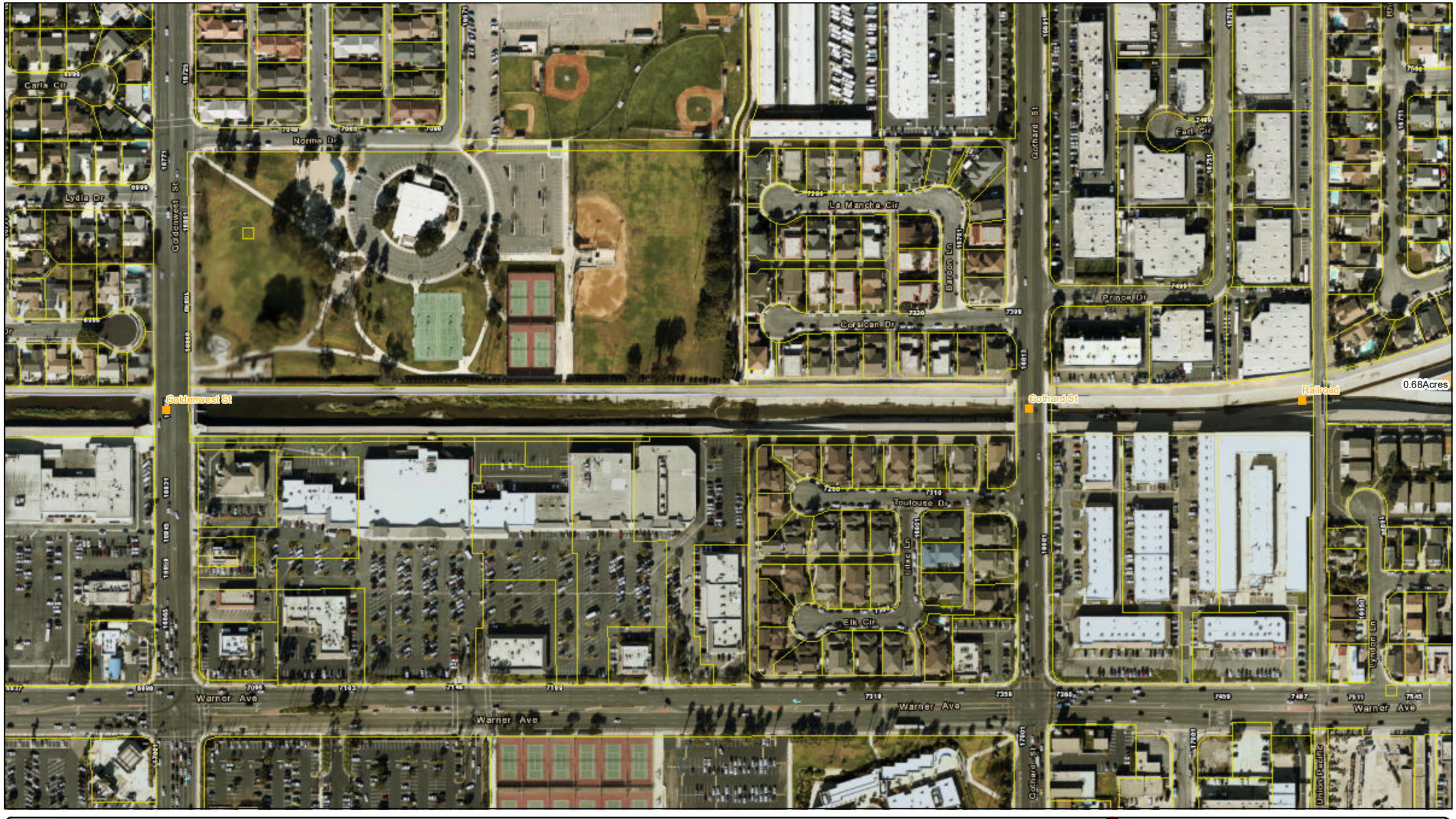

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Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.04 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 02
7.15 Acres

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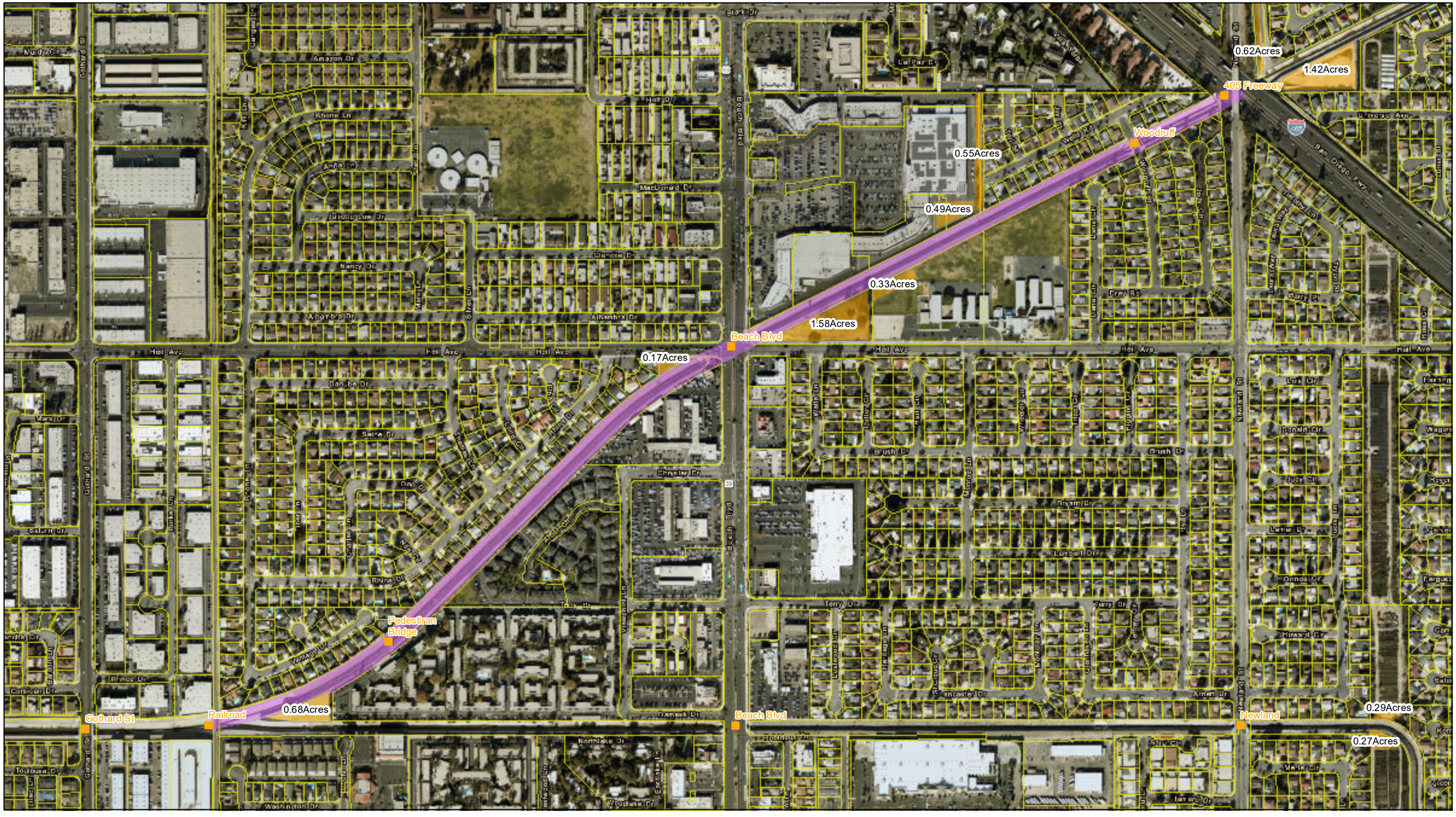

U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.088 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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Reach 03
13.44 Acres

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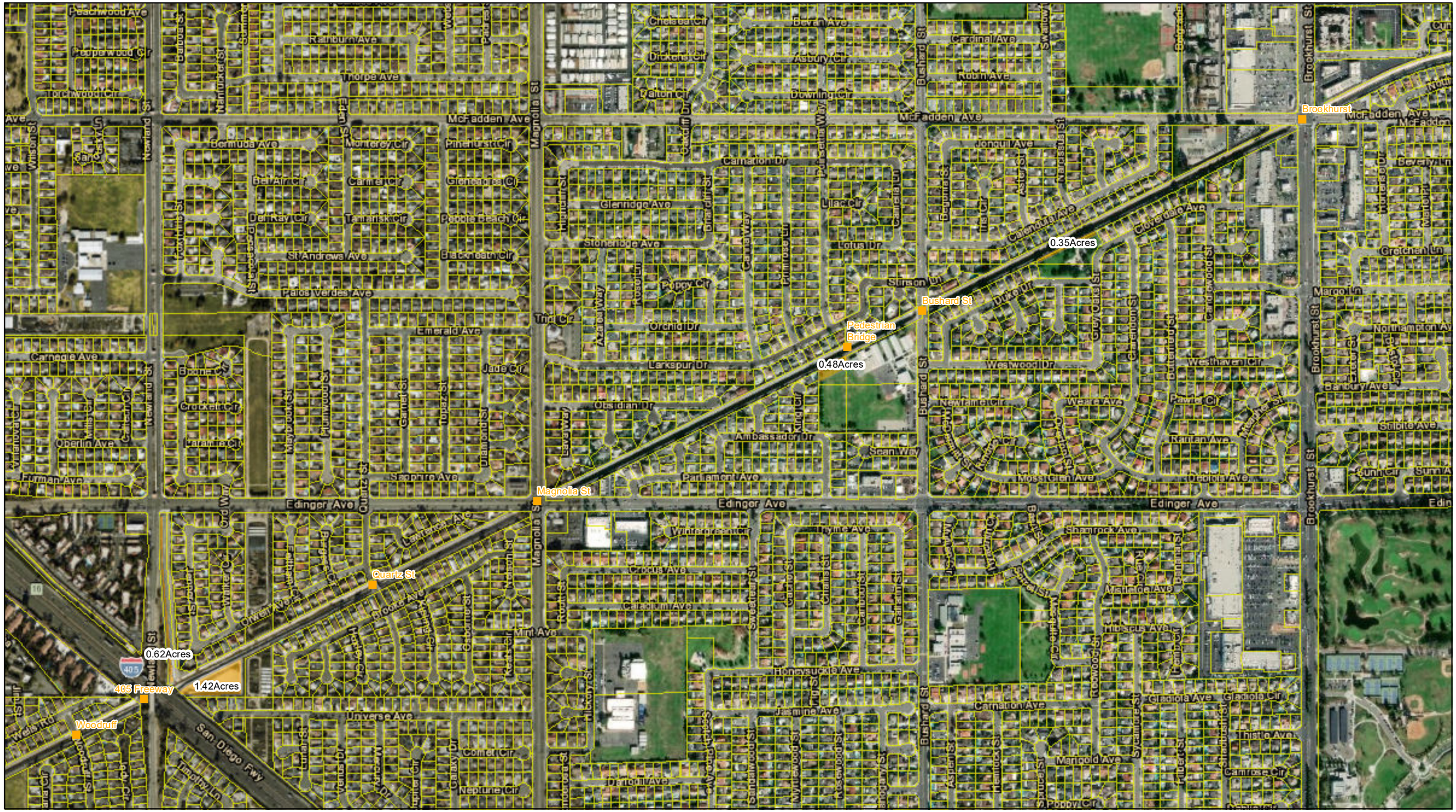

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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.118 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 04
16.79 Acres

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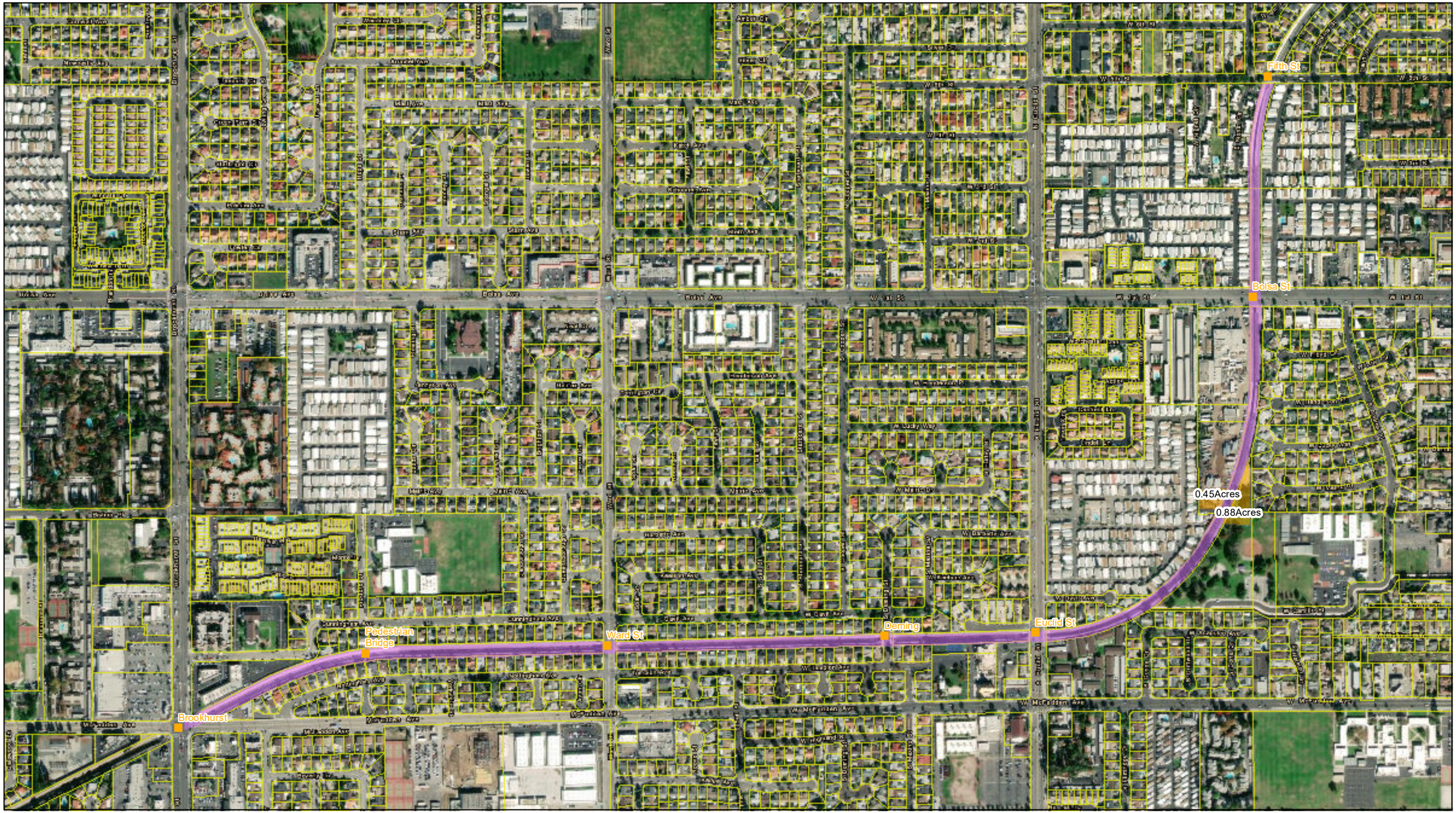

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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.106 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 05
15.89 Acres

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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.019 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 06
1.34 Acres

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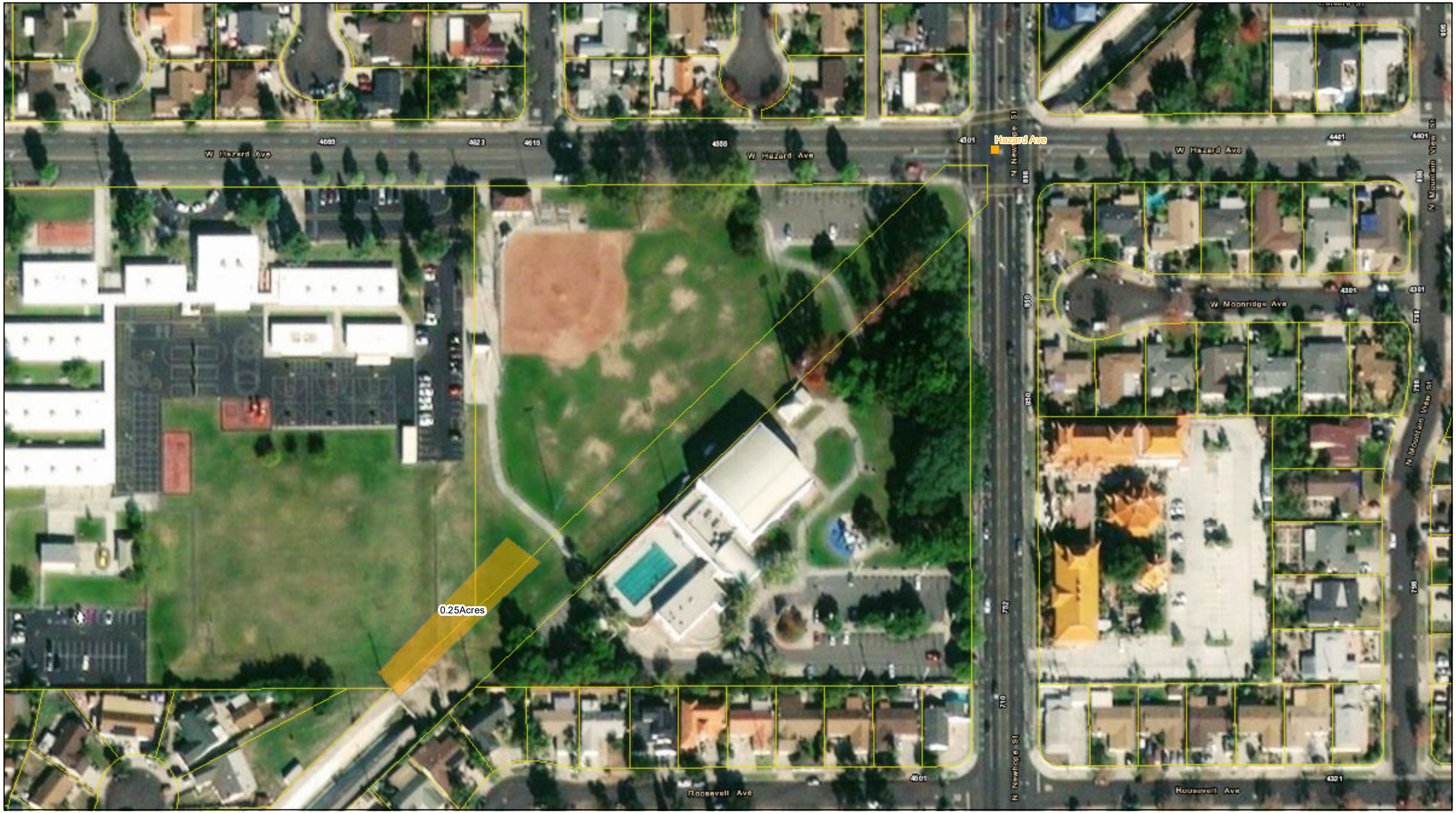

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Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.021 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 07
1.72 Acres

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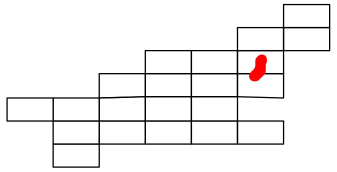

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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N W E S

1 inch = 0.109 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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Reach 08
5.86 Acres

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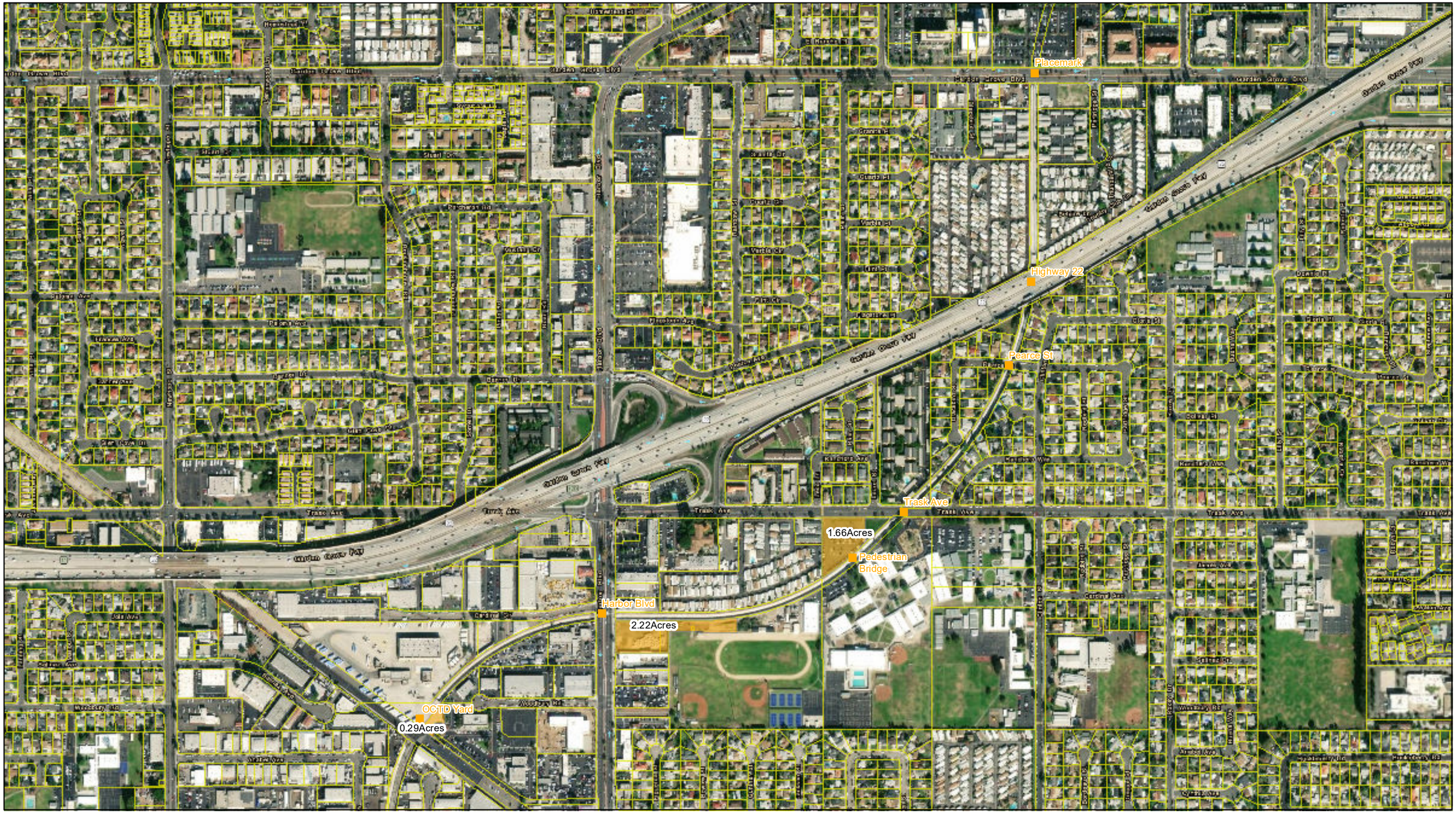

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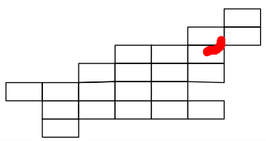
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels



N
W E
S

1 inch = 0.104 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

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September 2019

Reach 09
7.27 Acres

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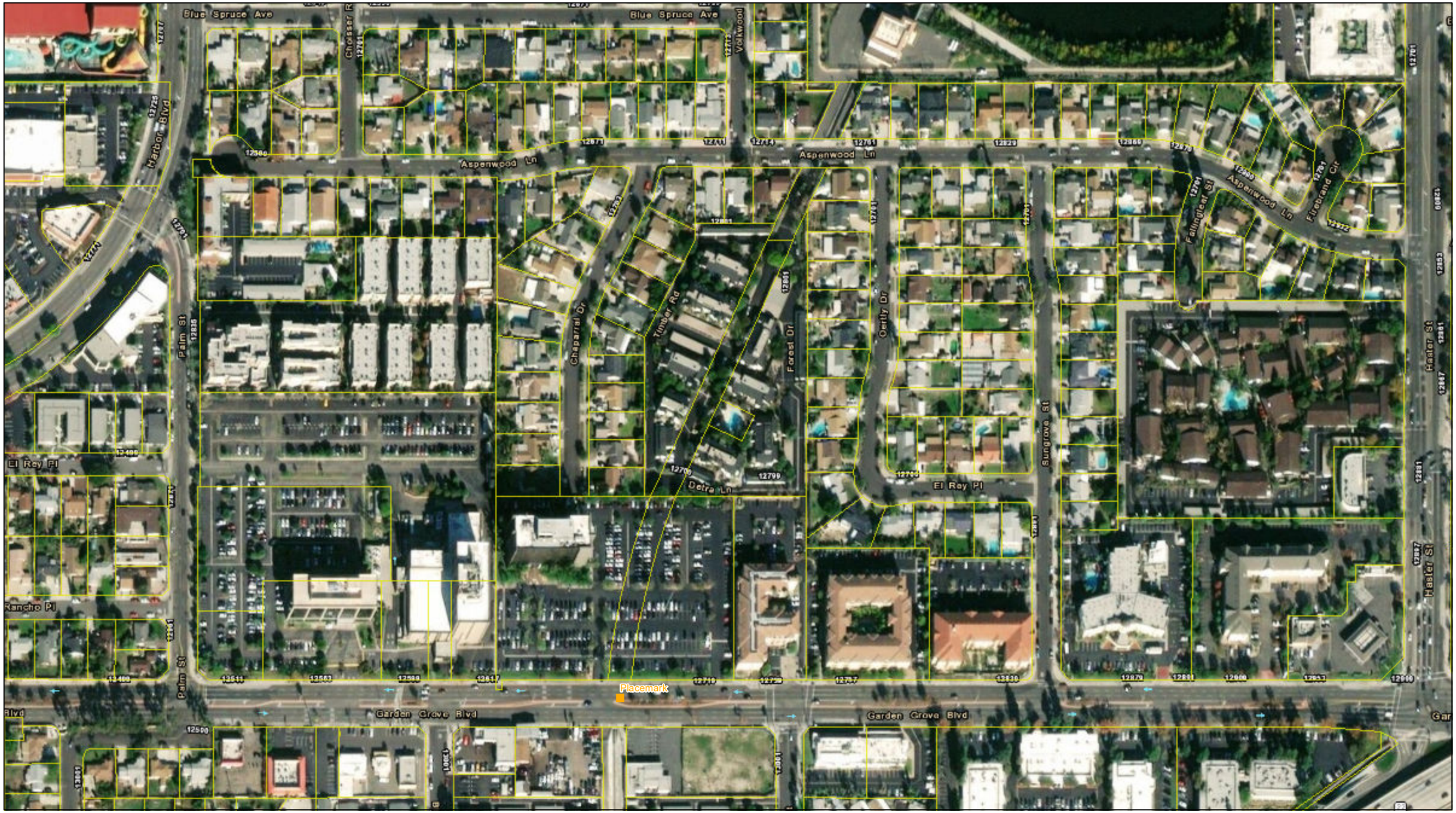

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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.036 miles

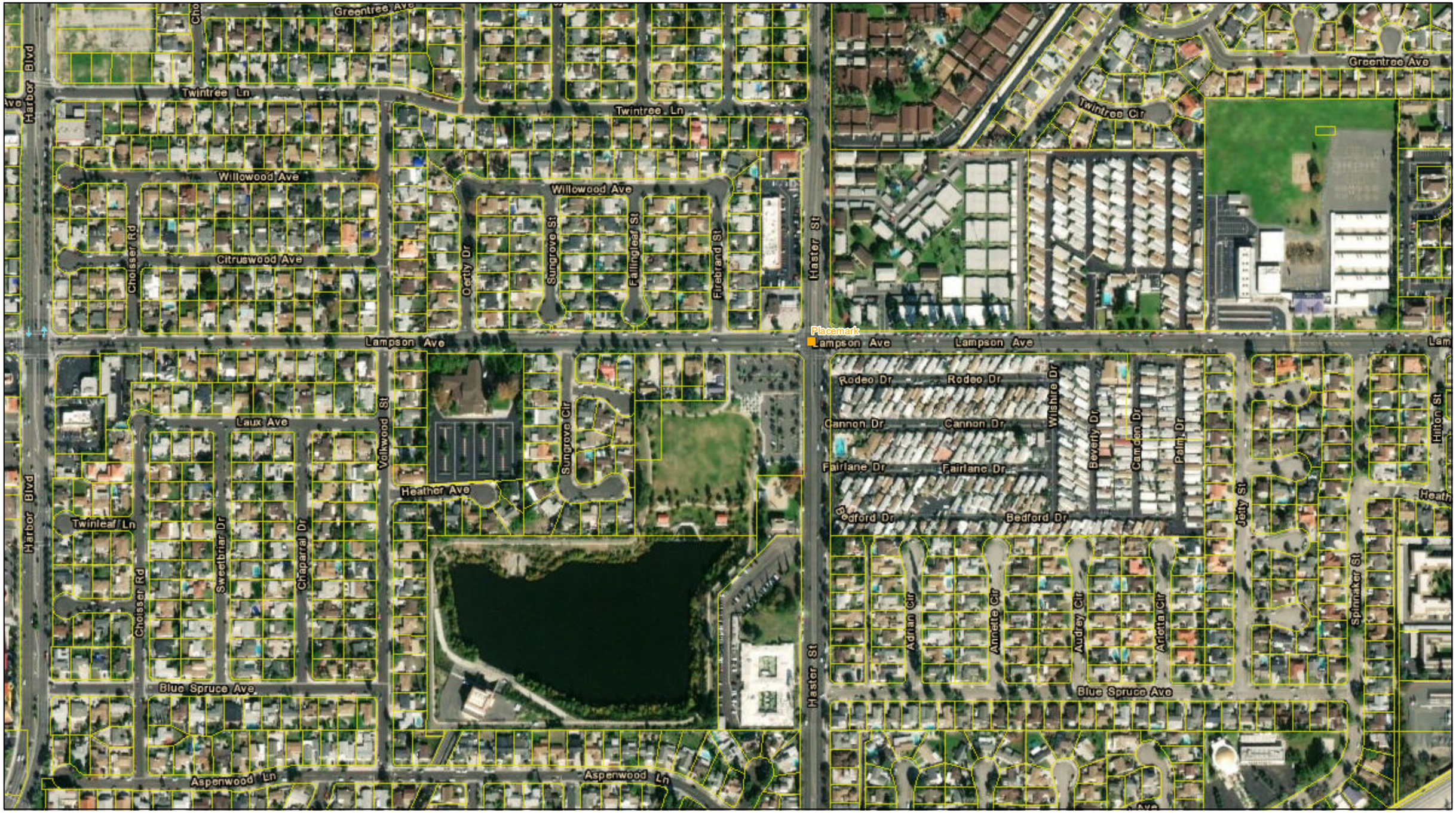
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

For Official Use Only
September 2019

Reach 10
1.68 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hfdsdrkm



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Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.058 miles

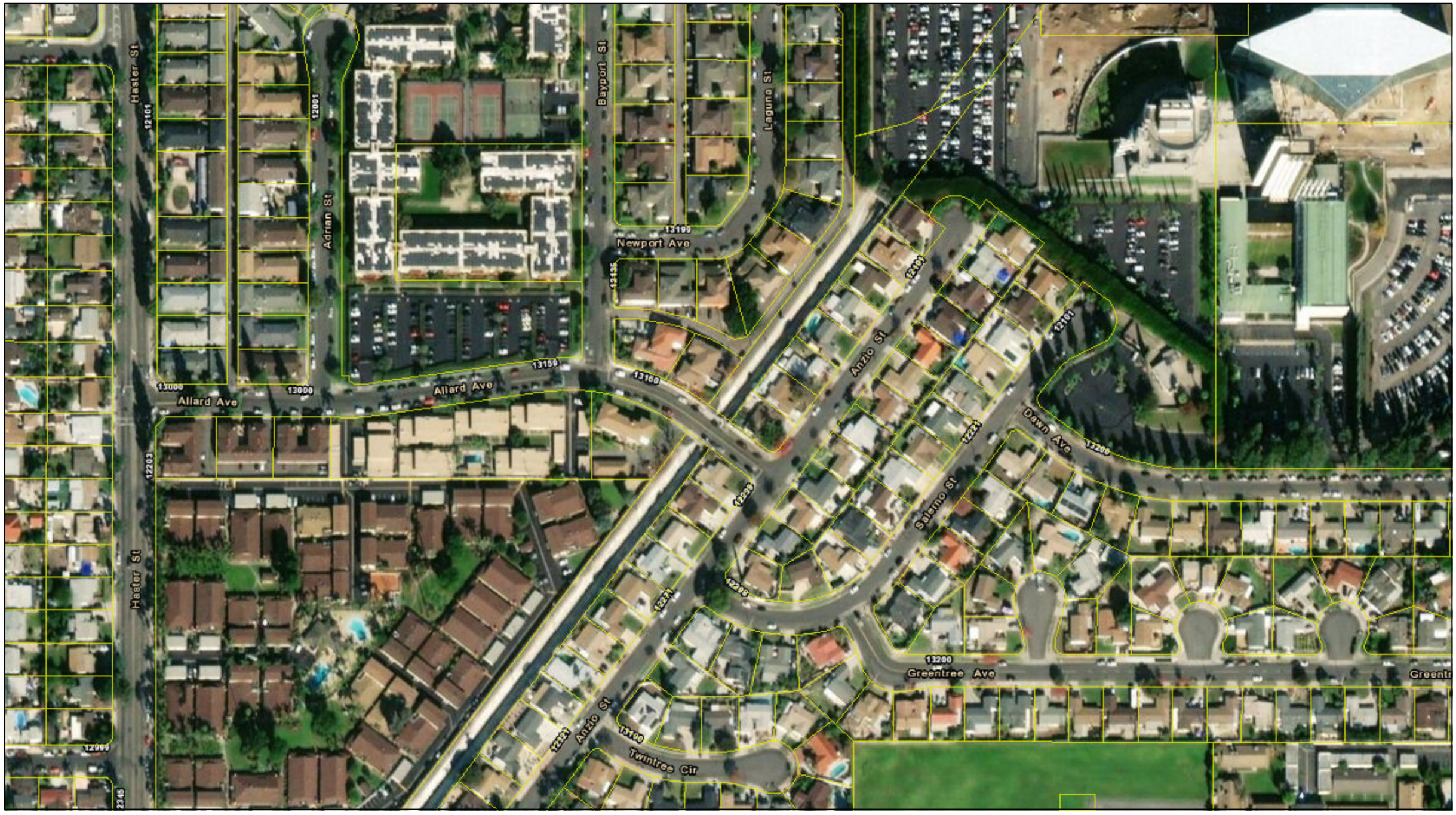
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

For Official Use Only
September 2019

Reach 11
3.16 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hfdsdkm



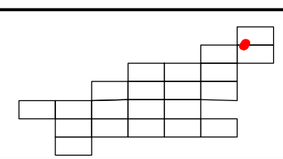
U.S. Army Corps
Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels



N
W E
S

1 inch = 0.031 miles

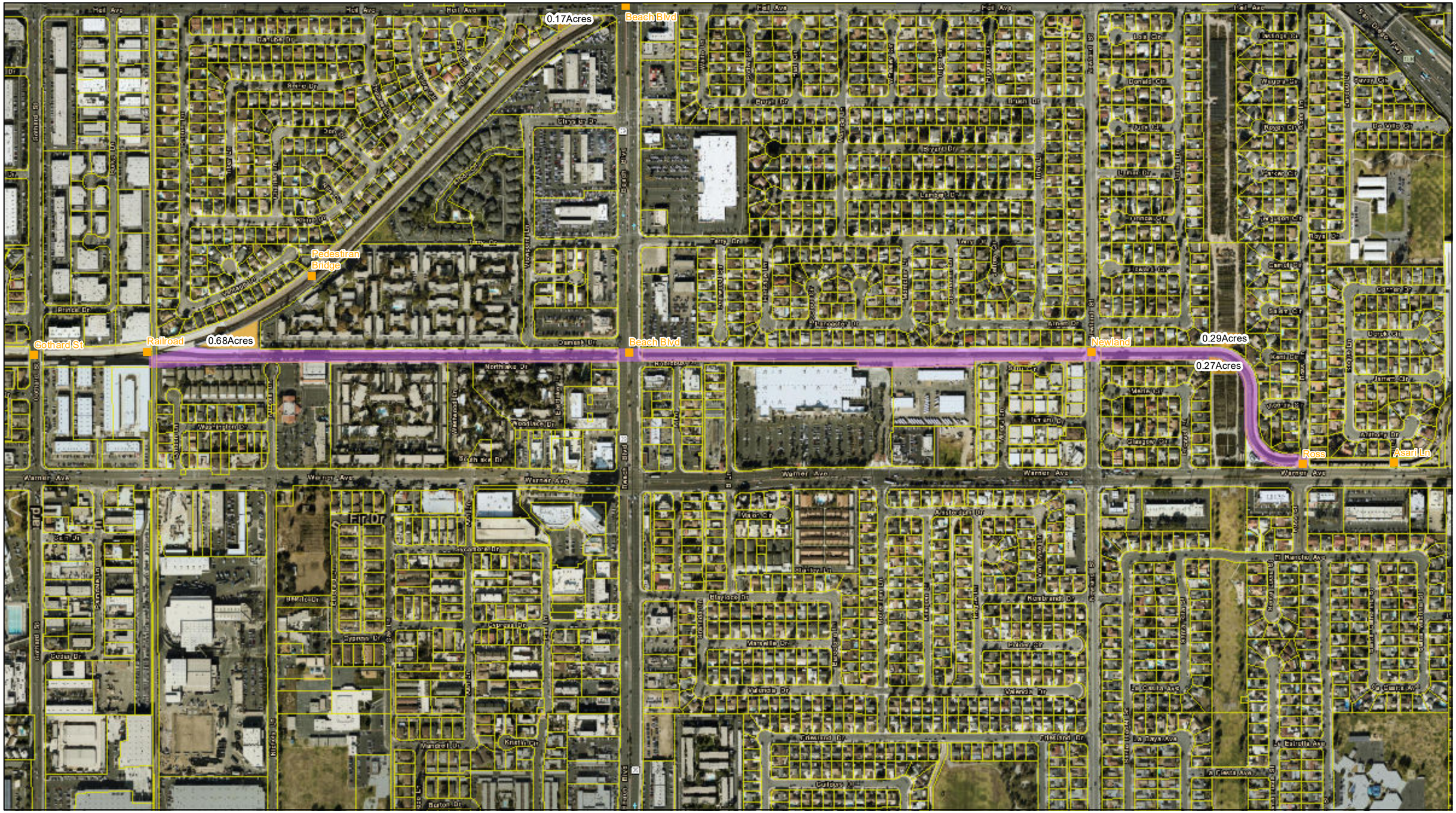
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 5

For Official Use Only
September 2019

Reach 12
1.84 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd h61sdrkm



U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.096 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 13
12.66 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hdisdkm

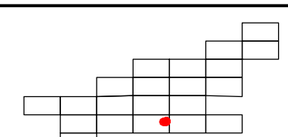
U.S. Army Corps
Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels



N
W E
S

1 inch = 0.012 miles

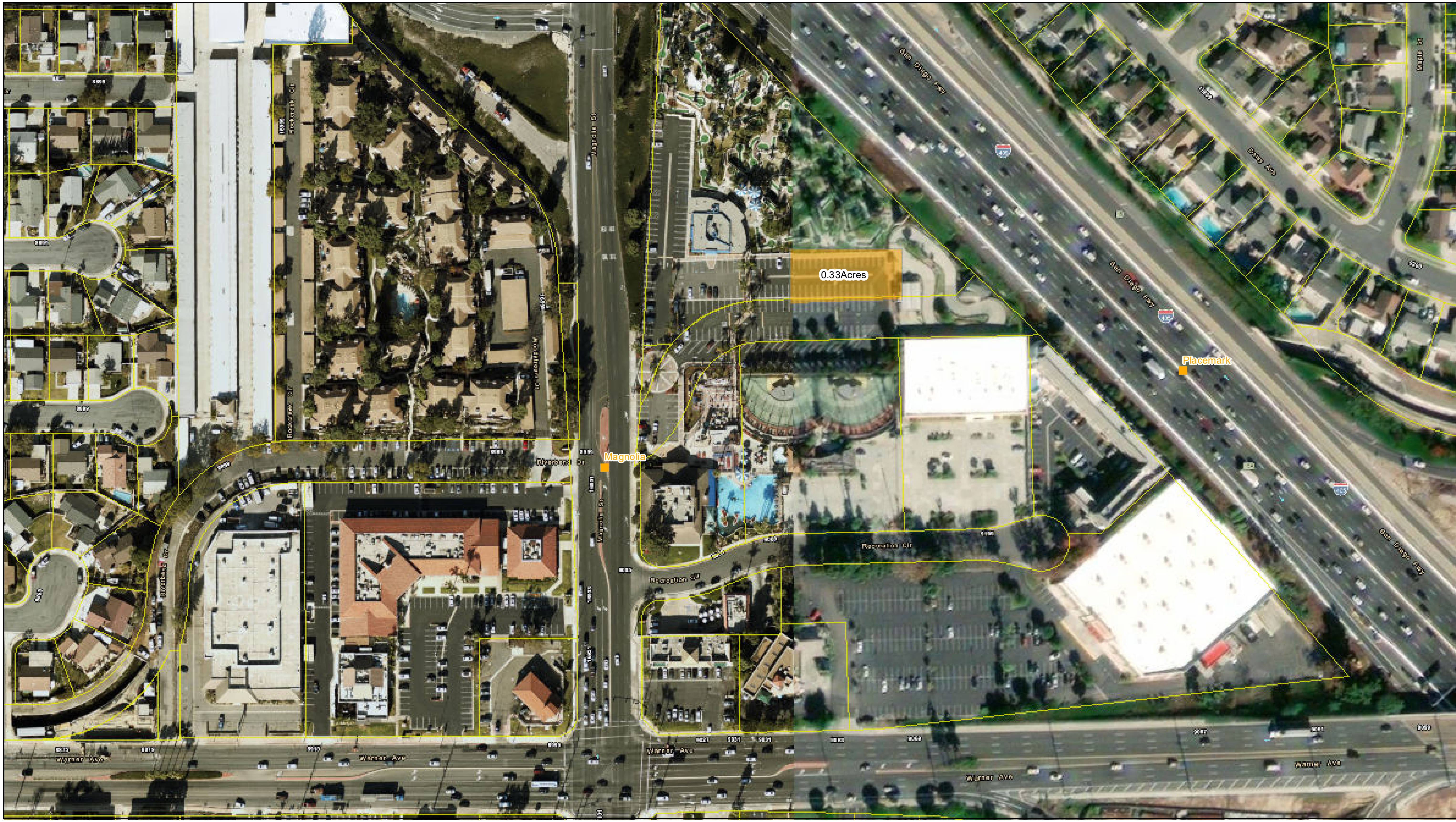
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 14
1.20 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd h6tsdrkm



U.S. Army Corps
Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.027 miles

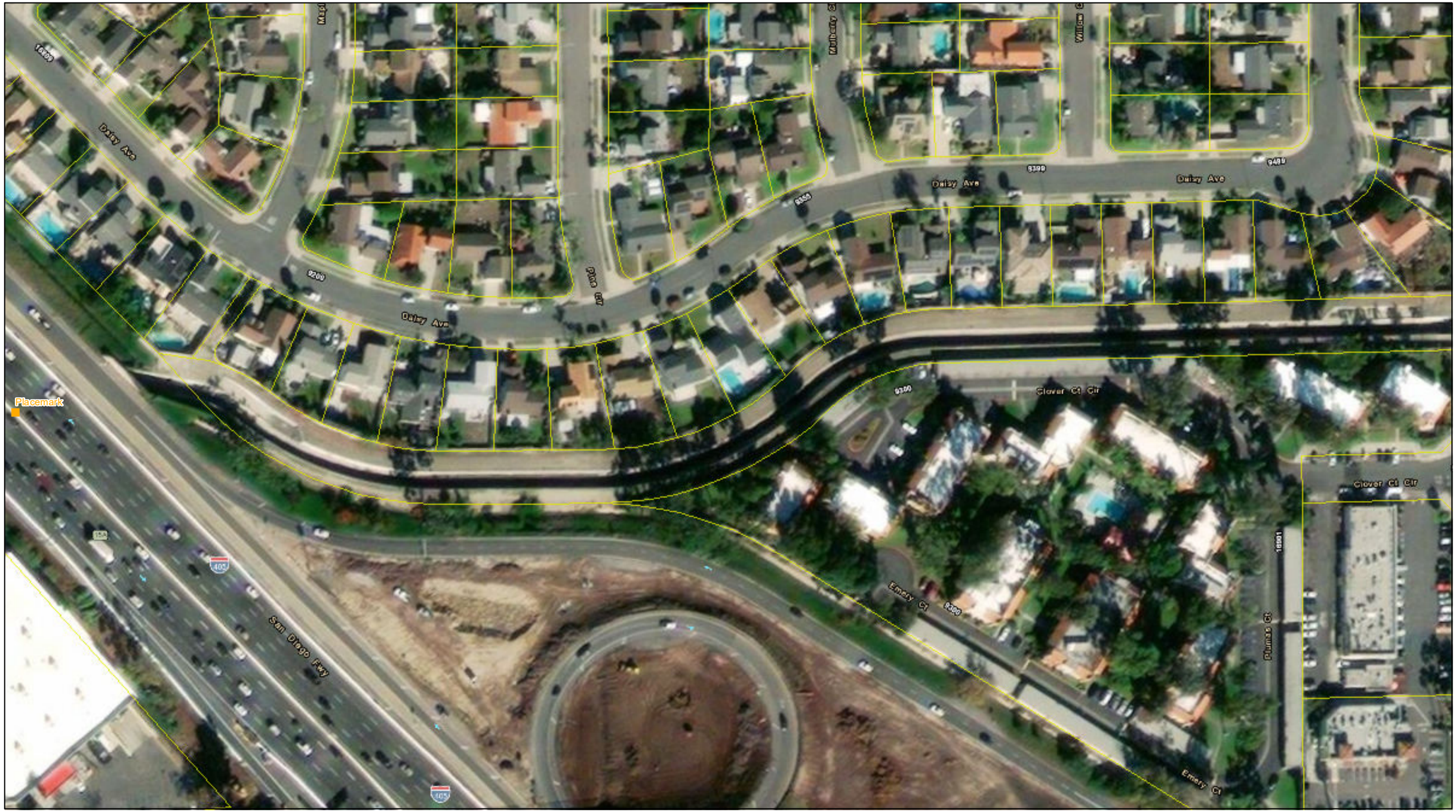
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 15
2.91 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd h6tsdrkm



U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.02 miles

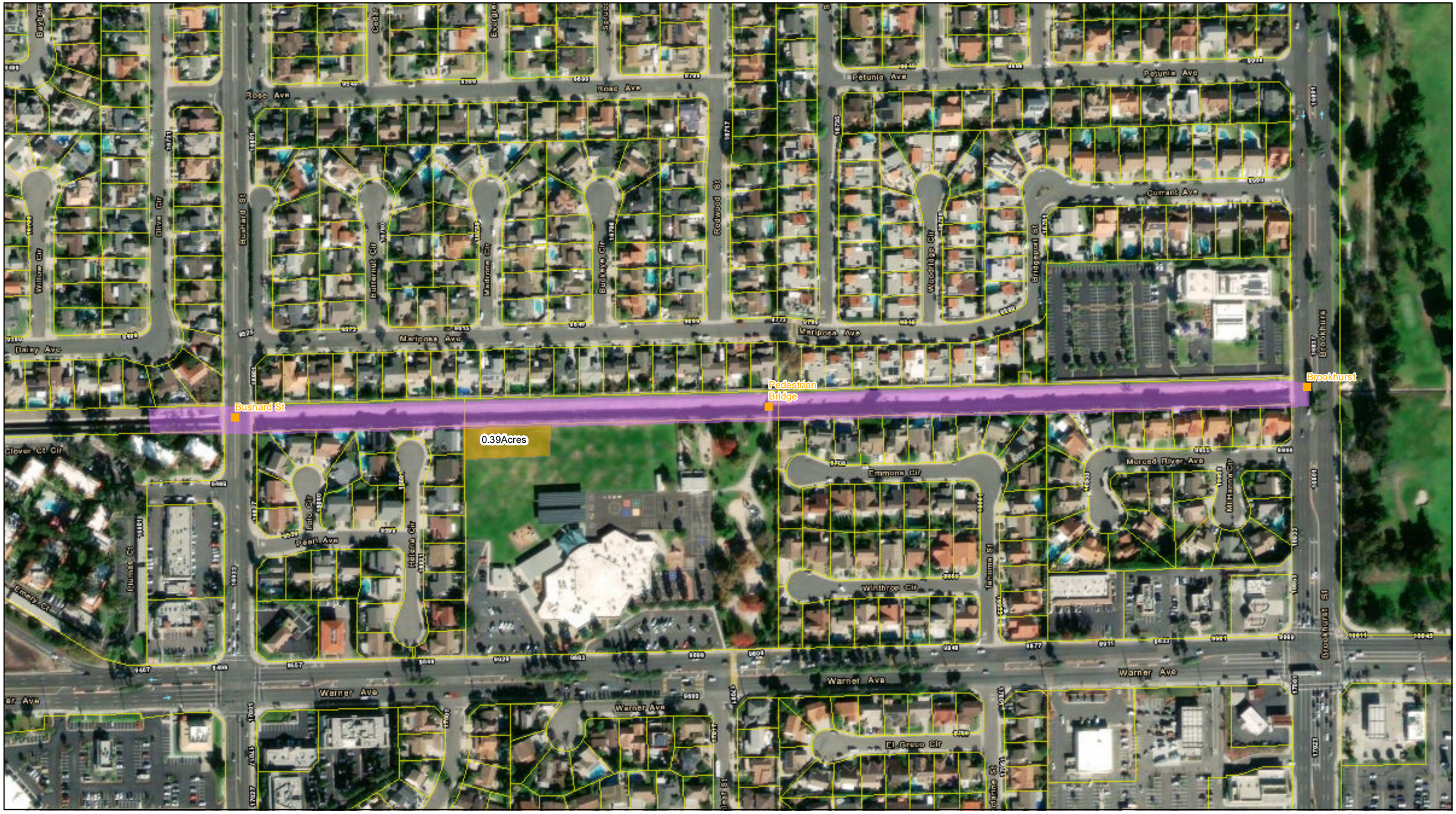
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 16
2.08 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hbtsdrkm



U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N W E S

1 inch = 0.042 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 17
4.41 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hGladkm

U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.078 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 18
5.86 Acres

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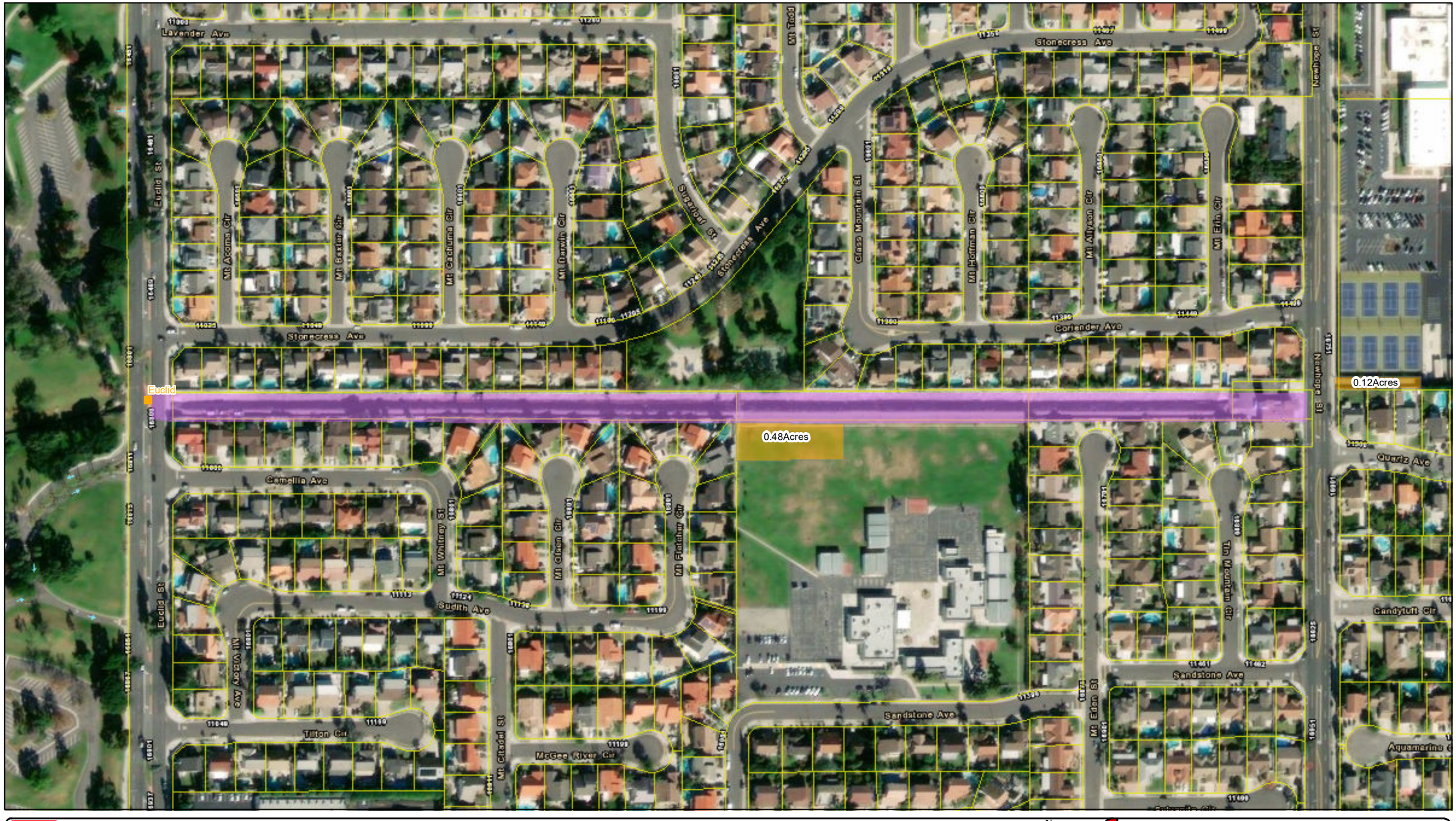


CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.039 miles

U.S. Army Corps Of Engineers ®
Chicago District

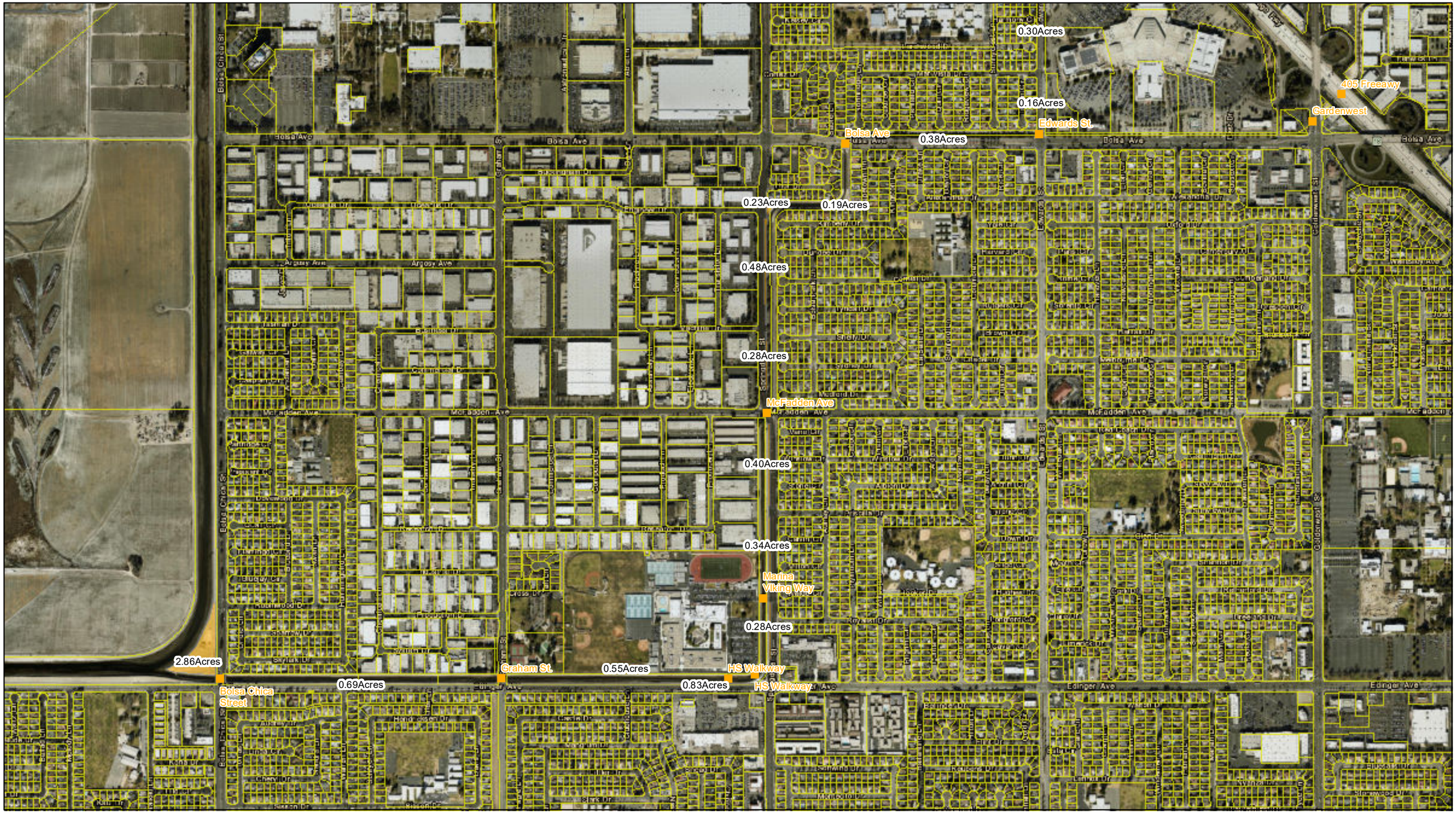
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 6

For Official Use Only
September 2019

Reach 19
3.90 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hfdsdrkm



U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N
W E
S

1 inch = 0.165 miles

Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 4

For Official Use Only
September 2019

Reach 20
27.80 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hfistdrkm

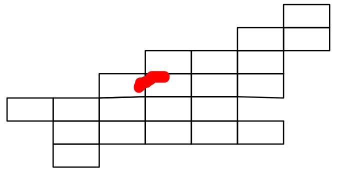
U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels



N W E S

1 inch = 0.081 miles

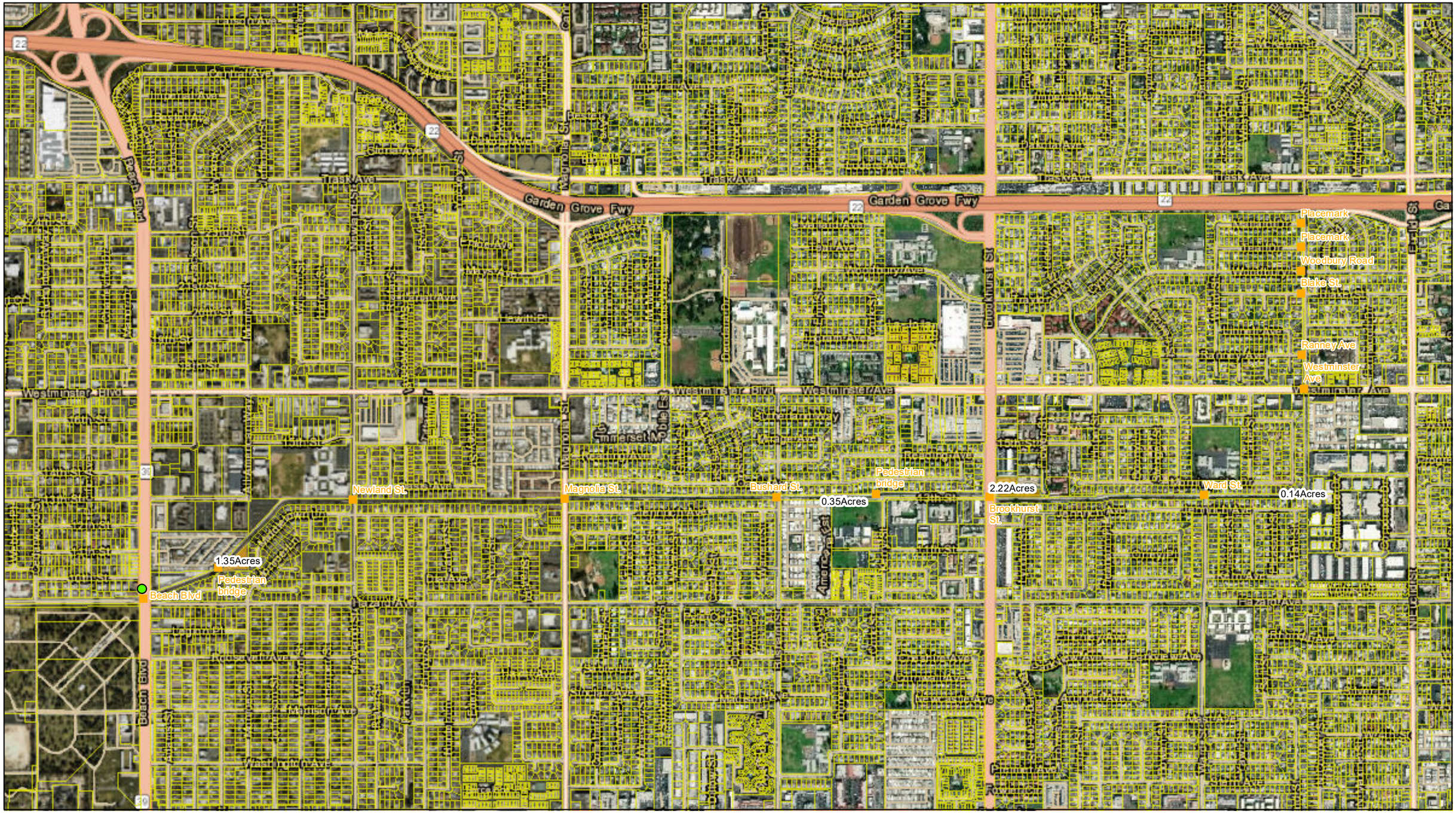
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 4

For Official Use Only
September 2019

Reach 21
8.69 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd h6tsdrkm



U.S. Army Corps Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

1 inch = 0.214 miles

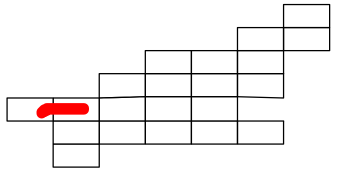
Westminster

Real Estate Staging Areas
NED - Minimum
CHANNEL 4

For Official Use Only
September 2019

Reach 22
29.02 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd hfdsdkm



U.S. Army Corps
Of Engineers ®
Chicago District

CV Crossing

Staging/Access Areas

Channel Improvement Easement

Parcels

N W E S

1 inch = 0.131 miles

Westminster

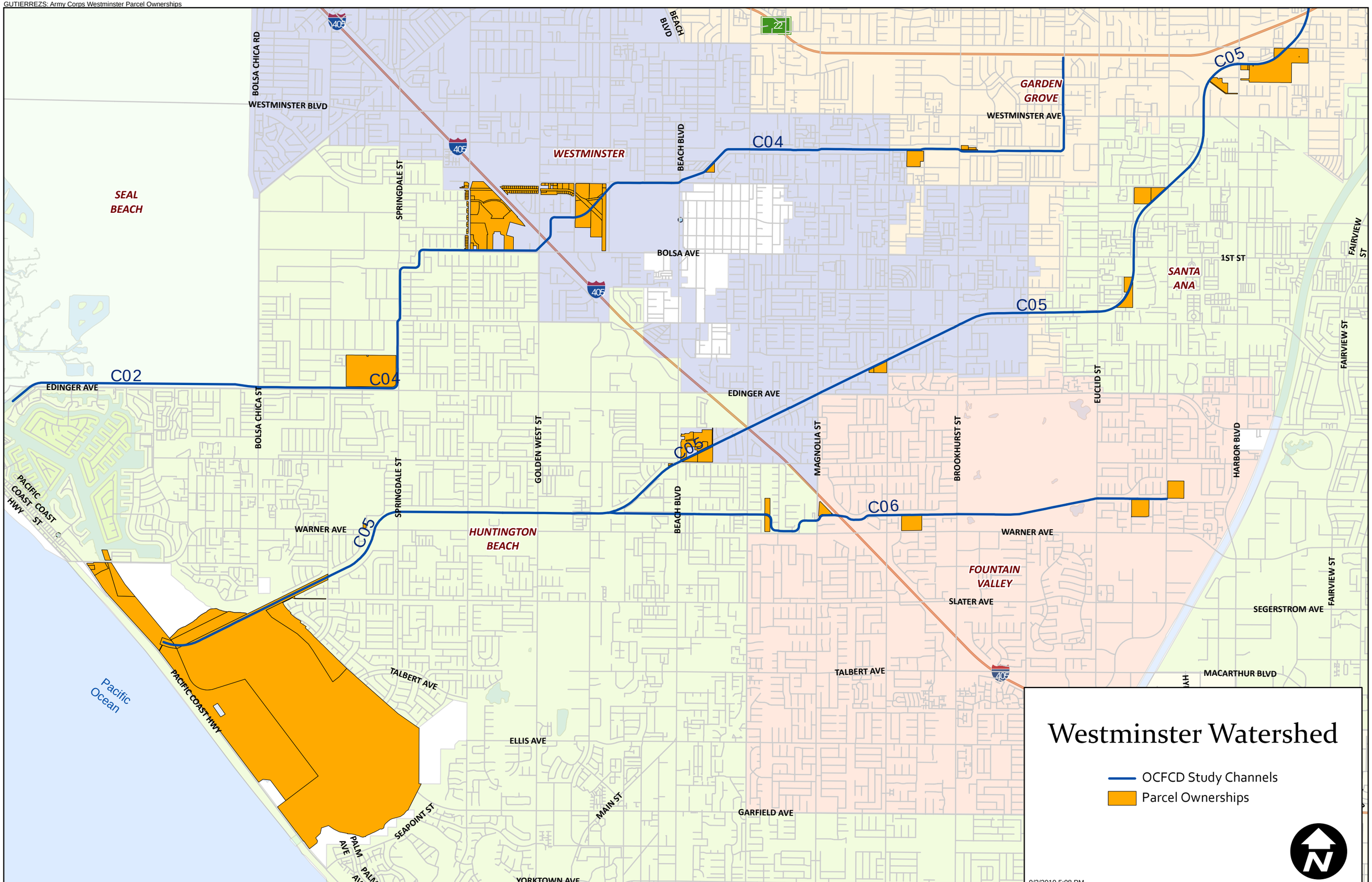
Real Estate Staging Areas
NED - Minimum
CHANNEL 2

For Official Use Only
September 2019

Reach 23
57.01 Acres

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\RealEstate_Reach_MIN.mxd h6tsdrkm

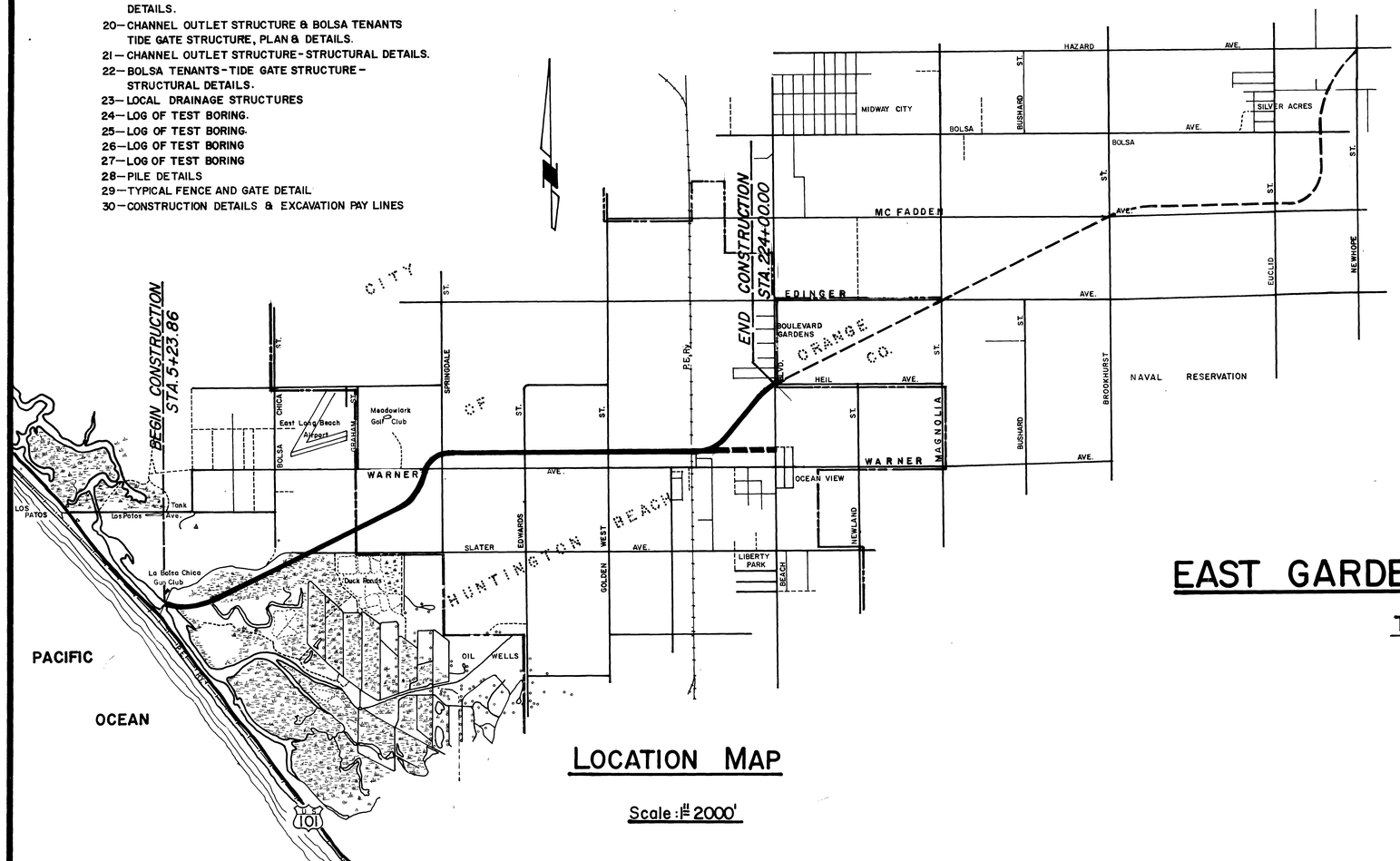
GUTIERREZS: Army Corps Westminster Parcel Ownerships



C05-101-1-A SHEET 1 OF 30

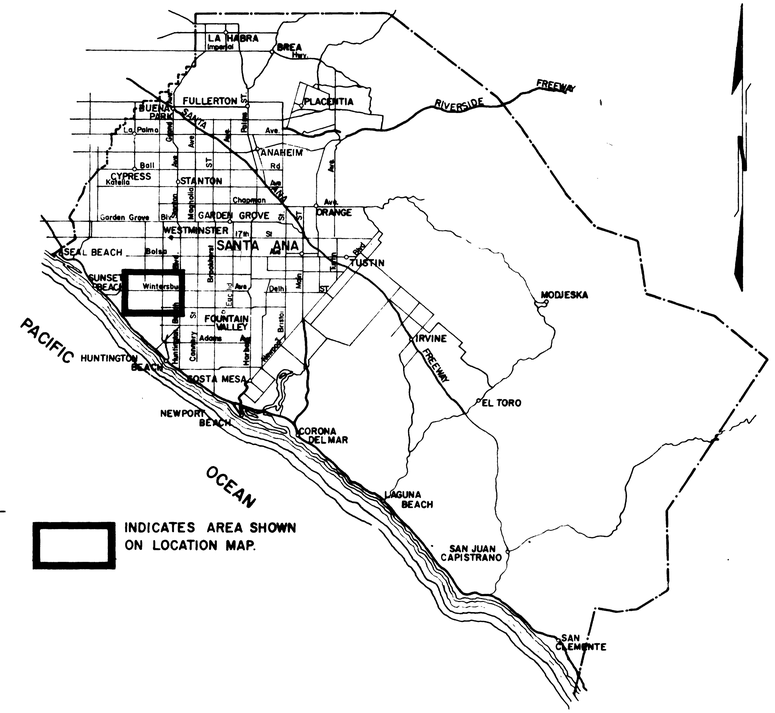
INDEX OF DRAWINGS

SHEET NO.	TITLE
1	TITLE SHEET
2	PLAN & PROFILE STA. 6+33.86 TO STA. 46+00.00
3	PLAN & PROFILE STA. 46+00.00 TO STA. 99+00.00
4	PLAN & PROFILE STA. 99+00.00 TO STA. 153+00.00
5	PLAN & PROFILE STA. 153+00.00 TO STA. 187+00.00
6	PLAN & PROFILE STA. 187+00.00 TO STA. 224+00.00
7	SHOOFLY ROADBED - PLAN & PROFILE.
8	PACIFIC ELECTRIC RY. BRIDGE - STRUCTURAL DETAILS. STA. 191+66.81.
9	PACIFIC ELECTRIC RY. BRIDGE STRUCTURAL DETAILS.
10	OIL FIELD ROAD BRIDGE - PLAN & PROFILE.
11	SLATER AVE. BRIDGE - PLAN & PROFILE.
12	WINTERSBURG AVENUE BRIDGE - PLAN & PROFILE.
13	SPRINGDALE STREET BRIDGE - PLAN & PROFILE.
14	EDWARDS STREET BRIDGE - PLAN & PROFILE.
15	GOLDEN WEST STREET BRIDGE - PLAN & PROFILE.
16	FARM BRIDGE - PLAN & PROFILE.
17	PLAN & PROFILE FARM BRIDGE STA. 178+59± CONSTRUCTION DETAILS
18	PRESTRESS CONCRETE BRIDGE, SUBSTRUCTURE DETAILS.
19	PRESTRESS CONCRETE BRIDGE, SUPERSTRUCTURE DETAILS.
20	CHANNEL OUTLET STRUCTURE & BOLSA TENANTS TIDE GATE STRUCTURE, PLAN & DETAILS.
21	CHANNEL OUTLET STRUCTURE - STRUCTURAL DETAILS.
22	BOLSA TENANTS - TIDE GATE STRUCTURE - STRUCTURAL DETAILS.
23	LOCAL DRAINAGE STRUCTURES
24	LOG OF TEST BORING.
25	LOG OF TEST BORING.
26	LOG OF TEST BORING
27	LOG OF TEST BORING
28	PILE DETAILS
29	TYPICAL FENCE AND GATE DETAIL
30	CONSTRUCTION DETAILS & EXCAVATION PAY LINES



LOCATION MAP

Scale: 1" = 2000'



ORANGE COUNTY, CALIFORNIA

VICINITY MAP

1 inch = 4 miles

PLANS FOR
THE CONSTRUCTION OF

EAST GARDEN GROVE—WINTERSBURG CHANNEL

TIDELANDS TO HUNTINGTON BEACH BLVD

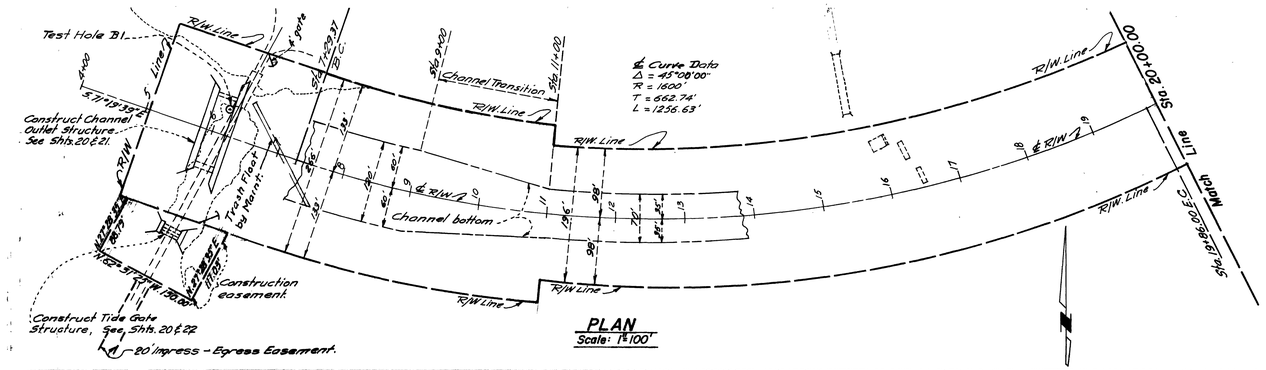
APPROVED: H. G. Osborne
FLOOD CONTROL ENGINEER.

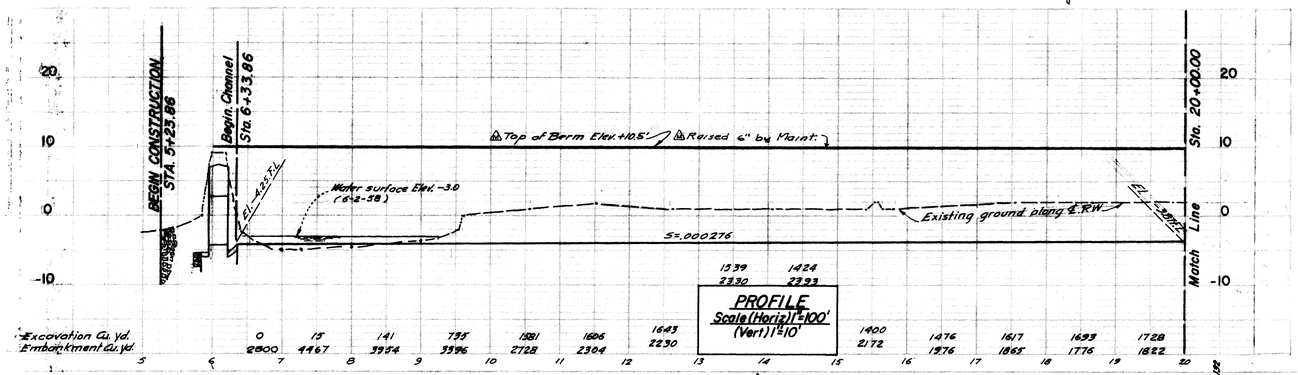
APPROVED: James R. Wheeler
As to portion within the city of Huntington Beach
CITY ENGINEER

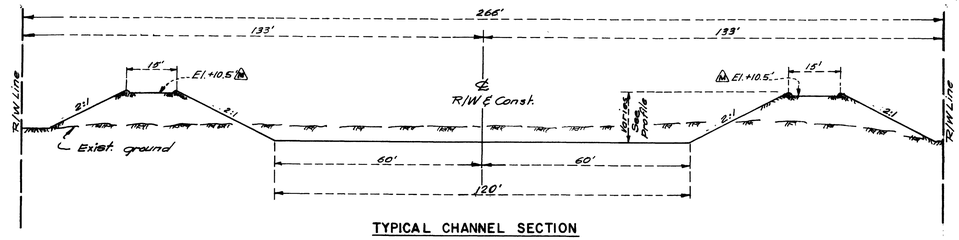
SEPTEMBER 1959
ORANGE COUNTY FLOOD CONTROL DISTRICT
SANTA ANA CALIFORNIA

"AS BUILT"

DWG. C05-101-1-A



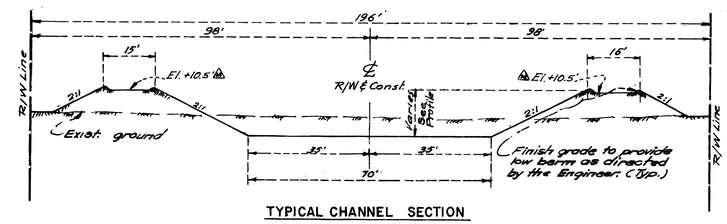




TYPICAL CHANNEL SECTION

STA. 6+33.86 – STA. 9+00.00

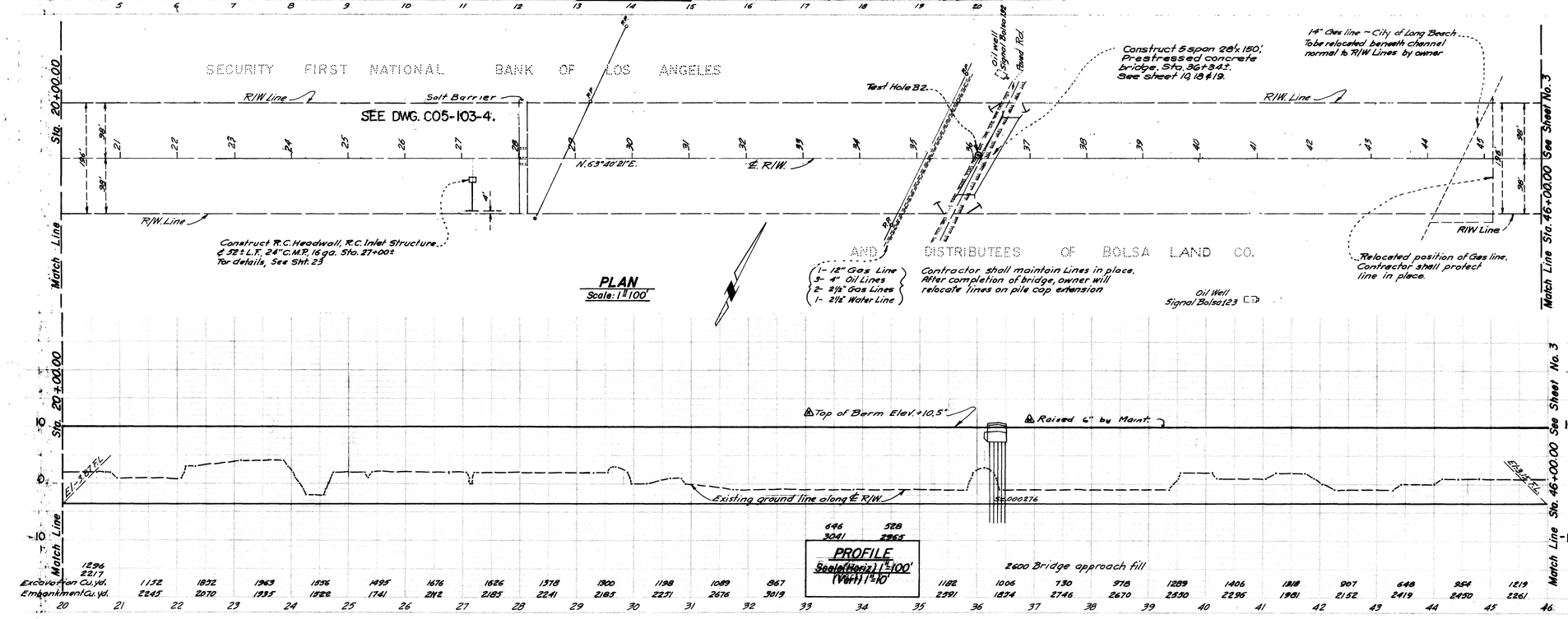
Scale: 1" = 20'



TYPICAL CHANNEL SECTION

STA. 11+00.00 – STA. 46+00.00

Scale: 1" = 20'



HYDRAULIC DATA	
Q = 2980,	b = 70'
n = .020	n = .030
dn = 8.0'	dn = 10.1'
Vn = 4.3 fps.	Vn = 3.3 fps.
dc = 3.7'	dc = 3.7'

Fencing Notes:
For Gate and Fencing details at Channel Outlet Structure, See Sheet 20. # 29.

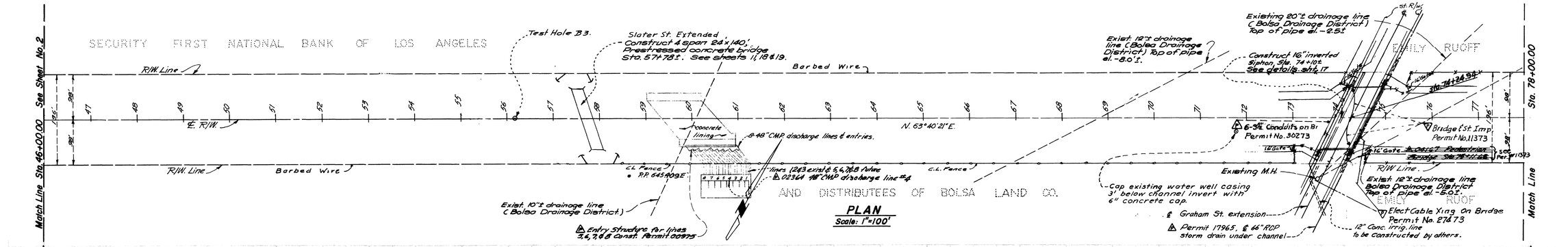
Bench Mark:
C-5-2. Elev. 16.368 - Chiseled "□" at angle point in curb 40'± N'ly from N.E. corner of tidal gates. Marked "B.M." in orange paint.
C-5-6. Elev. 0.339 - Chiseled "□" in center concrete pier, 50'± S'wly from oil well pump "Bolsa 123.

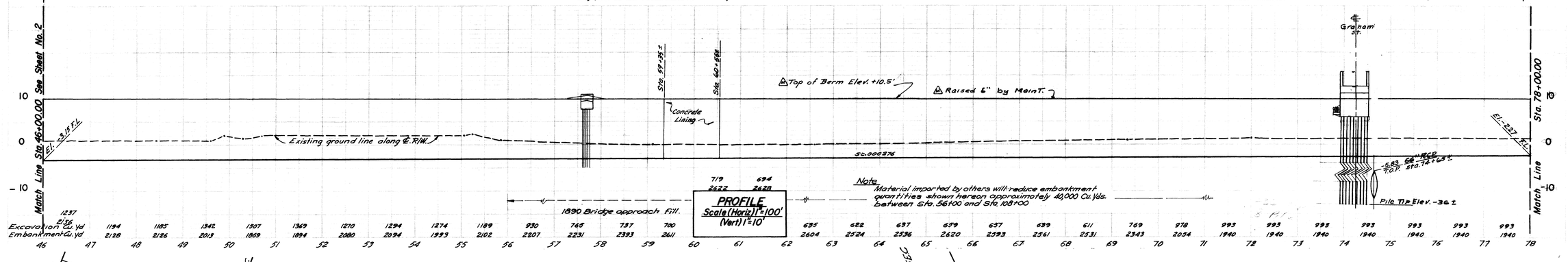
Datum:
O.C.F.C.D. Elev. = U.S.C. & G.S. 1955 Elev.

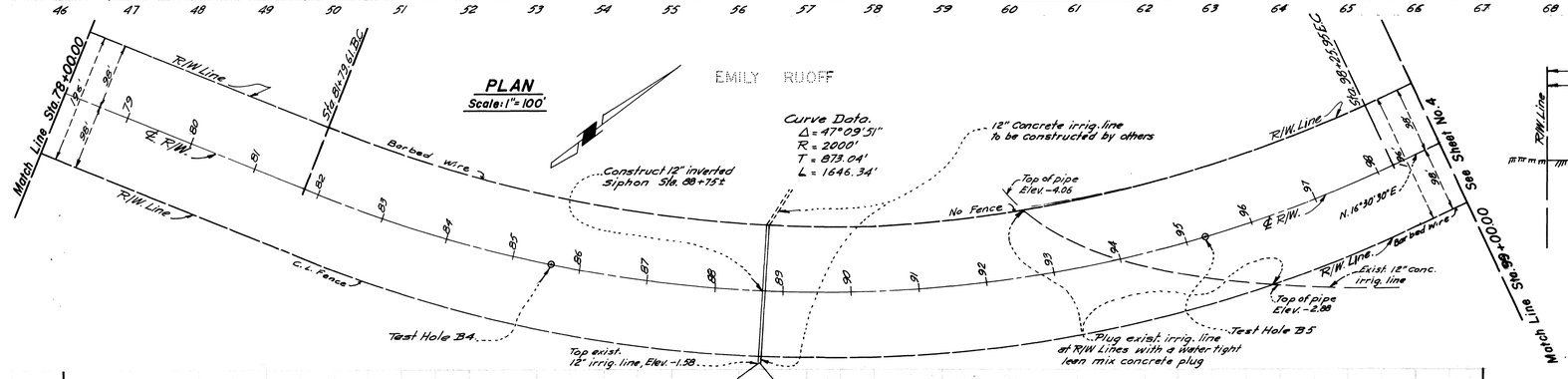
REVISED	REFERENCE	ORANGE COUNTY FLOOD CONTROL DISTRICT
Maint.	2-11-71	EAST GARDEN GROVE–WINTERSBURG CHANNEL
DESIGNED H.E.H.	PREPARED G.M.T.	PLAN & PROFILE
CHECKED J.W.H.	SUBMITTED DESIGN ENGR	STA. 6+33.86 – STA. 46+00.00
	DATE: SEPTEMBER 1959	DWG. C05-101-4-A

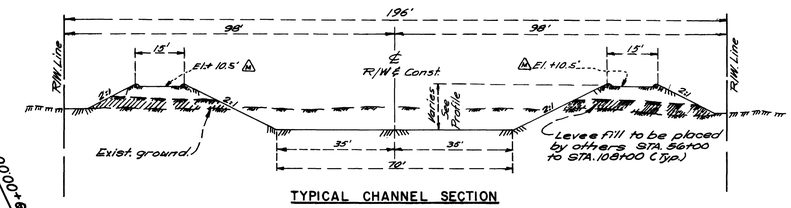
SHEET 2 OF 30

2 OF 30









TYPICAL CHANNEL SECTION

STA. 46+00.00 — STA. 99+00.00

Scale: 1" = 20'

HYDRAULIC DATA	
Q=2980	b= 70'
n=.020	n=.030
dn=8.0'	dn=10.1'
Vn=4.3fps	Vn=3.3fps.
dc=3.7'	dc=3.7'

Fencing Notes:

1. Type I 3 Strand Barbed Wire Fencing shall be constructed as follows:
   Sta. 50+00 to Slater Ave. Bridge on R/W Line both sides
   Slater Ave. Bridge to Sta. 99+00 on R/W. Line both sides.
   For details of type I 3 strand fencing See sht. 29.
2. For Gate and fencing details at Slater Ave Bridge. See sht. 11

Bench Mark:

O.C.S. 17-27-57-Elev. 6.76
Disk stamped "RE 5617" 100 ft. East of Springdale St. 33 ft North of ℄ Wintersburg Ave. in base of flag pole.
C-5-7. Elev.=1.21 Spk. in P.P. #645409E. 70'± NW from tin barn on N'ly side of farm road.

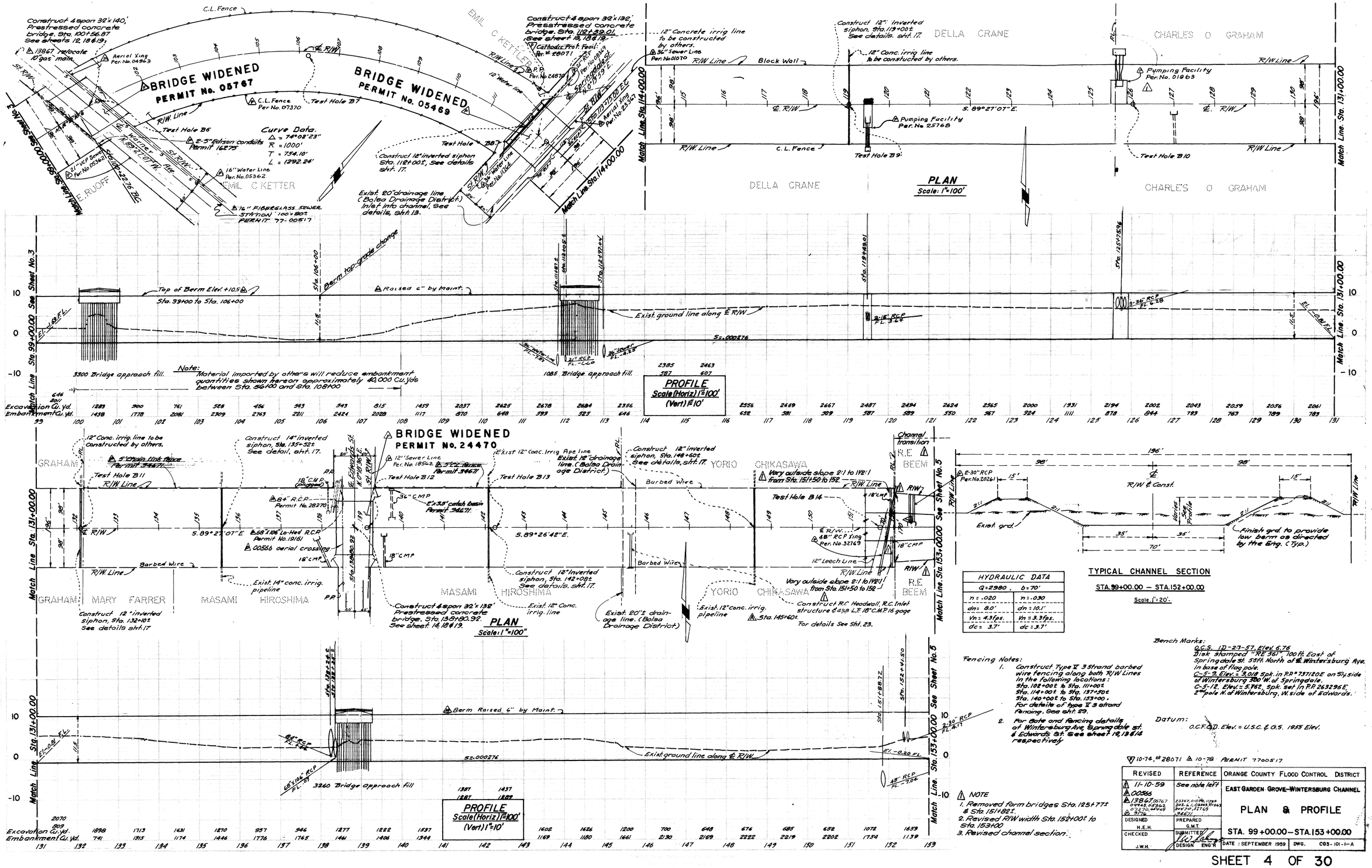
Datum:

O.C.F.C.D. Elev.=U.S.C.&G.S. 1955 Elev.

2-74, No 21473

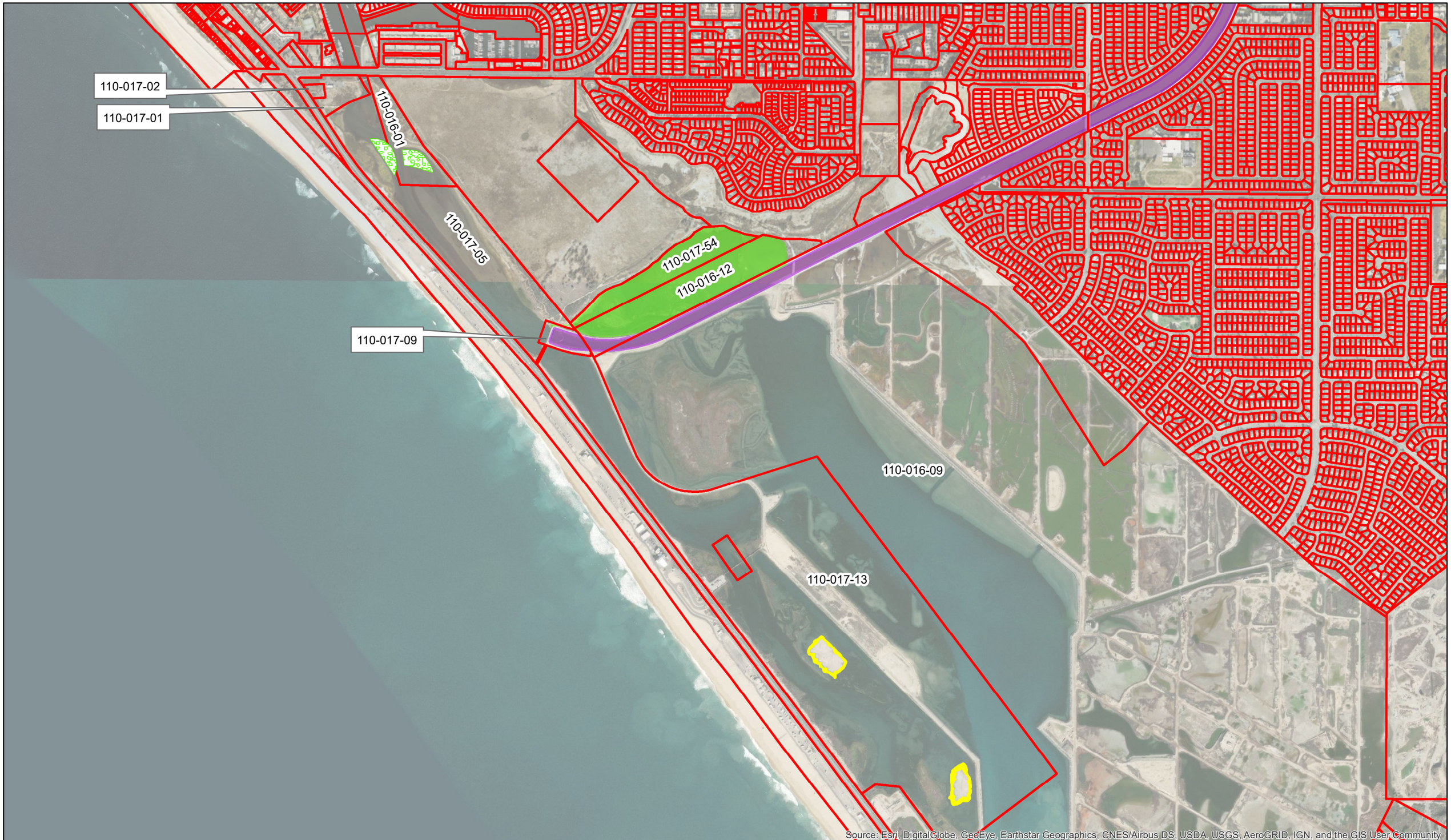
REVISED	REFERENCE	ORANGE COUNTY FLOOD CONTROL DISTRICT
6-15-66	Permit 17965	EAST GARDEN GROVE-WINTERSBURG CHANNEL
02364	7-74 #30273	
04167		PLAN & PROFILE
Maint.	2-11-71	
5-74	No. 11373	STA. 46+00.00 — STA. 99+00.00
DESIGNED H.E.H.	PREPARED G.M.T.	
CHECKED J.W.H.	SUBMITTED DESIGN ENG'R.	DATE: SEPTEMBER 1959 DWG. COS-101-1-A

3 OF 30



SHEET 4 OF 30

4 OF 30



U.S. Army Corps Of Engineers ®
Chicago District

Parcels | Muted tidal pocket | Tern islands | Eelgrass planting | Reach 1

0 0.25 0.5
Miles

N

Westminster, East Garden Grove FRM

For Official Use Only
August 2019

G:\Projects_Misc\Westminster_CA_FRM_Study\MXD\LRC Maps\Real Estate Parcels_mitigation.mxd H6PMPRH8

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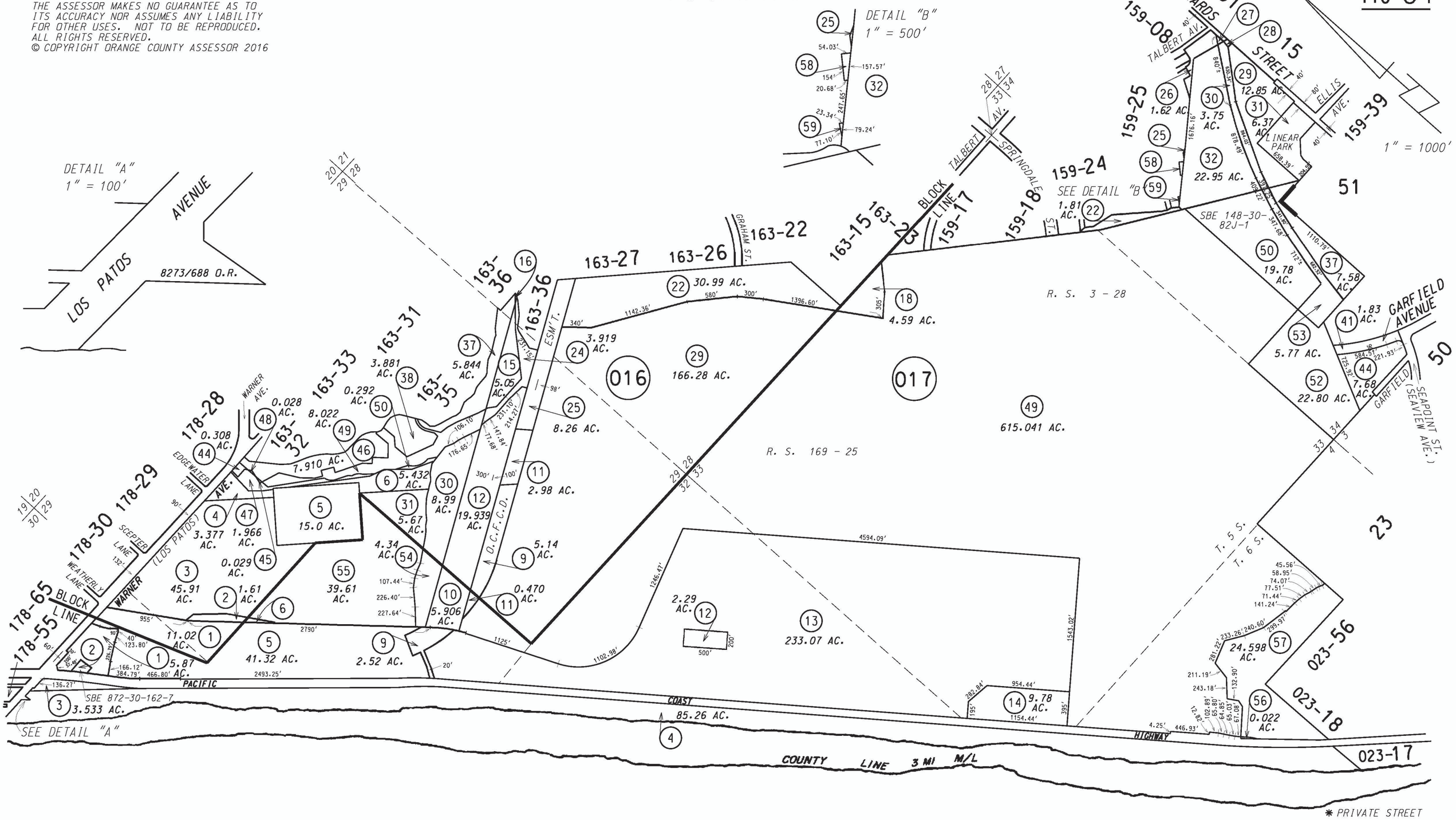
SEE SPECIAL PAGE 110-019 FOR FEE TITLE ASSESSMENT BELOW SURFACE

T 5 S, R 11 W



MARCH 1968

NOTE - ASSESSOR'S BLOCK & PARCEL NUMBERS SHOWN IN CIRCLES

ASSESSOR'S MAP BOOK 110 PAGE 01 COUNTY OF ORANGE

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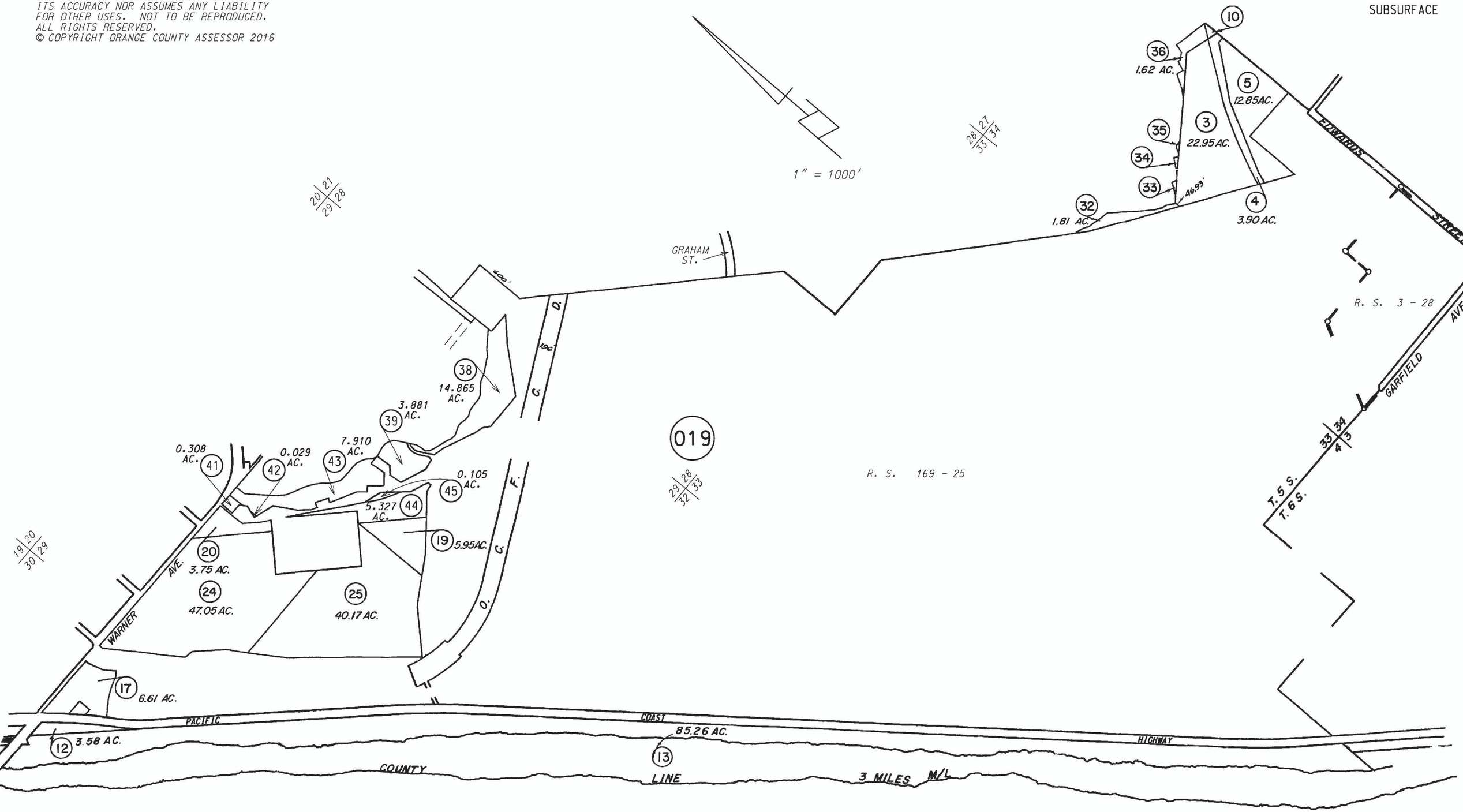
T 5 & 6 S. R 11 W

110-019
SUBSURFACE



MARCH 1968

NOTE - ASSESSOR'S BLOCK &
PARCEL NUMBERS
SHOWN IN CIRCLES

ASSESSOR'S MAP
BOOK 110 PAGE 019
COUNTY OF ORANGE

EXHIBIT B

NON-FEDERAL SPONSOR CAPABILITY ASSESSMENT

WESTMINSTER, EAST GARDEN GROVE, FLOOD RISK MANAGEMENT STUDY
ASSESSMENT OF NON-FEDERAL SPONSOR'S
REAL ESTATE ACQUISITION CAPABILITY

Sponsor(s): Orange County, CA, managed by Orange County Public Works (OCPW)

Authority: Study Authority Flood Control Act of 1938, Construction not authorized as of Dec. 2019

Non-Federal Sponsor Real Estate Contact: Nardy Khan, P.E./P.M.P, Deputy Director
OC Public Works/Infrastructure Programs
Tel: 714-647-3906

I. Legal Authority

a. **Does the non-Federal Sponsor have legal authority to acquire and hold title to real property for project purposes?**

Yes_X__No_____

Non-Federal Sponsor is authorized to acquire and own land by authority of Orange County Flood Control Act of 1927.

b. **Does the non-Federal Sponsor have the power of eminent domain for this project?**

Yes_X__No_____

The use of eminent domain is authorized by Orange County Flood Control Act of 1927 and State of California Title 7, Sec 1274 Eminent Domain Law. Orange County Flood Control Act of 1927, as amended, (California uncodified Water Code, Act 5682, section 2, also referred to as Water Code App. sections 36-1 et seq.) and State of California Title 7 Eminent Domain Law, pursuant to Chapter 3 of the Code of Civil Procedure commencing with section 1240.110 et seq.

Note: OCPW does not have condemnation authority over lands owned by the State of California. In such cases the State of California will provide the LERRDs as Non-Federal Sponsor.

c. **Does the non-Federal Sponsor have "quick-take" authority for this project?**

Yes___X__No____

The use of quick take is authorized by California uncodified Water Code, Act 5682, section 2, also referred to as Water Code App. sections 36-1 et seq. (the "Orange County Flood Control Act").

Note: Quick take authority is not required as OCPW owns nearly all the LERRDs required for the project.

d. **The non-Federal Sponsor has reviewed the project maps and confirmed that all of the lands/ interests in land required for the project are located inside of their political boundary.**

Yes__X__No_____

Note: All LERRDs are within Orange County.

e. **Are any of the lands/ interests in land required for the project owned by an entity whose property the non-Federal Sponsor cannot condemn?**

Yes__X__No_____

Note: The State of California will act as NFS for mitigation areas.

f. **The non-Federal Sponsor was provided the Local Sponsors Toolkit on** 12/9/2019.

http://www.lrd.usace.army.mil/Portals/73/docs/RealEstate/Non-Federal_Sponsor_Package.pdf

II. Financial Capability

a. **The non-Federal Sponsor has reviewed and concurs with the real estate cost estimates.**

Yes_X___No_____

b. **It has been established by the responsible district element that the non-Federal Sponsor is financially capable of fulfilling all requirements identified in the Project Partnership Agreement (PPA).**

Yes__X__No_____

III. Willingness To Participate

a. **The non-Federal Sponsor has stated in writing its general willingness to participate in the project and its understanding of the general scope of the project and its part of the project.**

Yes__X__

Letter of Intent from the NFS dated 19 Nov 2013 (Note: an updated LOI will be provided prior to Final Feasibility submittal).

Note: OCPW will provide the LERRDs for the main channel and staging areas as well as perform the necessary utility/facility relocations. State of California, State Lands Commission will provide LERRDs for mitigation only.

b. **The non-Federal Sponsor is agreeable to signing a project partnership agreement and supplying funding as stipulated in the agreement.**

Yes_X___

c. **The non-Federal Sponsor understands that it may be necessary to utilize eminent domain authority in order to acquire lands required for this project.**

Yes_X_ No_____

IV. Acquisition Experience and Capability

a. **Taking into consideration the project schedule and complexity, the non-Federal Sponsor has the capability with in-house staffing or contract capability, to provide the necessary services such as surveying, appraising, title, negotiating, condemnation, closings, and relocation assistance that will be required for the acquisition of properties for this project.**

Yes__X__No_____

Note: OCPW has a fully staffed legal and real estate team capable of providing Right of Way acquisition services and utility/facility relocations.

b. **The non-Federal Sponsor's staff is familiar with the real estate requirements of Federal projects including P.L. 91-646, as amended.**
Yes__X__No_____

c. **The non-Federal Sponsor can obtain contractor support and meet project schedules.**

Yes__X__No_____

d. **The non-Federal Sponsor's staff is located within a reasonable proximity to the project site.**

Yes__X__No_____

e. **Will USACE assistance likely be requested by the non-Federal Sponsor in acquiring real estate?**

Yes_____No__X__

V. Schedule Capability

The non-Federal Sponsor has approved the tentative project/ real estate schedule/ milestones and has indicated its willingness and ability to incorporate its financial, acquisition, and condemnation capability to provide the necessary project LERRDs in accordance with proposed project schedules so the Government can advertise and award the construction contract as required by overall project schedules and funding limitations.

Yes__X___No____

VI. LERRD Credits

The sponsor has indicated its understanding of LERRD credits and its capability and willingness to gather the necessary information to submit as LERRD credits in within six months after possession of all real estate and completion of relocations in order that the project can be financially closed and there can be a final financial accounting with a proper settlement with the non-Federal Sponsor.

Yes__X___No____

VII. Capability

With regard to this project, the non-Federal Sponsor is anticipated to be: MODERATELY CAPABLE.

Note: Choices are: fully capable, moderately capable, marginally capable, and insufficiently capable.

a. Fully Capable: *Previous experience. Financially capable. Authority to hold title. Can perform, with in house staff, the necessary services (survey, appraisal, title, negotiation, closing, relocation assistance, condemnation & "quick-take" authority) required to provide LERRD.*

b. Moderately Capable: *Financially capable. Authority to hold title. Can provide, with contractor support, the necessary services (survey, appraisal, title, negotiation, closing, relocation assistance and condemnation authority) required to provide LERRD. Quick-take authority will be provided by State of California if necessary.*

c. Marginally Capable: *Financially capable. Authority to hold title. Will rely on approved contractors to provide the necessary services (survey, appraisal, title, negotiation, closing, and relocation assistance). Quick-take authority and authority to condemn will be provided by* _____.

d. Insufficiently Capable: *Financially capable. Will rely on approved contractors to provide the necessary services (survey, appraisal, title, negotiation, closing, and relocation*

assistance). Quick-take authority and authority to condemn will be provided by _____.

Will rely on _____ *to hold title.*

VIII. Coordination

This assessment has been coordinated with the non-Federal Sponsor and it concurs with the assessment.

Yes_X__

This assessment has been coordinated with: Nardy Khan, P.E./P.M.P, Deputy Director
OC Public Works/Infrastructure Programs
Tel: 714-647-3906

Prepared by:

MICHAEL B. ROHDE

_____
Realty Specialist

Considering the capability of the non-Federal Sponsor and the ancillary support to be provided by the State of California, and identified above, it is my opinion that the risks associated with LERRD acquisition and closeout have been properly identified and appropriately mitigated.

_____
Chief, Real Estate Division
Great Lakes Region

Non-Federal Sponsor Representative:

Signature: _____
Name: Nardy Khan
Title: Deputy Director, Infrastructure
Date: 12/19/19

WESTMINSTER, EAST GARDEN GROVE, FLOOD RISK MANAGEMENT STUDY
ASSESSMENT OF NON-FEDERAL SPONSOR'S
REAL ESTATE ACQUISITION CAPABILITY

Sponsor(s): State of California – California State Lands Commission (CSLC)

Authority: Study Authority Flood Control Act of 1938, Construction not authorized as of Dec. 2019

Non-Federal Sponsor Real Estate Contact: Wendy Hall Special Projects Liaison
California State Lands Commission
100 Howe Ave., Suite 100-South
Sacramento, CA 95825
Phone: (916)-574-0994
Email: wendy.hall@slc.ca.gov

I. Legal Authority

a. **Does the non-Federal Sponsor have legal authority to acquire and hold title to real property for project purposes?**

   Yes_X__No_____

   Non-Federal Sponsor is authorized to acquire and own land by authority of State Lands Act of 1937

b. **Does the non-Federal Sponsor have the power of eminent domain for this project?**

   Yes_X__No_____

   The use of eminent domain is authorized by State of California Title 7, Sec 1274 Eminent Domain Law.

   Note: Eminent domain is not required for the State of California LERRDs

c. **Does the non-Federal Sponsor have "quick-take" authority for this project?**

   Yes_____No__X__

   Note: Quick take authority is not required for State of California LERRDs

d. **The non-Federal Sponsor has reviewed the project maps and confirmed that all of the lands/ interests in land required for the project are located inside of their political boundary.**

Yes__X__No_____

Note: All LERRDs are within the State of California.

e. **Are any of the lands/ interests in land required for the project owned by an entity whose property the non-Federal Sponsor cannot condemn?**

Yes__ __No__X__

Note: The State of California will act as NFS for mitigation areas.

f. **The non-Federal Sponsor was provided the Local Sponsors Toolkit on** 12/9/2019.

http://www.lrd.usace.army.mil/Portals/73/docs/RealEstate/Non-Federal_Sponsor_Package.pdf

II. Financial Capability

a. **The non-Federal Sponsor has reviewed and concurs with the real estate cost estimates.**

Yes_X___No_____

b. **It has been established by the responsible district element that the non-Federal Sponsor is financially capable of fulfilling all requirements identified in the Project Partnership Agreement (PPA).**

Yes__X__No_____

III. Willingness To Participate

a. **The non-Federal Sponsor has stated in writing its general willingness to participate in the project and its understanding of the general scope of the project and its part of the project.**

Yes____ No _____

Letter of Intent from the NFS dated: To date the State of California has not provided a Letter of Intent.

Note: OCPW will provide the LERRDs for the main channel and staging areas as well as perform the necessary utility/facility relocations. State of California, State Lands Commission will provide LERRDs for mitigation only.

b. **The non-Federal Sponsor is agreeable to signing a project partnership agreement and supplying funding as stipulated in the agreement.**

   Yes____

c. **The non-Federal Sponsor understands that it may be necessary to utilize eminent domain authority in order to acquire lands required for this project.**

   Yes_X_ No_____

IV. Acquisition Experience and Capability

a. **Taking into consideration the project schedule and complexity, the non-Federal Sponsor has the capability with in-house staffing or contract capability, to provide the necessary services such as surveying, appraising, title, negotiating, condemnation, closings, and relocation assistance that will be required for the acquisition of properties for this project.**

   Yes__X__No_____

b. **The non-Federal Sponsor's staff is familiar with the real estate requirements of Federal projects including P.L. 91-646, as amended.**
   Yes__X__No_____

c. **The non-Federal Sponsor can obtain contractor support and meet project schedules.**

   Yes__X__No_____

d. **The non-Federal Sponsor's staff is located within a reasonable proximity to the project site.**

   Yes__X__No_____

e. **Will USACE assistance likely be requested by the non-Federal Sponsor in acquiring real estate?**

   Yes_____No__X__

V. Schedule Capability

The non-Federal Sponsor has approved the tentative project/ real estate schedule/ milestones and has indicated its willingness and ability to incorporate its financial, acquisition, and condemnation capability to provide the necessary project LERRDs

in accordance with proposed project schedules so the Government can advertise and award the construction contract as required by overall project schedules and funding limitations.

Yes__X___No____

VI. LERRD Credits

The sponsor has indicated its understanding of LERRD credits and its capability and willingness to gather the necessary information to submit as LERRD credits in within six months after possession of all real estate and completion of relocations in order that the project can be financially closed and there can be a final financial accounting with a proper settlement with the non-Federal Sponsor.

Yes__X___No____

VII. Capability

With regard to this project, the non-Federal Sponsor is anticipated to be: FULLY CPABLE.

Note: Choices are: fully capable, moderately capable, marginally capable, and insufficiently capable.

a. Fully Capable: *Previous experience. Financially capable. Authority to hold title. Can perform, with in house staff, the necessary services (survey, appraisal, title, negotiation, closing, relocation assistance, condemnation & "quick-take" authority) required to provide LERRD.*

b. Moderately Capable: *Financially capable. Authority to hold title. Can provide, with contractor support, the necessary services (survey, appraisal, title, negotiation, closing, relocation assistance and condemnation authority) required to provide LERRD. Quick-take authority will be provided by _____.*

c. Marginally Capable: *Financially capable. Authority to hold title. Will rely on approved contractors to provide the necessary services (survey, appraisal, title, negotiation, closing, and relocation assistance). Quick-take authority and authority to condemn will be provided by _____.*

d. Insufficiently Capable: *Financially capable. Will rely on approved contractors to provide the necessary services (survey, appraisal, title, negotiation, closing, and relocation assistance). Quick-take authority and authority to condemn will be provided by _____.*
Will rely on _____ to hold title.

VIII. Coordination

This assessment has been coordinated with the non-Federal Sponsor and it concurs with the assessment.

Yes_X__

This assessment has been coordinated with:

Name: Wendy Hall Special Projects Liaison
California State Lands Commission
100 Howe Ave., Suite 100-South
Sacramento, CA 95825
Phone: (916)-574-0994
Email: wendy.hall@slc.ca.gov

Prepared by:

MICHAEL B. ROHDE
_____
Realty Specialist

Considering the capability of the non-Federal Sponsor and the ancillary support to be provided by the State of California, and identified above, it is my opinion that the risks associated with LERRD acquisition and closeout have been properly identified and appropriately mitigated.

_____
Chief, Real Estate Division
Great Lakes Region

Non-Federal Sponsor Representative:

Signature: _____

Name: _____

Title: _____

Date: _____/_____/_____

EXHIBIT C

BRIDGE RELOCATION DETAIL

Westminter - Bridge Relocatoin (NED & LPP) Summary							
Reach	**Location**	**Parcel Owner**	**Bridge Owner**	**Document**	**Purpose**	**BridgeNum**	**Preliminary Determination**
C05	Oil Field Bridge	State of California	OC Flood Control District	Unknown	Pedestrian trail and light-duty maintenance vehicles	None	Compensable
C05	Springdale Street	OC Flood Control District	City of Huntington Beach	Permit 1969-05469	Primary Arterial Street	55C0428	Compensable
C05	Edwards Street	OC Flood Control District	City of Huntington Beach	Permit 1970-24470	Primary Arterial Street	55C0432	Compensable
C05	Golden West Street	OC Flood Control District	City of Huntington Beach	Permit 1967-05767	Primary Arterial Street	55C0134	Compensable
C05	Pedestrian Bridge	OC Flood Control District	City of Huntington Beach	Permit 1972-19572	Walkway approach to footbridge dedicated to City of H	None	Compensable
C05	Beach Blvd	OC Flood Control District	State of California	Permit 1960-09960	Major Arterial Street	55 0281	Compensable
C05	Magnolia	OC Flood Control District	City of Westminster	Permit 1966-18166	Primary Arterial Street	55C0427	Compensable
C05	Pedestrian Bridge	OC Flood Control District	Garden Grove Unified School District	Permit 1963-09563	Footbridge linking residential areas with Marshall Elem	None	Compensable
C05	Bushard Street	OC Flood Control District	City of Westminster	Permit 1966-14966	Secondary Arterial Street	55C0424	Compensable
C05	Brookhurst	OC Flood Control District	City of Westminster	Tract 3844 & Tract 4063	Primary Arterial Street	55C0093	Compensable
C05	Pedestrian Bridge	OC Flood Control District	Garden Grove Unified School District	Permit 1962-00162	Footbridge linking residential areas with Anthony Elem	None	Compensable
C05	Ward	OC Flood Control District	City of Westminster	Tract 3760 & Tract 4063	Secondary Arterial Street	55C0426	Compensable
C05	Deming	OC Flood Control District	City of Santa Ana	Tract 4024	Collector Street	55C0429	Compensable
C05	Euclid Street	OC Flood Control District	City of Santa Ana	Road Easement OR 6458-27	Primary Arterial Street	55C0100	Compensable
C05	Bolsa Avenue	OC Flood Control District	City of Santa Ana	Road Easement OR 5564-11	Primary Arterial Street	55C0073	Compensable
C05	Fifth Street	OC Flood Control District	City of Santa Ana	Tract 3669	Secondary Arterial Street	55C0447	Compensable
C05	Newhope	OC Flood Control District	City of Santa Ana	Road Easement OR 5138-450 &	Secondary Arterial Street	55C0446	Compensable
C05	West Fay Circle	OC Flood Control District	City of Santa Ana	Tract 1944	Collector Street	None	Compensable
C05	Morningside Avenue	OC Flood Control District	City of Santa Ana	Tract 1944	Collector Street	None	Compensable
C05	Westminster Avenue	OC Flood Control District	City of Santa Ana		Primary Arterial Street	None	Compensable
C05	Orange County Transportatio	OC Flood Control District	Orange County Transportation Authority	Permit 1975-24975	Surface use for bus maintenance yard	None	Compensable
C05	Harbor Blvd	OC Flood Control District	City of Garden Grove	Road Easement OR 5844-751	Major Arterial Street	None	Compensable
C05	Pedestrian Bridge	OC Flood Control District	Garden Grove Unified School District	Existing footbridge	Footbridge linking school parking with Santiago High Sc	None	Compensable
C05	Trask Avenue	OC Flood Control District	City of Garden Grove	Permit 1970-18070	Secondary Arterial Street	None	Compensable
C05	Pearce Street	OC Flood Control District	City of Garden Grove	Tract 1992	Collector Street	None	Compensable
C05	Upstream Garden Grove Blvd	OC Flood Control District	Grove Medical Arts Assoc	Permit 1973-28773	Surface use for Medical Center parking lot	None	Compensable
C05	Downstream Aspenwood	OC Flood Control District	Greenhouse West HOA	Permit 1978-00587	Surface use for condominium complex driveways	None	Compensable
C05	Upstream Aspenwood	OC Flood Control District	OC Flood Control District	Tract 2376		None	Compensable
C04	McFadden Avenue	OC Flood Control District	City of Westminster	Tracts 4453 & 4573	Secondary Arterial Street	55C0456	Compensable
C04	Edwards Street	OC Flood Control District	City of Westminster	OR 6639/31; OR 7297/484; OR	Secondary Arterial Street	55C0457	Compensable
C04	Bolsa Avenue	OC Flood Control District	City of Westminster	OR 2518/408; OR 6639/31; OR	Primary Arterial Street	55C0074	Compensable
C04	Beach Blvd	City of Westminster	State of California		Major Arterial Street	55 0282	Compensable
C04	Pedestrian Bridge	OC Flood Control District		OR 1943-534		None	Compensable
C04	Newland Street	City of Westminster	City of Westminster	OR 3382-126; OR 3454-515	Secondary Arterial Street	55C0545	Compensable
C04	Magnolia Street	City of Westminster	City of Westminster	OR 3367-347; OR 2837-116; OR	Primary Arterial Street	None	Compensable
C04	Brookhurst Street	City of Garden Grove	City of Garden Grove	OR 3032-576; OR 2845-419	Primary Arterial Street	None	Compensable
C04	Ward Street	OC Flood Control District	City of Garden Grove	OR 5426-557	Secondary Arterial Street	None	Compensable
C04	Westminster Avenue	City of Garden Grove	City of Garden Grove		Primary Arterial Street	None	Compensable
C04	Ranney Avenue	City of Garden Grove	City of Garden Grove	Tract 2405	Collector Street	None	Compensable
C04	Blake Street	City of Garden Grove	City of Garden Grove	Tract 2316	Collector Street	None	Compensable
C04	Woodbury Road	City of Garden Grove	City of Garden Grove	Tract 2406	Collector Street	None	Compensable
C04	Teal Drive	City of Garden Grove	City of Garden Grove	Tract 2406	Collector Street	None	Compensable
C04	Mallard Avenue	City of Garden Grove	City of Garden Grove	Tract 2406	Collector Street	None	Compensable
C06	Beach Blvd	City of Huntington Beach	City of Huntington Beach	Roadway easement to State of	Major Arterial Street	None	Compensable
C06	Newland Street	City of Huntington Beach	City of Huntington Beach	OR 5601-492	Secondary Arterial Street	None	Compensable
C06	405 Freeway	State of California	State of California		Interstate 405 Freeway	55 0478	Compensable
C06	Magnolia Street	OC Flood Control District & City of	City of Huntington Beach	OR 6325/906; OR 6409/684	Primary Arterial Street	None	Compensable
C05	Aspenwood Lane	City of Garden Grove	City of Garden Grove	Tract 2376	Collector Street	None	Compensable
C05	Tide Gate Crossing	State of California	OC Flood Control District	OR 7091/32	Maintenance road & footpath	None	Compensable

EXHIBIT D

SPONSOR RISK LETTER

DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
231 S LA SALLE STREET, SUITE 1500
CHICAGO, IL 60604

December 9, 2019

IN REPLY REFER TO
Real Estate Division

Ms. Nardy Khan
Deputy Director, Infrastructure Programs
Orange County Public Works
300 N. Flower Street
Santa Ana, CA 92703

SUBJECT: Real Estate Acquisition Prior to Project Partnership Agreement Execution, Westminster, East Garden Grove Flood Risk Management Feasibility Study

Dear Ms. Khan:

In reference to the proposed Westminster East Garden Grove Flood Risk Management Project, we must inform Orange County Public Works (OCPW) of the risks associated with real estate acquisition or performance of Lands, Easements, Rights-of-Way, Relocations, and Disposal Areas (LERRDs) for said project prior to execution of the Project Partnership Agreement (PPA) and caution you that OCPW, as the potential Non-Federal Sponsor, assumes full and sole responsibility for any and all costs and liability arising from acquisition efforts.

Generally, these risks include, but may not be limited to, the following:

a) Congress may not appropriate the funds to construct the proposed project.

b) The proposed project may otherwise not be funded or approved for construction.

c) A PPA mutually agreeable to the Non-Federal Sponsor and the Government may not be executed and implemented.

d) The Non-Federal Sponsor may incur liability and expense by virtue of its ownership of contaminated lands, or interests therein, whether such liability should arise out of local, state, or Federal laws and regulations, including liability arising out of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

e) The Non-Federal Sponsor may acquire interests or estates that are later determined by the Government to be inappropriate, insufficient or otherwise not required for the project.

f) The Non-Federal Sponsor may initially acquire insufficient or excessive real property acreage which may result in additional negotiations and/or benefit payments under Public Law 91-646, Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, as well as the payment of additional fair market value to affected landowners. This can be been avoided by delaying acquisition until after PPA execution and the Government's notice to commence acquisition and performance of LERRDs.

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g) The Non-Federal Sponsor may incur costs or expenses in connection with its decision to acquire or perform LERRDs in advance of the executed PPA and the Government's notice to proceed, which may not be creditable under the provisions of Public Law 99-662, Water Resources Development Act of 1986, as amended, or the PPA.

If you have any questions, please contact Michael Rohde, Realty Specialist, at (312) 846-5576.

Best Regards,

Michael Rohde
Realty Specialist
Chicago District

CF: Michael Padilla, USACE Project Manager