

3.0 SURVEY

3.1 Survey Monument Preservation Guidelines for New and Reconstruction Projects

A. Prior to construction:

1. Public survey records are to be researched for the location of all possible survey monuments within the scope of the project and copies shall be furnished to the survey crew.
2. The survey crew shall diligently search for all survey monuments of record and on the surface of the road. It is suggested the search include the use of a metal detector. When the detector indicates the possibility of a buried survey monument, then digging below the surface to uncover the monument within 2" of the road surface is required.
3. The survey crew shall properly reference found survey monuments, which may be disturbed or covered during construction, to stable surface points.
4. The authorized surveyor shall properly complete a Corner Record or Record of Survey for the monuments noted in item 3, above. Prior to start of any construction work, the original or a print of the Corner Record or Record of Survey shall be submitted to the County Surveyor for review, signature and filing.

B. After construction and prior to recording Notice of Completion:

1. All covered or disturbed monuments shall be reset with the same or more durable type of monument as the original, in the surface of the construction. Key monuments shall be a minimum 1" inside diameter iron pipe of appropriate length.
2. A monument box or other protective structure should be placed around key monuments (section corners, quarter section corners).
3. The authorized surveyor shall properly complete a Corner Record or Record of Survey for all set monuments and existing monuments with a change in character, including tag number and submit it to the County Surveyor for review, signature and filing.

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3.2 Survey Monument Preservation Guidelines for Overlay Projects

A. Prior to construction:

1. Public survey records are to be researched for the location of all possible survey monuments within the scope of the project and copies shall be furnished to the survey crew.
2. The survey crew shall diligently search for all survey monuments of record and on the surface of the road. It is suggested the search include the use of a metal detector. When the detector indicates the possibility of a buried survey monument, then digging below the surface to uncover the monument within 2" of the road surface is required.
3. The survey crew shall properly reference found survey monuments, which may be disturbed or covered during construction, to stable surface points.
4. The authorized surveyor shall properly complete a Corner Record or Record of Survey for the monuments noted in item 3, above. Prior to start of any construction work, the original or a print of the Corner Record or Record of Survey shall be submitted to the County Surveyor for review, signature and filing.

B. After construction and prior to recording Notice of Completion:

1. All covered or disturbed monuments and surface monuments are reset in the new road surface, or a new monument is set in the new road surface above the buried one.
2. All existing monument boxes will be adjusted to grade or replaced, as appropriate.
3. A monument box or other protective structure should be placed around key monuments (section corners, quarter section corners).
4. The authorized surveyor shall properly complete a Corner Record or Record of Survey for all set monuments and existing monuments with a change in character, including tag number and submit it to the County Surveyor for review, signature and filing.

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3.3 Survey Monument Preservation Guidelines for Slurry Seal Projects

A. Prior to construction:

1. Public survey records are to be researched for the location of all possible survey monuments within the scope of the project and copies shall be furnished to the survey crew.
2. All monument boxes shall be located and steps taken to ensure that the survey monuments inside are readily accessible upon completion of the project.
3. The survey crew shall diligently search for all survey monuments on the surface of the roadway and identify said monuments recovered in the field to ensure that they will be protected. The survey crew shall inventory the monuments recovered in the field in a manner that allows for their recovery and inspection after construction.

B. After construction and prior to recording Notice of Completion:

1. All monument boxes shall be inspected, and appropriate action taken when needed, to ensure that the survey monuments inside are readily accessible.
2. The survey crew shall review the inventory of found monuments by field inspection to ensure that all survey monuments are clean and exposed. Those monuments covered after construction is completed shall be uncovered.

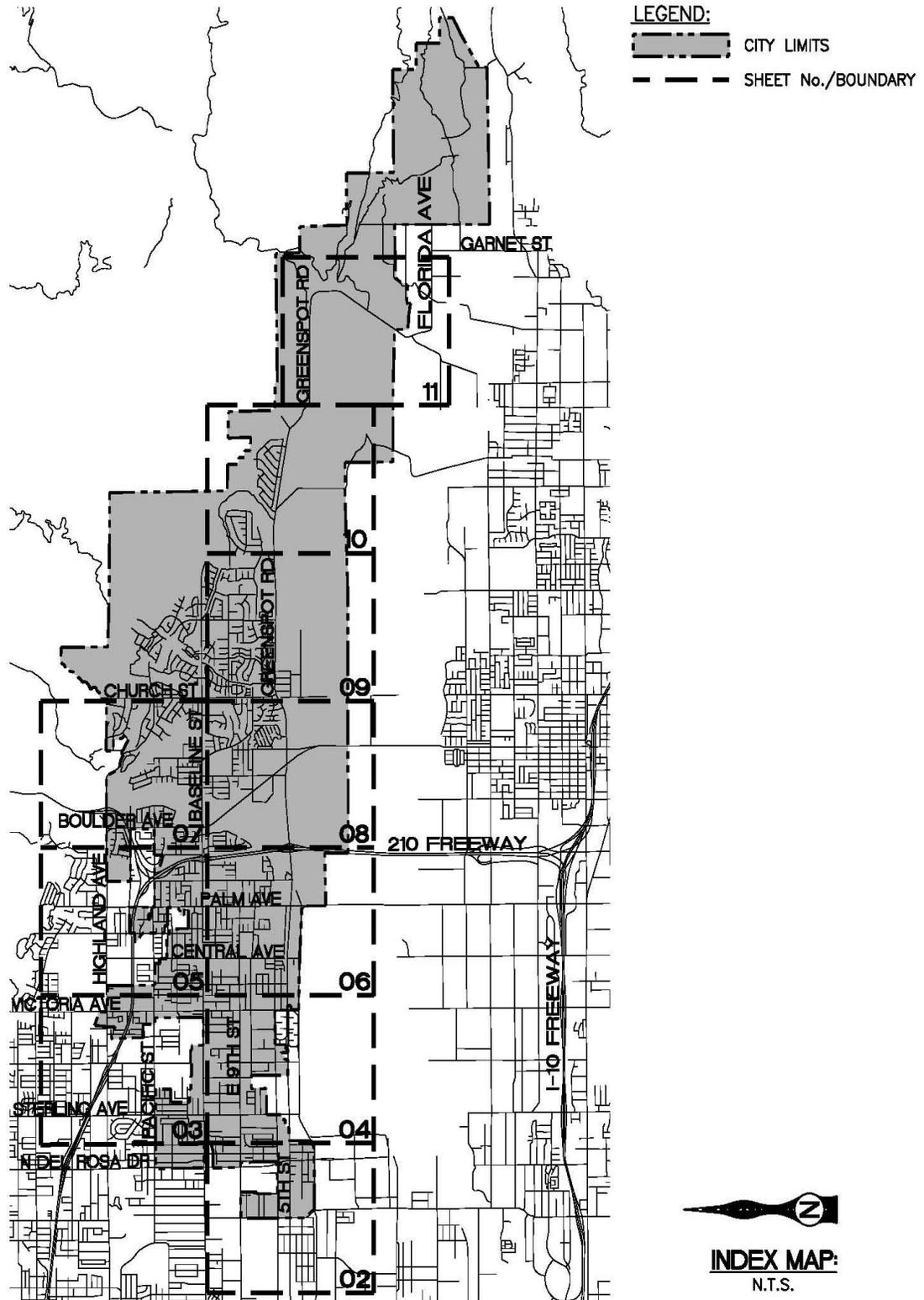
3.4 Centerline Ties

Contact the Engineering Department at (909) 864-8732, extension 240.

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3.4 Bench Mark Index Maps - Sheet 1

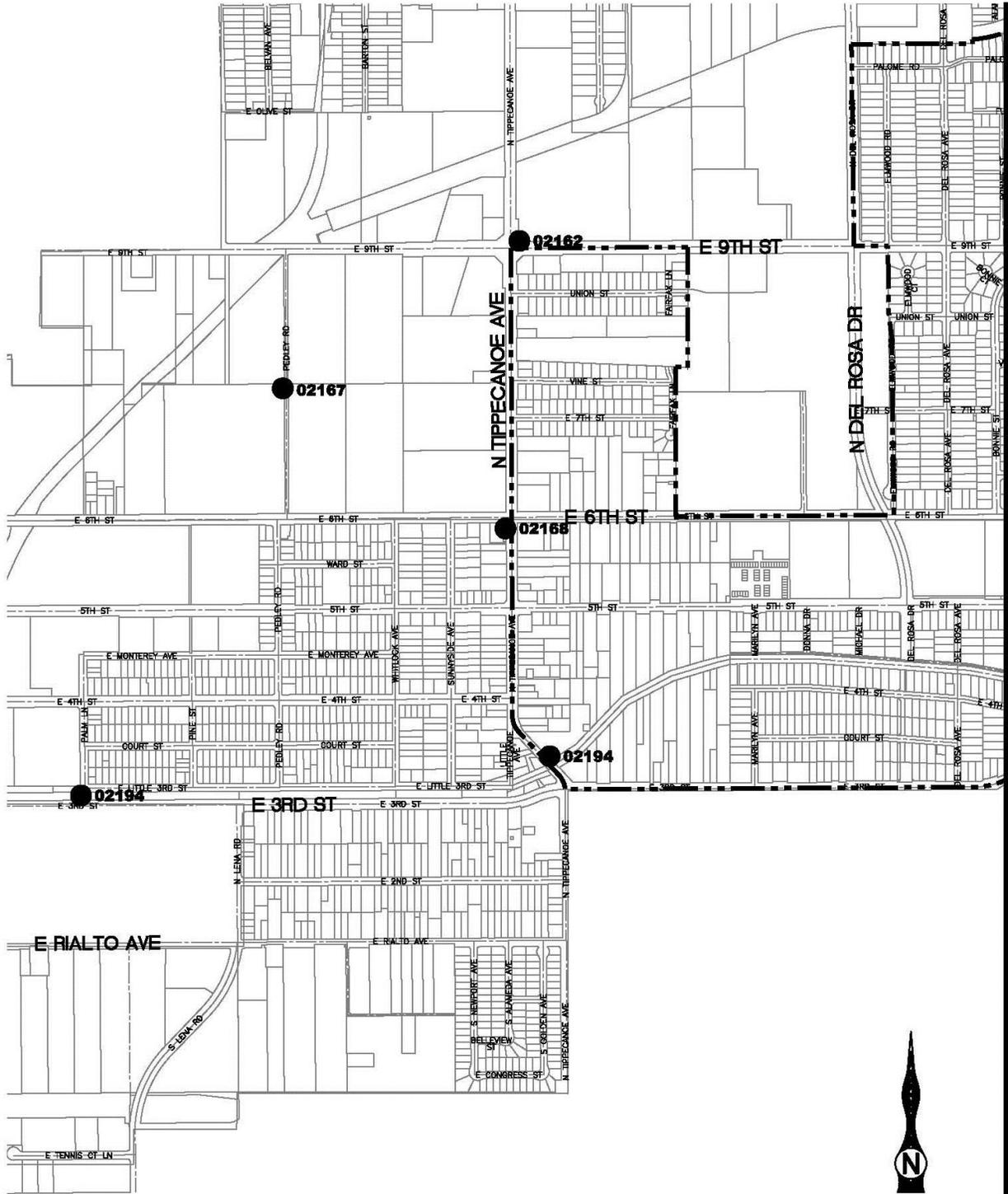


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Sheet 2

LEGEND:
 - - - - - CITY LIMIT LINE
 ● 00000 CITY BENCHMARK



SEE SHEET 4

SCALE: 1" = 1000'

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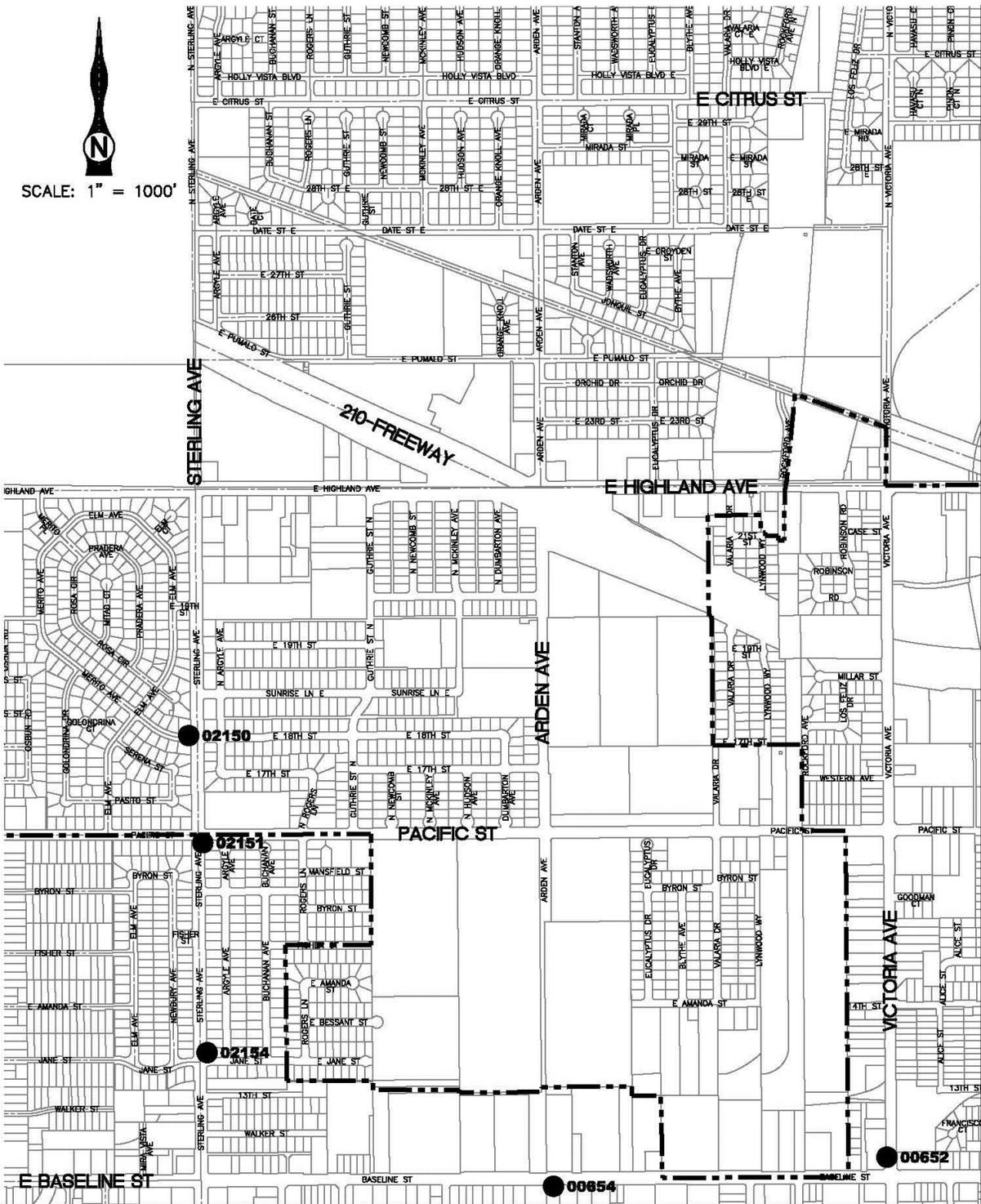
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Sheet 3

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SCALE: 1" = 1000'



SEE SHEET 5

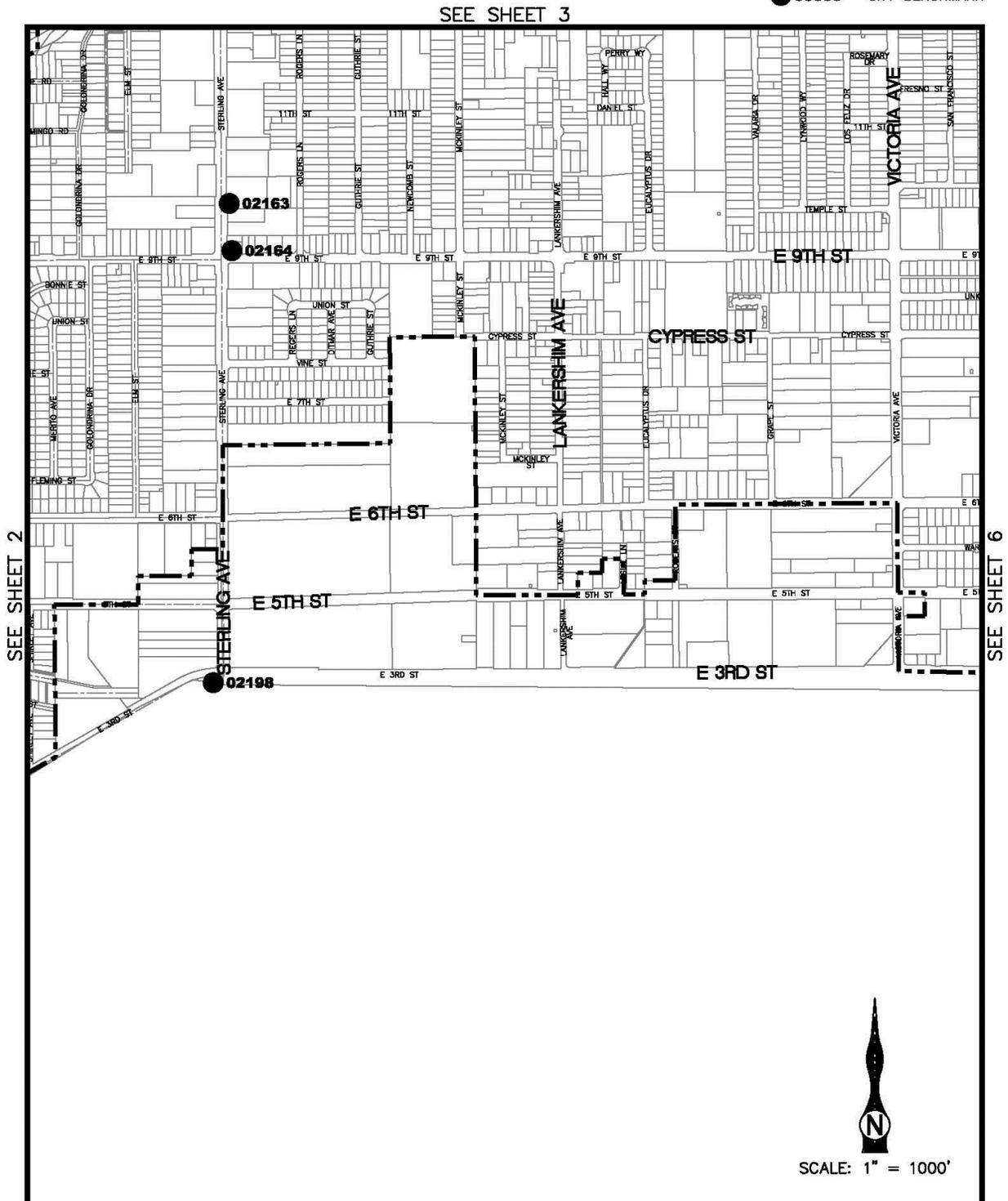
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Sheet 4

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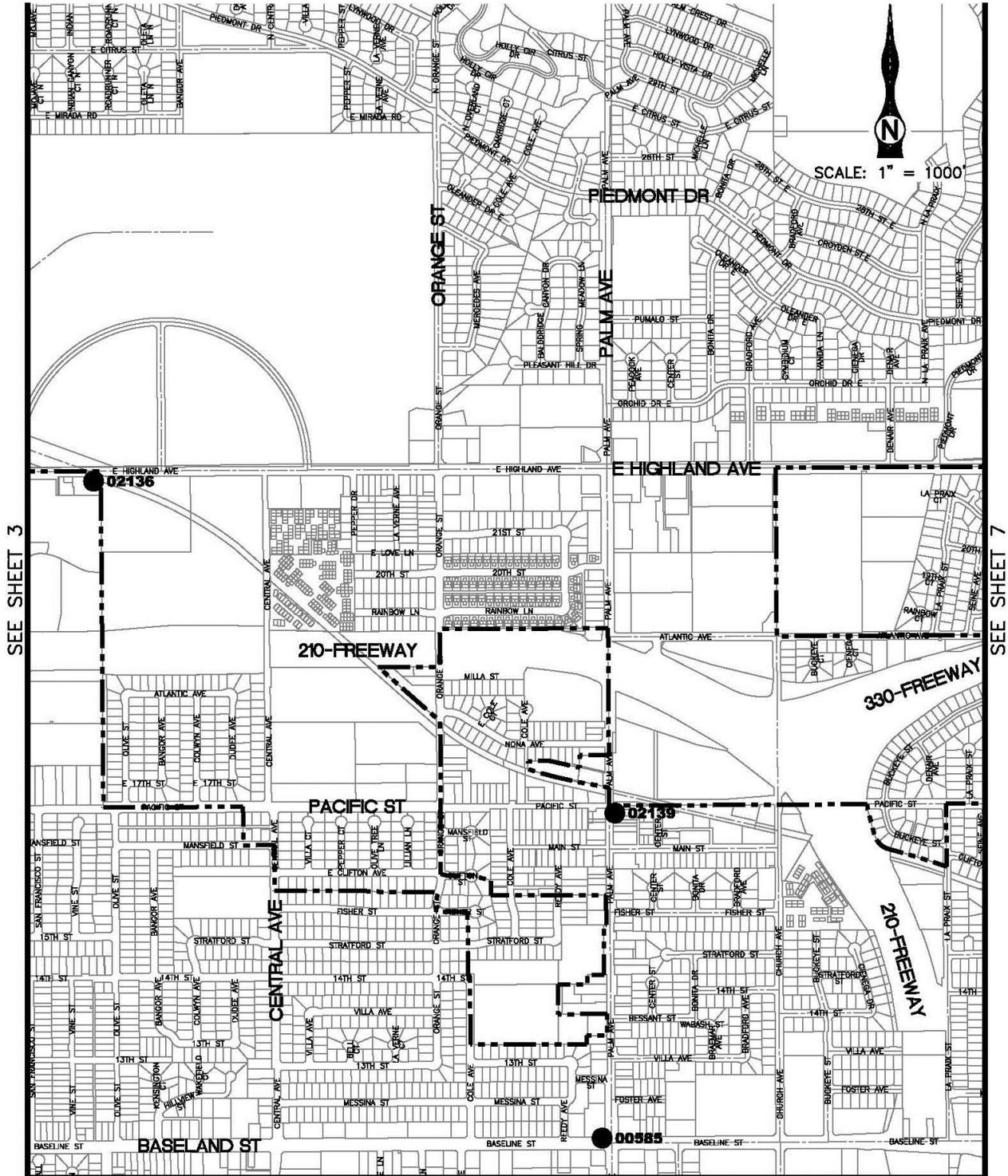


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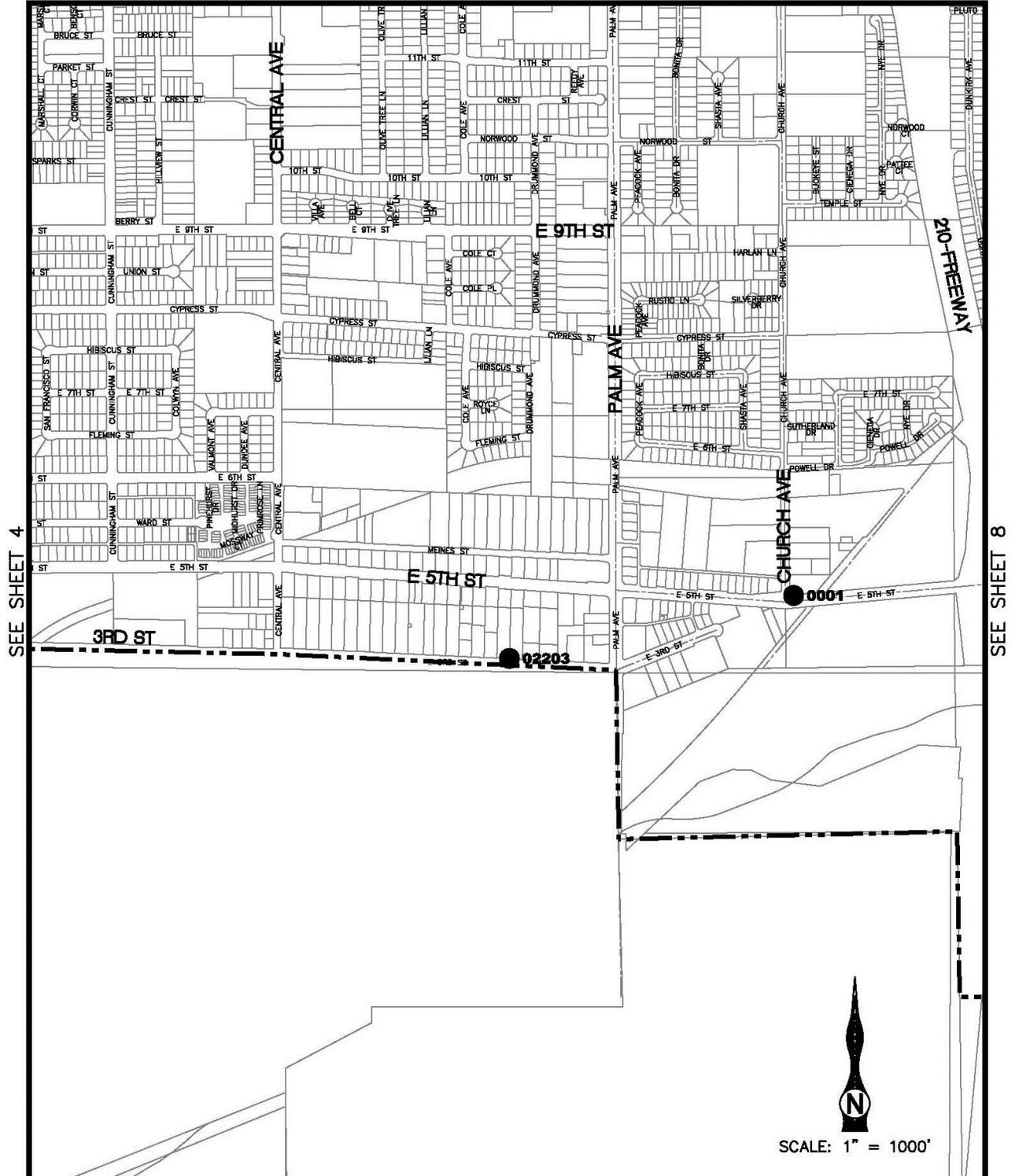
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Sheet 6

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SEE SHEET 5



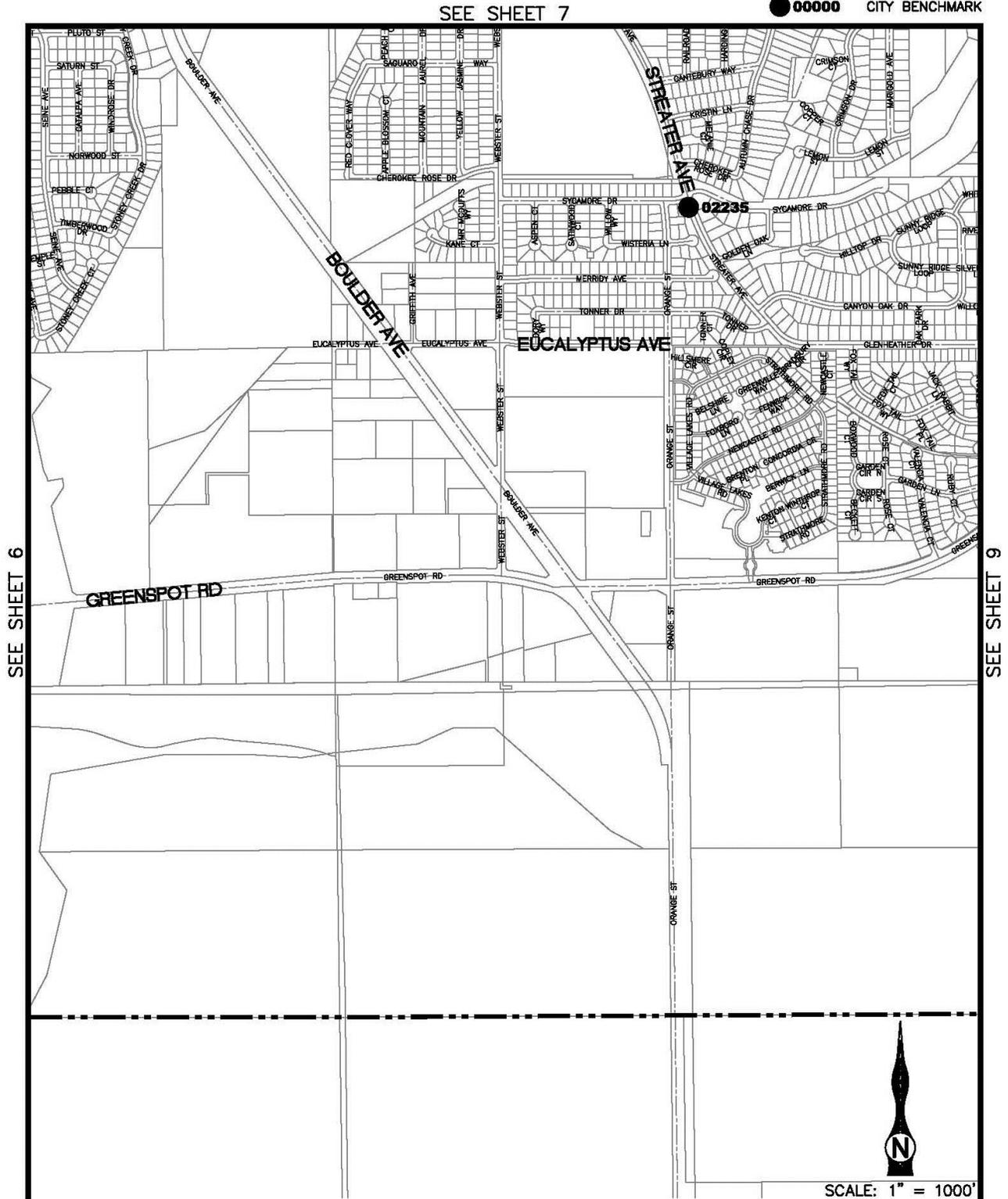
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Sheet 8

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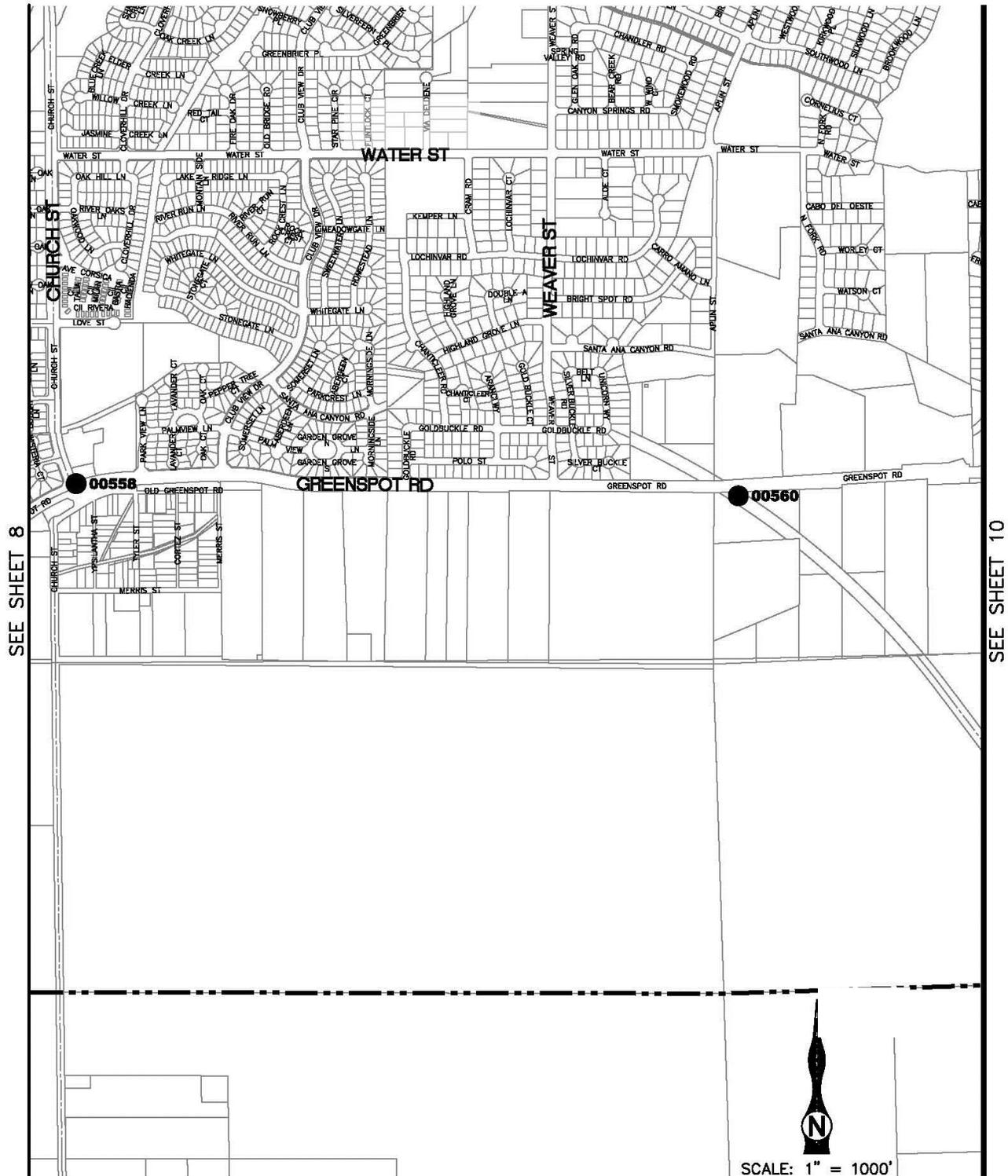


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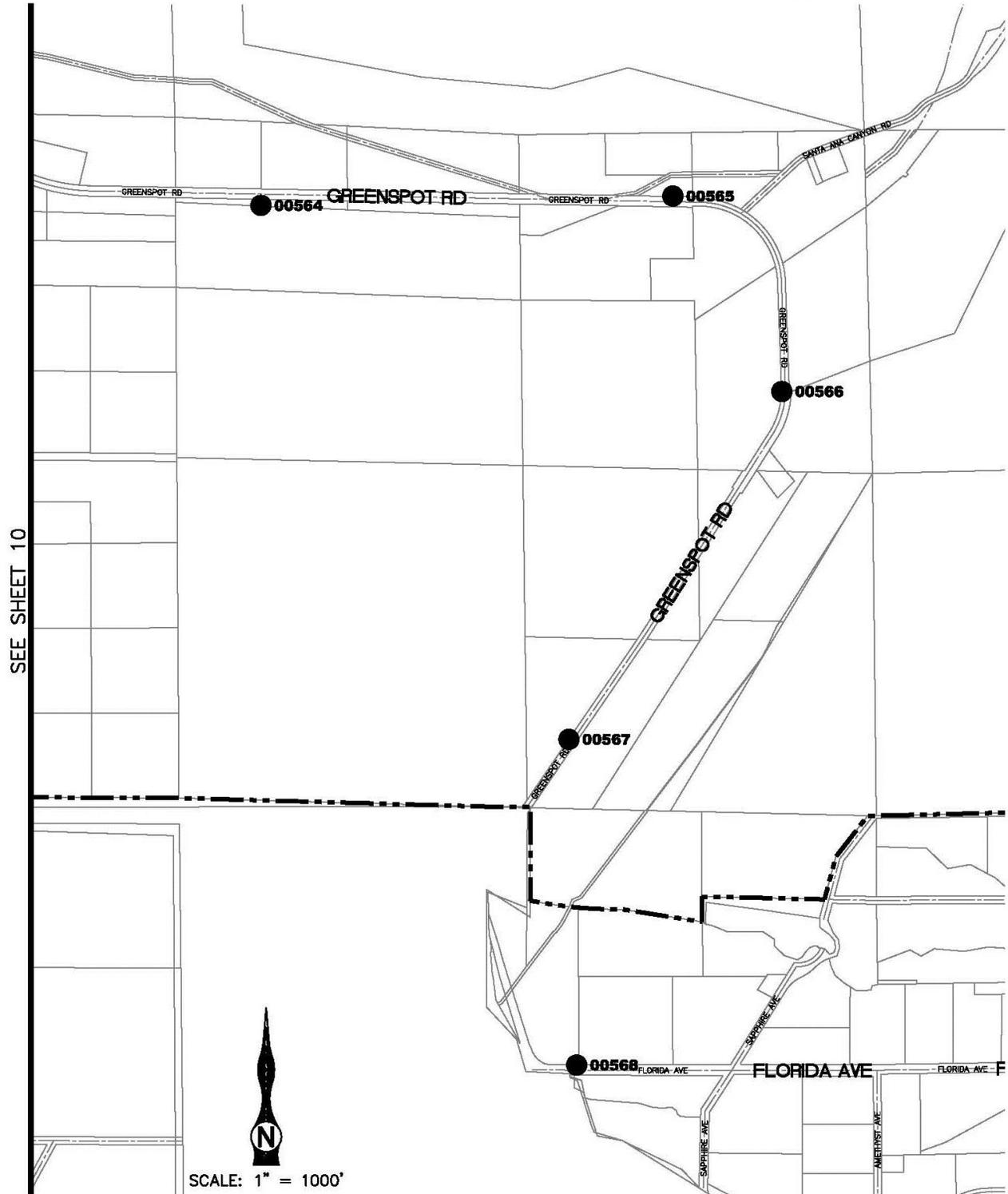
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LEGEND:

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-  00000 CITY BENCHMARK



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3.6 Benchmarks

Bench Mark No.	Description	Elevation	Designation/ Stamping/ Datum
0001	Chiseled box at the east end of the northeast curb return at 5 th Street and Church Avenue	1,213.30	NAVD29
00555	Brass Disk in concrete wing-wall at 3 rd Street and concrete bridge over Santa Ana River, 0.10 mile east of "Y" at 5 th Street, at northwest end of northwest wing wall, 26.9 feet north of 3 rd Street, level with street; 1.1 mile east along 3 rd Street from Gate 5 Norton Air Force Base	1,217.081	K-526 1956 NAVD29
00558	1 ½ inch brass cap set in south end of concrete catch basin. 78 feet north of centerline of Greenspot Road and 32.5 feet east of centerline of Church Street.	1327.363	12-12 NAVD29
00560	Brass Disk in concrete monument 1.1 mile east along Greenspot Road from Church Street, 650 feet west of KCAL Radio transmitter Station at #29800, 78 feet south of Greenspot Road, at abandoned railroad bed, at dirt road north to address #29680.	1,424.088	Z-516 1956 NAVD29
00562	Brass Disk in concrete post 2 miles east along Greenspot Road from Church Street, 80 feet south of Greenspot Road, on top of rise south side small wash, 144 feet east and 64 feet south of south end of wall.	1,544.065	12-15 NAVD29
00564	3.2 mile east along Greenspot Road from Church Street, 66 feet south of Greenspot Road, 88 feet east and 51 feet south of south end wall of 9x3 foot concrete box-culvert, level with road.	1,744.1990	12-17 NAVD29
00565	3.8 mile east along Greenspot Road from Church St. 30 feet north of Greenspot Road, 88 feet northeast of power pole #254510E, 1.71 feet northwest of power pole #254511E, near east end of foot of dyke drainage settling basin, level with pavement.	1,836.5220	12-18 NAVD29
00566	4.3 miles east along Greenspot Road from Church Street, 12 feet west of Greenspot Road in southwest corner concrete abutment steel trestle bridge, 15 feet east of a power line north. Level with pavement.	1,874.2450	12-19 NAVD29

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Bench Mark No.	Description	Elevation	Designation/ Stamping/ Datum
00567	4.9 miles east along Greenspot Road from Church Street, 0.6 miles D of steel bridge over Santa Ana River, 91 ft. northwest of Greenspot Road.	1,764.1270	12-20 NAVD29
00568	0.7 mile west along Florida Street from Garnet Street, on north wall drainage channel, 19 feet north of Florida, 11 feet east of north corner drop-in culvert, 41 feet east and 34 feet north of twin power pole #1806099E.	1,827.5270	12-21 NAVD29
00585	San Bernardino County Bench Mark Reset 1992 in T.C. 1 foot west of ECR, northwest corner of Base Line and Palm Avenue.	1,231.407	14-2 NAVD29
00586	Concrete post with Drive Pin, 1 mile southeast along Santa Fe Railroad from railroad crossing at Palm Avenue, near railroad crossing at Boulder Avenue in a 6x6 concrete post at south end of old State Highway right-of-way fence, 23.5 feet north of north rail of railroad, 41 feet east of Boulder Avenue, northbound traffic lane, 12 feet north of culvert headwall.	1,353.458	14-3 NAVD29
00652	Bass Disk in top of curb, 1 mile west along Base Line from Palm Avenue at northwest corner of Victoria Avenue and Base Line at north side of driveway, 102 feet north of Base Line, 32 feet west of Victoria Avenue.	1,146.306	CS72-18-2-75 NAVD29
00654	Brass Disk in concrete monument, 1.5 miles west along Base Line from Palm Avenue, 0.5 miles west of Sterling Avenue, on south side of Base Line across the street from #26122, in 3x3 inch monument at east side large drop-inlet just inside concrete curb, 23.5 feet west of power pole #1196591E.	1,122.202	CSB 01-11 NAVD29

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Bench Mark No.	Description	Elevation	Designation/ Stamping/ Datum
02136	Brass Disk in brick wall of old railroad station, at AT&SF Railroad and Highland Avenue, 8.5 rails northwest of avenue, at warehouse (formerly railroad station), at northwest corner and vertical in northeast brick wall, 30.8 feet southwest of southwest rail main track, 0.7 feet southeast of northwest end of wall, 0.2 feet above concrete loading platform. (Poor Condition)	1,289.131	W-295 1935 NAVD29
02139	Brass Disk in concrete base of light standard, at Pacific and Palm Avenues, 35 feet south of Pacific, 40 feet east of Palm, in top northwest corner concrete base of sign and light standard.	1,311.022	E-522 NAVD29
02150	Brass Disk in top of concrete curb, at Sterling and Merito Avenues, in top concrete curb at west end northwest curb return.	1,155.952	F-523 NAVD29
02151	Brass Disk in top of concrete clean-out structure, at southeast corner Pacific Street and Sterling Avenue, in top northwest corner concrete clean-out structure.	1,135.914	G-523 NAVD29
02154	Brass Disk in drill hole top of curb, at Sterling Avenue and Jane Street, 38.7 feet east of Sterling, 24 feet north of Jane, 8.75 feet (along curb return) from north end curb return, in top northeast end curb.	1,105.796	B-523 NAVD29
02162	Brass Disk in top of concrete roof of pump station, at Tippecanoe Avenue and 9 th Street, 80 feet east of Avenue, 6.6 feet north of north curb southbound lanes, 6.9 feet south of south curb northbound lanes, 49.8 feet east of west end of traffic island, at a 10 feet square underground pump room for a 1047 feet deep water well, in top near center west edge concrete roof. NOTE: concrete structure housing well is cemented to 16 inch well casing at floor.	1,069.867	Q-523 1956 NAVD29

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Bench Mark No.	Description	Elevation	Designation/ Stamping/ Datum
02163	Brass Disk in concrete base of flag pole, at 9 th Street and Sterling Avenue, at Warm Springs School 400 feet +/- north of 9 th Street, in top southwest corner concrete base of flag pole, 20.2 feet northeast of northeast edge of sidewalk to main entrance, 1.9 feet. southwest of steel pole, level with lawn.	1,111.107	K-523 1956 NAVD29
02164	Brass Disk in top of curb return, at southeast corner 9 th Street and Sterling Avenue, at east end curb return.	1,107.708	J-523 NAVD29
02167	2 inch iron pipe (no cap) in pump foundation, 0.4 miles west along 9 th Street from Tippecanoe Avenue, 0.15 miles south along paved driveway, 0.15 miles east cross-country to northeast corner San Bernardino City Water Works property, at pump house for water well, welded to east side 16 inch casing, projecting out east side concrete foundation for electric pump, 1 foot northeast of northeast side pump, 0.5 feet above concrete floor.	1,058.564	WELL-E 42 A NAVD29
02168	Brass disk on vault of underground gas line, at 6 th Street and Tippecanoe Avenue, 32.9 feet south of 6 th Street, 51.3 feet west of Tippecanoe, in top northeast corner of a 5.5 x 5.5 x 5 foot deep concrete well for main underground gas line, flush with ground, level with street.	1,067.806	P-523 1956 NAVD29
02191	Brass disk in concrete headwall of culvert, at 3 rd Street and Palm Lane, in top south end west concrete block headwall for 5 - 36 inch CMP culverts, 80.1 feet north of street, 22 feet west of and level with lane.	1,039.824	C-526 1956 NAVD29
02194	Brass disk in concrete walk over culvert, 265 feet +/- north of 3 rd Street on Tippecanoe Avenue, in concrete walk over a concrete culvert, 35 feet east of Avenue.	1,066.349	L-523 NAVD29

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Bench Mark No.	Description	Elevation	Designation/ Stamping/ Datum
02198	Brass Disk, at 3 rd Street and Sterling Avenue, 140 feet west of Sterling (prolongation), 72.8 feet east along top south side Flood Control District concrete "V" channel wall from south end wing-wall of twin concrete box culvert under 3 rd Street, 1 foot north of Norton Air Force Base chain-link fence.	1,100.935	A-523 NAVD29
02203 (Reset)	Brass disk in top of curb, 838.67 feet west along the centerline of 3 rd Street from Palm Avenue and 40' north of centerline of 3 rd Street.	1,182.500	L-526 NAVD29
02224	Brass disk in embedded granite boulder, 0.2 miles east along Highland Avenue from Boulder Avenue, 0.4 miles north along paved former alignment of City Creek Canyon Road, 0.1 mile north of locked gate, at "T" junction of driveway east to an orange grove, in top of large embedded granite boulder 2.5 feet above ground, 44 feet south of drive, 33.5 feet east of road; Recovery description: Access from Highland blocked at Highland by locked chain link fence gate in note is large steel gate (open) painted bright orange – "T" junction is very visible but does not lead to an orange grove – former buildings all gone but foundations and irrigation structures and mortar and rock flumes remain.	1,604.692	L-297 1935 NAVD29
02225	Brass disk in concrete post, at Boulder Avenue and old Highland Avenue to east, at northeast corner of intersection (south of State Highway 330), at the southwest corner of a 5x6 foot rhomboid shaped concrete vault with matching steel cover, 200 feet northeast along Highland Avenue (old alignment) from a point 10 feet north of center point of traffic island in center of Boulder Avenue (center of old Highland Avenue projected southwest) 47 feet north of Highland Avenue (old alignment), 245 south of State Highway 330 to centerline of old Highland Avenue projected southwest.	1,477.481	B-522 1956 NAVD29

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Bench Mark No.	Description	Elevation	Designation/ Stamping/ Datum
02228	Brass disk in concrete post, at Boulder Avenue and Atlantic Avenues, 0.3 miles south of Highland Avenue, at southeast fence corner, 78.5 feet south of Atlantic, 5.5 feet east of east curb Boulder, 3 feet northeast of power pole #1026903E, 1.7 feet north of steel fence corner post.	1,423.737	C-522 1956 NAVD29
02230	Brass disk in embedded granite boulder, 2.25 miles northwest along AT&SF railroad from Mentone Station, 6 poles northwest of mile-pole 14, at a rocky cut bank, in top of embedded granite boulder, 50 feet northeast across railroad tracks from a telephone pole, 28.8 feet northeast of northeast rail, 3.5 feet above railroad tracks.	1504.046	Z-295 1935 NAVD29
02235	Round head bolt in top of curb, 0.35 miles southeast along Streater Drive (Railroad Street) from Base Line, 80 feet southeast of Sycamore Street, 250 feet southeast of centerline Creek.	1,304.479	00587 1987 NAVD29