Appendix L.1

Traffic Impact Analysis
LLG Engineers

TRAFFIC IMPACT ANALYSIS REPORT

BH PROPERTIES

THE OASIS AT INDIO

Indio, California

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EXECUTIVE SUMMARY

Project Option A Description

- The project site is located on the southwest quadrant of Monroe St and Avenue 42 in the City of Indio, California. Project Option A will consist of an 859,610 square-feet (SF) high cube fulfillment center warehouse (Non-Sort), a 946,680 SF high cube fulfillment center warehouse (Sort), 3,240 multifamily housing dwelling units, and 20,000 SF of retail. The proposed Project Option A is expected to be completed and fully occupied by the Year 2033. For the purposes of the Specific Plan (SP), the following describes the Planning Areas.

    - SP Planning Area #1 (Mixed-Use): 3,240 multifamily housing dwelling units
    - SP Planning Area #2 and #3 (Mixed-Use): 20,000 SF of retail
    - SP Planning Area #4 (Industrial): 859,610 SF high cube fulfillment center warehouse (Non-Sort) and 946,680 SF high cube fulfillment center warehouse (Sort)

- Access to the proposed Project Option A will be provided via seven (7) unsignalized right-turn in/right-turn out only driveways located along Avenue 42 and via one (1) signalized full-access driveway at Clinton Street located along Avenue 42. It should be noted that all project access provided along Avenue 42 will be for access to SP Planning Area #1 only (i.e. the residential project component). One (1) full access driveway located along Monroe Street, directly opposite Showcase Parkway will connect to the project's internal roadway and will provide SP Planning Area #4 access (i.e. industrial), SP Planning Area #2 and #3 access (i.e. commercial), and limited SP Planning Area #1 access (i.e. residential).

- The proposed Project Option A is expected to generate 31,505 weekday daily trips (one half arriving, one half departing), with 2,319 trips (1,130 inbound, 1,189 outbound) produced in the AM peak hour and 3,024 trips (1,578 inbound, 1,446 outbound) produced in the PM peak hour. It should be noted that these estimates include the conversion of truck-related trips to passenger car equivalents (PCE).

Study Area

- The seventeen (17) key study intersections listed below provide both local and regional access to the study area and defines the extent of the boundaries for this traffic impact investigation. All seventeen (17) key study intersections are located in the City of Indio.

    Key Study Intersections:

    1. Jefferson Street at Varner Road
    2. Jefferson Street at I-10 WB Ramps
    3. Jefferson Street at I-10 EB Ramps
    4. Jefferson Street at Indio Boulevard
    5. Madison Street at Avenue 42
    6. Monroe Street at Avenue 42

7. Gore Street/Spectrum Street at Avenue 42
8. Jackson Street at Avenue 42
9. Monroe Street at Showcase Parkway
10. Monroe Street at I-10 WB Ramps
11. Monroe Street at I-10 EB Ramps
12. Monroe Street at Oleander Avenue
13. Monroe Street at Industrial Place/Avenue 44
14. Monroe Street at Fred Waring Drive
15. Monroe Street at Miles Avenue
16. Monroe Street at Shadow Palm Avenue/Requa Avenue
17. Monroe Street at Highway 111

Cumulative Projects Description

- The nineteen (19) cumulative projects are forecast to generate a combined total of 42,536 weekday daily trips, with 2,819 trips forecast during the AM peak hour and 3,024 trips forecast during the PM peak hour.

Project Option A Traffic Impact Analysis

Existing Traffic Conditions

- For Existing traffic conditions, all seventeen (17) key study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

Existing With Ambient Growth With Project Option A Traffic Conditions

- For Existing With Ambient Growth With Project Option A traffic conditions, two (2) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option A traffic based on the LOS standards and criteria mentioned in this report. The remaining fifteen (15) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option A traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	--	--	64.4	F
14. Monroe Street at Fred Waring Drive	58.5	E	56.4	E

These two (2) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Existing With Ambient Growth With Project Option A With Cumulative Projects Traffic Conditions

- For Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions, two (2) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option A traffic based on the LOS standards and criteria mentioned in this report. The remaining fifteen (15) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	--	--	49.9	E
14. Monroe Street at Fred Waring Drive	59.2	E	64.5	E

These two (2) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Buildout With Project Option A Traffic Conditions

- For Buildout With Project Option A traffic conditions, four (4) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option A traffic based on the LOS standards and criteria mentioned in this report. The remaining thirteen (13) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Buildout With Project Option A traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	708.4	F	10,000	F
6. Monroe Street at Avenue 42	83.3	F	58.9	E
14. Monroe Street at Fred Waring Drive	86.2	F	102.0	F
15. Monroe Street at Miles Avenue	58.4	E	--	--

These four (4) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Traffic Signal Warrant Analysis

Existing With Ambient Growth With Project Option A Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project Option A traffic conditions indicate that the intersection of Madison Street at Avenue 42 does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Alternative improvements were considered at this intersection, however, a traffic signal is recommended at this location per direction by City staff.

Existing With Ambient Growth With Project Option A With Cumulative Projects Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions indicate that the intersection of Madison Street at Avenue 42 does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Alternative improvements were considered at this intersection, however, a traffic signal is recommended at this location per direction by City staff.

Buildout With Project Option A Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for Buildout With Project Option A traffic conditions indicate that the intersection of Madison Street at Avenue 42 has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Thus, a traffic signal is recommended at this location. It should be noted that a traffic signal is also warranted without the project.

Project-Specific Improvements (Option A)

- The following project design features that will be constructed by the proposed Project are required to ensure that adequate ingress and egress to the project site is provided.
    - Intersection 9. Monroe Street at Showcase Parkway: Construct the west leg of the intersection and provide one eastbound left-turn lane, one eastbound through lane, dual eastbound right-turn lanes, and two westbound departure lanes. Restripe the northbound approach to provide dual northbound left-turn lanes with 400 feet of storage per lane and a 120-foot transition. Restripe or widen the southbound approach to provide a southbound right-turn lane. Widen and/or restripe the east leg of the intersection to provide a westbound through lane. Provide a crosswalk on the south leg of the intersection. Modify the existing traffic signal for eight-phase operation with eastbound right-turn overlap phasing.
    - A. Project Driveway No. 1 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane,

and a second eastbound departure lane. Project Driveway No. 1 is proposed to be stop-controlled.

- B. Project Driveway No. 2 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 2 is proposed to be stop-controlled.
- C. Project Driveway No. 3 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 3 is proposed to be stop-controlled.
- D. Project Driveway No. 4 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 4 is proposed to be stop-controlled.
- E. Clinton Street at Avenue 42: Construct the south leg of the intersection and provide one northbound left-turn lane, one northbound right-turn lane, and one inbound lane. The south leg will also be designed to accommodate a potential future northbound through lane. Widen Avenue 42 along the Project frontage to its ultimate condition and provide an eastbound U-turn lane, a second eastbound through lane, an eastbound right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Provide a crosswalk across the south leg. Install a traffic signal and design for five-phase operation with protected left turn phasing on Avenue 42.
- F. Project Driveway No. 5 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 5 is proposed to be stop-controlled.
- G. Project Driveway No. 6 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane,

and a second eastbound departure lane. Project Driveway No. 6 is proposed to be stop-controlled.

- H. Project Driveway No. 7 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 7 is proposed to be stop-controlled.

Planned Improvements

- The following planned improvements listed below have been included in the background for Existing With Ambient Growth With Project Option A traffic conditions, Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions, Buildout Without Project traffic conditions, and Buildout With Project traffic conditions:

  - Intersection 10. Monroe Street at I-10 Westbound Ramps: Reconstruct the south leg of the intersection to provide a second northbound left-turn lane, a second northbound through lane, and a second southbound departure lane. Reconstruct the north leg of the intersection to provide a second southbound through lane. Reconstruct the east leg of the intersection to provide a westbound left-turn lane, a shared westbound left-turn/through/right-turn lane, and a westbound right-turn lane. Reconstruct the west leg of the intersection to provide a second westbound departure lane. Provide a crosswalk on the east leg. Modify the existing traffic signal.

  - Intersection 11. Monroe Street at I-10 Eastbound Ramps: Reconstruct the south leg of the intersection to provide a second northbound through lane, a northbound right-turn lane, and a second southbound departure lane. Reconstruct the north leg of the intersection to provide a second southbound left-turn lane, a second southbound through lane, and a second northbound departure lane. Reconstruct the west leg of the intersection to provide an eastbound left-turn lane, a shared eastbound left-turn/through/right-turn lane, and an eastbound right-turn lane. Reconstruct the east leg of the intersection to provide a second eastbound departure lane. Provide a crosswalk on the east leg. Modify the existing traffic signal.

Project Option A Recommended Improvements

Existing With Ambient Growth With Project Option A Traffic Conditions

- The following improvements listed below have been identified to offset the effect of ambient growth traffic and Project Option A traffic, and improve levels of service to an acceptable range for Existing With Ambient Growth With Project Option A traffic conditions:

  - Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of

the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.

- Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing.

Existing With Ambient Growth With Project Option A With Cumulative Projects Traffic Conditions

- The following improvements listed below have been identified to offset the effect of ambient growth traffic, cumulative traffic, and Project Option A traffic, and improve levels of service to an acceptable range for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions:

  - Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.
  - Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing and westbound right-turn overlap phasing.

Buildout With Project Option A Traffic Conditions

- The following improvements listed below have been identified to offset the effect of buildout traffic, and Project Option A traffic, and improve levels of service to an acceptable range for Buildout With Project Option A traffic conditions:

  - Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.
  - Intersection 6. Monroe Street at Avenue 42: Widen and restripe the north leg of the intersection to provide a southbound left-turn lane. Modify the existing traffic signal for eight-phase operation.
  - Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing and westbound right-turn overlap phasing.
  - Intersection 15. Monroe Street at Miles Avenue: Restripe the east leg of the intersection to provide a westbound right-turn lane. Modify the existing traffic signal

Project Option A Fair Share Analysis

Existing With Ambient Growth With Project Option A With Cumulative Projects Traffic Conditions

- The Project fair share percentages (most adverse time period) for the deficient intersections for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions that require recommended improvements are shown below:

  - 5. Madison Street at Avenue 42 — 79.50%
  - 14. Monroe Street at Fred Waring Drive — 57.18%

Buildout With Project Option A Traffic Conditions

- The Project fair share percentages (most adverse time period) for the deficient intersections for Buildout With Project Option A traffic conditions that require recommended improvements are shown below:

  - 5. Madison Street at Avenue 42 — 48.70%
  - 6. Monroe Street at Avenue 42 — 47.74%
  - 14. Monroe Street at Fred Waring Drive — 43.97%
  - 15. Monroe Street at Miles Avenue — 27.36%

Project Option A Site Access and Internal Circulation Evaluation

- The nine (9) proposed Project Option A driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours for all scenarios.

- Adequate storage is proposed to accommodate the forecast 95th percentile queues under all traffic scenarios for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway.

- The on-site circulation layout of proposed Project Option A as illustrated in *Figure 2-2* on an overall basis is adequate. Curb return radii are generally adequate for small service/delivery (FedEx, UPS) trucks, trash trucks, as well as large trucks and fire trucks. Nonetheless, prior to finalization of the Project site plan, conduct an internal circulation analysis using the vehicle turning templates for a fire truck, service/delivery/trash truck and large truck to confirm curb return radii at the project driveways and internal drive aisle widths, etc.

Multimodal Circulation

- The on-site circulation layout of the proposed Project Option A on an overall basis is adequate for drivers, pedestrians, and public transit users. Pedestrian circulation will be provided via existing sidewalks along the eastern Project frontage on Monroe Street, in addition to existing signalized crosswalks and unsignalized crossings along Showcase

Parkway, and proposed walkways on site. Bicycle circulation will be provided via adjacent roadways and sidewalks, accordingly, as adequate lane widths are provided along the Project frontages for bicycle traffic. Consistent with the City of Indio General Plan *Planned Bicycle Network (Figure 4-1)*, Avenue 42 and Monroe Street are classified as Class IV Cycle Track along the northern and eastern Project frontage between Monroe Street and Indio Boulevard and the western Project frontage is classified as Class I Bike Path. The Project will construct/protect/maintain the existing sidewalks and bike signage along the Project frontage, and if necessary, repair or reconstruct sidewalks/crossings along the Project frontage per the City's request.

- Public transit bus service is provided in the Project area by SunLine Transit Agency. A description of the transit services within the Project vicinity are described below:
  - SunLine Transit Agency Route 8: provides service from North Indio to Thermal/Mecca; via Showcase at Monroe, 5th at Vine, 62nd at Buchanan, and 66th at Date Palm. The route traverses the cities of Indio and Coachella, as well as census designated places Thermal and Mecca. During the weekday and weekend AM and PM peak hours, Route 8 has an approximate headway of 60 minutes in the northbound and southbound directions.

Project Option B Description

- Project Option B proposes to construct an 859,610 SF high cube fulfillment center warehouse (Non-Sort), a 946,680 SF high cube fulfillment center warehouse (Sort), 1,237 multifamily housing dwelling units, 71,600 SF of commercial/retail and a 128 room hotel. The 71,600 SF of commercial/retail will consist of 12,100 SF of fast-food restaurant with drive throughs, a 49,500 SF supermarket, a gas station with 16 vehicle fueling positions and a 5,000 SF convenience store, and a 5,000 SF automated car wash. The proposed Project Option B is expected to be constructed and fully occupied by the Year 2033. For the purposes of the Specific Plan (SP), the following describes the Planning Areas.
  - SP Planning Area #1 (Mixed-Use): 1,237 multifamily housing dwelling units
  - SP Planning Area #2 and #3 (Mixed-Use): 71,600 SF of commercial/retail
  - SP Planning Area #4 (Industrial): 859,610 SF high cube fulfillment center warehouse (Non-Sort) and 946,680 SF high cube fulfillment center warehouse (Sort)

- Access to SP Planning Area #1 (i.e. the residential project component) of Project Option B will be provided via four (4) unsignalized left-turn in/right-turn in/right-turn out only access driveways located along Avenue 42. One (1) unsignalized right-turn in/right-turn out only driveway located along Avenue 42 and two (2) unsignalized right-turn in/right-turn out only driveways located along Monroe Street will provide access to SP Planning Area #2 and #3 (i.e. the commercial project component). One (1) full access driveway located along Monroe Street, directly opposite Showcase Parkway will connect to the project's internal roadway

and will provide SP Planning Area #4 access (i.e. industrial) and SP Planning Area #2 and #3 access (i.e. commercial).

- The proposed Project Option B is expected to generate 21,669 weekday daily trips (one half arriving, one half departing), with 1,617 trips (1,011 inbound, 606 outbound) produced in the AM peak hour and 2,122 trips (990 inbound, 1,132 outbound) produced in the PM peak hour. It should be noted that these estimates include the conversion of truck-related trips to passenger car equivalents (PCE).

Project Option B Traffic Impact Analysis

Existing With Ambient Growth With Project Option B Traffic Conditions

- For Existing With Ambient Growth With Project Option B traffic conditions, one (1) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option B traffic based on the LOS standards and criteria mentioned in this report. The remaining sixteen (16) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option B traffic conditions. The location forecast to operate at an adverse LOS is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	--	--	38.8	E

This one (1) intersection will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, the implementation of recommended improvements at the deficient location improves this intersection to acceptable service levels.

Existing With Ambient Growth With Project Option B With Cumulative Projects Traffic Conditions

- For Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions, all seventeen (17) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours. As such, no improvements are required for this traffic analysis scenario.

Buildout With Project Option B Traffic Conditions

- For Buildout With Project Option B traffic conditions, three (3) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option B traffic based on the LOS standards and criteria mentioned in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Buildout With Project Option B traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour	PM Peak Hour

Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	291.2	F	490.6	F
6. Monroe Street at Avenue 42	81.8	F	57.6	E
14. Monroe Street at Fred Waring Drive	68.7	E	74.9	E

These three (3) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Traffic Signal Warrant Analysis

Existing With Ambient Growth With Project Option B Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project Option B traffic conditions indicate that the intersection of Madison Street at Avenue 42 does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Alternative improvements were considered at this intersection, however, a traffic signal is recommended at this location per direction by City staff.

Buildout With Project Option B Traffic Conditions

- The results of the peak-hour traffic signal warrant analysis for the Buildout With Project Option B traffic conditions indicate that the intersection of Madison Street at Avenue 42 has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Thus, a traffic signal is recommended at this location. It should be noted that a traffic signal is also warranted without the project.

Project-Specific Improvements (Option B)

- The following project design features that will be constructed by the proposed Project Option B are required to ensure that adequate ingress and egress to the project site is provided.

    - Intersection 9. Monroe Street at Showcase Parkway: Construct the west leg of the intersection and provide one eastbound left-turn lane, one eastbound through lane, dual eastbound right-turn lanes, and two westbound departure lanes. Restripe the northbound approach to provide dual northbound left-turn lanes with 400 feet of storage per lane and a 120-foot transition. Restripe or widen the southbound approach to provide a southbound right-turn lane. Widen and/or restripe the east leg of the intersection to provide a westbound through lane. Provide a crosswalk on the south leg of the intersection. Modify the existing traffic signal for eight-phase operation with eastbound right-turn overlap phasing.

- A. Project Driveway No. 1 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 1 is proposed to be stop-controlled.

- B. Project Driveway No. 2 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 2 is proposed to be stop-controlled.

- C. Project Driveway No. 3 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 3 is proposed to be stop-controlled.

- D. Project Driveway No. 4 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 4 is proposed to be stop-controlled.

- E. Monroe Street at Project Driveway 5: Construct the west leg of the intersection and provide one inbound lane and one outbound lane (i.e. eastbound right-turn lane). Restripe the north leg of the intersection to provide a southbound deceleration right-turn lane. Project Driveway No. 5 is proposed to be stop-controlled.

- F. Monroe Street at Project Driveway 6: Construct the west leg of the intersection and provide one inbound lane and one outbound lane (i.e. eastbound right-turn lane). Restripe the north leg of the intersection to provide a southbound deceleration right-turn lane. Project Driveway No. 6 is proposed to be stop-controlled.

- G. Project Driveway 7 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Restripe Avenue 42 to convert the third eastbound through lane to a shared eastbound through/right-turn lane. Project Driveway No. 7 is proposed to be stop-controlled.

Project Option B Recommended Improvements

Existing With Ambient Growth With Project Option B Traffic Conditions

- The following improvements listed below have been identified to offset the effect of ambient growth traffic and Project Option B traffic, and improve levels of service to an acceptable range for Existing With Ambient Growth With Project Option B traffic conditions:

    - Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.

Existing With Ambient Growth With Project Option B With Cumulative Projects Traffic Conditions

- The results of the intersection analyses for Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions indicate that the seventeen (17) key study intersections are forecast to continue to operate at acceptable service levels. As there are no deficiencies, no traffic improvements are required under this traffic scenario.

Buildout With Project Option B Traffic Conditions

- The following improvements listed below have been identified to offset the effect of buildout traffic and Project Option B traffic, and improve levels of service to an acceptable range for Buildout With Project Option B traffic conditions:

    - Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.
    - Intersection 6. Monroe Street at Avenue 42: Widen and restripe the north leg of the intersection to provide a southbound left-turn lane. Modify the existing traffic signal for eight-phase operation.
    - Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing and westbound right-turn overlap phasing.

Project Option B Fair Share Analysis

Buildout With Project Option B Traffic Conditions

- The Project fair share percentages (most adverse time period) for the deficient intersections for Buildout With Project Option B traffic conditions that require recommended improvements are shown below:

    - 5. Madison Street at Avenue 42 36.10%

- 6. Monroe Street at Avenue 42 44.55%
- 14. Monroe Street at Fred Waring Drive 32.22%

Project Option B Site Access and Internal Circulation Evaluation

- The eight (8) proposed Project Option B driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours for all scenarios.

- Adequate storage is proposed to accommodate the forecast 95th percentile queues under all traffic scenarios for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway.

- The on-site circulation layout of proposed Project Option B as illustrated in *Figure 16-1* on an overall basis is adequate. Curb return radii are generally adequate for small service/delivery (FedEx, UPS) trucks, trash trucks, as well as large trucks and fire trucks. Nonetheless, prior to finalization of the Project site plan, conduct an internal circulation analysis using the vehicle turning templates for a fire truck, service/delivery/trash truck and large truck to confirm curb return radii at the project driveways and internal drive aisle widths, etc.

TRAFFIC IMPACT ANALYSIS REPORT

BH PROPERTIES THE OASIS AT INDIO

Indio, California

May 16, 2024

(Revision of September 15, 2023 Report)

1.0 INTRODUCTION

This traffic impact study addresses the potential traffic impacts and circulation needs associated with the proposed BH Properties The Oasis at Indio Project (hereinafter referred to as Project). The project site is located on the southwest quadrant of Monroe St and Avenue 42 in the City of Indio, California. This traffic impact study evaluates two (2) Project Options as defined by the project applicant. Project Option A consists of an 859,610 square-feet (SF) high cube fulfillment center warehouse (Non-Sort), a 946,680 SF high cube fulfillment center warehouse (Sort), 3,240 multifamily housing dwelling units, and 20,000 SF of retail. Project Option B consists of an 859,610 SF high cube fulfillment center warehouse (Non-Sort), a 946,680 SF high cube fulfillment center warehouse (Sort), 1,237 multifamily housing dwelling units, 71,600 SF of commercial/retail and a 128 room hotel. The proposed Project (i.e. both project options) is expected to be constructed and fully occupied by the Year 2033.

1.1 Scope of Work

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential traffic impacts associated with the proposed Project (i.e. both project options). The traffic analysis evaluates the existing operating conditions at seventeen (17) key study intersections within the project vicinity, estimates the trip generation potential of the proposed Project, superimposes the project-related traffic volumes on the circulation system as it currently exists, and forecasts future operating conditions without and with the proposed Project. Where necessary, intersection improvement measures are identified.

This traffic report satisfies the traffic impact requirements of the City of Indio. The Scope of Work for this traffic study, which is included in ***Appendix A***, was developed in conjunction with City of Indio Traffic Engineering staff.

The project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing peak hour traffic information has been collected at the key study locations on a "typical" weekday for use in the preparation of intersection level of service calculations. Information concerning cumulative projects (planned and/or approved) in the vicinity of the proposed Project has been researched at City of Indio. Based on our research, there are nineteen (19) cumulative projects located in the City of Indio. These fifteen (15) planned and/or approved cumulative projects were considered in the cumulative traffic analysis for this project.

This traffic report analyzes existing and future AM peak hour and PM peak hour traffic conditions for a near-term (Year 2033) and long-term (Buildout) traffic setting upon completion of the proposed

Project. Peak hour traffic forecasts for the Year 2033 horizon year have been projected by increasing existing traffic volumes by an annual growth rate of two percent (2.0%) per year and adding traffic volumes generated by nineteen (19) cumulative projects. Long-term (Buildout) peak hour traffic forecasts were projected based on modeled traffic projections utilizing the Riverside County Model (RivCOM).

1.2 Study Area

The seventeen (17) key study intersections selected for evaluation were determined based on the approved Traffic Study Scope of Work and discussions with City of Indio staff. The key study intersections listed below provide both local and regional access to the study area and defines the extent of the boundaries for this traffic impact investigation. All seventeen (17) key study intersections are located in the City of Indio.

Key Study Intersections:

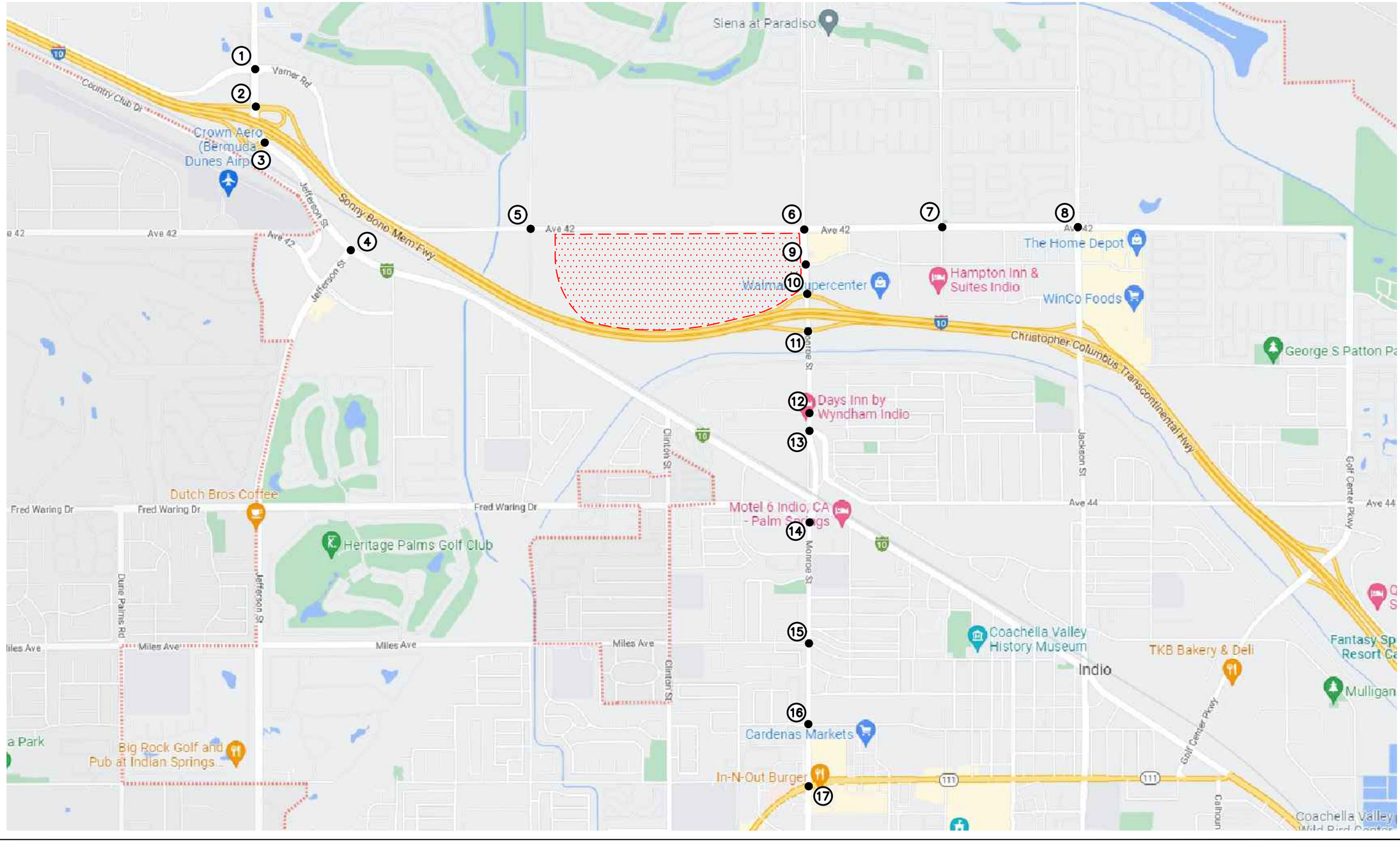
1. Jefferson Street at Varner Road
2. Jefferson Street at I-10 WB Ramps
3. Jefferson Street at I-10 EB Ramps
4. Jefferson Street at Indio Boulevard
5. Madison Street at Avenue 42
6. Monroe Street at Avenue 42
7. Gore Street/Spectrum Street at Avenue 42
8. Jackson Street at Avenue 42
9. Monroe Street at Showcase Parkway
10. Monroe Street at I-10 WB Ramps
11. Monroe Street at I-10 EB Ramps
12. Monroe Street at Oleander Avenue
13. Monroe Street at Industrial Place/Avenue 44
14. Monroe Street at Fred Waring Drive
15. Monroe Street at Miles Avenue
16. Monroe Street at Shadow Palm Avenue/Requa Avenue
17. Monroe Street at Highway 111

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with area growth, cumulative projects and the proposed Project. When necessary, this report recommends intersection improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service.

Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated Project Option A traffic generation/distribution/assignment,
- Estimated cumulative projects traffic generation/distribution/assignment,

- AM and PM peak hour capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for existing with ambient growth to the Year 2033 with Project Option A traffic conditions,
- AM and PM peak hour capacity analyses for existing with ambient growth to the Year 2033 with Project Option A with cumulative projects traffic conditions (i.e., cumulative traffic conditions),
- AM and PM peak hour capacity analyses for buildout traffic conditions without and with Project Option A,
- Area-Wide Traffic Improvements,
- Site Access and Internal Circulation Evaluation,
- Multimodal Circulation, and
- Project Option B Analysis (same analysis scenarios as the proposed Project Option A).



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SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

= PROJECT SITE

NO SCALE

FIGURE 1-1

VICINITY MAP

BH PROPERTIES THE OASIS AT INDIO, INDIO

2.0 PROJECT OPTION A DESCRIPTION AND LOCATION

The project site is located on the southwest quadrant of Monroe St and Avenue 42 in the City of Indio, California. ***Figure 2-1*** presents an aerial depiction of the existing site. ***Figure 2-2*** presents the proposed site plan for the proposed Project Option A, prepared by MSA Consulting, Inc. Review of the proposed site plan indicates that Project Option A will consist of an 859,610 square-feet (SF) high cube fulfillment center warehouse (Non-Sort), a 946,680 SF high cube fulfillment center warehouse (Sort), 3,240 multifamily housing dwelling units, and 20,000 SF of retail. The proposed Project Option A is expected to be completed and fully occupied by the Year 2033. For the purposes of the Specific Plan (SP), the following describes the Planning Areas.

- SP Planning Area #1 (Mixed-Use): 3,240 multifamily housing dwelling units
- SP Planning Area #2 and #3 (Mixed-Use): 20,000 SF of retail
- SP Planning Area #4 (Industrial): 859,610 SF high cube fulfillment center warehouse (Non-Sort) and 946,680 SF high cube fulfillment center warehouse (Sort)

2.1 Site Access

As shown in *Figure 2-2*, access to the proposed Project Option A will be provided via seven (7) unsignalized right-turn in/right-turn out only driveways located along Avenue 42 and via one (1) signalized full-access driveway at Clinton Street located along Avenue 42. It should be noted that all project access provided along Avenue 42 will be for access to SP Planning Area #1 only (i.e. the residential project component). One (1) full access driveway located along Monroe Street, directly opposite Showcase Parkway will connect to the project's internal roadway and will provide SP Planning Area #4 access (i.e. industrial), SP Planning Area #2 and #3 access (i.e. commercial), and limited SP Planning Area #1 access (i.e. residential).

2.2 Project-Specific Improvements

The following project design features that will be constructed by the proposed Project are required to ensure that adequate ingress and egress to the project site is provided:

- Intersection 9. Monroe Street at Showcase Parkway: Construct the west leg of the intersection and provide one eastbound left-turn lane, one eastbound through lane, dual eastbound right-turn lanes, and two westbound departure lanes. Restripe the northbound approach to provide dual northbound left-turn lanes with 400 feet of storage per lane and a 120-foot transition. Restripe or widen the southbound approach to provide a southbound right-turn lane. Widen and/or restripe the east leg of the intersection to provide a westbound through lane. Provide a crosswalk on the south leg of the intersection. Modify the existing traffic signal for eight-phase operation with eastbound right-turn overlap phasing.

- A. Project Driveway No. 1 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 1 is proposed to be stop-controlled.

- B. Project Driveway No. 2 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 2 is proposed to be stop-controlled.

- C. Project Driveway No. 3 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 3 is proposed to be stop-controlled.

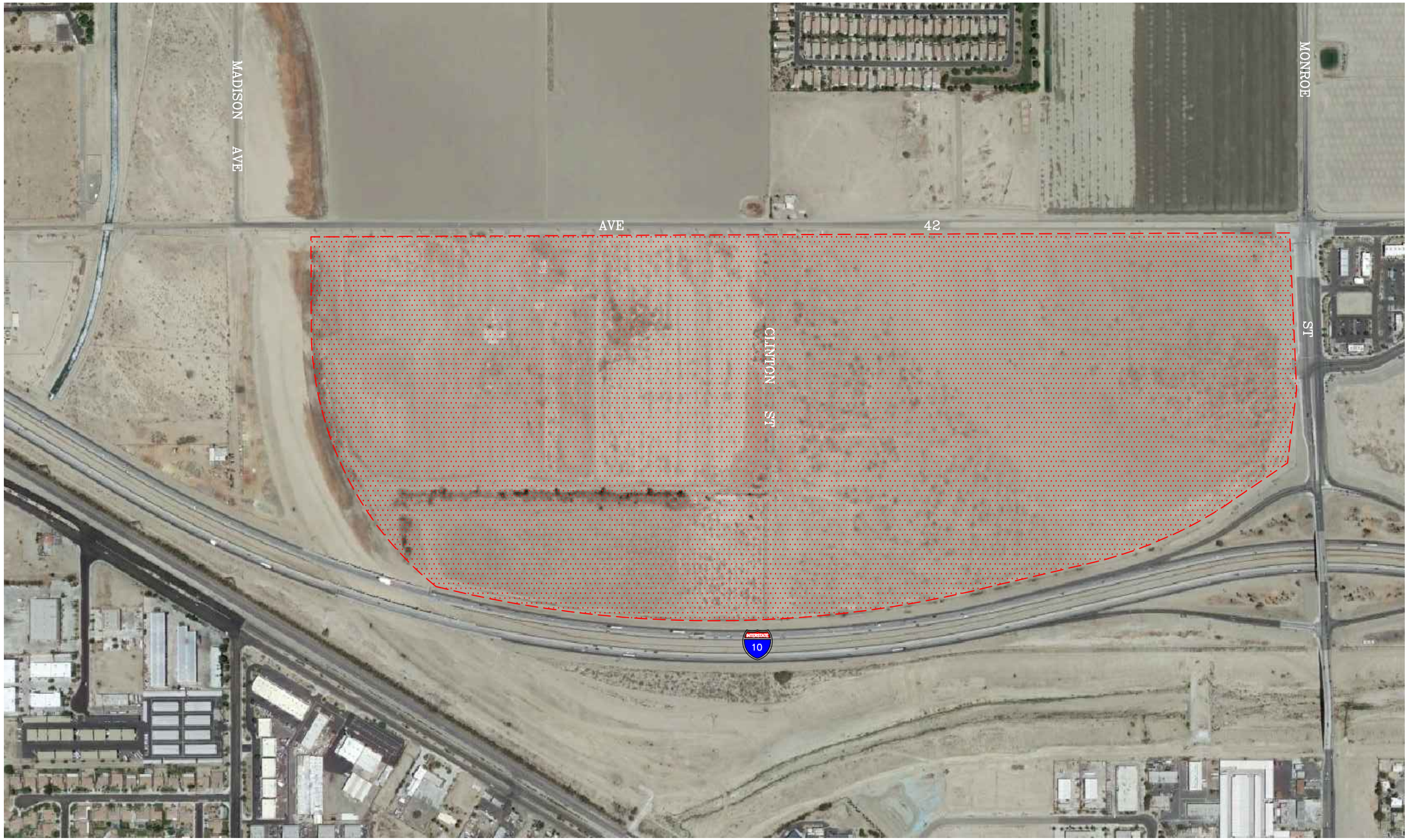
- D. Project Driveway No. 4 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 4 is proposed to be stop-controlled.

- E. Clinton Street at Avenue 42: Construct the south leg of the intersection and provide one northbound left-turn lane, one northbound right-turn lane, and one inbound lane. The south leg will also be designed to accommodate a potential future northbound through lane. Widen Avenue 42 along the Project frontage to its ultimate condition and provide an eastbound U-turn lane, a second eastbound through lane, an eastbound right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Provide a crosswalk across the south leg. Install a traffic signal and design for five-phase operation with protected left turn phasing on Avenue 42.

- F. Project Driveway No. 5 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 5 is proposed to be stop-controlled.

- G. Project Driveway No. 6 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 6 is proposed to be stop-controlled.

- H. Project Driveway No. 7 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 7 is proposed to be stop-controlled.



SOURCE: GOOGLE

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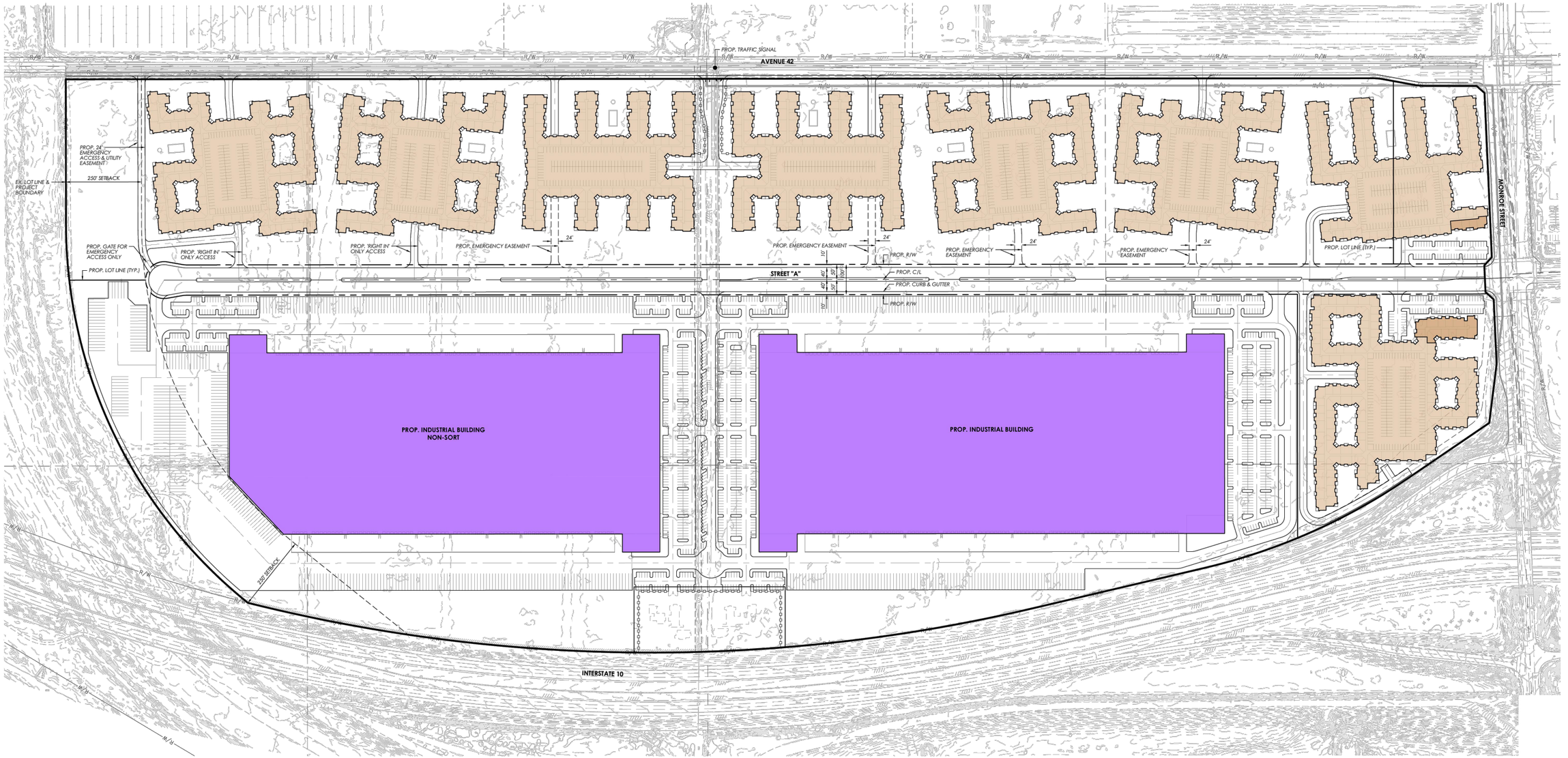
FIGURE 2-1

EXISTING SITE AERIAL

BH PROPERTIES THE OASIS AT INDIO, INDIO



SOURCE: MSA CONSULTING, INC.

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FIGURE 2–2

PROPOSED OPTION A SITE PLAN

BH PROPERTIES THE OASIS AT INDIO, INDIO

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3.0 EXISTING CONDITIONS

3.1 Existing Street Network

Avenue 42, Monroe Street and Showcase Parkway provide local and regional access to the project site. The following discussion provides a brief synopsis of these key streets. The descriptions are based on an inventory of existing roadway conditions.

Avenue 42 is a two-lane, divided roadway, west of Monroe Street, a four-lane, divided roadway between Monroe Street and Spectrum Street, and a five-lane, divided roadway between Spectrum Street and Jackson Street, which borders the project site to the north. Avenue 42 is oriented in the east-west direction and will provide access to the northerly portion of the Project site. On-street parking is generally not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Avenue 42 is 50 miles per hour (mph). A traffic signal controls the key study intersections of Avenue 42 at Monroe Street, Gore Street/Spectrum Street, and Jackson Street. The key study intersection of Avenue 42 at Madison Street is stop-controlled.

Monroe Street is a four-lane, divided roadway oriented in the north-south direction, which borders the project site to the east. Monroe Street will provide access to the project site via one full access signalized driveway located directly opposite Showcase Parkway. On-street parking is generally not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Monroe Street is 40 mph. A traffic signal controls the key study intersections of Monroe Street at Avenue 42, Showcase Parkway, I-10 Westbound Ramps, I-10 Eastbound Ramps, Oleander Avenue, Industrial Place/Avenue 44, Fred Warning Drive, Miles Avenue, Shadow Palm Avenue/Requa Avenue, and Highway 111.

Showcase Parkway is a four-lane, divided roadway oriented in the east-west direction. On-street parking is generally not permitted on either side of the roadway within the vicinity of the Project. The posted speed limit on Showcase Parkway is 35 mph. The key study intersection of Showcase Parkway at Monroe Street is controlled by a traffic signal.

Figure 3-1 presents an inventory of the existing roadway conditions for the arterials and intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections are identified.

3.2 Existing Public Transit

The SunLine Transit Agency operates within the study area. A description of the transit services within the Project vicinity are described below:

Route 8:

- Route 8 provides service from North Indio to Thermal/Mecca; via Showcase at Monroe, 5th at Vine, 62nd at Buchanan, and 66th at Date Palm.
- The route traverses the Cities of Indio and Coachella, as well as census designated places Thermal and Mecca.

- During the weekday and weekend AM and PM peak hours, Route 8 has an approximate headway of 60 minutes in the northbound and southbound directions.

3.3 Existing Bicycle and Pedestrian Facilities

The State transportation system recognizes four primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), Bicycle Routes (Class III) and Cycle Tracks (Class IV). Bicycle Paths (Class I) are exclusive car free facilities for exclusive use by bicyclists, pedestrians and those using non-motorized modes of travel, that are typically not located within a roadway area. Bicycle Lanes (Class II) are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Bicycle Routes (Class III) provide shared use with motor vehicle traffic within the same travel lane. Designated by signs, bike routes provide continuity to other bike facilities or designated preferred routes through corridors with high demand. Cycle Tracks (Class IV) are exclusive bike facilities that combine the experience of a separated path with the on-street infrastructure of a conventional bike lane and is physically separated from motor traffic and distinct from the sidewalk.

- There are no existing bicycle facilities within the Project vicinity.

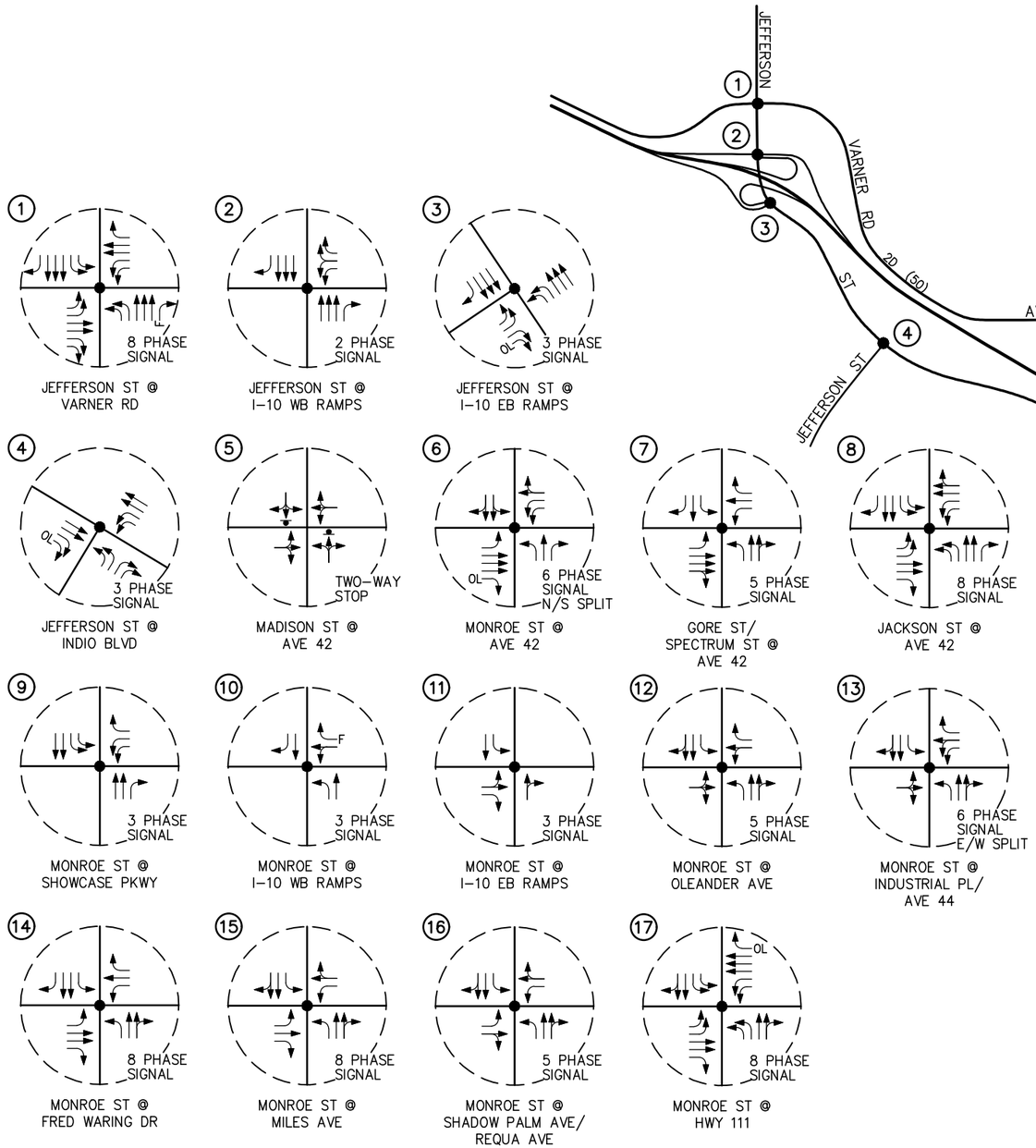
Pedestrian connection to the surrounding commercial developments, as well as nearby public transit stops, is provided via existing sidewalks along the eastern Project frontage on Monroe Street and Showcase Parkway. The project will construct sidewalk along the northern Project frontage on Avenue 42.

3.4 Existing Traffic Volumes

Seventeen (17) key study intersections have been identified as the locations at which to evaluate existing and future traffic operating conditions. Some portion of potential project-related traffic will pass through these intersections and their analysis will reveal the expected relative impacts of the project. These key study intersections were selected for evaluation based on discussions with City of Indio staff.

Existing AM and PM peak hour traffic volumes for the seventeen (17) key study intersections evaluated in this report were obtained from manual peak hour turning movement counts with truck classifications conducted by *Counts Unlimited, Inc.* in March 2023.

Figures 3-2 and ***3-3*** illustrate the existing AM and PM peak hour traffic volumes at the seventeen (17) key study intersections evaluated in this report, respectively. The traffic volumes illustrated in *Figures 3-2* and *3-3* are comprised of passenger vehicles, large 2-axle trucks, 3-axle trucks and 4+-axle trucks. The truck traffic turning movements were converted to passenger car equivalents (P.C.E.'s) using approved factors. P.C.E. factors of 1.5, 2.0 and 3.0 were utilized for large 2-axle trucks, 3-axle trucks and 4+-axle trucks, respectively. ***Appendix B*** contains the detailed peak hour count sheets for the key intersections evaluated in this report.



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KEY

(#) = STUDY INTERSECTION
= APPROACH LANE ASSIGNMENT
● = TRAFFIC SIGNAL, = STOP SIGN
P = PARKING, NP = NO PARKING
U = UNDIVIDED, D = DIVIDED

2 = NUMBER OF TRAVEL LANES
(XX)= POSTED SPEED LIMIT (MPH)
F = FREE-RIGHT
OL = OVERLAP
— — = FUTURE ROADWAY
= PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

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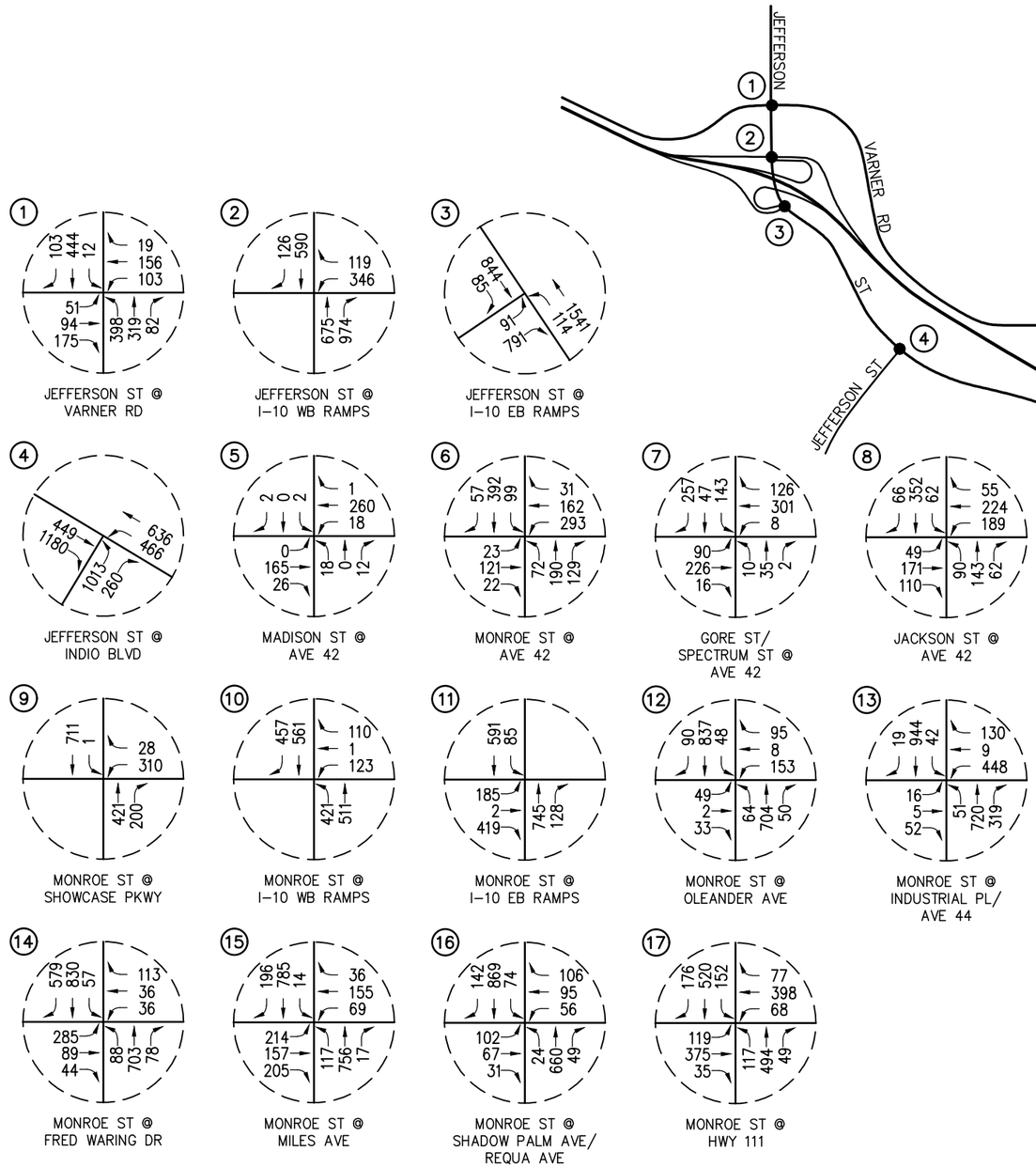

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KEY

(#) = STUDY INTERSECTION

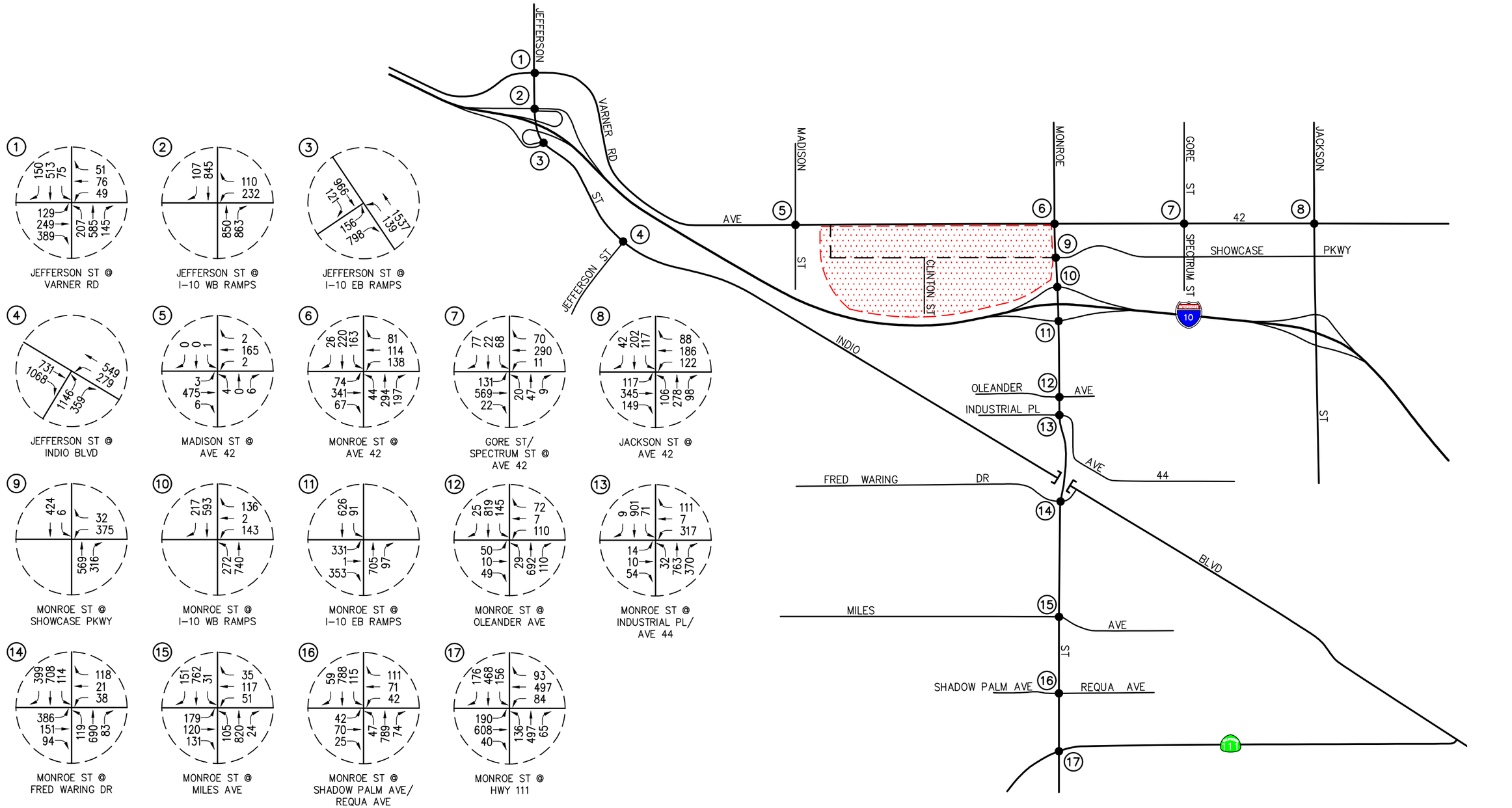
= FUTURE ROADWAY

= PROJECT SITE

FIGURE 3-2

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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KEY

(#) = STUDY INTERSECTION

= FUTURE ROADWAY

= PROJECT SITE

FIGURE 3-3

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

3.5 Level of Service (LOS) Analysis Methodologies

In conformance with County of Riverside requirements, AM peak hour and PM peak hour operating conditions for the signalized and unsignalized intersections and unsignalized driveways were evaluated using the *Highway Capacity Manual 7* (HCM 7) methodology. It should be noted that per the City of Indio traffic impact analysis guidelines, the existing peak hour factor has been utilized for the Existing analysis scenario and for the Existing With Ambient Growth With Project analysis scenario. A peak hour factor of 0.95 has been utilized for the Existing With Ambient Growth With Project With Cumulative Projects analysis scenario. A peak hour factor of 1.00 has been utilized for the Buildout analysis scenario.

3.5.1 *Highway Capacity Manual 7 (HCM 7) Method of Analysis (Signalized Intersections)*

Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road.

In Chapter 19 of the HCM, only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. In contrast, in previous versions of the HCM (1994 and earlier), delay included only stopped delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay value range for signalized intersections are shown in ***Table 3-1***.

3.5.2 *Highway Capacity Manual 7 (HCM 7) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay.

Two-Way Stop-Controlled Intersections

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value range for two-way stop-controlled intersections is shown in ***Table 3-2***.

All-Way Stop-Controlled Intersections

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value range for all-way stop-controlled intersections is shown in *Table 3-2*.

3.6 Impact Criteria and Thresholds

Based on the City of Indio level of service and impact criteria, LOS "D" is the minimum acceptable LOS required at the key study intersections.

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM METHODOLOGY)[1]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and $\leq$ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and $\leq$ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and $\leq$ 55.0	Long traffic delays At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and $\leq$ 80.0	Very long traffic delays This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	$\geq$ 80.0	Severe congestion This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[1] Source: *Highway Capacity Manual 7*, Chapter 19: Signalized Intersections.

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM METHODOLOGY) [2]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[2] Source: *Highway Capacity Manual 7*, Chapter 20: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole. Source: *Highway Capacity Manual 7*, Chapter 21: All-Way Stop-Controlled Intersections. For approaches and intersection-wide assessment, LOS is defined solely by control delay.

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the proposed Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and project traffic assignments developed, the impact of the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast project traffic. If necessary, the need for site-specific and/or cumulative local area traffic improvements can then be evaluated and the significance of the project's impacts identified.

5.0 PROJECT OPTION A TRAFFIC CHARACTERISTICS

5.1 Project Option A Traffic Generation

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 11th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2021].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project Option A. As shown, the trip generation potential of the proposed Project Option A was estimated using ITE Land Use 155: High Cube Fulfillment Center Warehouse (Non-Sort) trip rates, ITE Land Use 155: High Cube Fulfillment Center Warehouse (Sort) trip rates, ITE Land Use 220: Multifamily Housing (Low-Rise) trip rates, and ITE Land Use 822: Strip Retail Plaza (Less than 40k) trip rates.

Table 5-2 summarizes the trip generation potential used in forecasting the vehicular trips, both autos and trucks, generated by the Project Option A. Consistent with standard traffic engineering practice, passenger car equivalent (PCE) factors have been utilized due to the expected heavy truck component of the Project Option A uses. A PCE factor of 1.5, 2.0, and 3.0 has been applied to large 2-axle, 3-axle, and 4+-axle trucks, respectively.

As shown at the bottom of *Table 5-2*, the proposed Project Option A is expected to generate 31,505 weekday daily trips (one half arriving, one half departing), with 2,319 trips (1,130 inbound, 1,189 outbound) produced in the AM peak hour and 3,024 trips (1,578 inbound, 1,446 outbound) produced in the PM peak hour. It should be noted that these estimates include the conversion of truck-related trips to passenger car equivalents (PCE).

It should also be noted that the aforementioned overall trip generation includes adjustments for pass-by per the *Trip Generation Manual, 11th Edition*, published by ITE, to account for trips that are already in the everyday traffic stream on the adjoining streets (i.e. Monroe Street) and will stop as they pass by the Project site as a matter of convenience on their path to another destination. The pass-by reduction factors utilized are summarized in the footnotes of *Table 5-2*.

5.2 Project Option A Traffic Distribution and Assignment

Figures 5-1, 5-2, 5-3, and ***5-4*** present the traffic distribution pattern for the proposed warehouse employees, warehouse trucks, residential, and retail project components, respectively. Project Option A traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- existing intersection traffic volumes, and
- ingress/egress availability at the project site.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project Option A are presented in ***Figures 5-5*** and ***5-6***, respectively. The traffic volume assignments presented in *Figures 5-5* and *5-6* reflect the traffic distribution characteristics shown in *Figures 5-1, 5-2, 5-3,* and *5-4* and the traffic generation forecast presented in *Table 5-2*.

TABLE 5-1

PROJECT OPTION A TRIP GENERATION RATES WITH PCE CONVERSION FACTORS[3]

ITE Land Use Code	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Rates:							
▪ ***155: High Cube Fulfillment Center Warehouse (Non-Sort) – Total (TE/TSF)[4]***	***1.81***	***0.12***	***0.03***	***0.15***	***0.06***	***0.10***	***0.16***
❑ Passenger Cars – 91.2% Daily/97.2% AM/98.2% PM (TE/TSF)	1.64	0.12	0.03	0.15	0.06	0.10	0.16
❑ 2 Axle Trucks – 1.5% Daily/0.5% AM/0.3% PM (TE/TSF)	0.03	0.00	0.00	0.00	0.00	0.00	0.00
❑ 3 Axle Trucks – 2.0% Daily/0.6% AM/0.4% PM (TE/TSF)	0.04	0.00	0.00	0.00	0.00	0.00	0.00
❑ 4+ Axle Trucks – 5.3% Daily/1.7% AM/1.1% PM (TE/TSF)	0.10	0.00	0.00	0.00	0.00	0.00	0.00
▪ ***155: High Cube Fulfillment Center Warehouse (Sort) – Total (TE/TSF)[4]***	***6.44***	***0.70***	***0.17***	***0.87***	***0.47***	***0.73***	***1.20***
❑ Passenger Cars – 91.2% Daily/97.2% AM/98.2% PM (TE/TSF)	5.87	0.68	0.17	0.85	0.47	0.72	1.19
❑ 2 Axle Trucks – 1.5% Daily/0.5% AM/0.3% PM (TE/TSF)	0.10	0.00	0.00	0.00	0.00	0.00	0.00
❑ 3 Axle Trucks – 2.0% Daily/0.6% AM/0.4% PM (TE/TSF)	0.13	0.01	0.00	0.01	0.00	0.00	0.00
❑ 4+ Axle Trucks – 5.3% Daily/1.7% AM/1.1% PM (TE/TSF)	0.34	0.01	0.00	0.01	0.00	0.01	0.01
▪ 220: Multifamily Housing (Low Rise) (TE/DU)	6.74	24%	76%	0.40	63%	37%	0.51
▪ 822: Strip Retail Plaza (Less than 40k) (TE/TSF)	54.45	60%	40%	2.36	50%	50%	6.59

Notes:
TE/TSF = Trip end per 1,000 SF
TE/DU = Trip end per Dwelling Unit
PCE = Passenger Car Equivalent

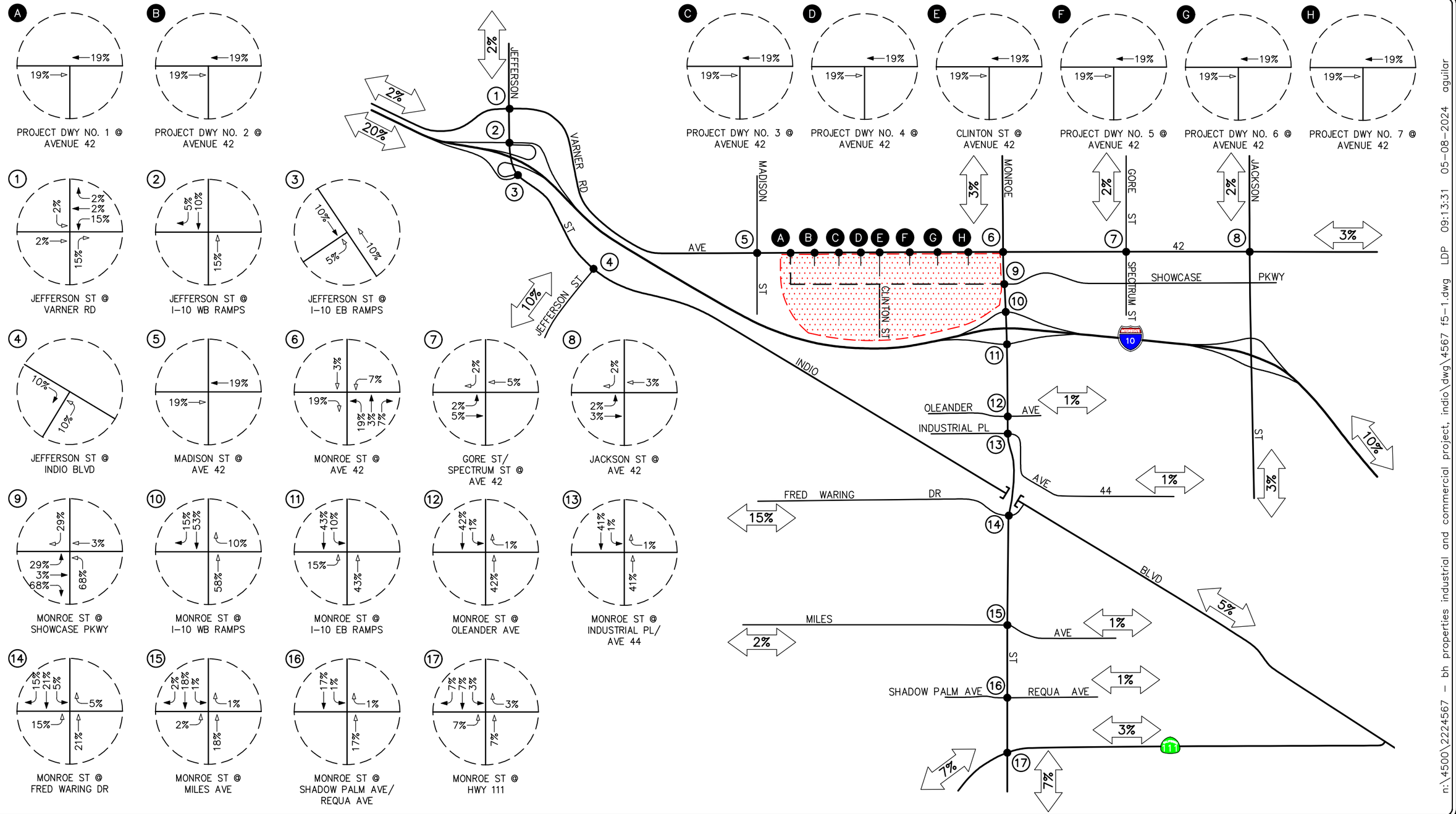
[3] Source: *Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).*

[4] Truck splits are based on the *High-Cube Warehouse Vehicle Trip Generation Analysis*, prepared by ITE, dated October 2016. Recommended mix of truck traffic is based on the *Truck Trip Generation Study – City of Fontana, August 2003.* All 2-axle, 3-axle and 4+-axle trucks are converted to passenger car equivalents using a factor of 1.5 vehicles per truck, 2.0 vehicles per truck, and 3.0 vehicles per truck, respectively.

TABLE 5-2
PROJECT OPTION A TRIP GENERATION FORECAST

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Generation Forecast:							
▪ Building 1 High Cube Fulfillment Center Warehouse (Non-Sort) (859,610 SF)							
❑ Passenger Cars	1,410	103	26	129	52	86	138
❑ 2 Axle Trucks	39	0	0	0	0	0	0
❑ 3 Axle Trucks	69	0	0	0	0	0	0
❑ 4+ Axle Trucks	258	0	0	0	0	0	0
Building 1 High Cube Fulfillment Center (Non-Sort) Total	*1,776*	*103*	*26*	*129*	*52*	*86*	*138*
▪ Building 2 High Cube Fulfillment Center Warehouse (Sort) (946,680 SF)							
❑ Passenger Cars	5,557	644	161	805	445	682	1,127
❑ 2 Axle Trucks	142	0	0	0	0	0	0
❑ 3 Axle Trucks	246	19	0	19	0	0	0
❑ 4+ Axle Trucks	966	28	0	28	0	28	28
Building 2 High Cube Fulfillment Center (Sort) Total	*6,911*	*691*	*161*	*852*	*445*	*710*	*1,155*
▪ Multifamily Housing (3,240 DU)	21,838	311	985	1,296	1,041	611	1,652
▪ Retail (20,000 SF)	1,089	28	19	47	66	66	132
Pass-by Trips (Daily: 10%; AM: 10%; PM: 40%)[5]	-109	-3	-2	-5	-26	-27	-53
Retail Subtotal	*980*	*25*	*17*	*42*	*40*	*39*	*79*
Total Project Option A Trip Generation	**31,505**	**1,130**	**1,189**	**2,319**	**1,578**	**1,446**	**3,024**

[5] Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Manual, 11th Edition*, ITE 2021):
- 822: Strip Retail Plaza: Daily/AM peak hour/PM peak hour = 10% (assumed)/10% (assumed)/40% (assumed)



NO SCALE

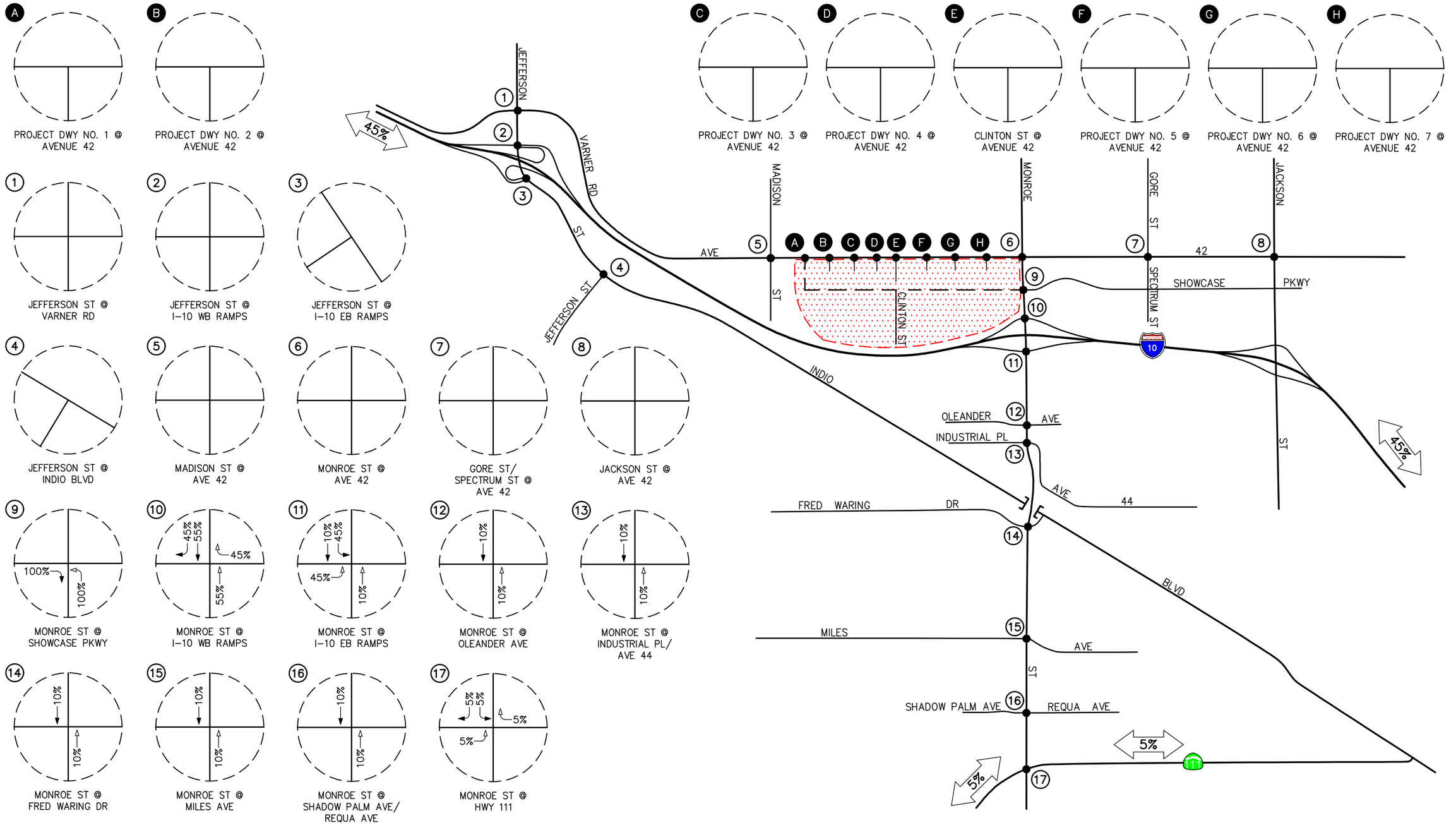
KEY

(#) = STUDY INTERSECTION
— — = FUTURE ROADWAY
◁— = INBOUND PERCENTAGE
—▶ = OUTBOUND PERCENTAGE
▭ = PROJECT SITE

FIGURE 5-1

PROJECT OPTION A TRIP DISTRIBUTION PATTERN – WAREHOUSE EMPLOYEES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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N NO SCALE

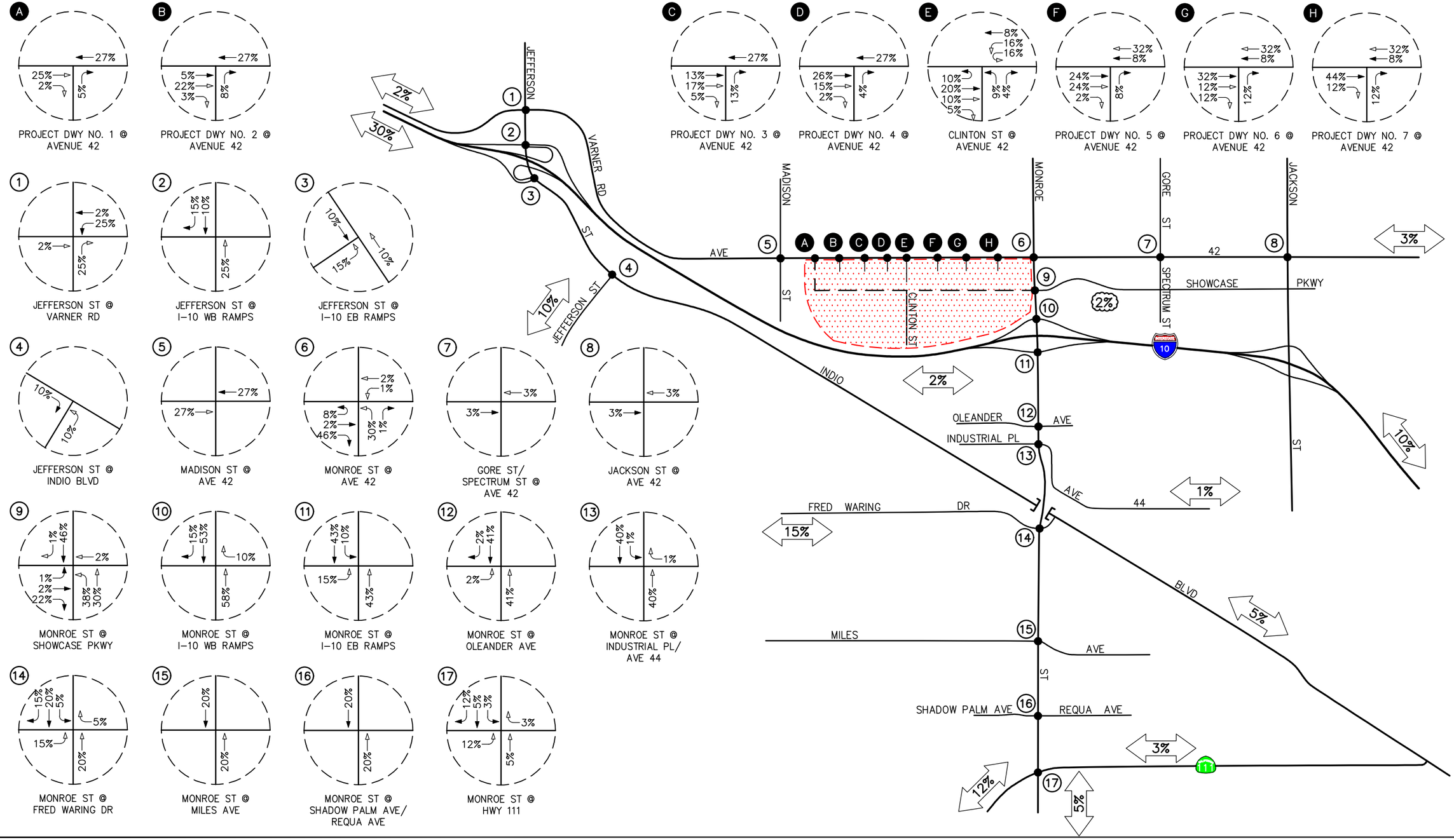
KEY

(#) = STUDY INTERSECTION
— — = FUTURE ROADWAY
⟵ = INBOUND PERCENTAGE
⟵ = OUTBOUND PERCENTAGE
▭ = PROJECT SITE

FIGURE 5-2

PROJECT OPTION A TRIP DISTRIBUTION PATTERN – WAREHOUSE TRUCKS

BH PROPERTIES THE OASIS AT INDIO, INDIO



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N NO SCALE

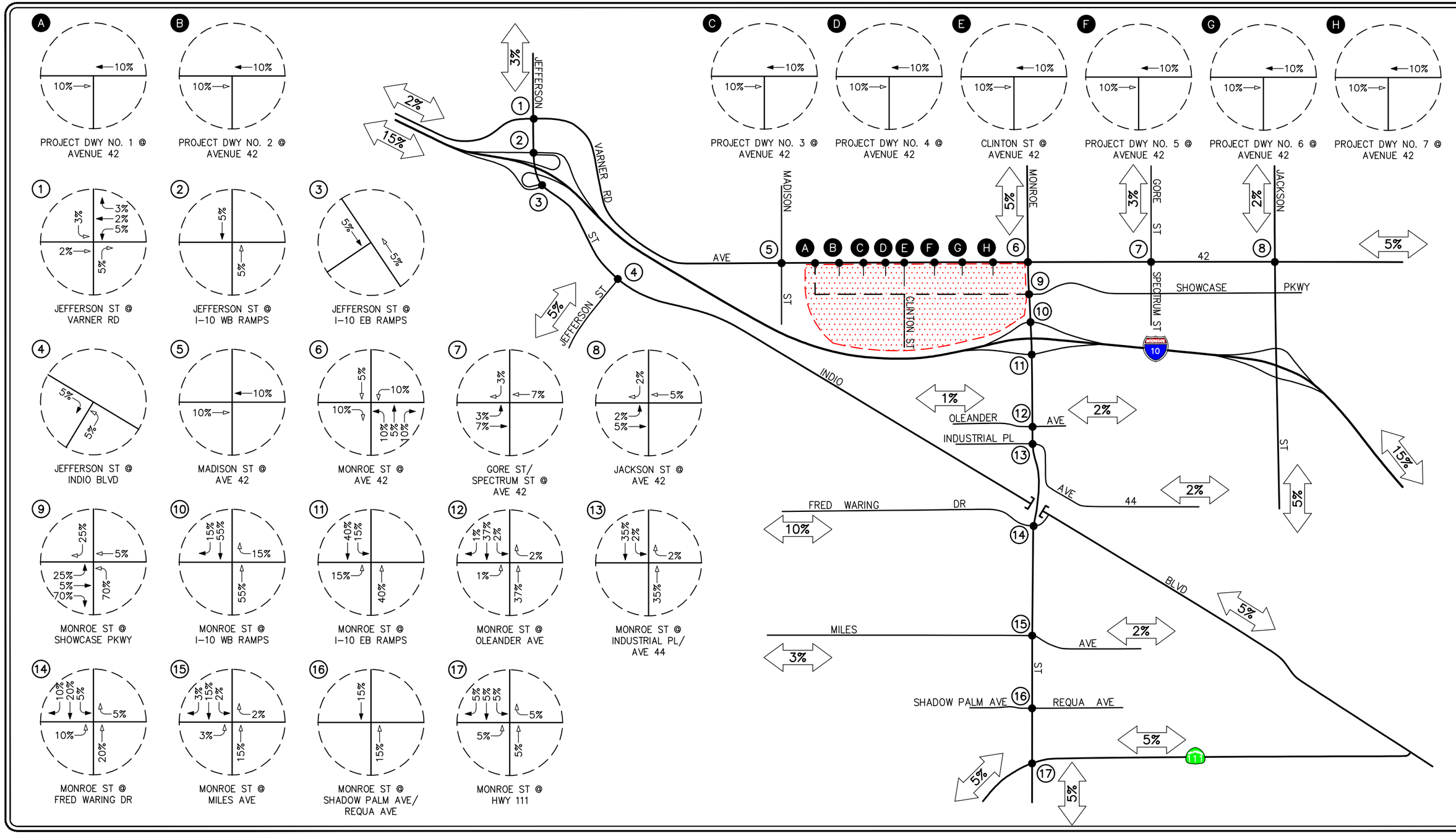
KEY

(#) = STUDY INTERSECTION
— — = FUTURE ROADWAY
◁— = INBOUND PERCENTAGE
—◀ = OUTBOUND PERCENTAGE
▭ = PROJECT SITE

FIGURE 5-3

PROJECT OPTION A TRIP DISTRIBUTION PATTERN – RESIDENTIAL

BH PROPERTIES THE OASIS AT INDIO, INDIO



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NO SCALE

KEY

(#) = STUDY INTERSECTION

— — = FUTURE ROADWAY

◄— = INBOUND PERCENTAGE

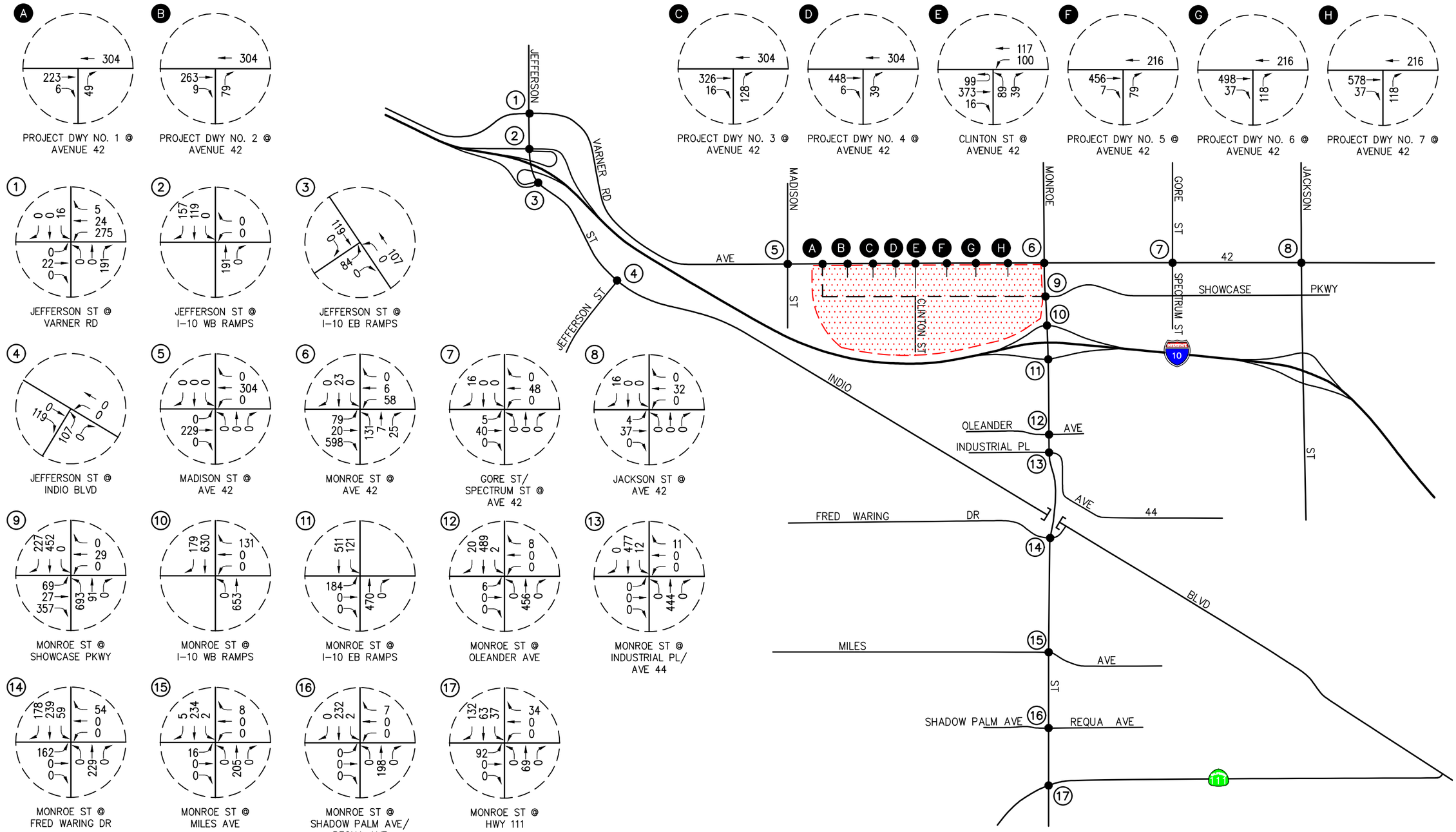
—► = OUTBOUND PERCENTAGE

▭ = PROJECT SITE

FIGURE 5-4

PROJECT OPTION A TRIP DISTRIBUTION PATTERN – RETAIL

BH PROPERTIES THE OASIS AT INDIO, INDIO



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NO SCALE

KEY

(#) = STUDY INTERSECTION

(XX) = PASS-BY TRIPS

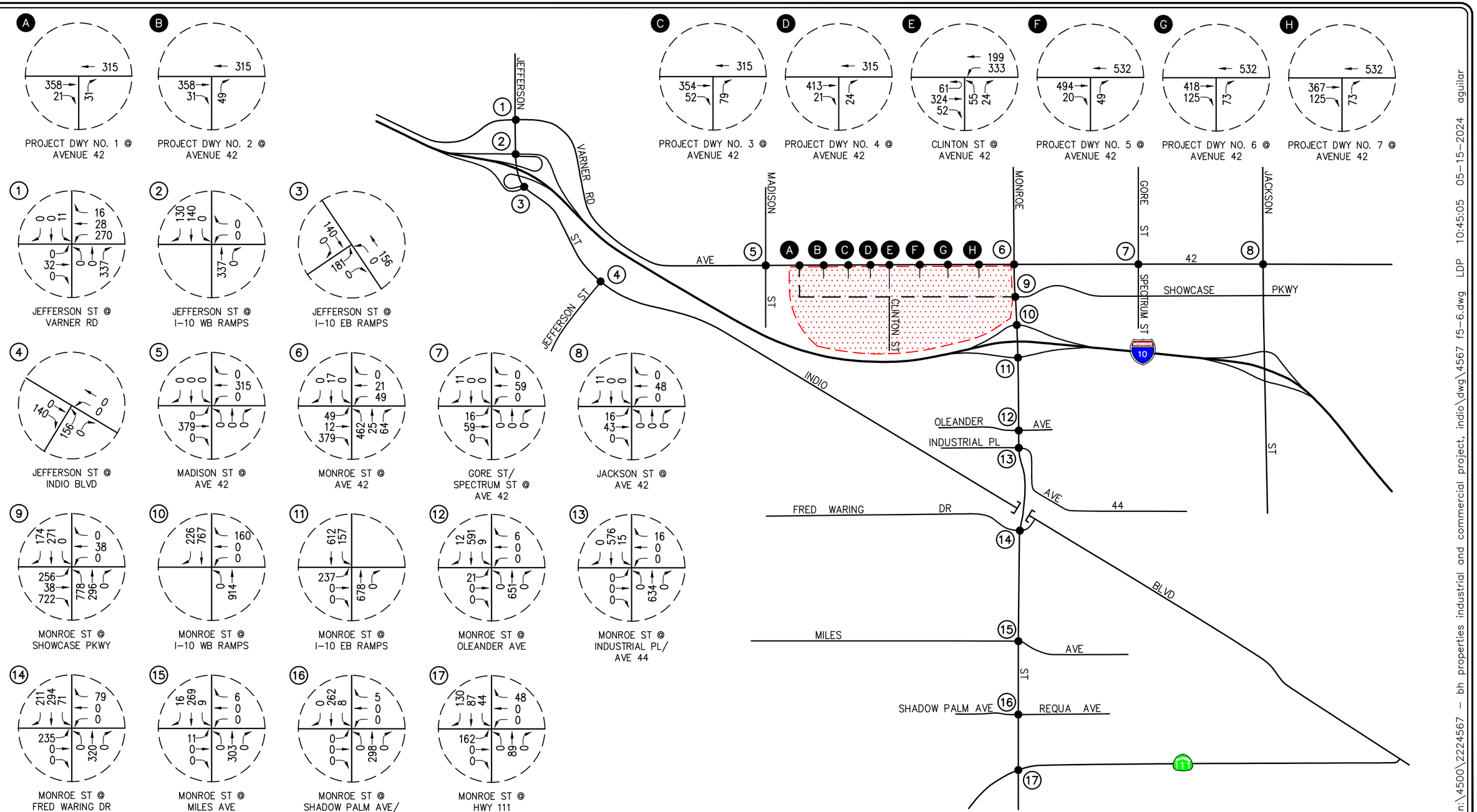
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 5-5

AM PEAK HOUR PROJECT OPTION A TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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NO SCALE

KEY

(#) = STUDY INTERSECTION

(XX) = PASS-BY TRIPS

— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 5-6

PM PEAK HOUR PROJECT OPTION A TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Ambient Traffic Growth

For future traffic conditions, background traffic growth estimates have been calculated using an ambient growth factor. The ambient traffic growth factor is intended to include unknown and future cumulative projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. Consistent with prior traffic studies conducted in the City of Indio, the future growth in traffic volumes has been calculated at two percent (2.0%) per year. Applied to existing Year 2023 traffic volumes results in a twenty percent (20.0%) increase growth in existing volumes to horizon Year 2033.

6.2 Cumulative Projects Traffic Characteristics

In order to make a realistic estimate of future on-street conditions prior to implementation of the Project, the status of other known development projects (cumulative projects) has been researched at the City of Indio. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development. Based on our research, there are nineteen (19) cumulative projects in the City of Indio that have either been built, but not yet fully occupied, or are being processed for approval. These nineteen (19) cumulative projects have been included as part of the cumulative background setting.

Table 6-1 provides the location and a brief description for each of the nineteen (19) cumulative projects. ***Figure 6-1*** graphically illustrates the location of the cumulative projects. These cumulative projects are expected to generate vehicular traffic, which may affect the operating conditions of the key study intersections.

Table 6-2 presents the development totals and resultant trip generation for the nineteen (19) cumulative projects. As shown in *Table 6-2*, the nineteen (19) cumulative projects are forecast to generate a combined total of 42,536 weekday daily trips, with 2,819 trips forecast during the AM peak hour and 3,024 trips forecast during the PM peak hour.

The anticipated AM peak hour and PM peak hour cumulative projects traffic volumes at the key study intersections are presented in ***Figures 6-2*** and ***6-3***, respectively. The traffic volume assignments presented in the above-mentioned figures reflect the traffic generation forecast presented in *Table 6-2*.

6.3 Year 2033 Traffic Volumes

Figures 6-4 and ***6-5*** present the AM and PM peak hour Existing With Ambient Growth With Project Option A traffic volumes at the seventeen (17) key study intersections, respectively.

Figures 6-6 and ***6-7*** present the AM and PM peak hour Existing With Ambient Growth With Project Option A With Cumulative Projects traffic volumes at the seventeen (17) key study intersections, respectively.

6.4 Buildout Traffic Conditions

As directed by City of Indio staff, long-term (Buildout) traffic volume forecasts for the seventeen (17) key study intersections were determined through utilization of the Riverside County Model (RivCOM). The future traffic volumes were post-processed based on the relationship of base year validation model run output to the base year ground traffic counts. The projected volumes were reviewed carefully and adjustments were applied as warranted based on local conditions and professional judgment. Copies of the traffic model post-processing worksheets for Buildout traffic conditions are contained in ***Appendix C***.

6.4.1 *Volume Adjustment*

Using the RivCOM, projected traffic volumes were obtained for each intersection. The first step is to obtain the approach and departure volumes from the model for each leg of the analyzed intersections. The next step is to determine the difference between the base year peak hour model volumes and the build-out peak hour model volumes. This "difference" represents the projected growth in traffic on each approach from the base year to the build-out using the RivCOM.

6.4.2 *B-turn Methodology*

The base year turning movement counts for each intersection must be converted to approach and departure volumes for each leg of the intersection. Once the base counts are in this format, the difference between the build-out model and base model are then added to the base year counts for each corresponding approach and departure volume. This step provides the adjusted volumes that will be used to determine the build-out turning movement volumes. The next process in the forecasting of future turning volumes applies the B-turn methodology. The B-turn methodology is generally described in the *"National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design", Chapter 8*. The B-turn method uses the base year turning percentages (from traffic counts) and proceeds through an iterative computational technique to produce a final set of future year turning volumes. The computations involve alternatively balancing the rows (approaches) and the columns (departures) of a turning movement matrix until an acceptable convergence is obtained. Future year link volumes are fixed using this method and the turning movements are adjusted to match. The results must be checked for reasonableness and manual adjustments are sometimes necessary.

Projected volumes were reviewed carefully and adjustments were applied as warranted based on local conditions and professional engineering judgment. Please note that the post-processing methodology utilized in this report is consistent with SCAG/SANBAG requirements.

6.5 Buildout Traffic Volumes

The anticipated AM and PM peak hour traffic volumes at the seventeen (17) key study intersections associated with Buildout traffic conditions are presented in ***Figures 6-8*** and ***6-9***, respectively.

Figures 6-10 and ***6-11*** illustrate the Buildout With Project Option A traffic conditions at the seventeen (17) key study intersections during the AM peak hour and PM peak hour, respectively.

TABLE 6-1
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[6]

No.	Cumulative Project	Location/Address	Description
City of Indio			
1.	Coachella Valley Development Partners	45299 Oasis Street	70 DU multifamily housing with first floor commercial
2.	College of the Desert Expansion	45524 Oasis Street	5,320 student community college
3.	WoodSprings Suites	SWC of Jackson Street and Showcase Parkway	122 room hotel
4.	Skyline at Oasis & Bliss	SEC of Oasis Street and Bliss Avenue	64 DU apartments and 7,000 SF commercial
5.	Paradiso	82088 Paradiso Drive	177 single family residential
6.	Acadia Indio Behavioral Hospital	SWC of Dr. Carreon Boulevard and Cheyenne Road	80 bed hospital
7.	Indio Medical Office	NWC of Buffalo Trail and Cheyenne Road	49,990 SF medical office
8.	Residence at John Nobles Apartments	Arabia Street & John Nobles Avenue	84 DU multifamily housing
9.	Raising Canes at The Palms at Indio Shopping Center	SEC of Monroe Street at Avenue 42	3,713 SF fast-food restaurant with drive-thru
10.	Handel's Homemade Ice Cream	SWC of Jackson Street and Showcase Parkway	1,400 SF ice cream shop
11.	Ono Hawaiian BBQ	SEC of Jackson Street and Showcase Parkway	2,500 SF fast-food restaurant with drive-thru
12.	Texas Roadhouse	SEC of Jackson Street and Showcase Parkway	9,083 SF high-turnover restaurant
13.	Sunburst RV Storage Industrial Building	NEC of Sunburst Street and Oleander Avenue	30,240 SF industrial and 18 commercial RV storage units
14.	Chandi Square	SWC of Jefferson Street and Varner Road	10 VFP gas station with 5,500 SF convenience store, 4,000 SF express car wash, and 3,000 SF fast-food restaurant with drive-thru
15.	Palmera Project	North and Southeast Quadrants of Requa Avenue and Rubidoux Street	350 DU multifamily housing

Notes:
- SF = Square-feet
- DU = Dwelling units
- VFP = Vehicle Fueling Positions

[6] Source: City of Indio Planning Department.

TABLE 6-1 (CONTINUED)
LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS[7]

No.	Cumulative Project	Location/Address	Description
16.	Desert Retreat	NWC of Madison Street and Avenue 40	1500 DU senior adult housing – single family
17.	Indio Canyon	South of Avenue 42 at Calhoun Street	1200 DU multifamily housing
18.	Indio Gateway	North of Jefferson Street at Indio Boulevard	16 VFP gas station with 4,925 SF convenience store, 34,685 SF tractor supply store, 73,804 SF industrial
19.	Indio Burr	SEC of Burr Street at Indio Boulevard	481,440 SF warehousing

Notes:
- SF = Square-feet
- DU = Dwelling units
- VFP = Vehicle Fueling Positions

[7] Source: City of Indio Planning Department.

TABLE 6-2
CUMULATIVE PROJECTS TRAFFIC GENERATION FORECAST[8]

Cumulative Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
1. Coachella Valley Development Partners	241	7	24	31	18	7	25
2. College of the Desert Expansion	6,118	474	111	585	328	257	585
3. WoodSprings Suites	975	31	25	56	37	35	72
4. Skyline at Oasis & Bliss	774	15	26	41	35	26	61
5. Paradiso	1,669	32	92	124	105	61	166
6. Acadia Indio Behavioral Hospital	1,786	103	40	143	45	90	135
7. Indio Medical Office	1,593	109	25	134	36	106	142
8. Residence at John Nobles Apartments	566	8	26	34	27	16	43
9. Raising Canes at The Palms at Indio Shopping Center	1,302	42	41	83	29	26	55
10. Handel's Homemade Ice Cream	136	1	1	2	10	8	18
11. Ono Hawaiian BBQ	877	28	28	56	19	18	37
12. Texas Roadhouse	877	43	35	78	28	19	47
13. Sunburst RV Storage Industrial Building	150	19	3	22	3	17	20
14. Chandi Square	3,547	95	94	189	80	79	159
15. Palmera Project[9]	2,359	34	106	140	113	66	179
16. Desert Retreat[10]	6,470	100	204	304	224	143	367
17. Indio Canyon	8,088	115	365	480	386	226	612
18. Indio Gateway	3,930	123	85	208	75	113	188
19. Indio Burr	1,078	89	20	109	33	80	113
Cumulative Projects Total Trip Generation Potential	**42,536**	**1,468**	**1,351**	**2,819**	**1,631**	**1,393**	**3,024**

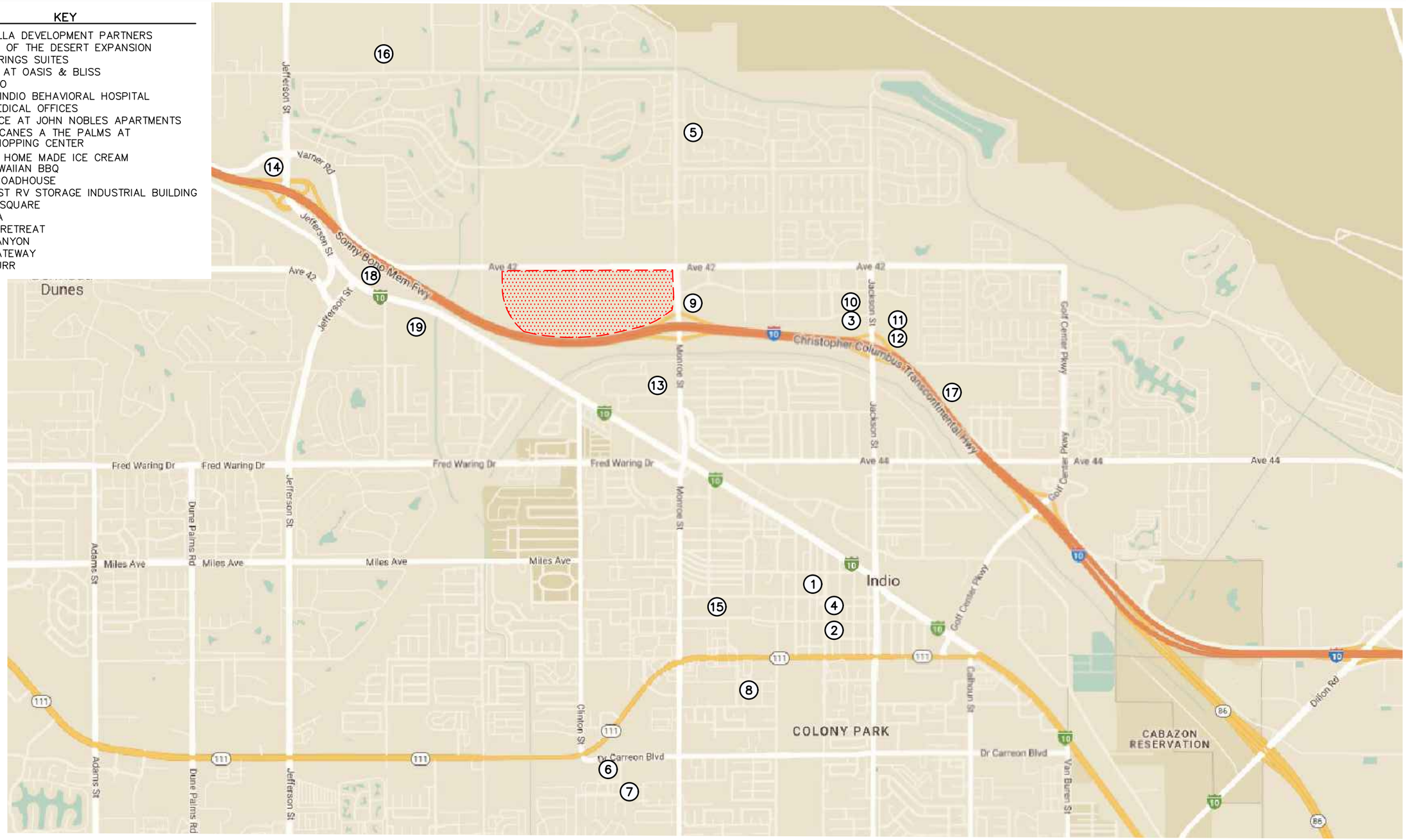
8 Unless otherwise noted, Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

9 Source: *Palmera Project TIA*, prepared by LLG, dated October 2022.

10 Source: *Desert Retreat Specific Plan Project Transportation Study*, prepared by Fehr & Peers, dated February 2023.

KEY

1. COACHELLA DEVELOPMENT PARTNERS
2. COLLEGE OF THE DESERT EXPANSION
3. WOODSPRINGS SUITES
4. SKYLINE AT OASIS & BLISS
5. PARADISO
6. ACADIA INDIO BEHAVIORAL HOSPITAL
7. INDIO MEDICAL OFFICES
8. RESIDENCE AT JOHN NOBLES APARTMENTS
9. RASING CANES A THE PALMS AT INDIO SHOPPING CENTER
10. HADEL'S HOME MADE ICE CREAM
11. ONO HAWAIIAN BBQ
12. TEXAS ROADHOUSE
13. SUNBURST RV STORAGE INDUSTRIAL BUILDING
14. CHANDI SQUARE
15. PALMERA
16. DESERT RETREAT
17. INDIO CANYON
18. INDIO GATEWAY
19. INDIO BURR



SOURCE: GOOGLE

KEY

(#) = LOCATION OF CUMULATIVE PROJECTS

= PROJECT SITE

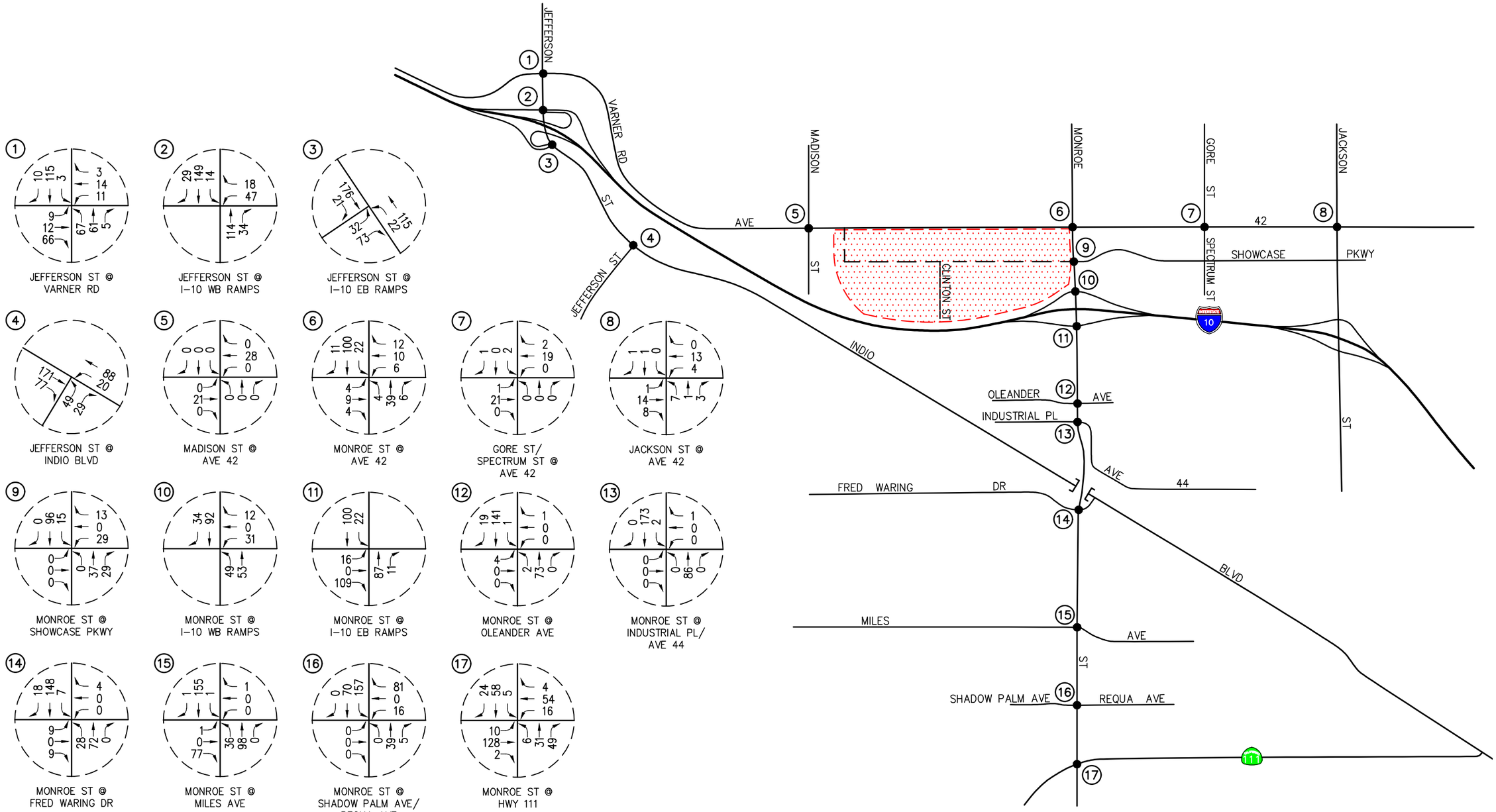
LLG

N NO SCALE

FIGURE 6-1

CUMULATIVE PROJECT LOCATION MAP

BH PROPERTIES THE OASIS AT INDIO, INDIO



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NO SCALE

KEY

(#) = STUDY INTERSECTION

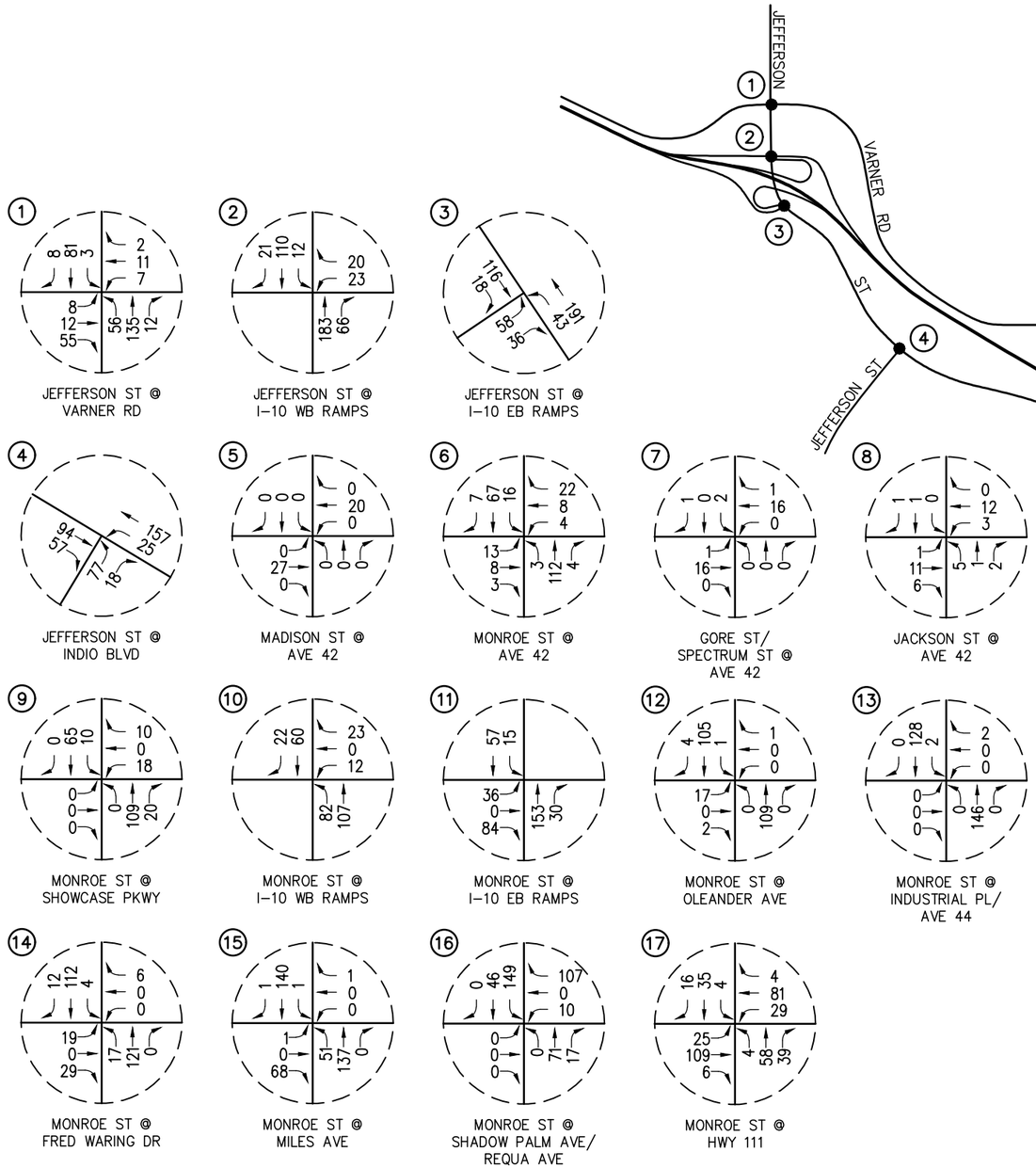
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-2

AM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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KEY

(#) = STUDY INTERSECTION

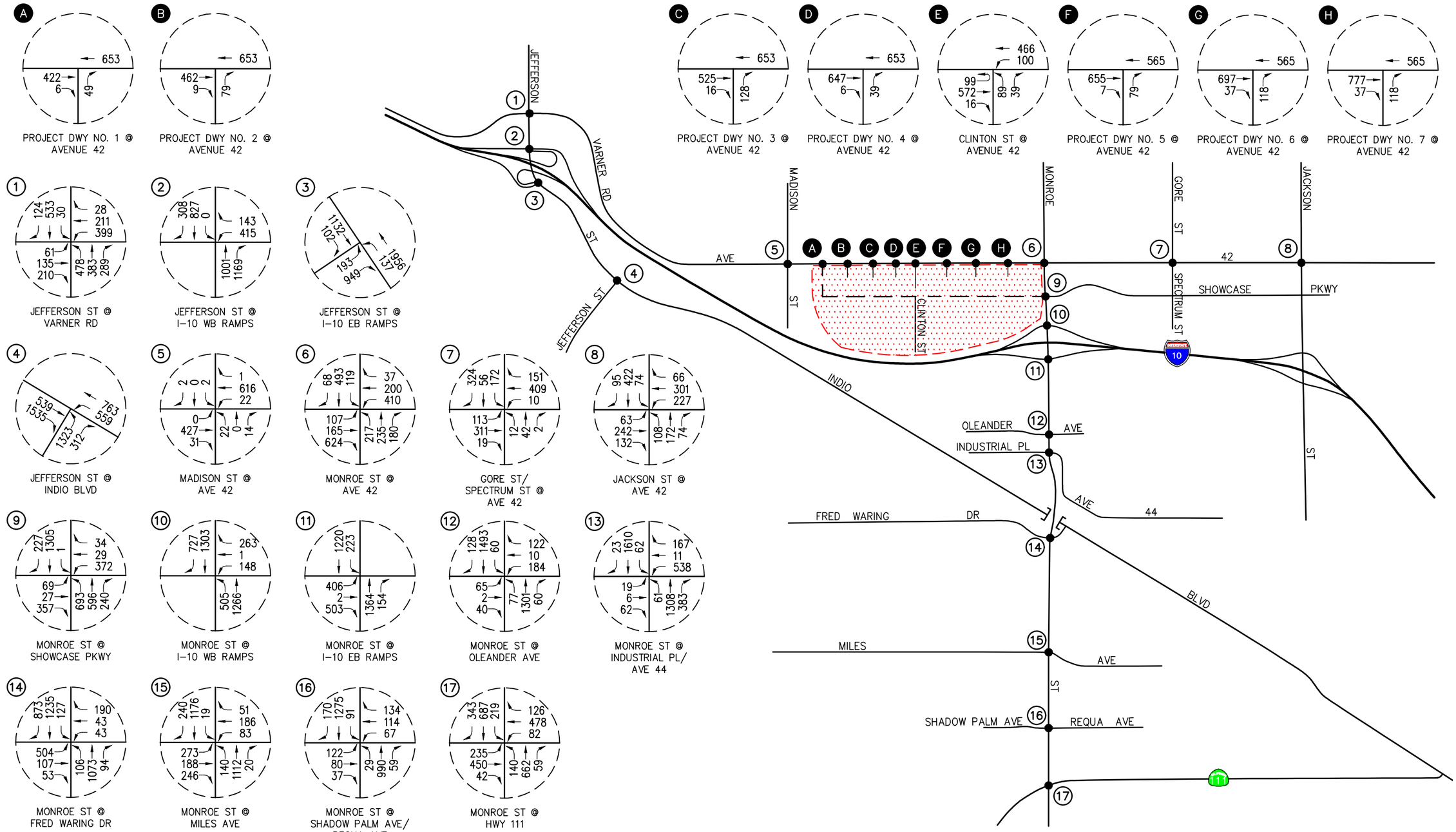
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-3

PM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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N NO SCALE

KEY

(#) = STUDY INTERSECTION

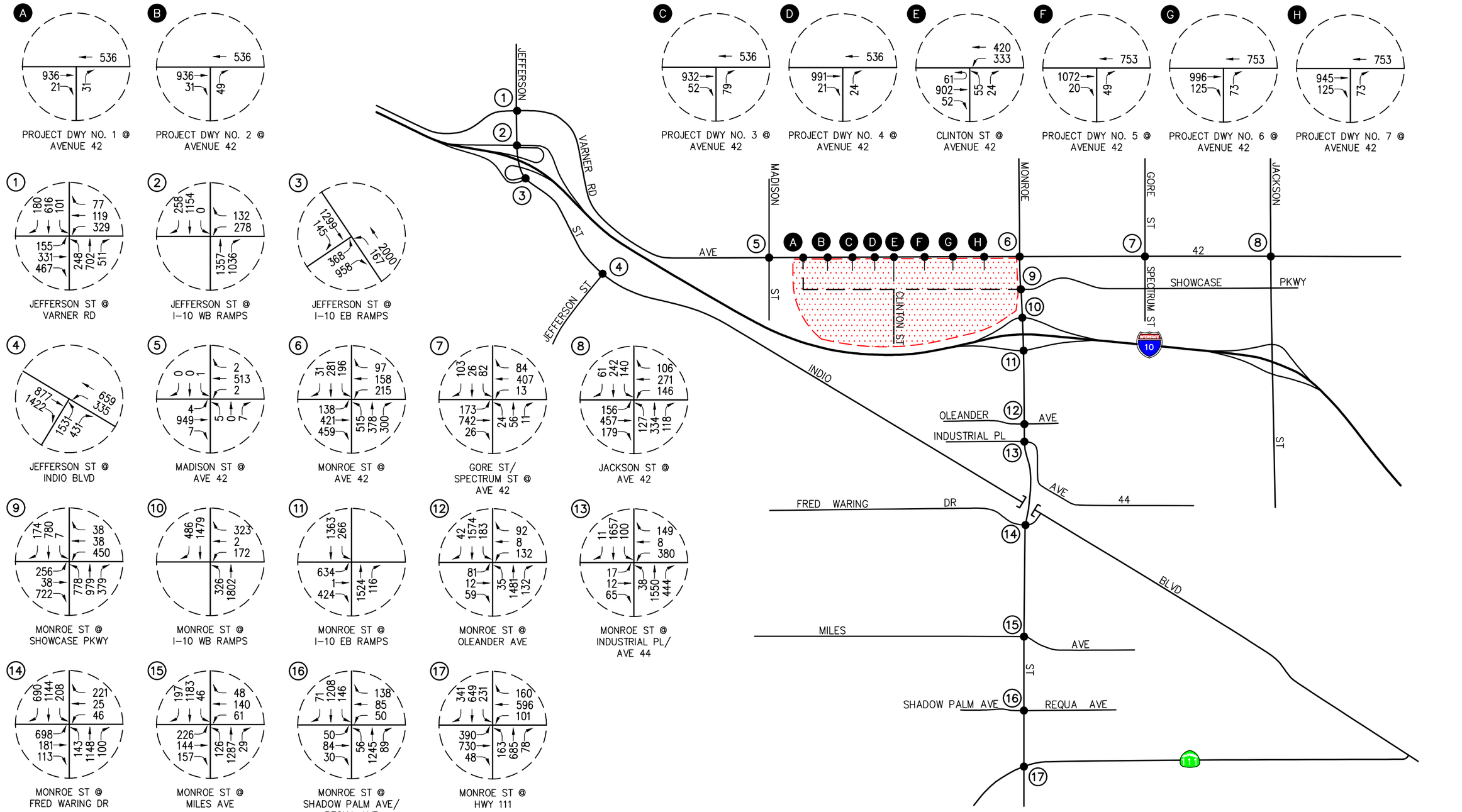
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-4

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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NO SCALE

KEY

(#) = STUDY INTERSECTION

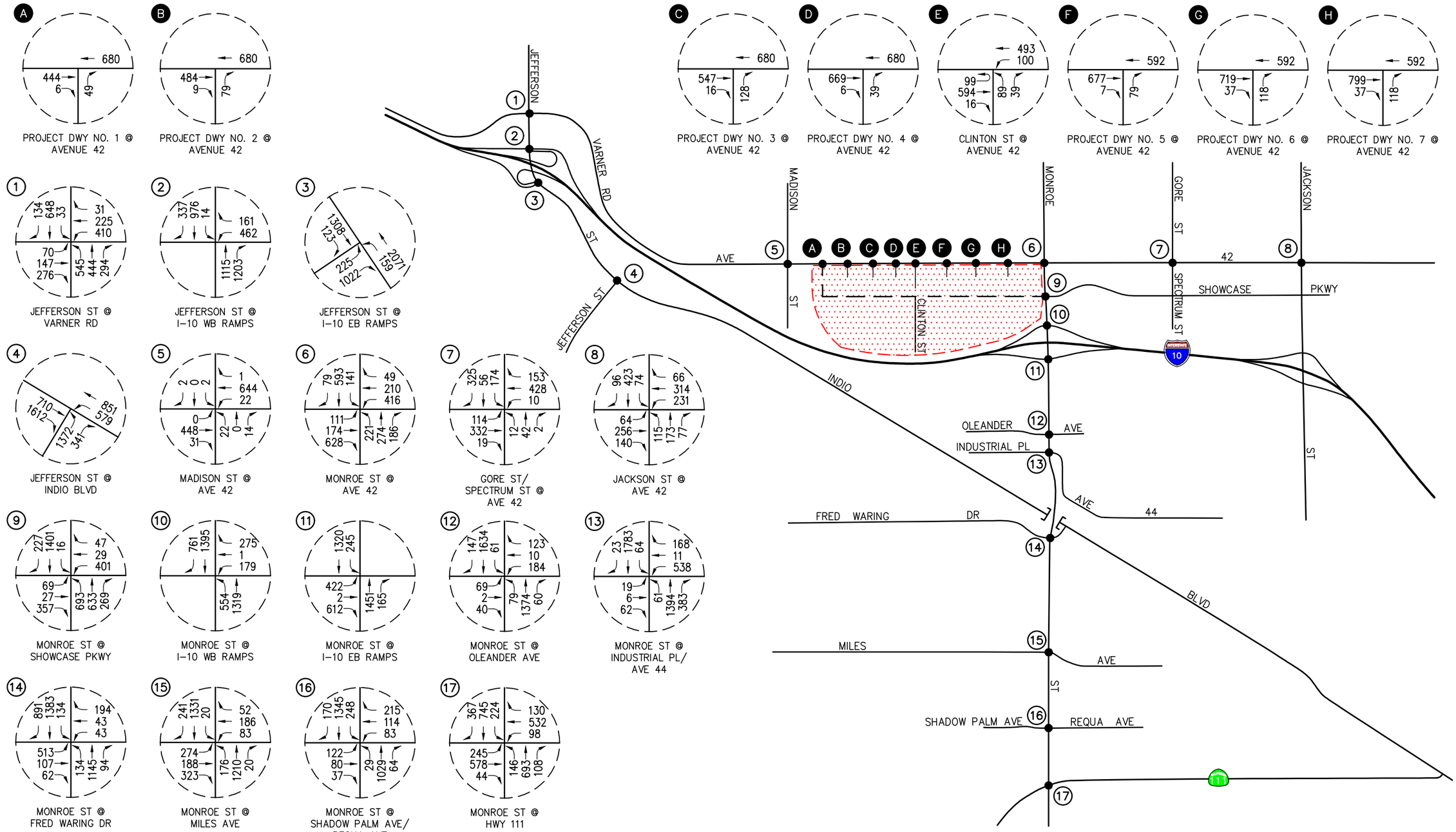
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-5

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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KEY

(#) = STUDY INTERSECTION

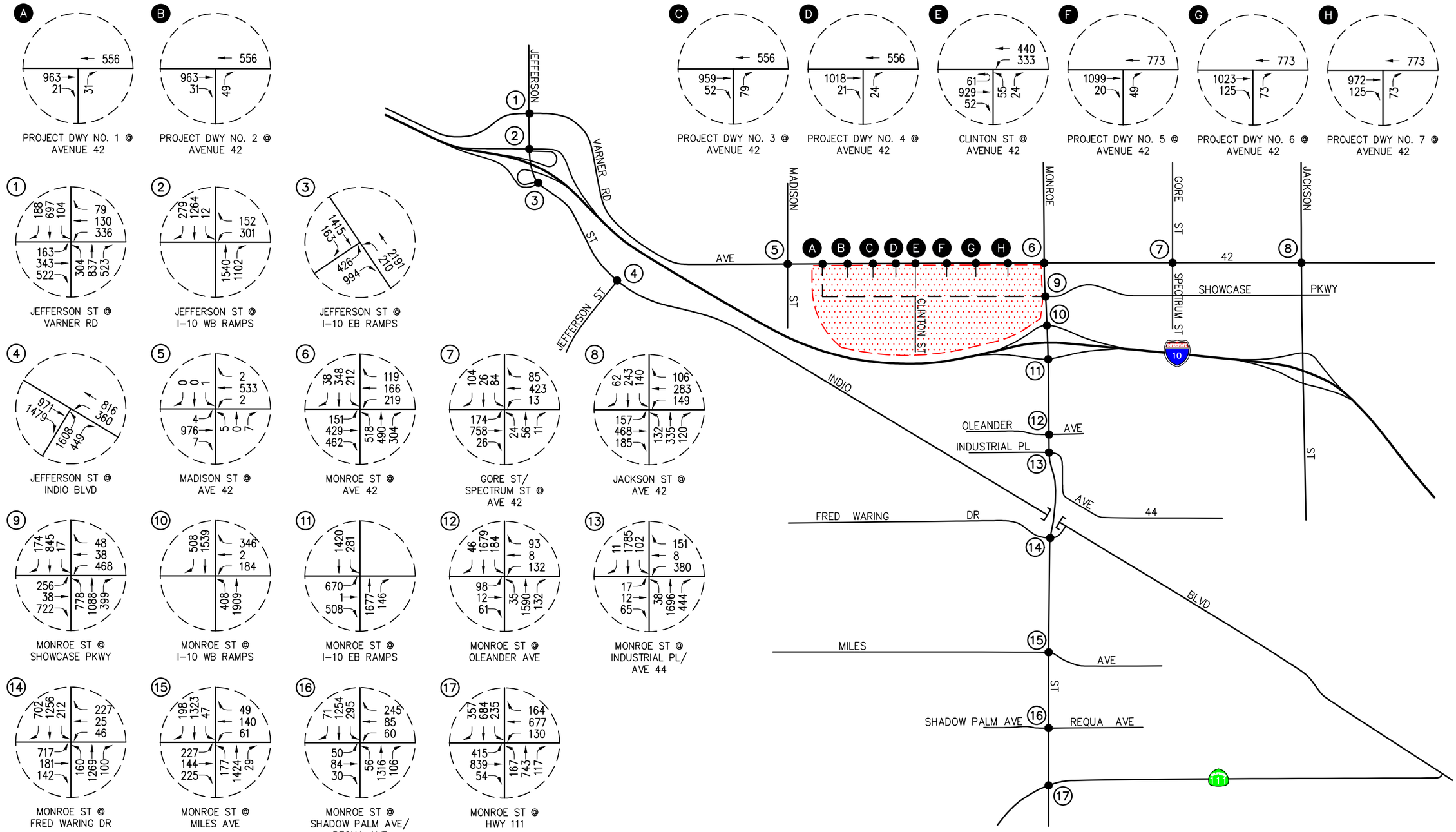
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-6

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A WITH CUMULATIVE PROJECTS AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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KEY

(#) = STUDY INTERSECTION

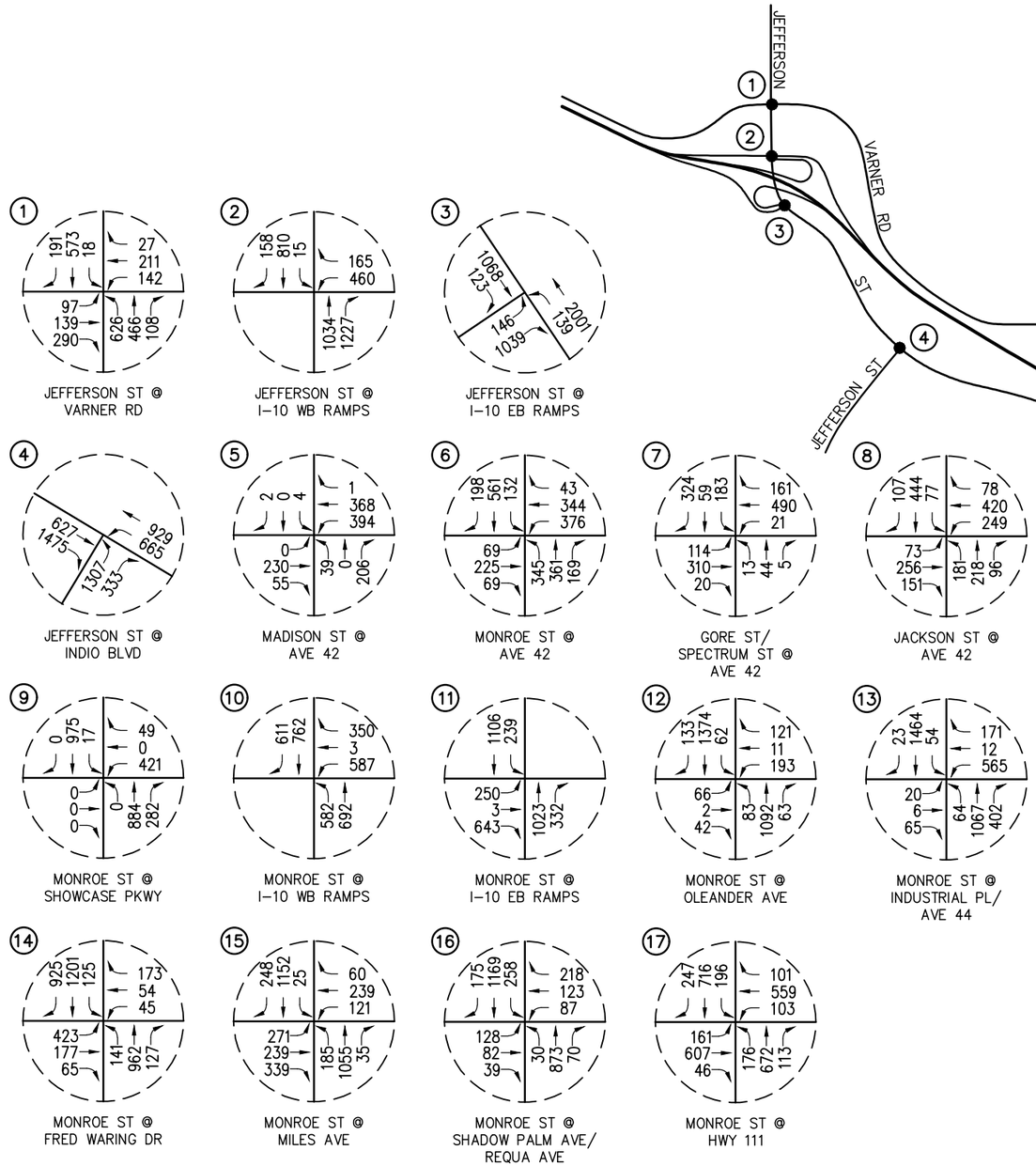
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-7

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A WITH CUMULATIVE PROJECTS PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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NO SCALE

KEY

(#) = STUDY INTERSECTION

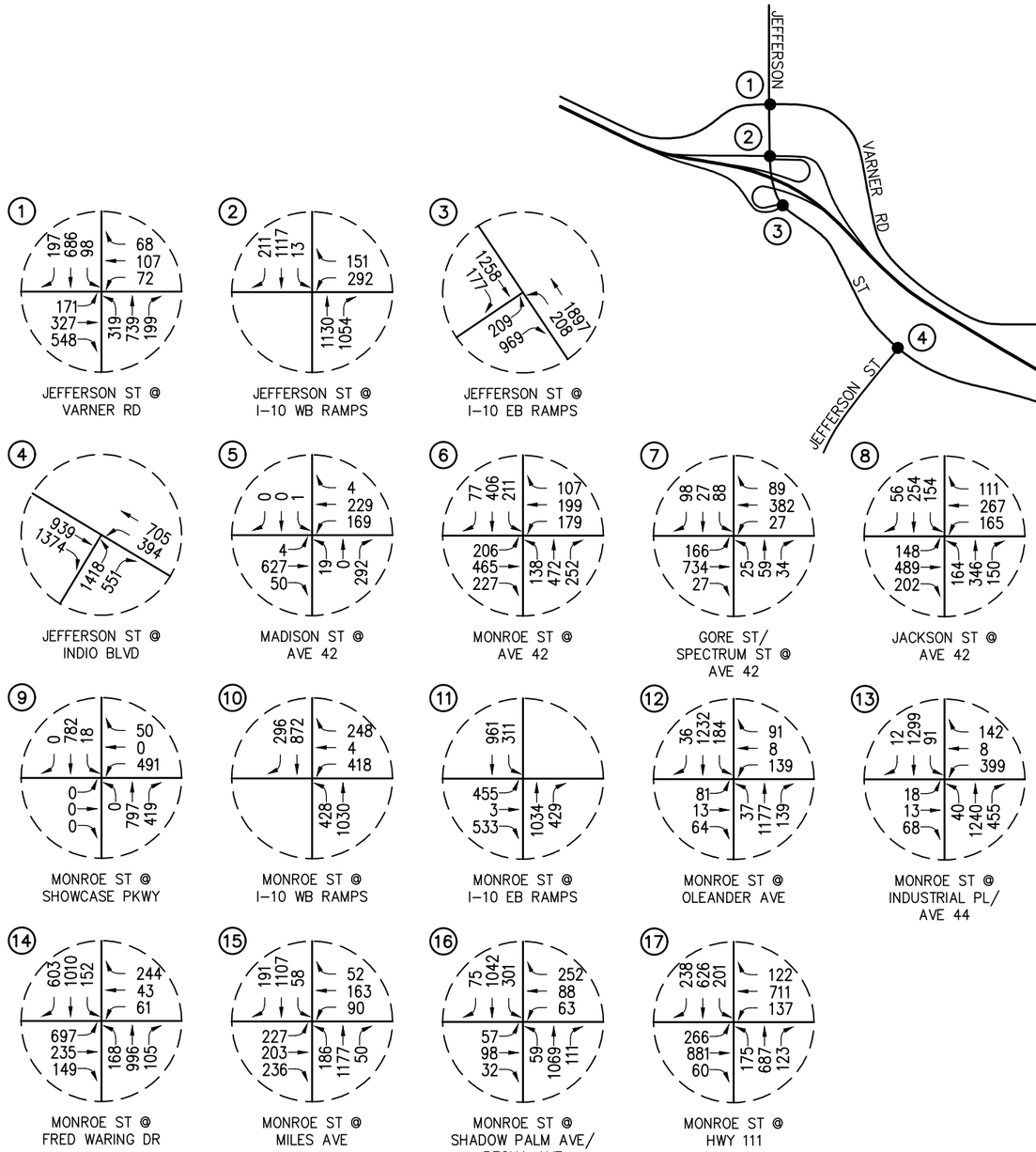
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-8

BUILDOUT WITHOUT PROJECT AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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LLG

N NO SCALE

KEY

(#) = STUDY INTERSECTION

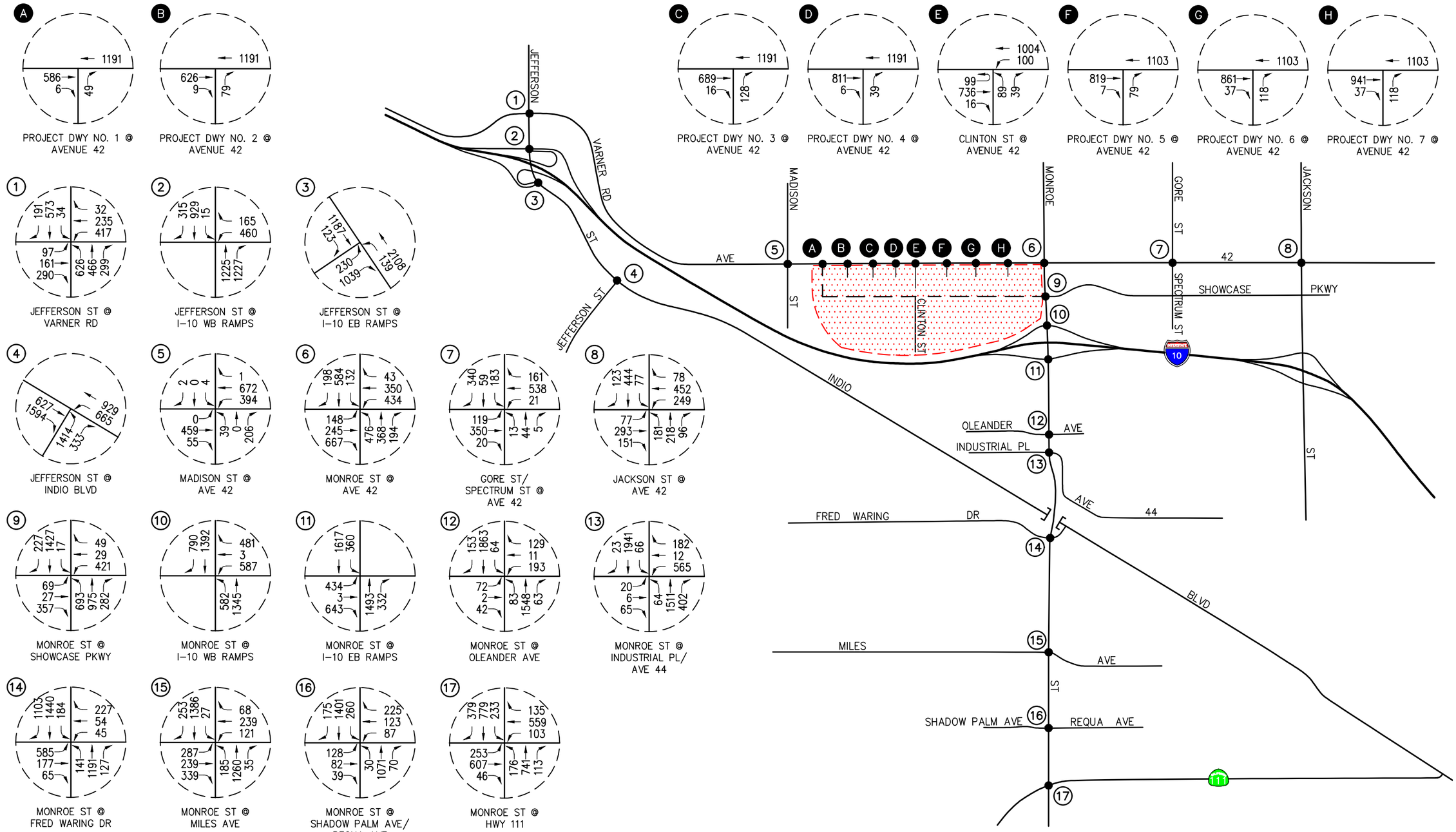
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-9

BUILDOUT WITHOUT PROJECT PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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LLG

N NO SCALE

KEY

(#) = STUDY INTERSECTION

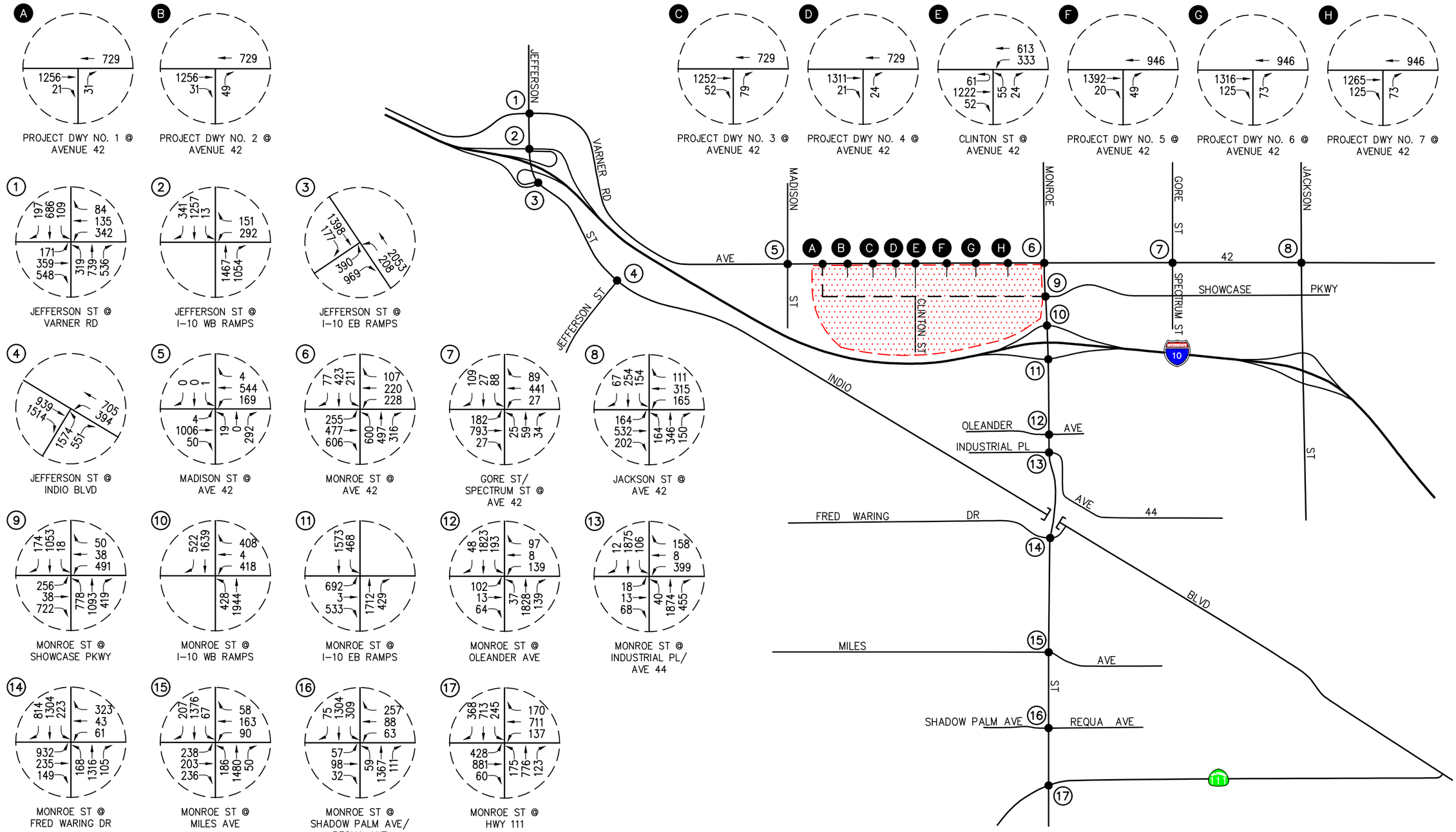
— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-10

BUILDOUT WITH PROJECT OPTION A AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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LLG

N NO SCALE

KEY

(#) = STUDY INTERSECTION

— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 6-11

BUILDOUT WITH PROJECT OPTION A PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

7.0 TRAFFIC IMPACT ANALYSIS METHODOLOGY

7.1 Impact Criteria and Thresholds

The relative impact of the proposed Project during the AM peak hour and PM peak hour was evaluated based on analysis of future operating conditions at the key study intersections, without, then with, the proposed Project. The previously discussed capacity analysis procedures were utilized to investigate the future volume-to-capacity relationships and service level characteristics at each study intersection. The significance of the potential impacts of the Project at each key intersection was then evaluated using the following traffic impact criteria.

- Based on the City of Indio level of service and impact criteria, LOS "D" is the minimum acceptable LOS required at the key study intersections.

7.2 Traffic Impact Analysis Scenarios

The following scenarios are those for which HCM calculations have been performed at the key study intersections for existing, near-term (Year 2033), and buildout traffic conditions:

A. Existing Traffic Conditions;
B. Existing With A.G. (Ambient Growth) to the Year 2033 With Project Option A Traffic Conditions;
C. Scenario (B) with Improvements, if necessary;
D. Existing With A.G. (Ambient Growth) to the Year 2033 With Project Option A With Cumulative Projects Traffic Conditions;
E. Scenario (D) with Improvements, if necessary;
F. Buildout Traffic Conditions;
G. Buildout With Project Option A Traffic Conditions; and
H. Scenario (G) with Improvements, if necessary.

8.0 EXISTING WITH A.G. WITH PROJECT OPTION A TRAFFIC CONDITIONS

Table 8-1 summarizes the peak hour level of service results at the seventeen (17) key study intersections for "Existing With Ambient Growth With Project Option A" traffic conditions. The first column (1) of HCM/LOS values in *Table 8-1* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists Existing With Ambient Growth (Year 2033) With Project Option A traffic conditions. The third column (3) shows the increase in delay value and indicates whether the traffic associated with Project Option A will result in a deficiency based on the LOS standards and criteria defined in this report. The fourth column (4) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

8.1 Existing Traffic Conditions

Review of column (1) of *Table 8-1* indicates that for Existing traffic conditions, all seventeen (17) key study intersections currently operate at acceptable levels of service during the AM and PM peak hours.

Appendix D presents the Existing HCM/LOS calculations for the seventeen (17) key study intersections.

8.2 Existing With Ambient Growth With Project Option A Traffic Conditions

Review of column (2) of *Table 8-1* indicates that two (2) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option A traffic based on the LOS standards and criteria mentioned in this report. The remaining fifteen (15) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option A traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	--	--	64.4	F
14. Monroe Street at Fred Waring Drive	58.5	E	56.4	E

Review of column (3) indicates that these two (2) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, as shown in column (4) of *Table 8-1*, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Appendix D presents the Existing With Ambient Growth With Project Option A HCM/LOS calculations for the seventeen (17) key study intersections.

TABLE 8-1

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[11]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option A Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option A With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
1. Jefferson Street at Varner Road	AM	LOS D	26.4	C	30.2	C	3.3	No	--	--
	PM		25.8	C	30.3	C	4.5	No	--	--
2. Jefferson Street at I-10 Westbound Ramps	AM	LOS D	12.5	B	12.8	B	0.3	No	--	--
	PM		8.9	A	9.2	A	0.3	No	--	--
3. Jefferson Street at I-10 Eastbound Ramps	AM	LOS D	14.1	B	20.9	C	6.8	No	--	--
	PM		15.7	B	22.4	C	6.7	No	--	--
4. Jefferson Street at Indio Boulevard	AM	LOS D	19.1	B	22.9	C	3.8	No	--	--
	PM		21.6	C	33.6	C	12.0	No	--	--
5. Madison Street at Avenue 42	AM	LOS D	12.2	B	29.1	D	16.9	No	6.2	A
	PM		16.9	C	**64.4**	**F**	**47.5**	**Yes**	4.7	A
6. Monroe Street at Avenue 42	AM	LOS D	35.4	D	50.7	D	15.3	No	--	--
	PM		33.0	C	46.6	D	13.6	No	--	--
7. Gore Street/Spectrum Street at Avenue 42	AM	LOS D	22.9	C	23.3	C	0.4	No	--	--
	PM		15.7	B	16.3	B	0.6	No	--	--
8. Jackson Street at Avenue 42	AM	LOS D	28.7	C	29.5	C	0.8	No	--	--
	PM		30.5	C	30.8	C	0.3	No	--	--
9. Monroe Street at Showcase Parkway	AM	LOS D	10.8	B	33.9	C[12]	23.1	No	--	--
	PM		12.8	B	32.0	C[12]	22.3	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[11] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[12] Includes project-specific improvements.

TABLE 8-1 (CONTINUED)

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[13]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option A Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option A With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
10. Monroe Street at	AM	LOS D	10.8	B	20.0	B[14]	9.2	No	--	--
I-10 Westbound Ramps	PM		9.1	A	16.7	B[14]	7.6	No	--	--
11. Monroe Street at	AM	LOS D	36.2	D	21.8	C[14]	-14.4	No	--	--
I-10 Eastbound Ramps	PM		24.2	C	25.7	C[14]	1.5	No	--	--
12. Monroe Street at	AM	LOS D	16.4	B	24.8	C	8.4	No	--	--
Oleander Avenue	PM		17.6	B	33.5	C	15.9	No	--	--
13. Monroe Street at	AM	LOS D	23.7	C	40.8	D	17.1	No	--	--
Industrial Place/Avenue 44	PM		20.6	C	35.4	D	14.8	No	--	--
14. Monroe Street at	AM	LOS D	22.8	C	**58.5**	**E**	**35.7**	**Yes**	37.7	D
Fred Waring Drive	PM		25.3	C	**56.4**	**E**	**31.1**	**Yes**	47.4	D
15. Monroe Street at	AM	LOS D	27.4	C	45.2	D	17.8	No	--	--
Miles Avenue	PM		24.1	C	32.0	C	7.9	No	--	--
16. Monroe Street at	AM	LOS D	18.4	B	24.0	C	5.6	No	--	--
Shadow Palm Avenue/Requa Avenue	PM		17.2	B	19.1	B	1.9	No	--	--
17. Monroe Street at	AM	LOS D	29.7	C	31.6	C	1.9	No	--	--
Highway 111	PM		29.1	C	32.5	C	3.4	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[13] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[14] Includes planned improvements for the I-10 Freeway Interchange at Monroe Street.

9.0 EXISTING WITH A.G. WITH PROJECT OPTION A WITH CUMULATIVE TRAFFIC CONDITIONS

Table 9-1 summarizes the peak hour level of service results at the seventeen (17) key study intersections for "Existing With Ambient Growth With Project Option A With Cumulative Projects" traffic conditions. The first column (1) of HCM/LOS values in *Table 9-1* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists Existing With Ambient Growth (Year 2033) With Project Option A With Cumulative Projects traffic conditions. The third column (3) shows the increase in delay value and indicates whether the traffic associated with Project Option A will result in a deficiency based on the LOS standards and criteria defined in this report. The fourth column (4) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

9.1 Existing With A.G. With Project Option A With Cumulative Projects Traffic Conditions

Review of column (2) of *Table 9-1* indicates that two (2) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option A traffic based on the LOS standards and criteria mentioned in this report. The remaining fifteen (15) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	--	--	49.9	E
14. Monroe Street at Fred Waring Drive	59.2	E	64.5	E

Review of column (3) indicates that these two (2) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, as shown in column (4) of *Table 9-1*, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Appendix D also presents the Existing With Ambient Growth With Project Option A With Cumulative Projects HCM/LOS calculations for the seventeen (17) key study intersections.

TABLE 9-1

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A WITH CUMULATIVE PROJECTS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[15]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option A With Cumulative Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option A With Cumulative With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
1. Jefferson Street at Varner Road	AM	LOS D	26.4	C	30.2	C	3.8	No	--	--
	PM		25.8	C	29.8	C	4.0	No	--	--
2. Jefferson Street at I-10 Westbound Ramps	AM	LOS D	12.5	B	13.4	B	0.9	No	--	--
	PM		8.9	A	9.5	A	0.6	No	--	--
3. Jefferson Street at I-10 Eastbound Ramps	AM	LOS D	14.1	B	22.9	C	8.8	No	--	--
	PM		15.7	B	24.2	C	8.5	No	--	--
4. Jefferson Street at Indio Boulevard	AM	LOS D	19.1	B	35.1	D	16.0	No	--	--
	PM		21.6	C	33.7	C	12.1	No	--	--
5. Madison Street at Avenue 42	AM	LOS D	12.2	B	25.3	D	13.1	No	5.8	A
	PM		16.9	C	**49.9**	**E**	**33.0**	**Yes**	3.9	A
6. Monroe Street at Avenue 42	AM	LOS D	35.4	D	51.3	D	15.9	No	--	--
	PM		33.0	C	46.2	D	13.2	No	--	--
7. Gore Street/Spectrum Street at Avenue 42	AM	LOS D	22.9	C	23.0	C	0.1	No	--	--
	PM		15.7	B	16.1	B	0.4	No	--	--
8. Jackson Street at Avenue 42	AM	LOS D	28.7	C	29.6	C	0.9	No	--	--
	PM		30.5	C	30.9	C	0.4	No	--	--
9. Monroe Street at Showcase Parkway	AM	LOS D	10.8	B	37.1	D[16]	26.3	No	--	--
	PM		12.8	B	33.2	C[16]	20.4	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[15] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[16] Includes project-specific improvements.

TABLE 9-1 (CONTINUED)

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A WITH CUMULATIVE PROJECTS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[17]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option A With Cumulative Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option A With Cumulative With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
10. Monroe Street at I-10 Westbound Ramps	AM	LOS D	10.8	B	23.5	C[18]	12.7	No	--	--
	PM		9.1	A	18.5	B[18]	9.4	No	--	--
11. Monroe Street at I-10 Eastbound Ramps	AM	LOS D	36.2	D	24.5	C[18]	-11.7	No	--	--
	PM		24.2	C	33.8	C[18]	9.6	No	--	--
12. Monroe Street at Oleander Avenue	AM	LOS D	16.4	B	27.8	C	11.4	No	--	--
	PM		17.6	B	33.2	C	15.6	No	--	--
13. Monroe Street at Industrial Place/Avenue 44	AM	LOS D	23.7	C	41.3	D	17.6	No	--	--
	PM		20.6	C	42.1	D	21.5	No	--	--
14. Monroe Street at Fred Waring Drive	AM	LOS D	22.8	C	**59.2**	**E**	**36.4**	**Yes**	29.5	C
	PM		25.3	C	**64.5**	**E**	**39.2**	**Yes**	38.1	D
15. Monroe Street at Miles Avenue	AM	LOS D	27.4	C	52.2	D	24.8	No	--	--
	PM		24.1	C	38.9	D	14.8	No	--	--
16. Monroe Street at Shadow Palm Avenue/Requa Avenue	AM	LOS D	18.4	B	28.6	C	10.2	No	--	--
	PM		17.2	B	33.2	C	16.0	No	--	--
17. Monroe Street at Highway 111	AM	LOS D	29.7	C	33.2	C	3.5	No	--	--
	PM		29.1	C	34.7	C	5.6	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[17] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[18] Includes planned improvements for the I-10 Freeway Interchange at Monroe Street.

10.0 BUILDOUT TRAFFIC CONDITIONS

Table 10-1 summarizes the peak hour level of service results at the seventeen (17) key study intersections for "Buildout With Project Option A" traffic conditions. The first column (1) of HCM/LOS values in *Table 10-1* presents a summary of existing AM and PM peak hour traffic conditions. The second column (2) lists Buildout Without Project traffic conditions. The third column (3) lists Buildout With Project Option A traffic conditions. The fourth column (4) shows the increase in delay value and indicates whether the traffic associated with Project Option A will result in a deficiency based on the LOS standards and criteria defined in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended traffic improvements, where needed, to achieve an acceptable level of service.

10.1 Buildout Without Project Traffic Conditions

Review of column (2) of *Table 10-1* indicates that one (1) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service under Buildout Without Project traffic conditions. The remaining sixteen (16) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours. The location forecast to operate at an adverse LOS is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	67.1	F	107.5	F

10.2 Buildout With Project Option A Traffic Conditions

Review of column (3) of *Table 10-1* indicates that four (4) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option A traffic based on the LOS standards and criteria mentioned in this report. The remaining thirteen (13) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Buildout With Project Option A traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	708.4	F	10,000	F
6. Monroe Street at Avenue 42	83.3	F	58.9	E
14. Monroe Street at Fred Waring Drive	86.2	F	102.0	F
15. Monroe Street at Miles Avenue	58.4	E	--	--

Review of column (4) indicates that these four (4) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, as shown in column (5) of *Table 10-1*, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels. *Appendix D* also presents the Buildout HCM/LOS calculations for the seventeen (17) key study intersections.

TABLE 10-1

BUILDOUT WITH PROJECT OPTION A PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[19]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Buildout Without Project Traffic Conditions		(3) Buildout With Project Option A Traffic Conditions		(4) Deficiency		(5) Buildout With Project Option A With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
1. Jefferson Street at Varner Road	AM	LOS D	26.4	C	27.9	C	30.5	C	2.6	No	--	--
	PM		25.8	C	27.2	C	29.9	C	2.7	No	--	--
2. Jefferson Street at I-10 Westbound Ramps	AM	LOS D	12.5	B	12.3	B	12.7	B	0.4	No	--	--
	PM		8.9	A	8.8	A	8.9	A	0.1	No	--	--
3. Jefferson Street at I-10 Eastbound Ramps	AM	LOS D	14.1	B	17.9	B	21.2	C	3.3	No	--	--
	PM		15.7	B	21.0	C	22.6	C	1.6	No	--	--
4. Jefferson Street at Indio Boulevard	AM	LOS D	19.1	B	24.3	C	27.9	C	3.6	No	--	--
	PM		21.6	C	26.6	C	28.8	C	2.2	No	--	--
5. Madison Street at Avenue 42	AM	LOS D	12.2	B	**67.1**	**F**	**708.4**	**F**	**641.3**	**Yes**	23.1	C
	PM		16.9	C	**107.5**	**F**	**10,000**	**F**	**9,892.50**	**Yes**	37.6	D
6. Monroe Street at Avenue 42	AM	LOS D	35.4	D	50.3	D	**83.3**	**F**	**33.0**	**Yes**	45.5	D
	PM		33.0	C	45.5	D	**58.9**	**E**	**13.4**	**Yes**	43.2	D
7. Gore Street/Spectrum Street at Avenue 42	AM	LOS D	22.9	C	23.0	C	23.2	C	0.2	No	--	--
	PM		15.7	B	16.8	B	16.9	B	0.1	No	--	--
8. Jackson Street at Avenue 42	AM	LOS D	28.7	C	30.4	C	30.4	C	0.0	No	--	--
	PM		30.5	C	30.9	C	31.0	C	0.1	No	--	--
9. Monroe Street at Showcase Parkway	AM	LOS D	10.8	B	11.5	B	32.9	C[20]	21.4	No	--	--
	PM		12.8	B	13.1	B	34.3	C[20]	23.2	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[19] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[20] Includes project-specific improvements.

TABLE 10-1 (CONTINUED)
BUILDOUT WITH PROJECT OPTION A PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[21]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Buildout Without Project Traffic Conditions		(3) Buildout With Project Option A Traffic Conditions		(4) Deficiency		(5) Buildout With Project Option A With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
10. Monroe Street at	AM	LOS D	10.8	B	29.1	C[22]	40.8	D	11.7	No	--	--
I-10 Westbound Ramps	PM		9.1	A	19.4	B[22]	25.2	C	5.8	No	--	--
11. Monroe Street at	AM	LOS D	36.2	D	19.7	B[22]	25.8	C	6.1	No	--	--
I-10 Eastbound Ramps	PM		24.2	C	21.6	C[22]	40.5	D	18.9	No	--	--
12. Monroe Street at	AM	LOS D	16.4	B	22.2	C	30.1	C	7.9	No	--	--
Oleander Avenue	PM		17.6	B	23.4	C	36.5	D	13.1	No	--	--
13. Monroe Street at	AM	LOS D	23.7	C	30.7	C	43.8	D	13.1	No	--	--
Industrial Place/Avenue 44	PM		20.6	C	29.3	C	52.9	D	23.6	No	--	--
14. Monroe Street at	AM	LOS D	22.8	C	45.5	D	**86.2**	**F**	**40.7**	**Yes**	40.8	D
Fred Waring Drive	PM		25.3	C	47.6	D	**102.0**	**F**	**54.4**	**Yes**	52.9	D
15. Monroe Street at	AM	LOS D	27.4	C	47.6	D	**58.4**	**E**	**10.8**	**Yes**	51.5	D
Miles Avenue	PM		24.1	C	35.7	D	43.4	D	7.7	No	38.8	D
16. Monroe Street at	AM	LOS D	18.4	B	25.7	C	28.4	C	2.7	No	--	--
Shadow Palm Avenue/Requa Avenue	PM		17.2	B	26.7	C	33.4	C	6.7	No	--	--
17. Monroe Street at	AM	LOS D	29.7	C	30.4	C	33.2	C	2.8	No	--	--
Highway 111	PM		29.1	C	30.7	C	35.1	D	4.4	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[21] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[22] Includes planned improvements for the I-10 Freeway Interchange at Monroe Street.

11.0 TRAFFIC SIGNAL WARRANT ANALYSIS

The level of service analyses at the key unsignalized impacted study intersections that are recommended to be signalized are supplemented with an assessment of the need for signalization of those intersections. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the peak-hour traffic signal warrant; Warrant #3 described in the *California Manual on Uniform Traffic Control Devices (MUTCD)*. Warrant #3 has two parts: 1) Part A evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay and 2) Part B evaluates peak-hour traffic volumes on the major and minor streets. This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels are, or would be, sufficient to justify installation of a traffic signal. Other traffic signal warrants are available; however, they cannot be checked under future conditions because they rely on data for which forecasts are not available (such as accidents, pedestrian volume, and four- or eight-hour vehicle volumes).

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants are satisfied. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

11.1 Existing With Ambient Growth With Project Option A Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project Option A traffic conditions are summarized in column (1) of ***Table 11-1***. The results indicate that the intersection of Madison Street at Avenue 42 does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Alternative improvements were considered at this intersection, however, a traffic signal is recommended at this location per direction by City staff.

11.2 Existing With A.G. With Project Option A With Cumulative Projects Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions are summarized in column (2) of *Table 11-1*. The results indicate that the intersection of Madison Street at Avenue 42 does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Alternative improvements were considered at this intersection, however, a traffic signal is recommended at this location per direction by City staff.

11.3 Buildout Without Project Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for Buildout Without Project traffic conditions are summarized in column (3) of *Table 11-1*. The results indicate that the intersection of Madison Street at Avenue 42 has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part B for the PM peak hour. Thus, a traffic signal is recommended at this location.

11.4 Buildout With Project Option A Traffic Conditions

The results of the peak-hour traffic signal warrant analysis for Buildout With Project Option A traffic conditions are summarized in column (4) of *Table 11-1*. The results indicate that the intersection of Madison Street at Avenue 42 has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Thus, a traffic signal is recommended at this location.

The Traffic Signal Warrant Analysis worksheets are contained in ***Appendix E***.

TABLE 11-1
PROJECT OPTION A TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing With A.G. (Year 2033) With Project Option A Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option A With Cumulative Traffic Conditions		(3) Buildout Without Project Traffic Conditions		(4) Buildout With Project Option A Traffic Conditions	
		Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?
5. Madison Street at Avenue 42	AM	No	No	No	No	No	No	**Yes**	**Yes**
	PM	No	No	No	No	No	**Yes**	**Yes**	**Yes**

Notes:

- Signal Warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant contained in the *California MUTCD.*

12.0 PLANNED AND RECOMMENDED IMPROVEMENTS

For the intersections where future traffic volumes are expected to result in poor operating conditions, this report recommends (identifies) improvements, which change the geometry to increase capacity. These capacity improvements usually involve roadway widening and/or restriping to reconfigure or add lanes to various approaches of a key intersection. The proposed improvements are expected to address deficient levels of service.

Figures 12-1, 12-2, and ***12-3*** present the planned and recommended traffic improvements for the key study intersections for Existing With Ambient Growth With Project Option A traffic conditions, Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions, and Buildout With Project Option A traffic conditions, respectively. These improvements are discussed in more detail in the sections below.

12.1 Project-Specific Improvements

The following project design features that will be constructed by the proposed Project are required to ensure that adequate ingress and egress to the project site is provided. It should be noted that these improvements were discussed previously in *Section 2.2.*

- Intersection 9. Monroe Street at Showcase Parkway: Construct the west leg of the intersection and provide one eastbound left-turn lane, one eastbound through lane, dual eastbound right-turn lanes, and two westbound departure lanes. Restripe the northbound approach to provide dual northbound left-turn lanes with 400 feet of storage per lane and a 120-foot transition. Restripe or widen the southbound approach to provide a southbound right-turn lane. Widen and/or restripe the east leg of the intersection to provide a westbound through lane. Provide a crosswalk on the south leg of the intersection. Modify the existing traffic signal for eight-phase operation with eastbound right-turn overlap phasing.

- A. Project Driveway No. 1 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 1 is proposed to be stop-controlled.

- B. Project Driveway No. 2 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 2 is proposed to be stop-controlled.

- C. Project Driveway No. 3 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second

eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 3 is proposed to be stop-controlled.

- D. Project Driveway No. 4 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 4 is proposed to be stop-controlled.

- E. Clinton Street at Avenue 42: Construct the south leg of the intersection and provide one northbound left-turn lane, one northbound right-turn lane, and one inbound lane. The south leg will also be designed to accommodate a potential future northbound through lane. Widen Avenue 42 along the Project frontage to its ultimate condition and provide an eastbound U-turn lane, a second eastbound through lane, an eastbound right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Provide a crosswalk across the south leg. Install a traffic signal and design for five-phase operation with protected left turn phasing on Avenue 42.

- F. Project Driveway No. 5 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 5 is proposed to be stop-controlled.

- G. Project Driveway No. 6 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 6 is proposed to be stop-controlled.

- H. Project Driveway No. 7 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Project Driveway No. 7 is proposed to be stop-controlled.

12.2 Planned Improvements

The following planned improvements listed below have been included in the background for Existing With Ambient Growth With Project Option A traffic conditions, Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions, Buildout Without Project traffic conditions, and Buildout With Project traffic conditions:

- Intersection 10. Monroe Street at I-10 Westbound Ramps: Reconstruct the south leg of the intersection to provide a second northbound left-turn lane, a second northbound through lane, and a second southbound departure lane. Reconstruct the north leg of the

intersection to provide a second southbound through lane. Reconstruct the east leg of the intersection to provide a westbound left-turn lane, a shared westbound left-turn/through/right-turn lane, and a westbound right-turn lane. Reconstruct the west leg of the intersection to provide a second westbound departure lane. Provide a crosswalk on the east leg. Modify the existing traffic signal.

- Intersection 11. Monroe Street at I-10 Eastbound Ramps: Reconstruct the south leg of the intersection to provide a second northbound through lane, a northbound right-turn lane, and a second southbound departure lane. Reconstruct the north leg of the intersection to provide a second southbound left-turn lane, a second southbound through lane, and a second northbound departure lane. Reconstruct the west leg of the intersection to provide an eastbound left-turn lane, a shared eastbound left-turn/through/right-turn lane, and an eastbound right-turn lane. Reconstruct the east leg of the intersection to provide a second eastbound departure lane. Provide a crosswalk on the east leg. Modify the existing traffic signal.

12.3 Recommended Improvements

12.3.1 *Existing With Ambient Growth With Project Option A Traffic Conditions*

The following improvements listed below have been identified to offset the effect of ambient growth traffic and Project Option A traffic, and improve levels of service to an acceptable range for Existing With Ambient Growth With Project Option A traffic conditions:

- Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.

- Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing.

12.3.2 *Existing With A.G. With Project Option A With Cumulative Projects Traffic Conditions*

The following improvements listed below have been identified to offset the effect of ambient growth traffic, cumulative traffic, and Project Option A traffic, and improve levels of service to an acceptable range for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions:

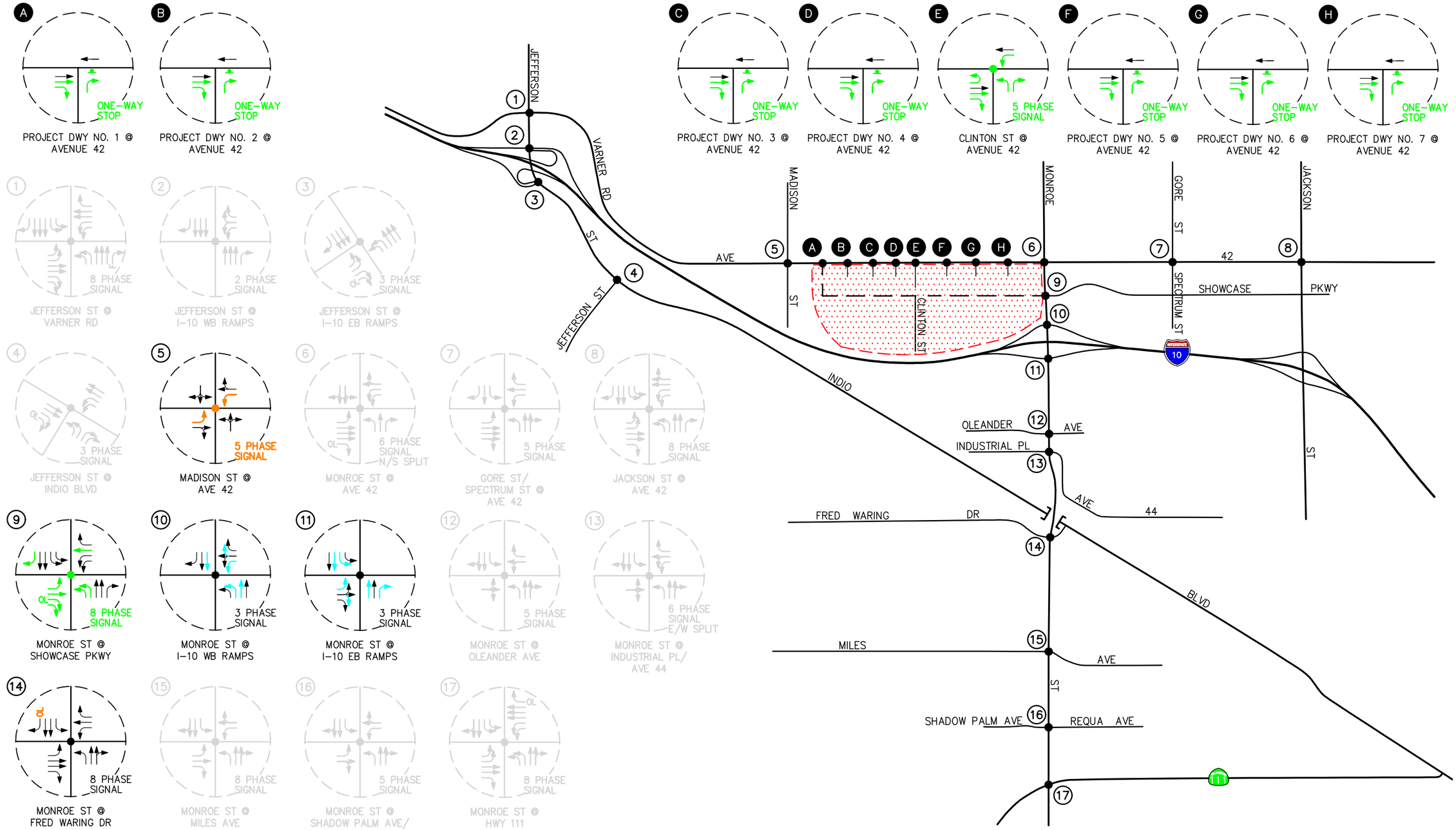
- Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42).

- Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing and westbound right-turn overlap phasing.

12.3.3 *Buildout With Project Option A Traffic Conditions*

The following improvements listed below have been identified to offset the effect of buildout traffic and Project Option A traffic, and improve levels of service to an acceptable range for Buildout With Project Option A traffic conditions:

- Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.
- Intersection 6. Monroe Street at Avenue 42: Widen and restripe the north leg of the intersection to provide a southbound left-turn lane. Modify the existing traffic signal for eight-phase operation.
- Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing and westbound right-turn overlap phasing.
- Intersection 15. Monroe Street at Miles Avenue: Restripe the east leg of the intersection to provide a westbound right-turn lane. Modify the existing traffic signal.



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KEY
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= PROJECT IMPROVEMENT
= RECOMMENDED IMPROVEMENT
= PROJECT SITE

FIGURE 12-1

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A
PLANNED AND RECOMMENDED IMPROVEMENTS
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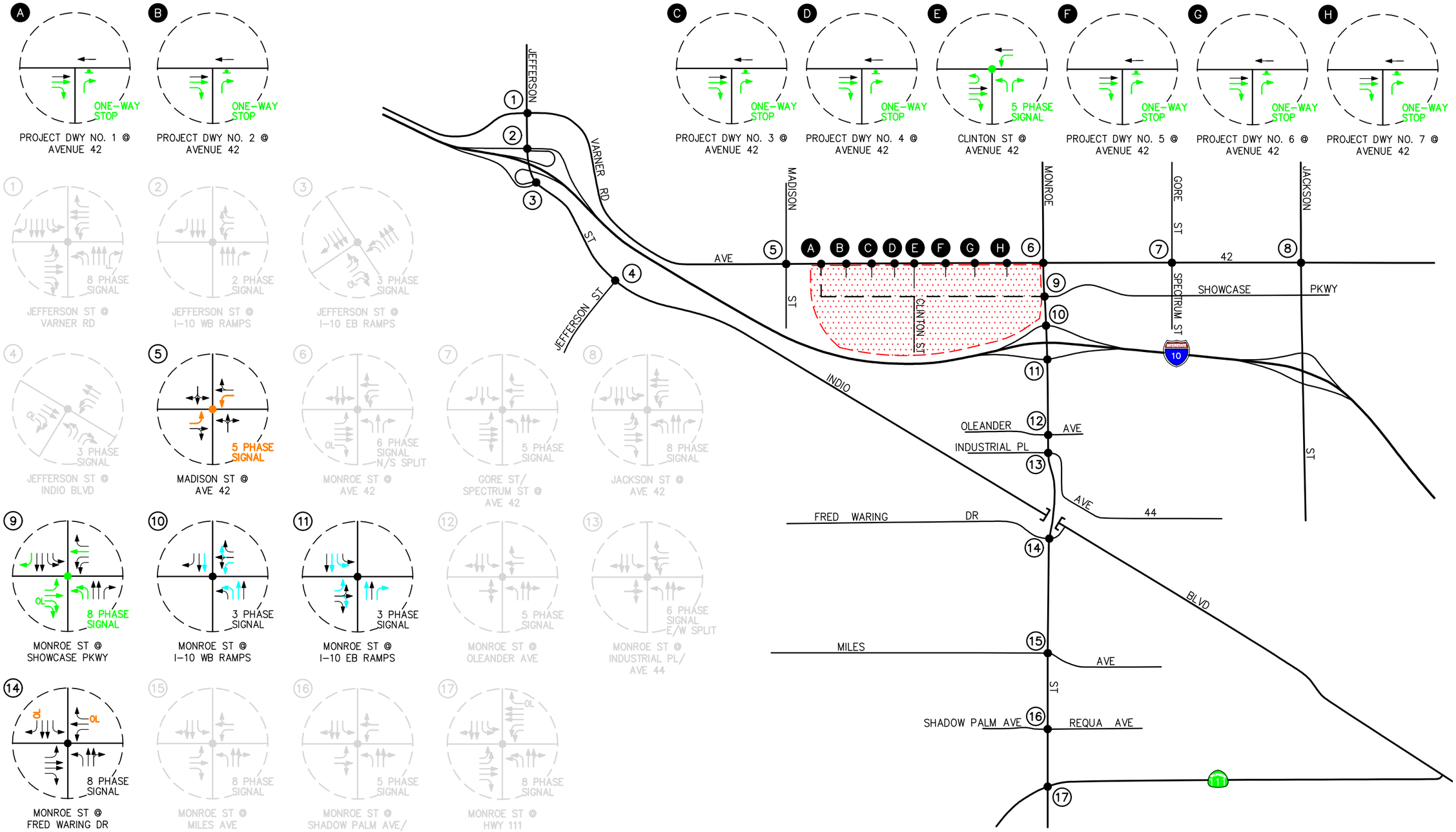

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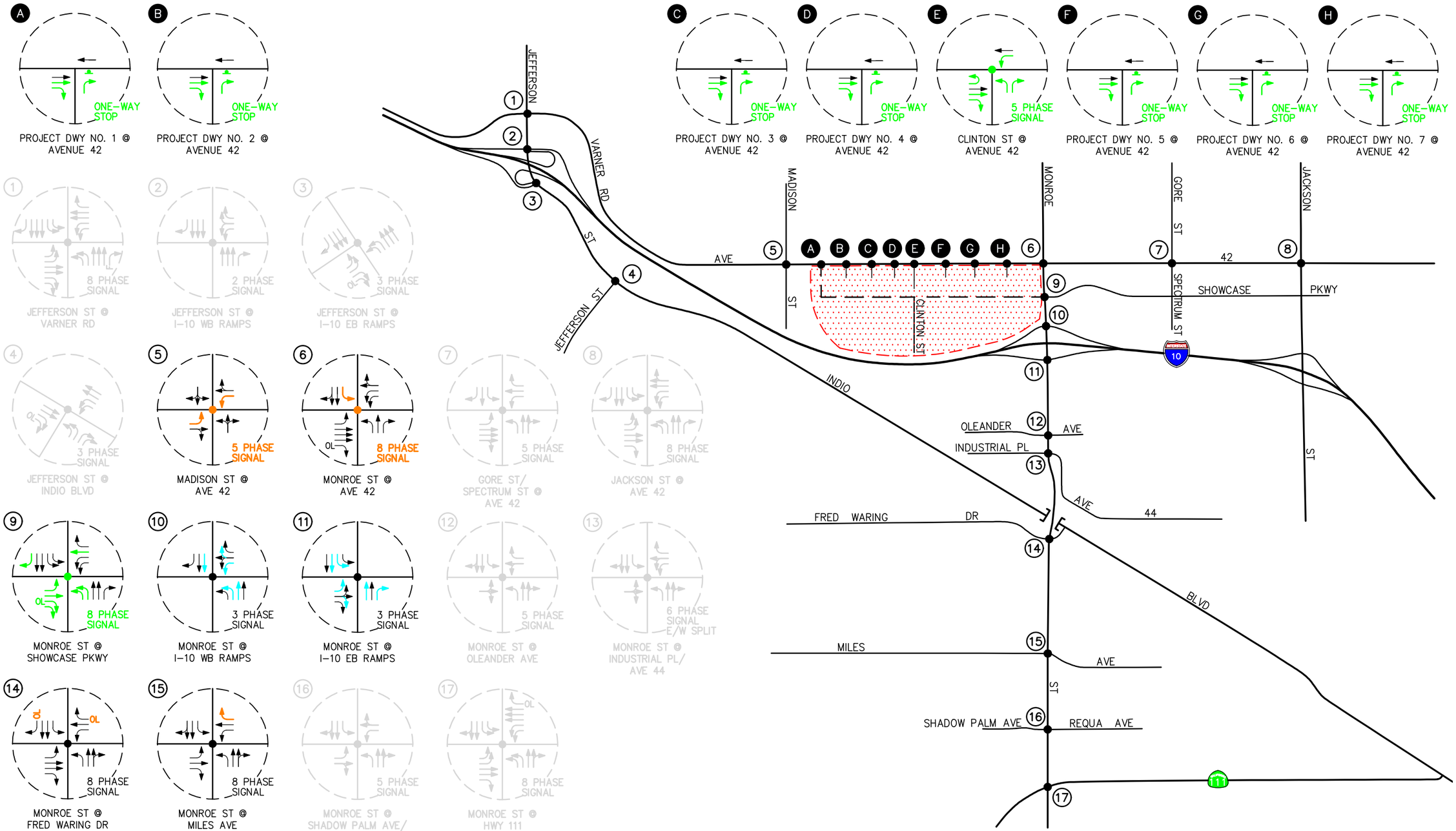
KEY

= PLANNED IMPROVEMENT
= PROJECT IMPROVEMENT
= RECOMMENDED IMPROVEMENT
= PROJECT SITE

FIGURE 12-2

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A WITH CUMULATIVE PROJECTS PLANNED AND RECOMMENDED IMPROVEMENTS

BH PROPERTIES THE OASIS AT INDIO, INDIO



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= PROJECT IMPROVEMENT
= RECOMMENDED IMPROVEMENT
= PROJECT SITE

FIGURE 12-3

BUILDOUT WITH PROJECT OPTION A PLANNED AND RECOMMENDED IMPROVEMENTS

BH PROPERTIES THE OASIS AT INDIO, INDIO

13.0 PROJECT OPTION A FAIR SHARE ANALYSIS

The transportation impacts associated with the development of the proposed Project Option A were determined based on the future conditions analysis with the proposed Project Option A. The key study locations forecast to operate at adverse levels of service under Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions and Buildout With Project Option A traffic conditions are discussed previously in *Section 12.0.* As such, the proposed Project Option A's "fair share" of the recommended improvements has been calculated for the key study locations that are adversely impacted.

13.1 Existing With A.G. With Project Option A With Cumulative Projects Traffic Conditions

Table 13-1 presents the AM and PM Project Option A fair share percentages at the key study intersections that are forecast to operate at adverse levels of service for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions. The first column (1) of *Table 13-1* presents the Project Option A only traffic volumes. The second column (2) presents the existing traffic volumes at the intersection. The third column (3) presents the Existing With Ambient Growth With Project Option A With Cumulative Projects traffic volumes. The fourth column (4) represents the Project Option A fair share based on the following formula:

- Project Fair Share (4) = Column (1)/[Column (3) – Column (2)]*100

The Project fair share percentages (most adverse time period) for the deficient intersections for Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions that require recommended improvements are shown below:

- 5. Madison Street at Avenue 42 79.50%
- 14. Monroe Street at Fred Waring Drive 57.18%

13.2 Buildout With Project Option A Traffic Conditions

Table 13-2 presents the AM and PM Project Option A fair share percentages at the key study intersections that are forecast to operate at adverse levels of service for Buildout With Project Option A traffic conditions.

The Project fair share percentages (most adverse time period) for the deficient intersections for Buildout With Project Option A traffic conditions that require recommended improvements are shown below:

- 5. Madison Street at Avenue 42 48.70%
- 6. Monroe Street at Avenue 42 47.74%
- 14. Monroe Street at Fred Waring Drive 43.97%
- 15. Monroe Street at Miles Avenue 27.36%

TABLE 13-1
EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION A WITH CUMULATIVE PROJECTS
TRAFFIC CONDITIONS FAIR SHARE CONTRIBUTION

Key Intersection	Impacted Time Period	(1) Project Option A Only Volume	(2) Existing Volume	(3) Existing With A.G. (Year 2033) With Project Option A With Cumulative Volume	(4) Project Option A Fair Share Responsibility
5. Madison Street at Avenue 42	AM	--	--	--	--
	PM	694	664	1,537	**79.50%**
14. Monroe Street at Fred Waring Drive	AM	921	2,938	4,743	51.02%
	PM	1,210	2,921	5,037	**57.18%**

Notes:

- Project Fair Share (4) = Column (1) / [Column (3) – Column (2)]
- **Bold Project Fair Share Responsibility** is based on worse case

TABLE 13-2
BUILDOUT WITH PROJECT OPTION A TRAFFIC CONDITIONS FAIR SHARE CONTRIBUTION

Key Intersection		Impacted Time Period	(1) Project Option A Only Volume	(2) Existing Volume	(3) Buildout With Project Option A Volume	(4) Project Option A Fair Share Responsibility
5.	Madison Street at Avenue 42	AM	533	504	1,832	40.14%
		PM	694	664	2,089	**48.70%**
6.	Monroe Street at Avenue 42	AM	947	1,591	3,839	42.13%
		PM	1,078	1,759	4,017	**47.74%**
14.	Monroe Street at Fred Waring Drive	AM	921	2,938	5,339	38.36%
		PM	1,210	2,921	5,673	**43.97%**
15.	Monroe Street at Miles Avenue	AM	470	2,721	4,439	**27.36%**
		PM	--	--	--	--

Notes:

- Project Fair Share (4) = Column (1) / [Column (3) – Column (2)]
- **Bold Project Fair Share Responsibility** is based on worse case

14.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

14.1 Level of Service Analysis for Project Option A Access Locations

Table 14-1 summarizes the intersection operations at the nine (9) proposed Project Option A driveways for future traffic conditions with the proposed Project Option A. It should be noted that the values for Monroe Street at Showcase Parkway are the same as previously reported in *Tables 8-1, 9-1,* and *10-1.* As shown in column (1), the nine (9) proposed Project Option A driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Existing With Ambient Growth With Project Option A traffic conditions.

As shown in column (2), the nine (9) proposed Project Option A driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions.

As shown in column (3), the nine (9) proposed Project Option A driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Buildout With Project Option A traffic conditions.

Appendix F contains the detailed HCM/LOS calculation worksheets for the project driveways.

14.2 Project Driveway Queuing Analysis

Table 14-2 presents the queuing analysis results for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway for future traffic conditions with the proposed Project Option A. Review of column (1) of *Table 14-2* indicates that adequate storage is proposed to accommodate the forecast 95th percentile queues under Existing With Ambient Growth With Project Option A traffic conditions for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway. Review of column (2) of *Table 14-2* indicates that adequate storage is proposed to accommodate the forecast 95th percentile queues under Existing With Ambient Growth With Project Option A With Cumulative Projects traffic conditions for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway. Review of column (3) of *Table 14-2* indicates that adequate storage is proposed to accommodate the forecast 95th percentile queues under Buildout With Project Option A traffic conditions for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway.

14.3 Internal Circulation Evaluation

The on-site circulation layout of proposed Project Option A as illustrated in *Figure 2-2* on an overall basis is adequate. Curb return radii are generally adequate for small service/delivery (FedEx, UPS) trucks, trash trucks, as well as large trucks and fire trucks. Nonetheless, prior to finalization of the Project site plan, conduct an internal circulation analysis using the vehicle turning templates for a fire truck, service/delivery/trash truck and large truck to confirm curb return radii at the project driveways and internal drive aisle widths, etc.

TABLE 14-1

PROJECT OPTION A DRIVEWAY PEAK HOUR LEVELS OF SERVICE SUMMARY

Key Driveway		Control Type	Time Period	(1) Existing With A.G. (Year 2033) With Project Option A Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option A With Cumulative Projects Traffic Conditions		(3) Buildout With Project Option A Traffic Conditions	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS
9.	Monroe Street at Showcase Parkway	8∅ Traffic Signal	AM	33.9	C	37.1	D	32.9	C
			PM	32.0	C	33.2	C	34.3	C
A.	Project Driveway No. 1 at Avenue 42	One-Way Stop	AM	9.9	A	10.0	B	10.5	B
			PM	12.4	B	12.5	B	14.1	B
B.	Project Driveway No.2 at Avenue 42	One-Way Stop	AM	10.3	B	10.4	B	11.0	B
			PM	12.7	B	12.8	B	14.6	B
C.	Project Driveway No.3 at Avenue 42	One-Way Stop	AM	11.1	B	11.3	B	11.9	B
			PM	13.2	B	13.4	B	15.3	C
D.	Project Driveway No.4 at Avenue 42	One-Way Stop	AM	10.9	B	11.0	B	11.5	B
			PM	12.6	B	12.8	B	14.4	B
E.	Clinton Street at Avenue 42	5∅ Traffic Signal	AM	16.4	B	15.6	B	18.9	B
			PM	18.9	B	18.8	B	18.4	B
F.	Project Driveway No.5 at Avenue 42	One-Way Stop	AM	11.3	B	11.5	B	12.0	B
			PM	13.6	B	13.9	B	15.7	C
G.	Project Driveway No.6 at Avenue 42	One-Way Stop	AM	12.1	B	12.3	B	12.9	B
			PM	13.6	B	13.8	B	15.8	C
H.	Project Driveway No.7 at Avenue 42	One-Way Stop	AM	12.7	B	12.9	B	13.5	B
			PM	13.2	B	13.4	B	15.3	C

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

TABLE 14-2
PROJECT OPTION A DRIVEWAY PEAK HOUR QUEUING ANALYSIS[23]

Key Driveway	Proposed Storage Provided	(1) Existing With A.G. (Year 2033) With Project Option A Traffic Conditions				(2) Existing With A.G. (Year 2033) With Project Option A With Cumulative Traffic Conditions				(3) Buildout With Project Option A Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue	Adequate Storage (Yes / No)	Max Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)
9. Monroe Street at Showcase Parkway													
Northbound Dual Left-Turn	400’	392’	Yes	394’	Yes	393’	Yes	398’	Yes	366’	Yes	398’	Yes

[23] Queue is based on the *95th Percentile Queue* and is reported in total queue length (feet) per lane.

15.0 MULTIMODAL CIRCULATION

The on-site circulation layout of the proposed Project Option A as illustrated in *Figure 2-2* on an overall basis is adequate for drivers, pedestrians, bicyclists, and public transit users.

Figure 15-1 illustrates the multimodal transportation (vehicular, pedestrian, bicycle, public transit) aspects of the Project site, including connections between sidewalks, signalized crosswalks, unsignalized crossings, existing and future bicycle facilities, and public transit stops.

Pedestrian circulation will be provided via existing sidewalks along the eastern Project frontage on Monroe Street, in addition to existing signalized crosswalks and unsignalized crossings along Showcase Parkway, and proposed walkways on site.

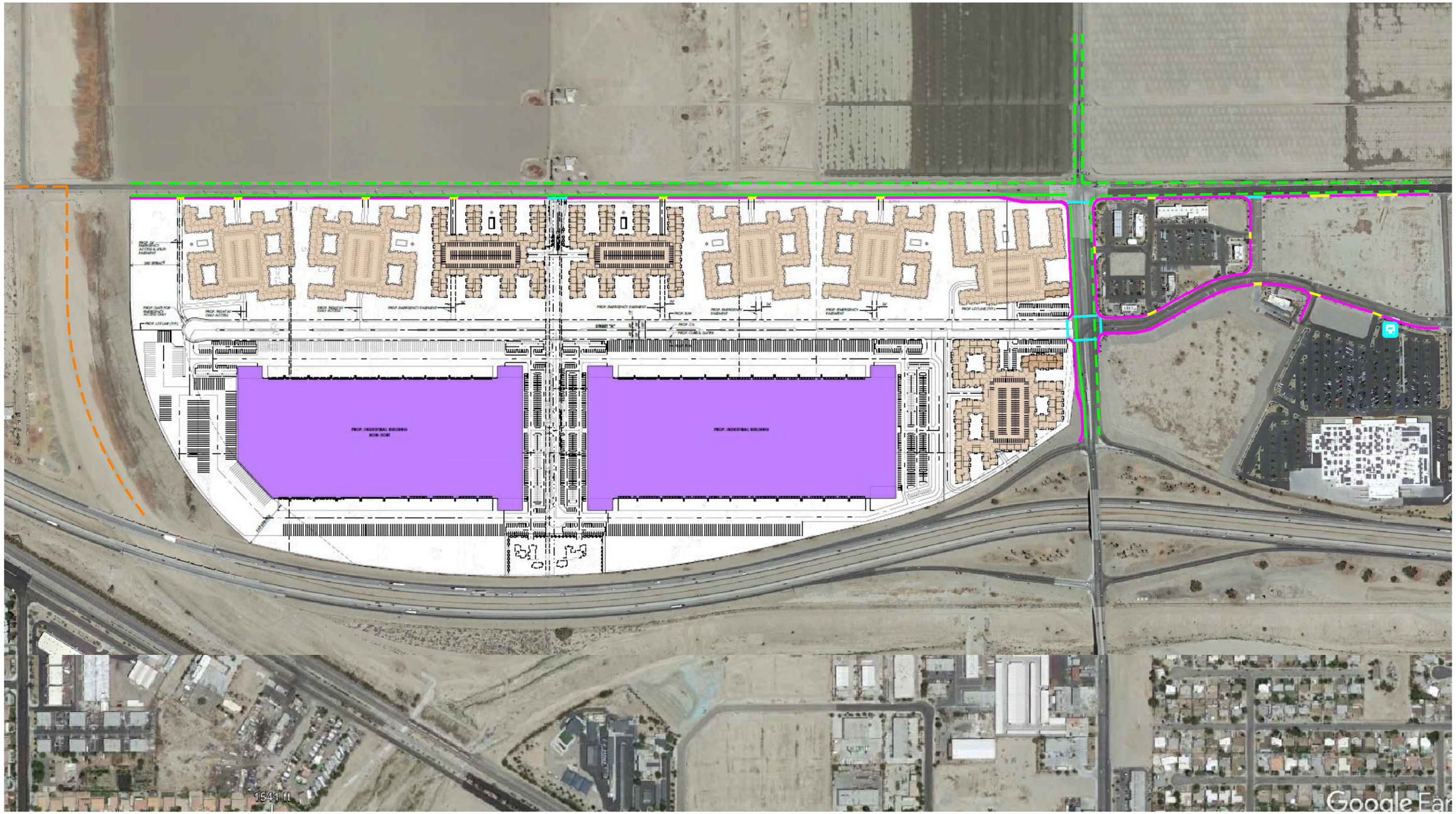
Bicycle circulation will be provided via adjacent roadways and sidewalks, accordingly, as adequate lane widths are provided along the Project frontages for bicycle traffic. Consistent with the City of Indio General Plan *Planned Bicycle Network (Figure 4-1)*, Avenue 42 and Monroe Street are classified as Class IV Cycle Track along the northern and eastern Project frontage between Monroe Street and Indio Boulevard and the western Project frontage is classified as Class I Bike Path.

The Project will construct/protect/maintain the existing sidewalks and bike signage along the Project frontage, and if necessary, repair or reconstruct sidewalks/crossings along the Project frontage per the City's request.

Public transit bus service is provided in the Project area by SunLine Transit Agency. A description of the transit services within the Project vicinity are described below:

Route 8:

- Route 8 provides service from North Indio to Thermal/Mecca; via Showcase at Monroe, 5th at Vine, 62nd at Buchanan, and 66th at Date Palm.
- The route traverses the cities of Indio and Coachella, as well as census designated places Thermal and Mecca.
- During the weekday and weekend AM and PM peak hours, Route 8 has an approximate headway of 60 minutes in the northbound and southbound directions.



SOURCE: ARCHITECTS ORANGE

KEY

= SIDEWALKS
= SIGNALIZED CROSSWALKS
= UNSIGNALIZED CROSSINGS
= CLASS IV – CYCLE TRACK
= FUTURE CLASS IV – CYCLE TRACK
= FUTURE CLASS I – BIKE PATH
= SUNLINE TRANSIT AGENCY BUS STOPS

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FIGURE 15–1

MULTIMODAL PLAN

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16.0 PROJECT OPTION B ANALYSIS

16.1 Project Option B Description

Figure 16-1 presents the site plan for the proposed Project Option B, prepared by MSA Consulting, Inc. As shown in *Figure 16-1*, Project Option B proposes to construct an 859,610 SF high cube fulfillment center warehouse (Non-Sort), a 946,680 SF high cube fulfillment center warehouse (Sort), 1,237 multifamily housing dwelling units, 71,600 SF of commercial/retail and a 128 room hotel. The 71,600 SF of commercial/retail will consist of 12,100 SF of fast-food restaurant with drive throughs, a 49,500 SF supermarket, a gas station with 16 vehicle fueling positions and a 5,000 SF convenience store, and a 5,000 SF automated car wash. The proposed Project Option B is expected to be constructed and fully occupied by the Year 2033. For the purposes of the Specific Plan (SP), the following describes the Planning Areas.

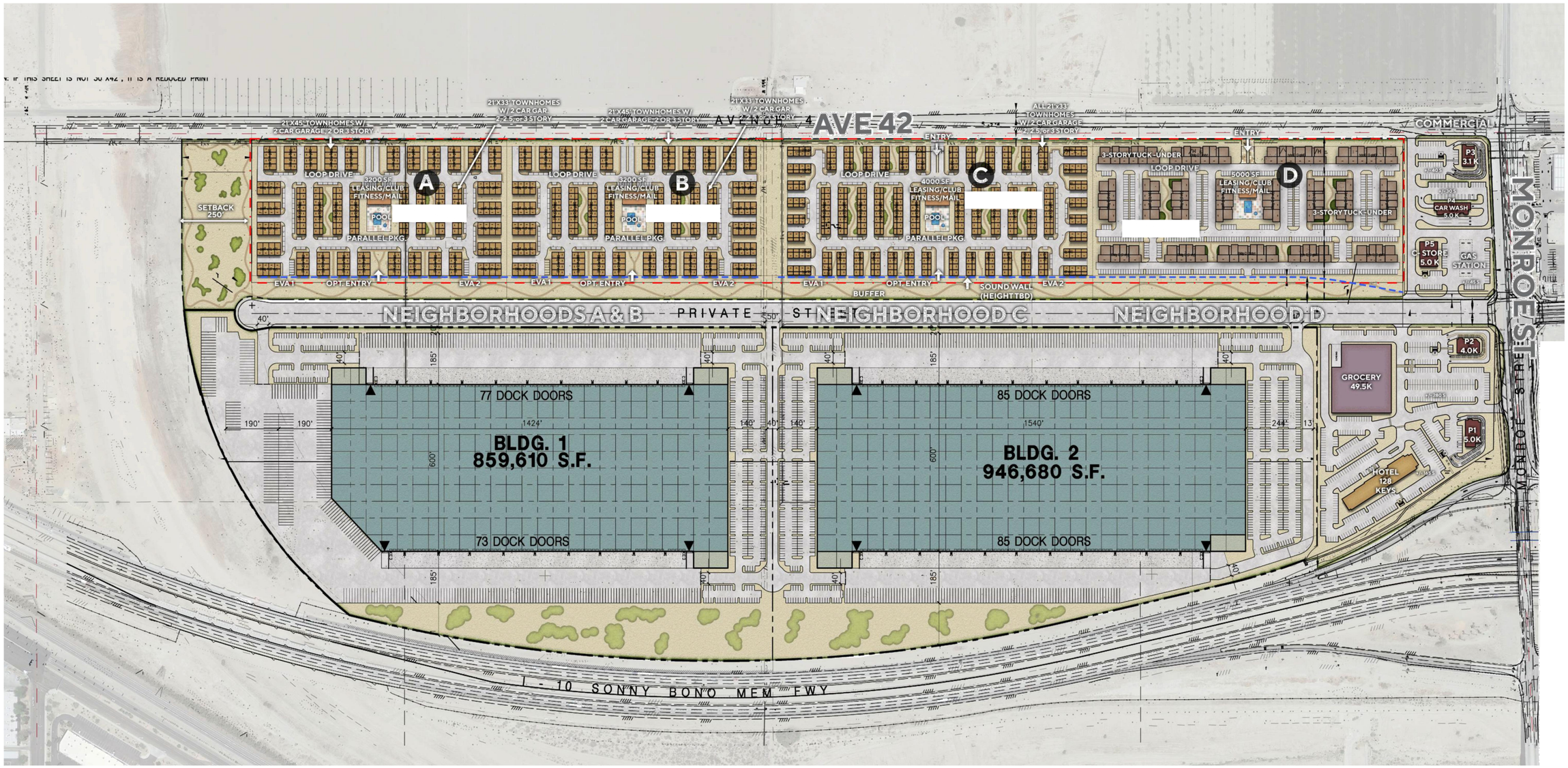
- SP Planning Area #1 (Mixed-Use): 1,237 multifamily housing dwelling units
- SP Planning Area #2 and #3 (Mixed-Use): 71,600 SF of commercial/retail
- SP Planning Area #4 (Industrial): 859,610 SF high cube fulfillment center warehouse (Non-Sort) and 946,680 SF high cube fulfillment center warehouse (Sort)

As shown in *Figure 16-1*, access to SP Planning Area #1 (i.e. the residential project component) of Project Option B will be provided via four (4) unsignalized left-turn in/right-turn in/right-turn out only access driveways located along Avenue 42. One (1) unsignalized right-turn in/right-turn out only driveway located along Avenue 42 and two (2) unsignalized right-turn in/right-turn out only driveways located along Monroe Street will provide access to SP Planning Area #2 and #3 (i.e. the commercial project component). One (1) full access driveway located along Monroe Street, directly opposite Showcase Parkway will connect to the project's internal roadway and will provide SP Planning Area #4 access (i.e. industrial) and SP Planning Area #2 and #3 access (i.e. commercial).

16.2 Project Option B Traffic Generation

Table 16-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project Option B. As shown, the trip generation potential for the proposed Project Option B was estimated using ITE Land Use 155: High Cube Fulfillment Center Warehouse (Non-Sort) trip rates, ITE Land Use 155: High Cube Fulfillment Center Warehouse (Sort) trip rates, ITE Land Use 220: Multifamily Housing (Low-Rise) trip rates, ITE Land Use 310: Hotel trip rates, ITE Land Use 850: Supermarket trip rates, ITE Land Use 934: Fast Food Restaurant with Drive Through Window trip rates, ITE Land Use 935: Gasoline Service Station with Convenience Store (GFA 4 – 5.5k) trip rates, and ITE Land Use 948: Automated Car Wash trip rates.

Table 16-2 summarizes the trip generation potential used in forecasting the vehicular trips, both autos and trucks, generated by the Project Option B. Consistent with standard traffic engineering practice, passenger car equivalent (PCE) factors have been utilized due to the expected heavy truck component of the Project Option B uses. A PCE factor of 1.5, 2.0, and 3.0 has been applied to large 2-axle, 3-axle, and 4+-axle trucks, respectively. As shown at the bottom of *Table 16-2*, the proposed Project Option B is expected to generate 21,669 weekday daily trips (one half arriving, one half departing), with 1,617 trips (1,011 inbound, 606 outbound) produced in the AM peak hour and 2,122



SOURCE: MSA CONSULTING, INC.

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FIGURE 16-1

PROPOSED OPTION B SITE PLAN

BH PROPERTIES THE OASIS AT INDIO, INDIO

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trips (990 inbound, 1,132 outbound) produced in the PM peak hour. It should be noted that these estimates include the conversion of truck-related trips to passenger car equivalents (PCE).

It should also be noted that the aforementioned trip generation for proposed Project Option B includes adjustments for the internal trip capture within the Project Option B site. The internal capture reductions were determined using the Internal Capture Summary calculation worksheets contained in the *Trip Generation Handbook, 11th Edition, published by ITE [2021]*. The internal trip capture accounts for the trip interaction between the proposed warehouse employee, retail, restaurant, and residential uses on site, which recognizes both trip ends of one trip within Project Option B. ***Appendix G*** contains the Trip Generation Internal Capture Calculation Worksheets. It should be further noted that the aforementioned overall trip generation includes adjustments for pass-by per the *Trip Generation Manual, 11th Edition*, published by ITE, to account for trips that are already in the everyday traffic stream on the adjoining streets (i.e. Monroe Street) and will stop as they pass by the Project site as a matter of convenience on their path to another destination. The pass-by reduction factors utilized are summarized in the footnotes of *Table 16-2*.

16.3 Project Option B Traffic Distribution and Assignment

Figures 16-2, 16-3, 16-4, and ***16-5*** present the traffic distribution pattern for the proposed warehouse employees, warehouse trucks, residential, and retail project components, respectively. Project Option B traffic volumes both entering and exiting the project site have been distributed and assigned to the adjacent street system based on the following considerations:

- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- existing intersection traffic volumes, and
- ingress/egress availability at the project site.

The anticipated AM and PM peak hour traffic volumes associated with the proposed Project Option B are presented in ***Figures 16-6*** and ***16-7***, respectively. The traffic volume assignments presented in *Figures 16-6* and *16-7* reflect the traffic distribution characteristics shown in *Figures 16-2, 16-3, 16-4,* and *16-5* and the traffic generation forecast presented in *Table 16-2.*

16.4 Future Traffic Conditions

16.4.1 *Existing With Ambient Growth (Year 2033) With Project Option B Traffic Volumes*

Figures 16-8 and ***16-9*** present the AM and PM peak hour Existing With Ambient Growth (Year 2033) With Project Option B traffic volumes, respectively.

16.4.2 *Existing With A.G. (Year 2033) With Project Option B With Cumulative Projects Traffic Volumes*

Figures 16-10 and ***16-11*** present the AM and PM peak hour Existing With Ambient Growth (Year 2033) With Project Option B With Cumulative Projects traffic volumes, respectively.

16.4.3 *Buildout With Project Option B Traffic Volumes*

Figures 16-12 and ***16-13*** present the AM and PM peak hour Buildout With Project Option B traffic volumes, respectively.

TABLE 16-1

PROJECT OPTION B TRIP GENERATION RATES WITH PCE CONVERSION FACTORS[24]

ITE Land Use Code	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Rates:							
▪ ***155: High Cube Fulfillment Center Warehouse (Non-Sort) – Total (TE/TSF)[25]***	***1.81***	***0.12***	***0.03***	***0.15***	***0.06***	***0.10***	***0.16***
❑ Passenger Cars – 91.2% Daily/97.2% AM/98.2% PM (TE/TSF)	1.64	0.12	0.03	0.15	0.06	0.10	0.16
❑ 2 Axle Trucks – 1.5% Daily/0.5% AM/0.3% PM (TE/TSF)	0.03	0.00	0.00	0.00	0.00	0.00	0.00
❑ 3 Axle Trucks – 2.0% Daily/0.6% AM/0.4% PM (TE/TSF)	0.04	0.00	0.00	0.00	0.00	0.00	0.00
❑ 4+ Axle Trucks – 5.3% Daily/1.7% AM/1.1% PM (TE/TSF)	0.10	0.00	0.00	0.00	0.00	0.00	0.00
▪ ***155: High Cube Fulfillment Center Warehouse (Sort) – Total (TE/TSF)[25]***	***6.44***	***0.70***	***0.17***	***0.87***	***0.47***	***0.73***	***1.20***
❑ Passenger Cars – 91.2% Daily/97.2% AM/98.2% PM (TE/TSF)	5.87	0.68	0.17	0.85	0.47	0.72	1.19
❑ 2 Axle Trucks – 1.5% Daily/0.5% AM/0.3% PM (TE/TSF)	0.10	0.00	0.00	0.00	0.00	0.00	0.00
❑ 3 Axle Trucks – 2.0% Daily/0.6% AM/0.4% PM (TE/TSF)	0.13	0.01	0.00	0.01	0.00	0.00	0.00
❑ 4+ Axle Trucks – 5.3% Daily/1.7% AM/1.1% PM (TE/TSF)	0.34	0.01	0.00	0.01	0.00	0.01	0.01
▪ 220: Multifamily Housing (Low Rise) (TE/DU)	6.74	24%	76%	0.40	63%	37%	0.51
▪ 310: Hotel (TE/Room)	7.99	56%	44%	0.46	51%	49%	0.59
▪ 850: Supermarket (TE/TSF)	93.84	59%	41%	2.86	50%	50%	8.95
▪ 934: Fast Food Restaurant with Drive-Through Window (TE/TSF)	467.48	51%	49%	44.61	52%	48%	33.03
▪ 935: Gasoline Service Station with Convenience Store (GFA 4 – 5.5k) (TE/VFP)	257.13	50%	50%	27.04	50%	50%	22.76
▪ 948: Automated Car Wash (TE/TSF)[26]	142.00	50%	50%	14.20	50%	50%	14.20

Notes:
TE/TSF = Trip end per 1,000 SF
TE/DU = Trip end per Dwelling Unit
TE/Room = Trip end per Room
TE/VFP = Trip end per Vehicle Fueling Position
PCE = Passenger Car Equivalent

[24] Source: *Trip Generation*, 11th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2021).

[25] Truck splits are based on the *High-Cube Warehouse Vehicle Trip Generation Analysis*, prepared by ITE, dated October 2016. Recommended mix of truck traffic is based on the *Truck Trip Generation Study – City of Fontana, August 2003.* All 2-axle, 3-axle and 4+-axle trucks are converted to passenger car equivalents using a factor of 1.5 vehicles per truck, 2.0 vehicles per truck, and 3.0 vehicles per truck, respectively.

[26] As there is Daily or AM peak hour rates available, the Daily trip rates were estimated to be ten times the PM peak hour rates and the AM peak hour trip rates were estimated to be the same as PM peak hour rates.

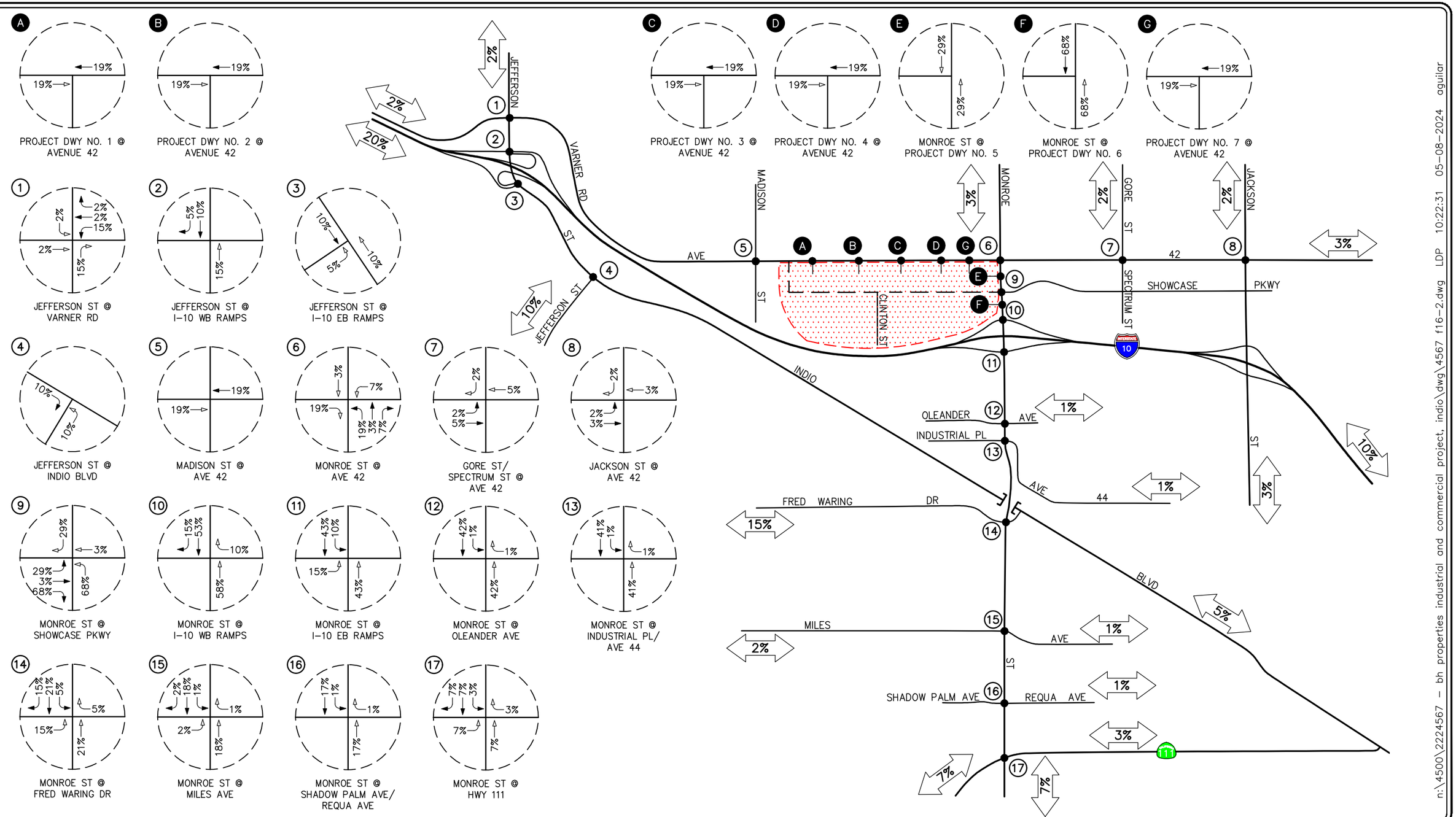
TABLE 16-2
PROJECT OPTION B TRIP GENERATION FORECAST

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Generation Forecast:							
▪ Building 1 High Cube Fulfillment Center Warehouse (Non-Sort) (859,610 SF)							
❑ Passenger Cars	1,410	103	26	129	52	86	138
❑ 2 Axle Trucks	39	0	0	0	0	0	0
❑ 3 Axle Trucks	69	0	0	0	0	0	0
❑ 4+ Axle Trucks	258	0	0	0	0	0	0
Building 1 High Cube Fulfillment Center (Non-Sort) Subtotal	*1,776*	*103*	*26*	*129*	*52*	*86*	*138*
Internal Capture[27]	-170	-15	-16	-31	-4	-2	-6
Building 1 High Cube Fulfillment Center (Non-Sort) Total	*1,606*	*88*	*10*	*98*	*48*	*84*	*132*
▪ Building 2 High Cube Fulfillment Center Warehouse (Sort) (946,680 SF)							
❑ Passenger Cars	5,557	644	161	805	445	682	1,127
❑ 2 Axle Trucks	142	0	0	0	0	0	0
❑ 3 Axle Trucks	246	19	0	19	0	0	0
❑ 4+ Axle Trucks	966	28	0	28	0	28	28
Building 2 High Cube Fulfillment Center (Sort) Total	*6,911*	*691*	*161*	*852*	*445*	*710*	*1,155*
Internal Capture[27]	-597	-101	-100	-201	-15	-45	-60
Building 2 High Cube Fulfillment Center (Sort) Total	*6,314*	*590*	*61*	*651*	*430*	*665*	*1,095*
▪ Multifamily Housing (1,237 DU)	8,337	119	376	495	398	233	631
Internal Capture[27]	-2,313	-4	-43	-47	-132	-72	-204
Multifamily Housing Total	*6,024*	*115*	*333*	*448*	*266*	*161*	*427*
▪ Fast Food Restaurant with Drive-Through (12,100 SF)	5,657	275	265	540	208	192	400
Internal Capture[27]	-2,851	-140	-112	-252	-89	-117	-206
Fast Food Restaurant Subtotal	*2,806*	*135*	*153*	*288*	*119*	*75*	*194*
Pass-by Trips (Daily: 25%; AM: 50%; PM: 55%)[28]	-702	-68	-76	-144	-65	-42	-107
Fast Food Restaurant Total	*2,104*	*67*	*77*	*144*	*54*	*33*	*87*
▪ Supermarket (49,500 SF)	4,645	84	58	142	222	221	443
Internal Capture[27]	-1,909	-20	-13	-33	-81	-82	-163
Supermarket Subtotal	*2,736*	*64*	*45*	*109*	*141*	*139*	*280*
Pass-by Trips (Daily: 10%; AM: 10%; PM: 24%)[28]	-274	-6	-5	-11	-34	-33	-67
Supermarket Total	*2,462*	*58*	*40*	*98*	*107*	*106*	*213*
▪ Hotel (128 Rooms)	1,023	33	26	59	39	37	76
▪ Gas Station with Convenience Store (16 VFP)	4,114	217	216	433	182	182	364
Internal Capture[27]	-1,657	-53	-49	-102	-64	-66	-130
Gas Station Subtotal	*2,457*	*164*	*167*	*331*	*118*	*116*	*234*
Pass-by Trips (Daily: 25%; AM: 76%; PM: 75%)[28]	-614	-125	-127	-252	-89	-87	-176
Gas Station Total	*1,843*	*39*	*40*	*79*	*29*	*29*	*58*
▪ Car Wash (5,000 SF)	710	36	35	71	36	35	71
Internal Capture[27]	-319	-8	-9	-17	-13	-13	-26
Car Wash Subtotal	*391*	*28*	*26*	*54*	*23*	*22*	*45*
Pass-by Trips (Daily: 25%; AM: 25%; PM: 25%)[28]	-98	-7	-7	-14	-6	-5	-11
Car Wash Total	*293*	*21*	*19*	*40*	*17*	*17*	*34*
Total Project Option B Trip Generation	**21,669**	**1,011**	**606**	**1,617**	**990**	**1,132**	**2,122**

[27] Internal capture trip reduction is consistent with the *Trip Generation Handbook, 3rd Edition,* published by ITE (September 2017). Project trip generation was adjusted to account for internal capture between the warehouse employee, retail, restaurant, and residential components of the Project.

[28] Pass-By Trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator. For this analysis, the following pass-by reduction factors were used (Source: *Trip Generation Manual, 11th Edition*, ITE 2021):

- 850: Supermarket: Daily/AM peak hour/PM peak hour = 10% (assumed)/ 10% (assumed)/24%
- 934: Fast Food Restaurant With Drive-Through Window: Daily/AM peak hour/PM peak hour = 25% (assumed)/50%/55%
- 945: Gas Station With Convenience Store (9 – 20 VFP): Daily/AM peak hour/PM peak hour = 25% (assumed)/76%/75%
- 948: Automated Car Wash: Daily/AM peak hour/PM peak hour = 25% (assumed)/25% (assumed)/25% (assumed)



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(#) = STUDY INTERSECTION

— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 16-2

PROJECT OPTION B TRIP DISTRIBUTION PATTERN - WAREHOUSE EMPLOYEES

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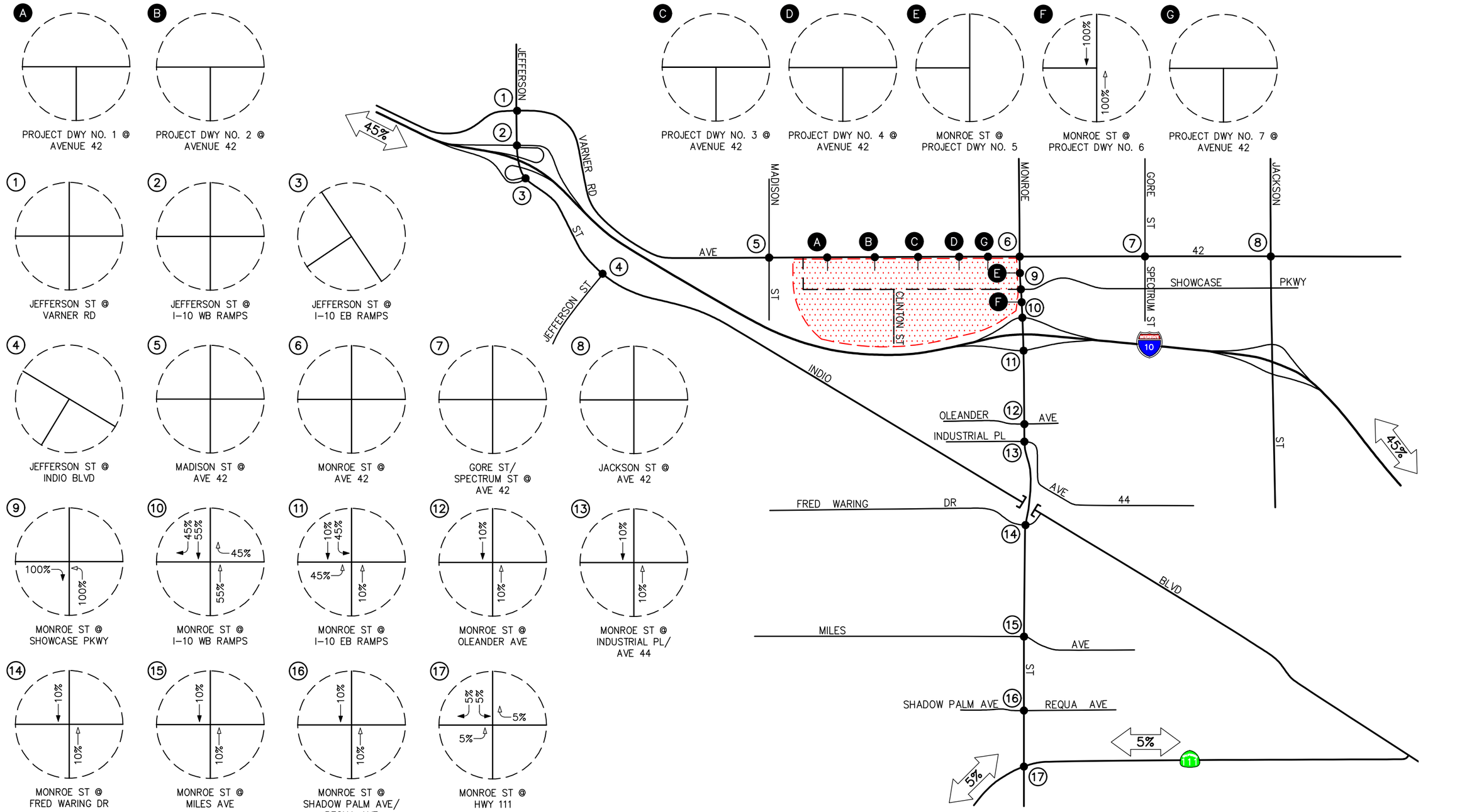

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FIGURE 16-3

PROJECT OPTION B TRIP DISTRIBUTION PATTERN - WAREHOUSE TRUCKS

BH PROPERTIES THE OASIS AT INDIO, INDIO

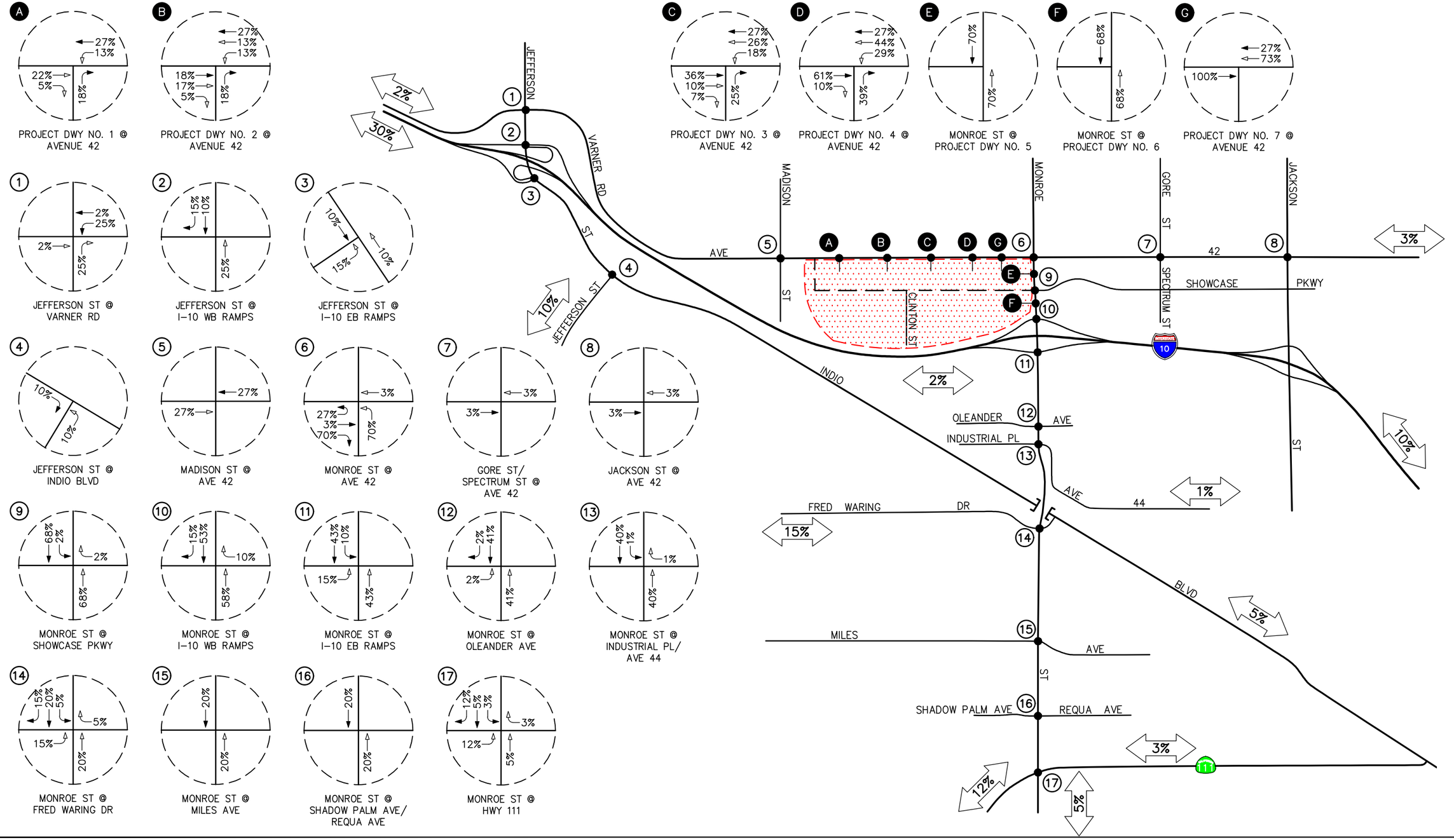

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FIGURE 16-4

PROJECT OPTION B TRIP DISTRIBUTION PATTERN – RESIDENTIAL

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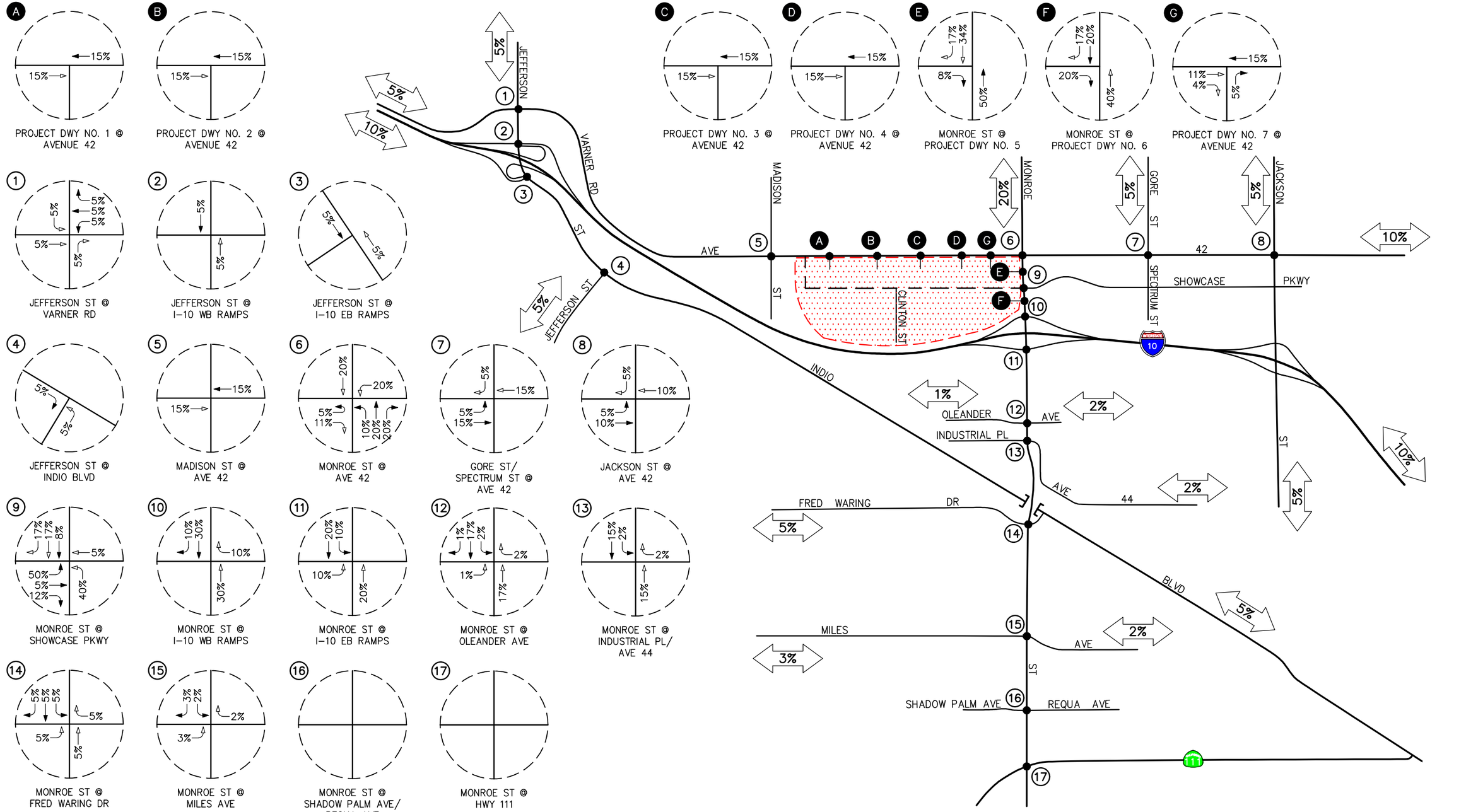

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▭ = PROJECT SITE

FIGURE 16–5

PROJECT OPTION B TRIP DISTRIBUTION PATTERN – RETAIL

BH PROPERTIES THE OASIS AT INDIO, INDIO

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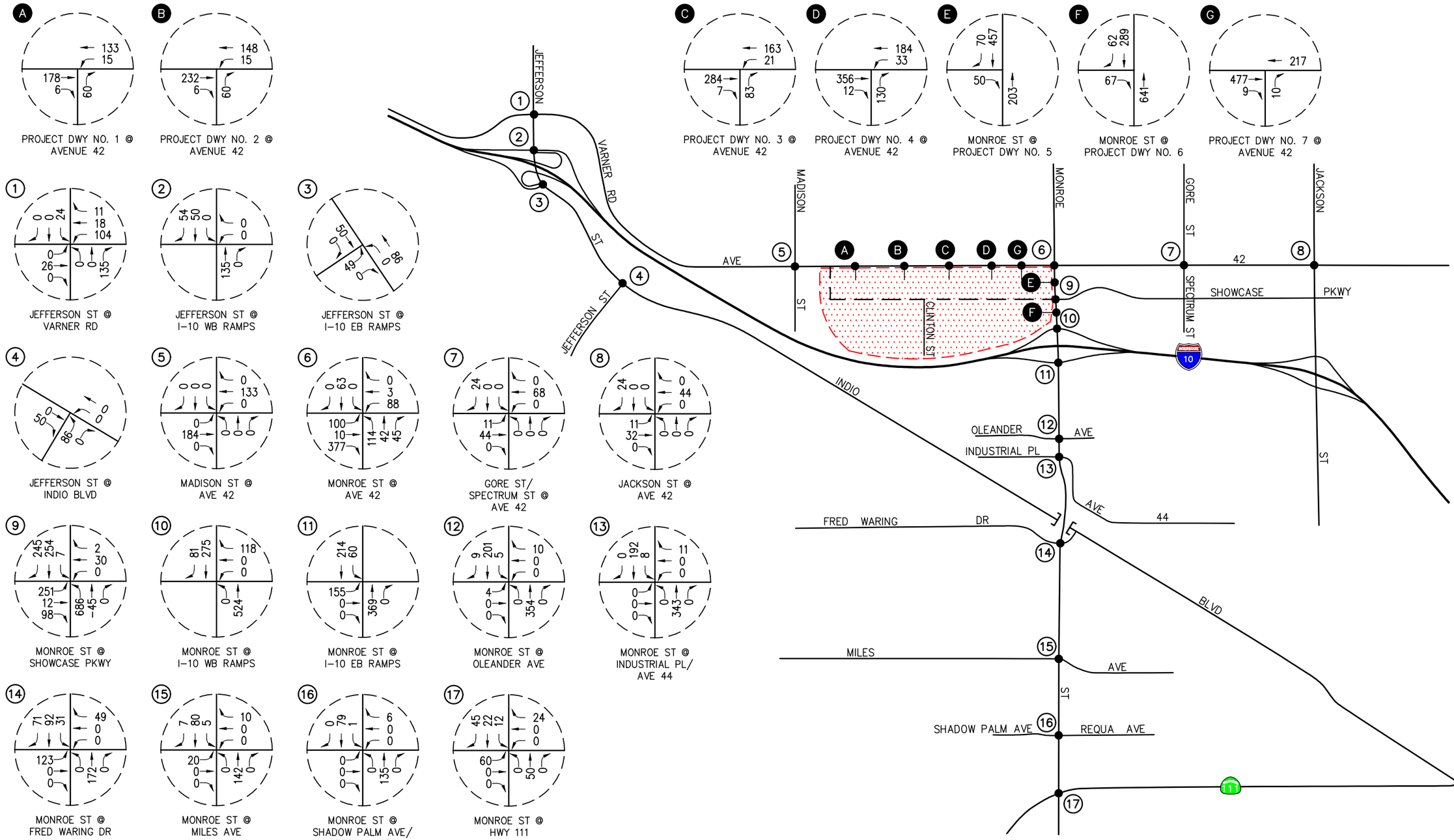

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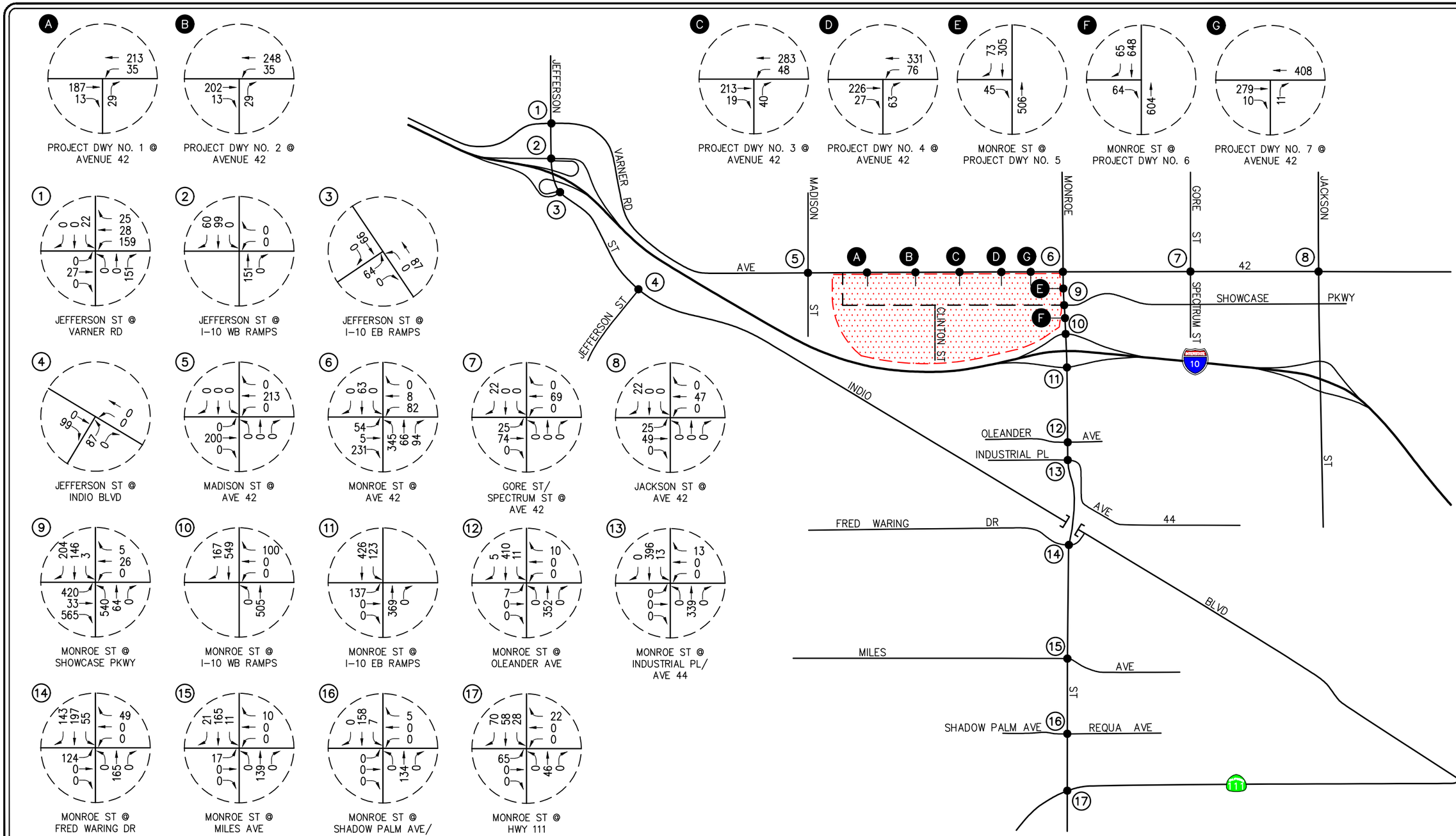
(XX) = PASS-BY TRIPS
— — = FUTURE ROADWAY
▭ = PROJECT SITE

FIGURE 16-6

AM PEAK HOUR PROJECT OPTION B TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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(XX) = PASS-BY TRIPS
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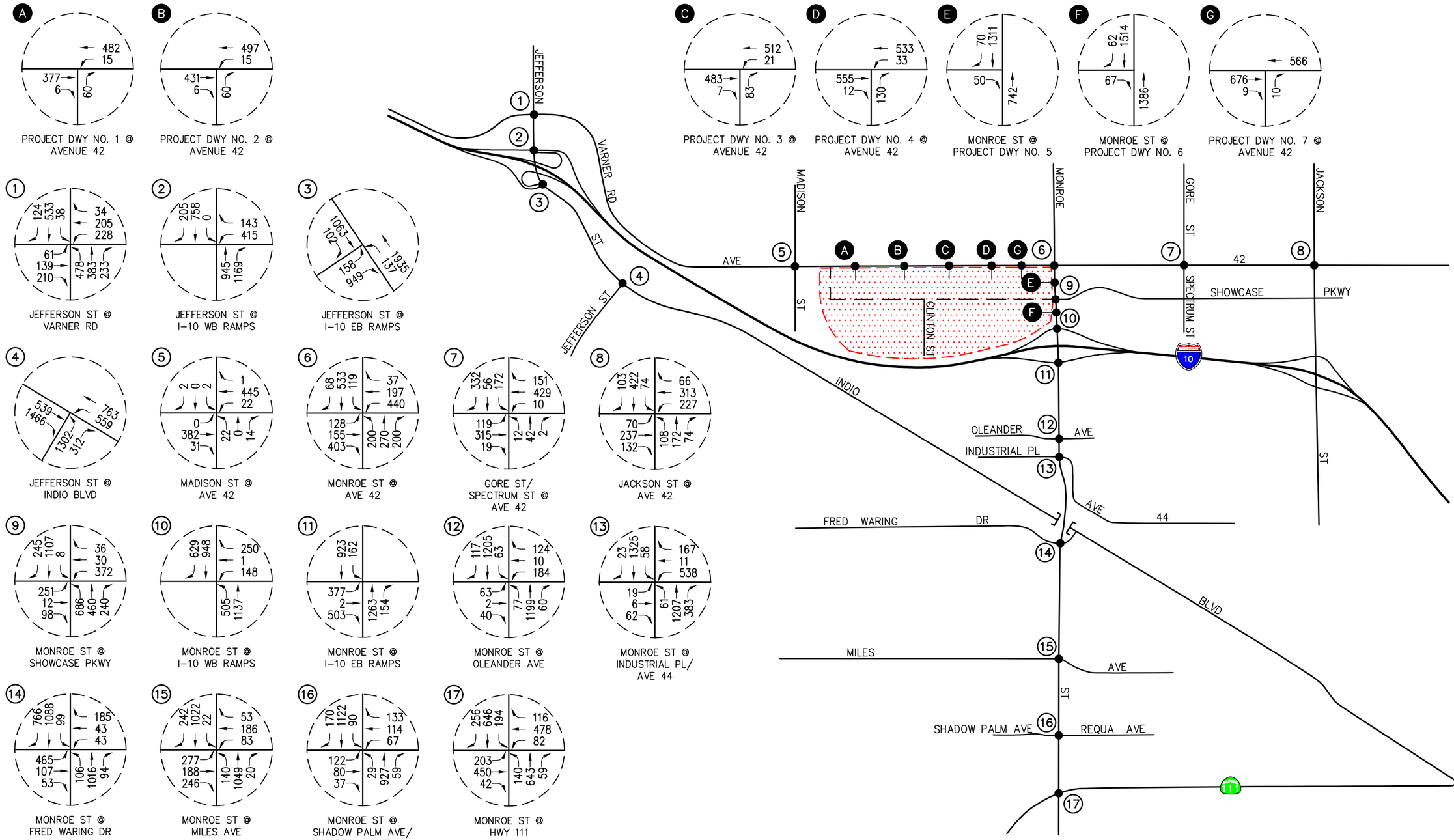
FIGURE 16-7

PM PEAK HOUR PROJECT OPTION B TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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(#) = STUDY INTERSECTION

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▭ = PROJECT SITE

FIGURE 16-8

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

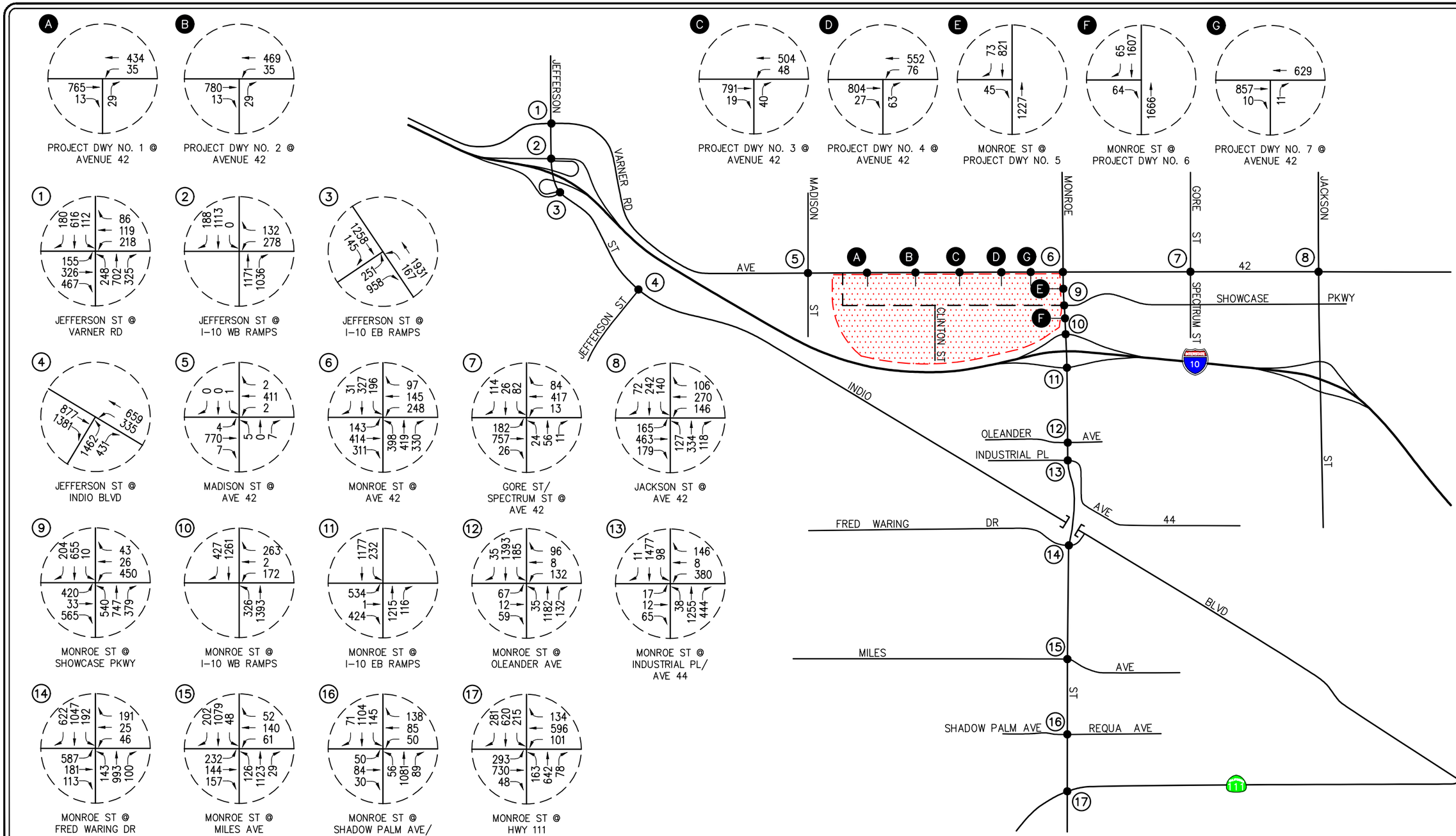

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FIGURE 16-9

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

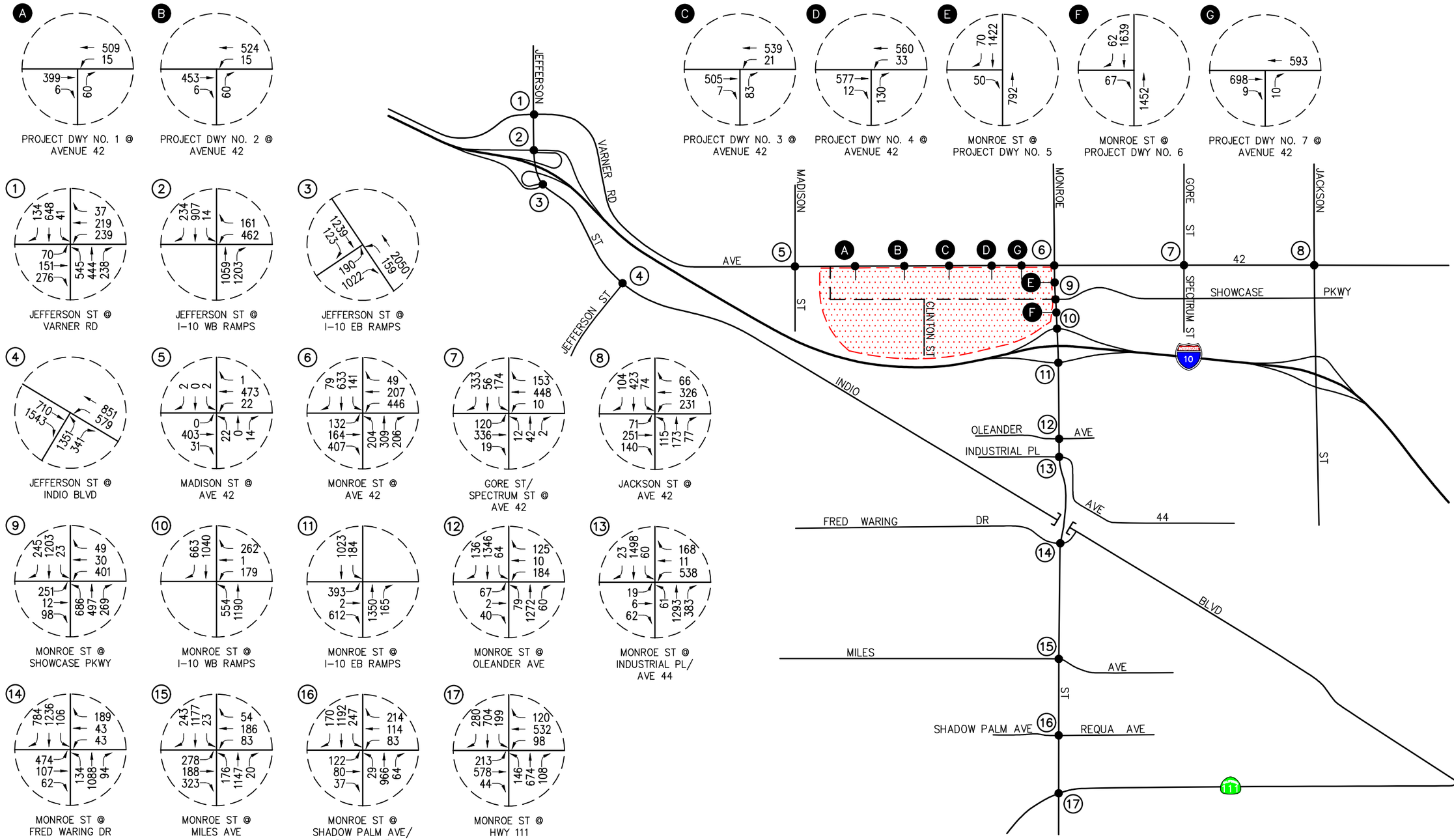

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FIGURE 16-10

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B WITH CUMULATIVE PROJECTS AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

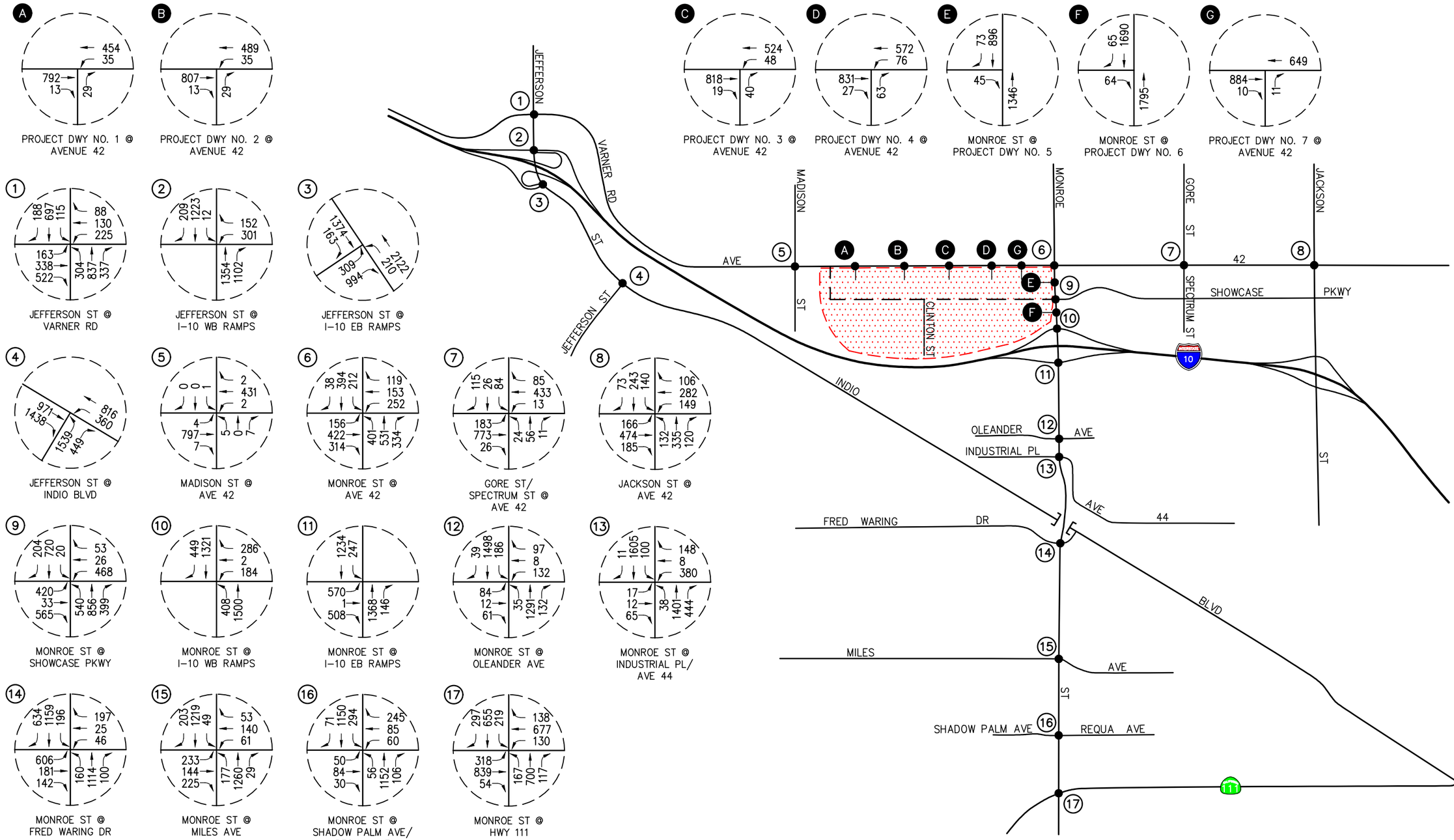

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FIGURE 16-11

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B WITH CUMULATIVE PROJECTS PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

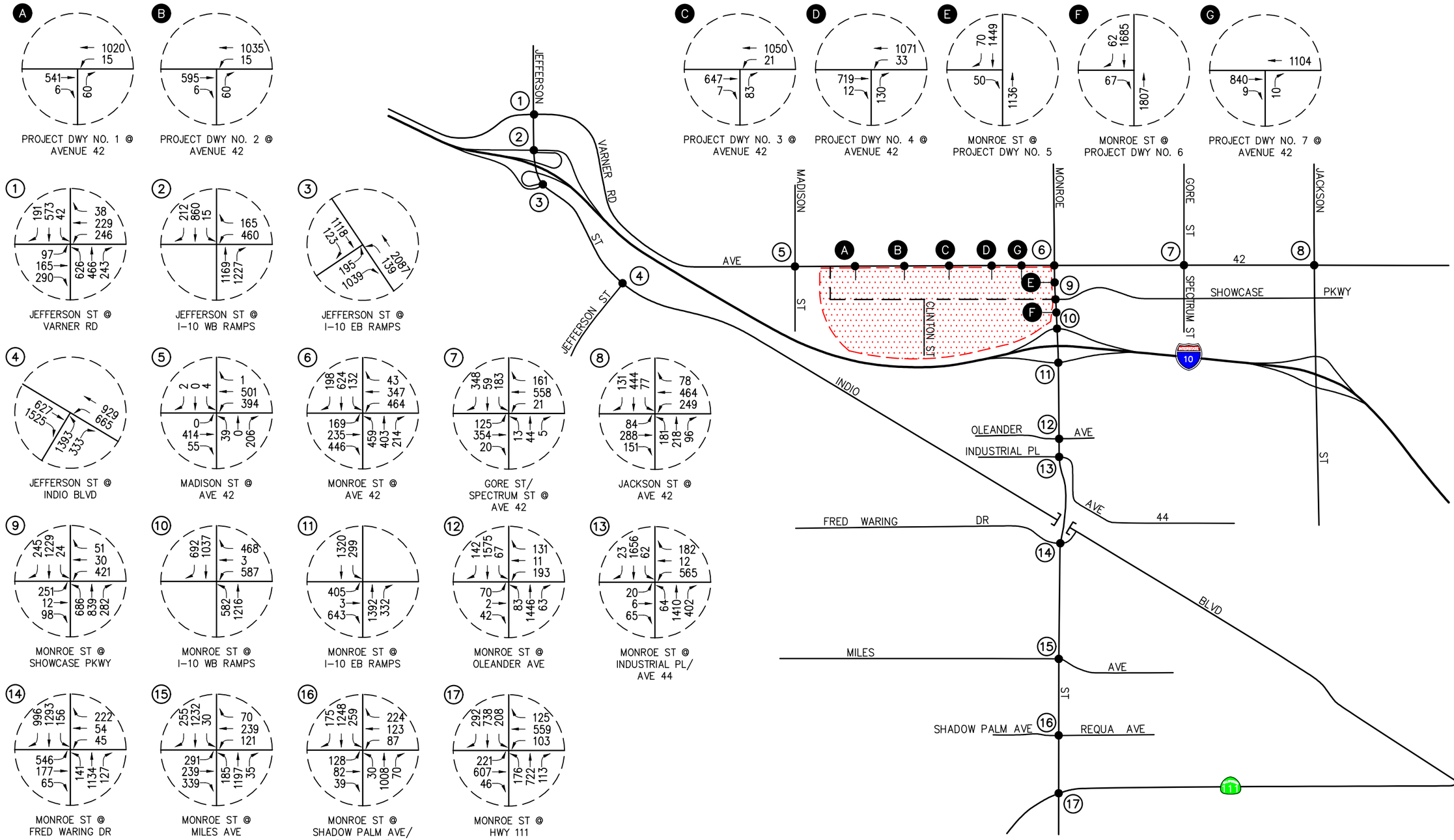

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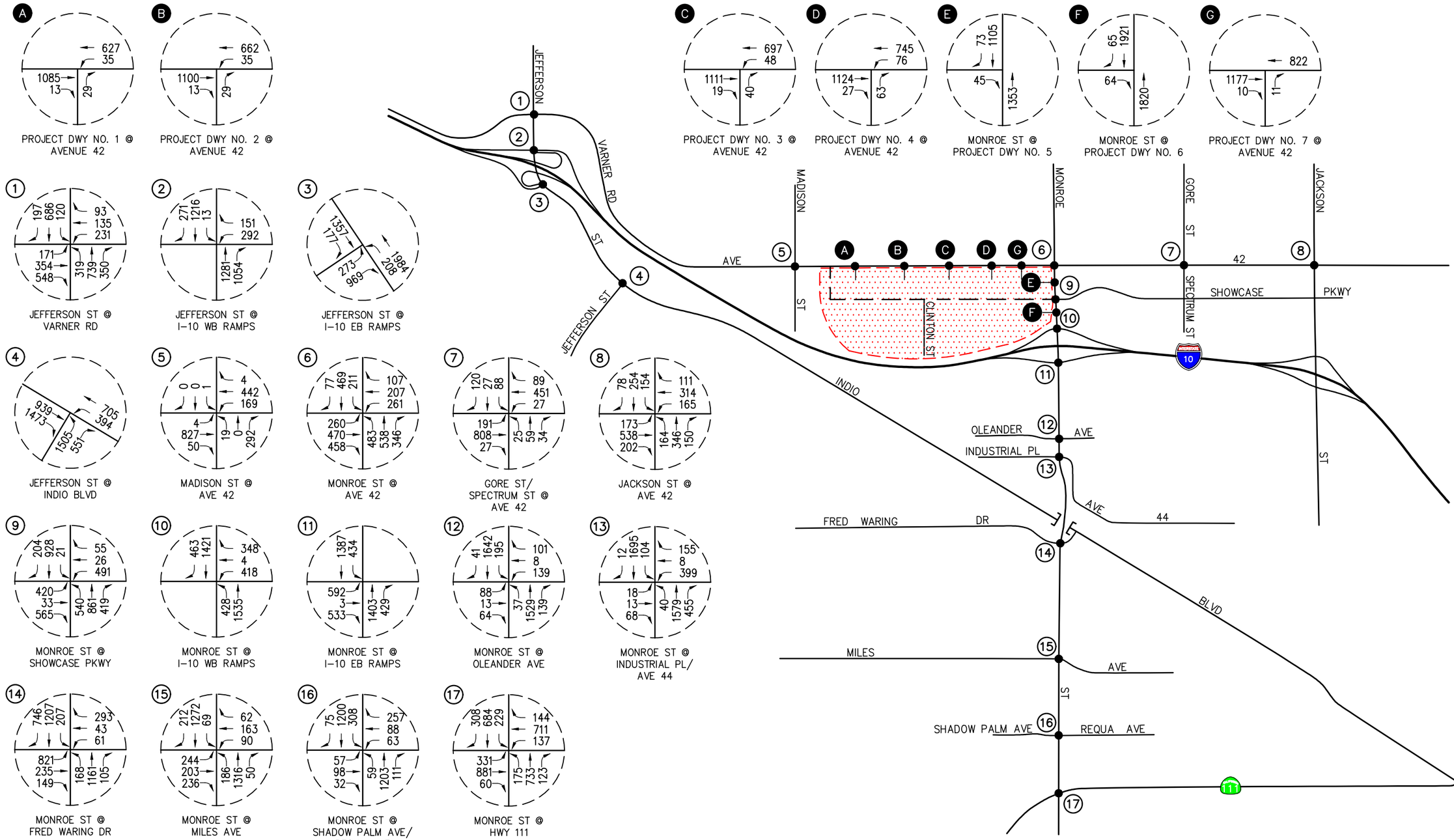
FIGURE 16-12

BUILDOUT WITH PROJECT OPTION B AM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO



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— — = FUTURE ROADWAY

▭ = PROJECT SITE

FIGURE 16-13

BUILDOUT WITH PROJECT OPTION B PM PEAK HOUR TRAFFIC VOLUMES

BH PROPERTIES THE OASIS AT INDIO, INDIO

16.5 Project Option B Peak Hour Intersection Capacity Analysis

16.5.1 *Existing With Ambient Growth With Project Option B Traffic Conditions*

Table 16-3 summarizes the peak hour level of service results at the seventeen (17) key study intersections for "Existing With Ambient Growth With Project Option B" traffic conditions.

Review of column (2) of *Table 16-3* indicates that one (1) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option B traffic based on the LOS standards and criteria mentioned in this report. The remaining sixteen (16) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option B traffic conditions. The location forecast to operate at an adverse LOS is as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	--	--	38.8	E

Review of column (3) indicates that this intersection will operate at a deficient level of service when compared to the LOS criteria detailed in this report. However, as shown in column (4) of *Table 16-3*, the implementation of recommended improvements at the deficient location improves this intersection to an acceptable service level.

Appendix H presents the Existing With Ambient Growth With Project Option B HCM/LOS calculations for the seventeen (17) key study intersections.

16.5.2 *Existing With A.G. With Project Option B With Cumulative Projects Traffic Conditions*

Table 16-4 summarizes the peak hour level of service results at the seventeen (17) key study intersections for "Existing With Ambient Growth With Project Option B With Cumulative Projects" traffic conditions. Review of column (2) of *Table 16-4* indicates that the seventeen (17) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions. As such, no improvements are required for this traffic analysis scenario.

Appendix H presents the Existing With Ambient Growth With Project Option B With Cumulative Projects HCM/LOS calculations for the seventeen (17) key study intersections.

TABLE 16-3

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[29]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option B Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option B With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
1. Jefferson Street at Varner Road	AM	LOS D	26.4	C	28.4	C	2.0	No	--	--
	PM		25.8	C	28.9	C	3.1	No	--	--
2. Jefferson Street at I-10 Westbound Ramps	AM	LOS D	12.5	B	13.0	B	0.5	No	--	--
	PM		8.9	A	9.0	A	0.1	No	--	--
3. Jefferson Street at I-10 Eastbound Ramps	AM	LOS D	14.1	B	18.6	B	4.5	No	--	--
	PM		15.7	B	24.5	C	8.8	No	--	--
4. Jefferson Street at Indio Boulevard	AM	LOS D	19.1	B	23.8	C	4.7	No	--	--
	PM		21.6	C	30.8	C	9.2	No	--	--
5. Madison Street at Avenue 42	AM	LOS D	12.2	B	20.6	C	8.4	No	5.9	A
	PM		16.9	C	**38.8**	**E**	**21.9**	**Yes**	3.8	A
6. Monroe Street at Avenue 42	AM	LOS D	35.4	D	51.7	D	16.3	No	--	--
	PM		33.0	C	47.3	D	14.3	No	--	--
7. Gore Street/Spectrum Street at Avenue 42	AM	LOS D	22.9	C	23.5	C	0.6	No	--	--
	PM		15.7	B	16.6	B	0.9	No	--	--
8. Jackson Street at Avenue 42	AM	LOS D	28.7	C	29.6	C	0.9	No	--	--
	PM		30.5	C	30.7	C	0.2	No	--	--
9. Monroe Street at Showcase Parkway	AM	LOS D	10.8	B	32.7	C[30]	21.9	No	--	--
	PM		12.8	B	36.5	D[30]	23.7	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[29] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[30] Includes project-specific improvements.

TABLE 16-3 (CONTINUED)

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY [31]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option B Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option B With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
10. Monroe Street at I-10 Westbound Ramps	AM	LOS D	10.8	B	18.7	B[32]	7.9	No	--	--
	PM		9.1	A	16.0	B[32]	6.9	No	--	--
11. Monroe Street at I-10 Eastbound Ramps	AM	LOS D	36.2	D	20.0	B[32]	-16.2	No	--	--
	PM		24.2	C	20.6	C[32]	-3.6	No	--	--
12. Monroe Street at Oleander Avenue	AM	LOS D	16.4	B	21.4	C	5.0	No	--	--
	PM		17.6	B	25.7	C	8.1	No	--	--
13. Monroe Street at Industrial Place/Avenue 44	AM	LOS D	23.7	C	36.4	D	12.7	No	--	--
	PM		20.6	C	29.3	C	8.7	No	--	--
14. Monroe Street at Fred Waring Drive	AM	LOS D	22.8	C	43.7	D	20.9	No	--	--
	PM		25.3	C	42.9	D	17.6	No	--	--
15. Monroe Street at Miles Avenue	AM	LOS D	27.4	C	42.0	D	14.6	No	--	--
	PM		24.1	C	30.5	C	6.4	No	--	--
16. Monroe Street at Shadow Palm Avenue/Requa Avenue	AM	LOS D	18.4	B	23.6	C	5.2	No	--	--
	PM		17.2	B	18.6	B	1.4	No	--	--
17. Monroe Street at Highway 111	AM	LOS D	29.7	C	30.7	C	1.0	No	--	--
	PM		29.1	C	31.0	C	1.9	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[31] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[32] Includes planned improvements for the I-10 Freeway Interchange at Monroe Street.

TABLE 16-4

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B WITH CUMULATIVE PROJECTS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[33]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option B With Cumulative Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option B With Cumulative With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
1. Jefferson Street at Varner Road	AM	LOS D	26.4	C	28.8	C	2.4	No	--	--
	PM		25.8	C	28.6	C	2.8	No	--	--
2. Jefferson Street at I-10 Westbound Ramps	AM	LOS D	12.5	B	12.9	B	0.4	No	--	--
	PM		8.9	A	9.3	A	0.4	No	--	--
3. Jefferson Street at I-10 Eastbound Ramps	AM	LOS D	14.1	B	20.8	C	6.7	No	--	--
	PM		15.7	B	23.4	C	7.7	No	--	--
4. Jefferson Street at Indio Boulevard	AM	LOS D	19.1	B	31.8	C	12.7	No	--	--
	PM		21.6	C	32.3	C	10.7	No	--	--
5. Madison Street at Avenue 42	AM	LOS D	12.2	B	19.0	C	6.8	No	--	--
	PM		16.9	C	32.6	D	15.7	No	--	--
6. Monroe Street at Avenue 42	AM	LOS D	35.4	D	54.1	D	18.7	No	--	--
	PM		33.0	C	47.7	D	14.7	No	--	--
7. Gore Street/Spectrum Street at Avenue 42	AM	LOS D	22.9	C	23.0	C	0.1	No	--	--
	PM		15.7	B	16.4	B	0.7	No	--	--
8. Jackson Street at Avenue 42	AM	LOS D	28.7	C	29.8	C	1.1	No	--	--
	PM		30.5	C	30.8	C	0.3	No	--	--
9. Monroe Street at Showcase Parkway	AM	LOS D	10.8	B	36.0	D[34]	25.2	No	--	--
	PM		12.8	B	36.5	D[34]	23.7	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[33] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[34] Includes project-specific improvements.

TABLE 16-4 (CONTINUED)

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B WITH CUMULATIVE PROJECTS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[35]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option B With Cumulative Traffic Conditions		(3) Deficiency		(4) Existing With A.G. (Year 2033) With Project Option B With Cumulative With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
10. Monroe Street at I-10 Westbound Ramps	AM	LOS D	10.8	B	19.5	B[36]	8.7	No	--	--
	PM		9.1	A	16.6	B[36]	7.5	No	--	--
11. Monroe Street at I-10 Eastbound Ramps	AM	LOS D	36.2	D	21.7	C[36]	-14.5	No	--	--
	PM		24.2	C	23.7	C[36]	-0.5	No	--	--
12. Monroe Street at Oleander Avenue	AM	LOS D	16.4	B	22.3	C	5.9	No	--	--
	PM		17.6	B	25.8	C	8.2	No	--	--
13. Monroe Street at Industrial Place/Avenue 44	AM	LOS D	23.7	C	36.1	D	12.4	No	--	--
	PM		20.6	C	31.9	C	11.3	No	--	--
14. Monroe Street at Fred Waring Drive	AM	LOS D	22.8	C	44.3	D	21.5	No	--	--
	PM		25.3	C	46.9	D	21.6	No	--	--
15. Monroe Street at Miles Avenue	AM	LOS D	27.4	C	47.7	D	20.3	No	--	--
	PM		24.1	C	37.6	D	13.5	No	--	--
16. Monroe Street at Shadow Palm Avenue/Requa Avenue	AM	LOS D	18.4	B	27.0	C	8.6	No	--	--
	PM		17.2	B	28.7	C	11.5	No	--	--
17. Monroe Street at Highway 111	AM	LOS D	29.7	C	31.1	C	1.4	No	--	--
	PM		29.1	C	31.9	C	2.8	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[35] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[36] Includes planned improvements for the I-10 Freeway Interchange at Monroe Street.

16.5.3 *Buildout With Project Option B Traffic Conditions*

Table 16-5 summarizes the peak hour level of service results at the seventeen (17) key study intersections for "Buildout With Project Option B" traffic conditions. Review of column (3) of *Table 16-5* indicates that three (3) of the seventeen (17) key study intersections are forecast to operate at unacceptable levels of service with the addition of Project Option B traffic based on the LOS standards and criteria mentioned in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours under Buildout With Project Option B traffic conditions. The locations forecast to operate at an adverse LOS are as follows:

	AM Peak Hour		PM Peak Hour	
Key Intersection	Delay (s/v)	LOS	Delay (s/v)	LOS
5. Madison Street at Avenue 42	291.2	F	490.6	F
6. Monroe Street at Avenue 42	81.8	F	57.6	E
14. Monroe Street at Fred Waring Drive	68.7	E	74.9	E

Review of column (4) indicates that these three (3) intersections will operate at deficient levels of service when compared to the LOS criteria detailed in this report. However, as shown in column (5) of *Table 16-5*, the implementation of recommended improvements at the deficient locations improves these intersections to acceptable service levels.

Appendix H also presents the Buildout With Project Option B HCM/LOS calculations for the seventeen (17) key study intersections.

16.6 Traffic Signal Warrant Analysis

16.6.1 *Existing With Ambient Growth With Project Option B Traffic Conditions*

The results of the peak-hour traffic signal warrant analysis for Existing With Ambient Growth With Project Option B traffic conditions are summarized in column (1) of ***Table 16-6***. The results indicate that the intersection of Madison Street at Avenue 42 does not have future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Alternative improvements were considered at this intersection, however, a traffic signal is recommended at this location per direction by City staff.

16.6.2 *Buildout With Project Option B Traffic Conditions*

The results of the peak-hour traffic signal warrant analysis for Buildout With Project Option B traffic conditions are summarized in column (3) of *Table 16-6*. The results indicate that the intersection of Madison Street at Avenue 42 has future traffic conditions that would exceed the volume thresholds of Warrant #3, Part A and Part B for the AM and PM peak hours. Thus, a traffic signal is recommended at this location.

The Traffic Signal Warrant Analysis worksheets are contained in ***Appendix I***.

TABLE 16-5

BUILDOUT WITH PROJECT OPTION B PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[37]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Buildout Without Project Option B Traffic Conditions		(3) Buildout With Project Option B Traffic Conditions		(4) Deficiency		(5) Buildout With Project Option B With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
1. Jefferson Street at	AM	LOS D	26.4	C	27.9	C	29.2	C	1.3	No	--	--
Varner Road	PM		25.8	C	27.2	C	28.8	C	1.6	No	--	--
2. Jefferson Street at	AM	LOS D	12.5	B	12.3	B	12.7	B	0.4	No	--	--
I-10 Westbound Ramps	PM		8.9	A	8.8	A	9.0	A	0.2	No	--	--
3. Jefferson Street at	AM	LOS D	14.1	B	17.9	B	18.7	B	0.8	No	--	--
I-10 Eastbound Ramps	PM		15.7	B	21.0	C	21.8	C	0.8	No	--	--
4. Jefferson Street at	AM	LOS D	19.1	B	24.3	C	28.1	C	3.8	No	--	--
Indio Boulevard	PM		21.6	C	26.6	C	28.0	C	1.4	No	--	--
5. Madison Street at	AM	LOS D	12.2	B	**67.1**	**F**	**291.2**	**F**	**224.1**	**Yes**	25.1	C
Avenue 42	PM		16.9	C	**107.5**	**F**	**490.6**	**F**	**383.1**	**Yes**	31.5	C
6. Monroe Street at	AM	LOS D	35.4	D	50.3	D	**81.8**	**F**	**31.5**	**Yes**	48.3	D
Avenue 42	PM		33.0	C	45.5	D	**57.6**	**E**	**12.1**	**Yes**	40.5	D
7. Gore Street/Spectrum Street at	AM	LOS D	22.9	C	23.0	C	23.3	C	0.3	No	--	--
Avenue 42	PM		15.7	B	16.8	B	17.1	B	0.3	No	--	--
8. Jackson Street at	AM	LOS D	28.7	C	30.4	C	30.4	C	0.0	No	--	--
Avenue 42	PM		30.5	C	30.9	C	30.9	C	0.0	No	--	--
9. Monroe Street at	AM	LOS D	10.8	B	11.5	B	30.7	C[38]	19.2	No	--	--
Showcase Parkway	PM		12.8	B	13.1	B	37.9	D[38]	24.8	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[37] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[38] Includes project-specific improvements.

TABLE 16-5 (CONTINUED)

BUILDOUT WITH PROJECT OPTION B PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[39]

Key Intersection	Time Period	Minimum Acceptable LOS	(1) Existing Traffic Conditions		(2) Buildout Without Project Option B Traffic Conditions		(3) Buildout With Project Option B Traffic Conditions		(4) Deficiency		(5) Buildout With Project Option B With Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Increase	Yes/No	Delay (s/v)	LOS
10. Monroe Street at I-10 Westbound Ramps	AM	LOS D	10.8	B	29.1	C[40]	35.6	D	6.5	No	--	--
	PM		9.1	A	19.4	B[40]	21.2	C	1.8	No	--	--
11. Monroe Street at I-10 Eastbound Ramps	AM	LOS D	36.2	D	19.7	B[40]	22.6	C	2.9	No	--	--
	PM		24.2	C	21.6	C[40]	27.5	C	5.9	No	--	--
12. Monroe Street at Oleander Avenue	AM	LOS D	16.4	B	22.2	C	25.9	C	3.7	No	--	--
	PM		17.6	B	23.4	C	29.3	C	5.9	No	--	--
13. Monroe Street at Industrial Place/Avenue 44	AM	LOS D	23.7	C	30.7	C	37.3	D	6.6	No	--	--
	PM		20.6	C	29.3	C	37.3	D	8.0	No	--	--
14. Monroe Street at Fred Waring Drive	AM	LOS D	22.8	C	45.5	D	**68.7**	**E**	**23.2**	**Yes**	31.4	C
	PM		25.3	C	47.6	D	**74.9**	**E**	**27.3**	**Yes**	41.4	D
15. Monroe Street at Miles Avenue	AM	LOS D	27.4	C	47.6	D	53.3	D	5.7	No	--	--
	PM		24.1	C	35.7	D	41.8	D	6.1	No	--	--
16. Monroe Street at Shadow Palm Avenue/Requa Avenue	AM	LOS D	18.4	B	25.7	C	27.8	C	2.1	No	--	--
	PM		17.2	B	26.7	C	29.0	C	2.3	No	--	--
17. Monroe Street at Highway 111	AM	LOS D	29.7	C	30.4	C	31.2	C	0.8	No	--	--
	PM		29.1	C	30.7	C	32.3	C	1.6	No	--	--

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

[39] **Bold HCM/LOS values** indicate adverse service levels based on the LOS standards defined in this traffic study.

[40] Includes planned improvements for the I-10 Freeway Interchange at Monroe Street.

TABLE 16-6
PROJECT OPTION B TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY

Key Intersection	Time Period	(1) Existing With A.G. (Year 2033) With Project Option B Traffic Conditions		(2) Buildout Without Project Traffic Conditions		(3) Buildout With Project Option B Traffic Conditions	
		Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?
5. Madison Street at Avenue 42	AM	No	No	No	No	**Yes**	**Yes**
	PM	No	No	No	**Yes**	**Yes**	**Yes**

Notes:

- Signal Warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant contained in the *California MUTCD.*

16.7 Project-Specific Improvements

The following project design features that will be constructed by the proposed Project Option B are required to ensure that adequate ingress and egress to the project site is provided.

- Intersection 9. Monroe Street at Showcase Parkway: Construct the west leg of the intersection and provide one eastbound left-turn lane, one eastbound through lane, dual eastbound right-turn lanes, and two westbound departure lanes. Restripe the northbound approach to provide dual northbound left-turn lanes with 400 feet of storage per lane and a 120-foot transition. Restripe or widen the southbound approach to provide a southbound right-turn lane. Widen and/or restripe the east leg of the intersection to provide a westbound through lane. Provide a crosswalk on the south leg of the intersection. Modify the existing traffic signal for eight-phase operation with eastbound right-turn overlap phasing.

- A. Project Driveway No. 1 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 1 is proposed to be stop-controlled.

- B. Project Driveway No. 2 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 2 is proposed to be stop-controlled.

- C. Project Driveway No. 3 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 3 is proposed to be stop-controlled.

- D. Project Driveway No. 4 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Widen Avenue 42 along the Project frontage to its ultimate condition and provide a second eastbound through lane, an eastbound deceleration right-turn lane, and a second eastbound departure lane. Widen Avenue 42 to provide a westbound left-turn lane. Project Driveway No. 4 is proposed to be stop-controlled.

- E. Monroe Street at Project Driveway 5: Construct the west leg of the intersection and provide one inbound lane and one outbound lane (i.e. eastbound right-turn lane).

Restripe the north leg of the intersection to provide a southbound deceleration right-turn lane. Project Driveway No. 5 is proposed to be stop-controlled.

- F. Monroe Street at Project Driveway 6: Construct the west leg of the intersection and provide one inbound lane and one outbound lane (i.e. eastbound right-turn lane). Restripe the north leg of the intersection to provide a southbound deceleration right-turn lane. Project Driveway No. 6 is proposed to be stop-controlled.

- G. Project Driveway 7 at Avenue 42: Construct the south leg of the intersection and provide one inbound lane and one outbound lane (i.e. northbound right-turn lane). Restripe Avenue 42 to convert the third eastbound through lane to a shared eastbound through/right-turn lane. Project Driveway No. 7 is proposed to be stop-controlled.

16.8 Recommended Improvements

Figures 16-14, 16-15, and ***16-16*** present the planned and recommended traffic improvements for the key study intersections for Existing With Ambient Growth With Project Option B traffic conditions, Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions, and Buildout With Project Option B traffic conditions, respectively. These improvements are discussed in more detail in the sections below.

16.8.1 *Existing With Ambient Growth With Project Option B Traffic Conditions*

The following improvements listed below have been identified to offset the effect of ambient growth traffic and Project Option B traffic, and improve levels of service to an acceptable range for Existing With Ambient Growth With Project Option B traffic conditions:

- Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.

16.8.2 *Existing With A.G. With Project Option B With Cumulative Projects Traffic Conditions*

The results of the intersection analyses for Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions indicate that the seventeen (17) key study intersections are forecast to continue to operate at acceptable service levels. As there are no deficiencies, no traffic improvements are required under this traffic scenario.

16.8.3 *Buildout With Project Option B Traffic Conditions*

The following improvements listed below have been identified to offset the effect of buildout traffic and Project Option B traffic, and improve levels of service to an acceptable range for Buildout With Project Option B traffic conditions:

- Intersection 5. Madison Street at Avenue 42: Widen and restripe the west leg of the intersection to provide an eastbound left-turn lane. Widen and restripe the east leg of the

intersection to provide a westbound left-turn lane. Install a traffic signal and design for five-phase operation with protective left-turn phasing on Avenue 42.

- Intersection 6. Monroe Street at Avenue 42: Widen and restripe the north leg of the intersection to provide a southbound left-turn lane. Modify the existing traffic signal for eight-phase operation.
- Intersection 14. Monroe Street at Fred Waring Drive: Modify the existing traffic signal to provide southbound right-turn overlap phasing and westbound right-turn overlap phasing.

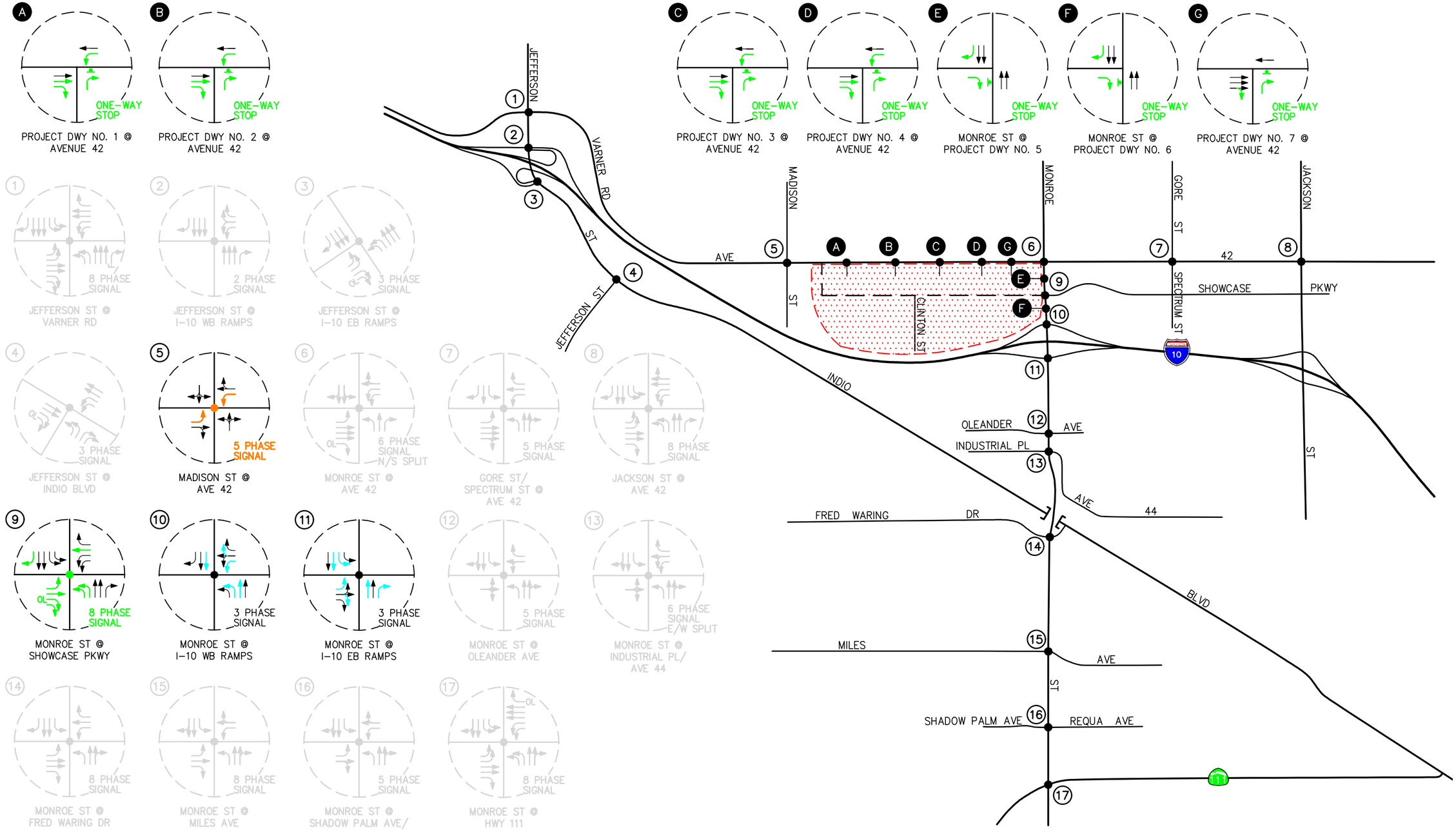
16.9 Project Option B Fair Share Analysis

16.9.1 *Buildout With Project Option B Traffic Conditions*

Table 16-7 presents the AM and PM Project Option B fair share percentages at the key study intersections that are forecast to operate at adverse levels of service for Buildout With Project Option B traffic conditions.

The Project fair share percentages (most adverse time period) for the deficient intersections for Buildout With Project Option B traffic conditions that require recommended improvements are shown below:

- 5. Madison Street at Avenue 42 36.10%
- 6. Monroe Street at Avenue 42 44.55%
- 14. Monroe Street at Fred Waring Drive 32.22%



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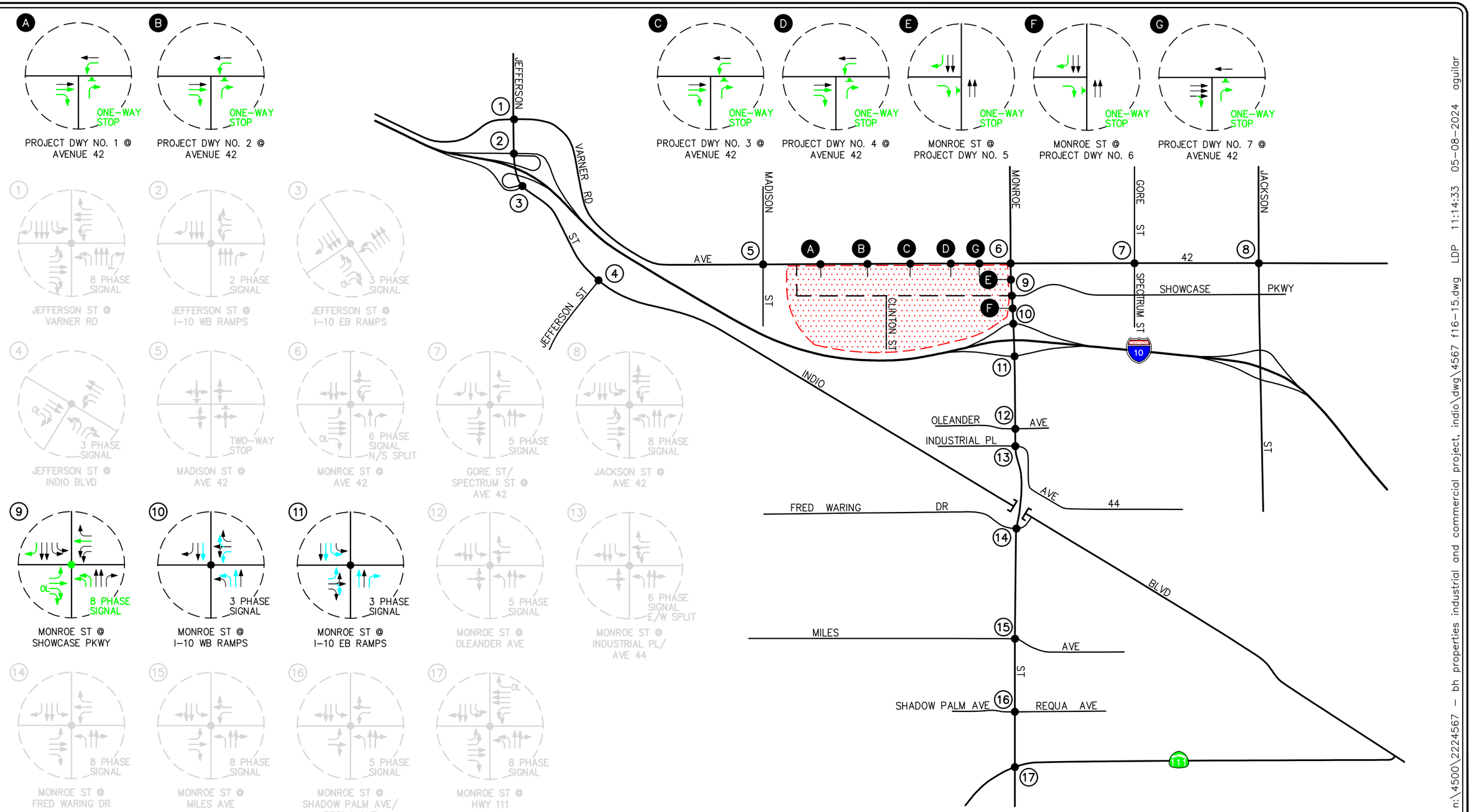
KEY

= PLANNED IMPROVEMENT
= PROJECT IMPROVEMENT
= RECOMMENDED IMPROVEMENT
= PROJECT SITE

FIGURE 16-14

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B PLANNED AND RECOMMENDED IMPROVEMENTS

BH PROPERTIES THE OASIS AT INDIO, INDIO



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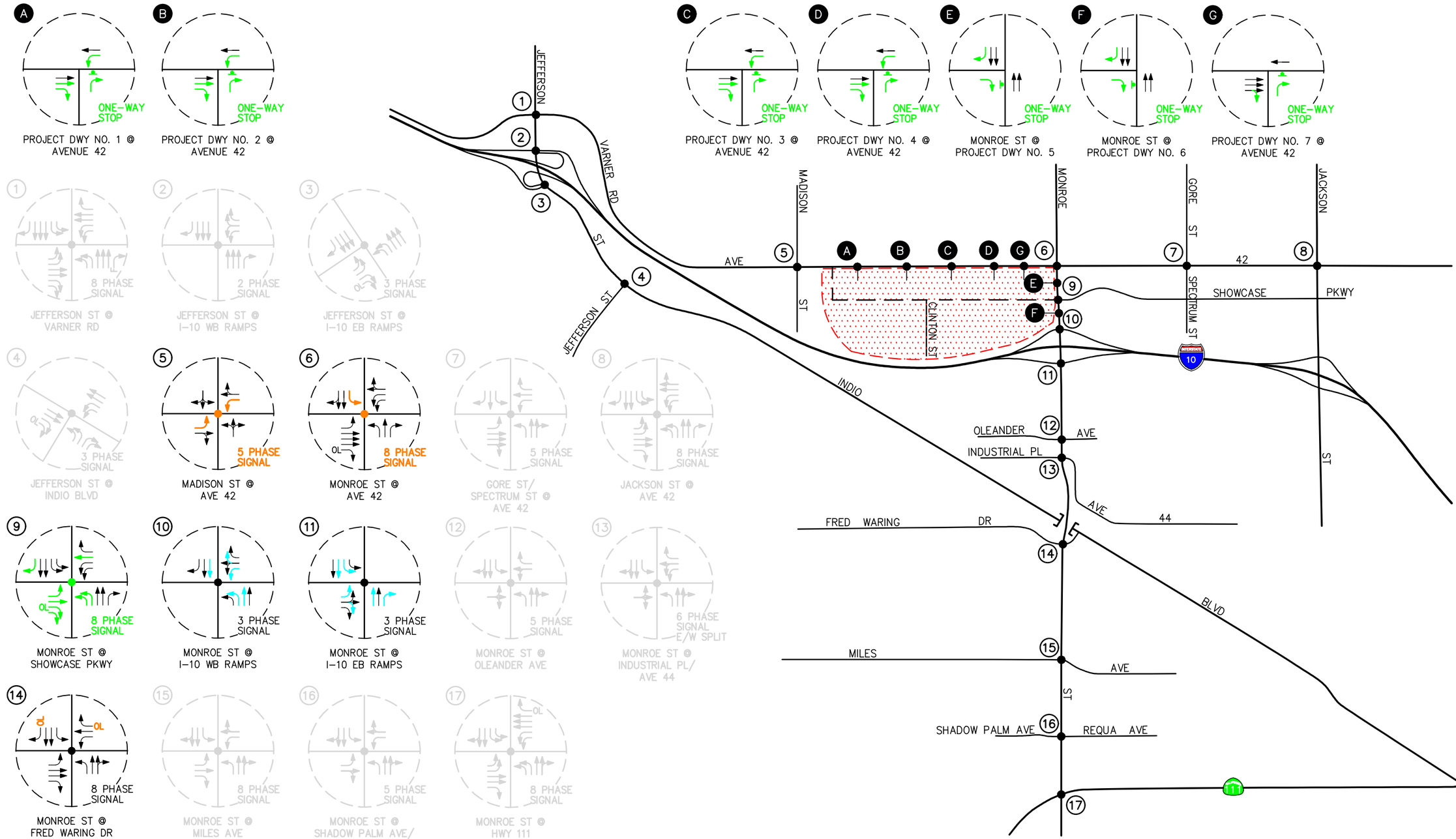
KEY

= PLANNED IMPROVEMENT
= PROJECT IMPROVEMENT
= RECOMMENDED IMPROVEMENT
= PROJECT SITE

FIGURE 16-15

EXISTING WITH AMBIENT GROWTH WITH PROJECT OPTION B WITH CUMULATIVE PROJECTS PLANNED AND RECOMMENDED IMPROVEMENTS

BH PROPERTIES THE OASIS AT INDIO, INDIO



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= PLANNED IMPROVEMENT
= PROJECT IMPROVEMENT
= RECOMMENDED IMPROVEMENT
= PROJECT SITE

FIGURE 16-16

BUILDOUT WITH PROJECT OPTION B PLANNED AND RECOMMENDED IMPROVEMENTS

BH PROPERTIES INDUSTRIAL COMMERCIAL PROJECT, INDIO

TABLE 16-7

BUILDOUT WITH PROJECT OPTION B TRAFFIC CONDITIONS FAIR SHARE CONTRIBUTION

Key Intersection	Impacted Time Period	(1) Project Option B Only Volume	(2) Existing Volume	(3) Buildout With Project Option B Volume	(4) Project Option B Fair Share Responsibility
5. Madison Street at Avenue 42	AM	317	504	1,616	28.51%
	PM	413	664	1,808	**36.10%**
6. Monroe Street at Avenue 42	AM	842	1,591	3,734	39.29%
	PM	948	1,759	3,887	**44.55%**
14. Monroe Street at Fred Waring Drive	AM	538	2,938	4,956	26.66%
	PM	733	2,921	5,196	**32.22%**

Notes:

- Project Fair Share (4) = Column (1) / [Column (3) – Column (2)]
- **Bold Project Fair Share Responsibility** is based on worse case

16.10 Site Access and Internal Circulation Evaluation

16.10.1 *Level of Service Analysis for Project Option B Access Locations*

Table 16-8 summarizes the intersection operations at the eight (8) proposed Project Option B driveways for future traffic conditions with the proposed Project Option B. It should be noted that the values for Monroe Street at Showcase Parkway are the same as previously reported in *Tables 16-3, 16-4,* and *16-5.* As shown in column (1), the eight (8) proposed Project Option B driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Existing With Ambient Growth With Project Option B traffic conditions.

As shown in column (2), the eight (8) proposed Project Option B driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions.

As shown in column (3), the eight (8) proposed Project Option B driveways are forecast to operate at acceptable LOS D or better during the AM and PM peak hours under Buildout With Project Option B traffic conditions.

Appendix J contains the detailed HCM/LOS calculation worksheets for the project driveways.

16.10.2 *Project Driveway Queuing Analysis*

Table 16-9 presents the queuing analysis results for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway for future traffic conditions with the proposed Project Option B. Review of column (1) of *Table 16-9* indicates that adequate storage is proposed to accommodate the forecast 95th percentile queues under Existing With Ambient Growth With Project Option B traffic conditions for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway. Review of column (2) of *Table 16-9* indicates that adequate storage is proposed to accommodate the forecast 95th percentile queues under Existing With Ambient Growth With Project Option B With Cumulative Projects traffic conditions for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway. Review of column (3) of *Table 16-9* indicates that adequate storage is proposed to accommodate the forecast 95th percentile queues under Buildout With Project Option B traffic conditions for the northbound dual left-turn lanes at the intersection of Monroe Street at Showcase Parkway.

16.10.3 *Internal Circulation Evaluation (Project Option B)*

The on-site circulation layout of proposed Project Option B as illustrated in *Figure 16-1* on an overall basis is adequate. Curb return radii are generally adequate for small service/delivery (FedEx, UPS) trucks, trash trucks, as well as large trucks and fire trucks. Nonetheless, prior to finalization of the Project site plan, conduct an internal circulation analysis using the vehicle turning templates for a fire truck, service/delivery/trash truck and large truck to confirm curb return radii at the project driveways and internal drive aisle widths, etc.

TABLE 16-8

PROJECT OPTION B DRIVEWAY PEAK HOUR LEVELS OF SERVICE SUMMARY

Key Driveway	Control Type	Time Period	(1) Existing With A.G. (Year 2033) With Project Option B Traffic Conditions		(2) Existing With A.G. (Year 2033) With Project Option B Cumulative Projects Traffic Conditions		(2) Buildout With Project Option B Traffic Conditions	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS
9. Monroe Street at Showcase Parkway	8∅ Traffic Signal	AM	32.7	C	36.4	D	30.7	C
		PM	36.5	D	36.5	D	37.9	D
A. Project Driveway No. 1 at Avenue 42	One-Way Stop	AM	9.8	A	9.9	A	10.4	B
		PM	11.4	B	11.5	B	12.9	B
B. Project Driveway No. 2 at Avenue 42	One-Way Stop	AM	10.0	B	10.1	B	10.6	B
		PM	11.4	B	11.6	B	13.0	B
C. Project Driveway No. 3 at Avenue 42	One-Way Stop	AM	10.5	B	10.6	B	11.1	B
		PM	11.6	B	11.8	B	13.3	B
D. Project Driveway No. 4 at Avenue 42	One-Way Stop	AM	11.3	B	11.5	B	12.1	B
		PM	12.0	B	12.2	B	13.8	B
E. Monroe Street at Project Driveway No. 5	One-Way Stop	AM	15.8	C	16.7	C	16.3	C
		PM	11.9	B	12.2	B	13.3	B
F. Monroe Street at Project Driveway No. 6	One-Way Stop	AM	18.9	C	20.5	C	20.0	C
		PM	20.1	C	21.2	C	23.6	C
G. Project Driveway No. 7 at Avenue 42	One-Way Stop	AM	11.3	B	11.4	B	12.0	B
		PM	12.6	B	12.7	B	14.3	B

Notes:

- LOS = Level of Service, please refer to *Tables 3-1* and *3-2* for the LOS definitions
- s/v = seconds per vehicle

TABLE 16-9
PROJECT OPTION B DRIVEWAY PEAK HOUR QUEUING ANALYSIS[41]

Key Driveway	Proposed Storage Provided	(1) Existing With A.G. (Year 2033) With Project Option B Traffic Conditions				(2) Existing With A.G. (Year 2033) With Project Option B With Cumulative Traffic Conditions				(3) Buildout With Project Option B Traffic Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max. Queue	Adequate Storage (Yes / No)	Max Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)	Max. Queue	Adequate Storage (Yes / No)
9. Monroe Street at Showcase Parkway													
Northbound Dual Left-Turn	400’	328’	Yes	338’	Yes	372’	Yes	332’	Yes	303’	Yes	335’	Yes

[41] Queue is based on the *95th Percentile Queue* and is reported in total queue length (feet) per lane.