Appendix C:

Noise Technical Memo

DouglasKim+Associates,LLC

To: **Stacie Henderson, CAJA**
From: **Douglas Kim, AICP**
CC: **Noah Tanski**
Date: **February 26, 2019**
Re: **Responses to The Papadimos Group Comments on Southern California Flower Market Noise Analysis**

This memo provides responses to comments provided by The Papadimos Group on the noise and vibration analysis for the Southern California Flower Market Draft Environmental Impact Report.

Comment No. B11-14

The following comments were provided by the Papadimos Group, and are attached to Comment Letter B11.

As requested, this letter summarizes our acoustic review of the Draft Environmental Impact Report (ENV-2016-3991-EIR) prepared for the proposed mixed-use development.

In summary, the project proposes adding potentially incompatible residential uses to this established industrial zone and an analysis of potential impacts and mitigation is missing from the current study. This is required by the City of Los Angeles General Plan and should be carried out to avoid undue burden on existing businesses and protect the new residences. The study has also improperly assessed construction noise impacts and additional mitigation may be required beyond the generic measures currently proposed as described herein.

Response to Comment No. B11-14

This is an introductory paragraph regarding a series of comments that follow in the letter. The commenter is referred to Responses to Comment Nos. B11-15 through B11-23, below, and also the noise technical memo, which is attached as Appendix C to this Final EIR.

Comment No. B11-15

SECTION 4.1 NOISE

1. Under "Existing Conditions" starting on Page 4.1-9:

a. The study has not properly documented existing noise levels surrounding the project site and this is required to assess the proposed project against relevant CEQA thresholds (Items XI.c and XI.d, see Figure 1 attached), the city's noise ordinance (Los Angeles Municipal Code Chapter XI) and the city's general plan policies.

b. Only short-term measurements (15 to 20 minutes long) were taken during the daytime on a single weekday. This is insufficient to establish the full range of noise exposure especially considering the extended operating hours of the surrounding businesses.

c. A proper noise survey should be carried over several days to document existing conditions both in terms of ambient noise and noise generated by various activities in this established industrial zone. The measurements should capture changes in noise levels throughout the day and night both in terms of average noise and statistical levels. Refer to Appendix A for definitions of common acoustical terms.

2. Under "Project Impacts" starting on Page 4.1-12

Construction Noise

a. The current study assesses construction noise based on average equipment noise (1-hr Leq) and not maximum noise as required by the noise ordinance (LAMC Chapter XI, Sec. 112.05) and implied in the LA CEQA Thresholds Guide (Section 1.1}. This would result in additional construction activities exceeding these thresholds of significance beyond what is identified in this current study.

Response to Comment No. B11-15

The Draft EIR noise analysis took 15-minute noise readings at various locations surrounding the Project Site in order to help characterize baseline noise conditions at receptors. The analysis is not required to represent the entire spectrum of noise conditions all the time. Rather, the measurements represent typical conditions during the day when construction activities would occur. Technical outputs for the noise readings are provided in the Draft EIR noise appendix (Appendix I of the Draft EIR).

The 15-minute ambient noise measurements were recorded during daytime hours when construction activities could occur at the Project Site. It is worth noting that LAMC Section 111.01(a) instructs that ambient noise measurements “shall be averaged over a period of at least 15 minutes at a location and time of day comparable to that during with the measurement is taken of the particular noise source being measured.” Thus, the Project’s ambient noise measurements were gathered in a manner that is consistent with the City’s statutory requirements. Both the FHWA and Caltrans additionally support the use of 15 to 20-minute noise measurements for instances when noise levels are predominantly due to traffic and are relatively continuous with few fluctuations, as they are in the urban environment surrounding the

Project Site. Noise measurements were acquired in a manner consistent with this FHWA and Caltrans guidance.[1] Additionally, ambient noise levels were purposefully measured between 11:00 A.M. and 12:00 P.M., an off-peak traffic period that is subsequently associated with reduced environmental noise conditions. This is a conservative approach: establishing lower baseline noise levels results in more pronounced construction noise impacts due to the greater contrast between relatively quiet baselines and noisier activities. Construction activities would not occur outside the allowable daytime hours outlined by LAMC Section 41.40, which are between the hours of 7:00 A.M. and 9:00 P.M. Monday through Friday and 8:00 A.M. to 6:00 on Saturday.

The Project's construction noise impacts were analyzed with respect to both L.A. CEQA Thresholds Guide recommendations and noise ordinance standards. Contrary to the commenter's claims, the L.A. CEQA Thresholds Guide in particular does not specifically instruct nor does it imply that maximum noise levels (L_{max}) should be used when projecting a project's construction noise impacts. In fact, neither of the construction equipment and phase noise level examples provided by the L.A. CEQA Thresholds Guide utilize L_{max} noise levels. Exhibit I.1-1 "Noise Level Ranges of Typical Construction Equipment" shows the reference noise level ranges for various equipment as reported by the EPA in the *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* manual (1971). The manual states that the reference equipment noise levels were adjusted for usage factor, and thus they do not represent L_{max} noise levels. Exhibit I.1-2 in the L.A. CEQA Thresholds Guide "Outdoor Construction Noise Levels" clearly shows that the reference noise levels are in L_{eq} and not $L_{max.}$

Furthermore, Section 112.05 "Maximum Noise Level of Powered Equipment or Powered Hand Tools" also does not specifically make use of L_{max} when outlining its 75 dBA and 65 dBA at 50 feet noise limits. The City has instructed that the Section 112.05 noise limits should be interpreted to represent L_{eq} noise levels.

As baseline ambient noise levels relate to the Project's operational noise impact, the Draft EIR noise analysis determined that the Project's operational noise impacts from on- and off-site sources would be nominal and well-below the L.A. CEQA Thresholds Guide's minimum 3 dBA CNEL threshold. As a result, additional long-term noise measurements are not necessary, nor would they result in any changes to the impact analysis and conclusion.

Comment No. B11-16

b. The current study has not evaluated worst-.case noise from construction equipment. The assessment only evaluated combined noise from an excavator and front-end loader claiming other equipment would be quieter. However, based on the average equipment noise levels used in the study alone (Table 4.1-5), this combined noise would be 79 dBA at 50 feet (76.7 dBA +

[1] California Department of Transportation (Caltrans), Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

75.1 dBA both at 5O feet), which is lower than the reported level for other equipment such as graders (81 dBA at 50 feet).

Response to Comment No. B11-16

As stated in the Draft EIR noise analysis (Draft EIR Section 4.I, Noise), "excavators and front-end loaders have the greatest potential to cause sustained and significant noise impacts at nearby receptors. The impacts of other construction equipment and vehicles would be neither as loud nor as extensive over the duration of the Project's grading or other phases." While it is true that the projected 81 dBA at 50 feet reference noise level from a single grader exceeds the combined 79 dBA at 50 feet reference noise level from an excavator and front-end loader, one must consider more than just the reference noise levels themselves when analyzing construction noise impacts. For example, excavators and front-end loaders working in tandem may operate from relatively stationary positions or small areas when in the process of removing and/or transferring cut soils or debris. They may work in particular locations for extended periods of time, including locations that may be at the property lines of the Project. Because of this, there is the potential for excavator and front-end loaders to operate continuously at or near the minimum Project-to-receptor distances. Conversely, graders do not work in stationary positions; rather, graders operate by driving across land back and forth to level earth. Their work is mobile by nature. As a result, there is no potential for graders to operate continuously in a stationary position at the minimum Project-to-receptor distances, as there is for excavators and loaders. A grader may drive past a receptor at the minimum distance, momentarily resulting in a noise impact greater than that generated by an excavator and a loader, but it would move on in short order and noise levels would attenuate to below the level generated by an excavator and loader working from a relatively fixed position. Therefore, the noise impact of an excavator and front-end loader working continuously in a stationary area would exceed the impact of a grader that would only intermittently pass a receptor at the same distance. No other construction vehicles or major equipment would have a similar potential to work continuously at relatively fixed positions at minimum Project-to-receptor distances.

Furthermore, it is worth noting that excavators and loaders could be operated in tandem for an estimated 3,598 total usage hours over the course of the Project's demolition, site preparation, and grading phases. However, a grader would only be required for an estimated 180 usage hours. The projected noise impact of excavators and loaders would therefore be far more representative of the Project's overall construction impacts.

The current analysis is sufficiently "worst-case" as even excavators and loaders would not work exactly at the minimum Project-to-receptor distances for the entire duration of the Project's construction. Work would move across the Project Site from hour to hour and day to day, and noise levels at receptors would wax and wane accordingly. Additionally, even if the analysis were to utilize the reference noise levels of graders when projecting construction noise levels, with the proposed mitigation, the impact at Santee Court Apartments (the nearest receptor) would be only a 2.4 dBA increase. This would not exceed the 5 dBA construction noise increase threshold, and, as explained, graders would not operate continuously at the minimum Project-to-receptor distances to begin with.

Comment No. B11-17

c. Construction noise at the nearby Ballington apartments should be assessed against the existing ambient level at the receptor. The current assessment is based on the ambient noise level measured in the industrial zone in front of the project site along Wall Street (monitoring location #2 Appendix I) and actual ambient levels would likely be lower in the residential zone.

Response to Comment No. B11-17

The Draft EIR discusses how and why noise levels at the substitute location were monitored due to the infeasibility of monitoring at or near Ballington Plaza Apartments. The area near Ballington Plaza Apartments is frequently occupied by homeless encampments that take up entire sidewalks and curbside space. As a result, noise measurement locations were taken approximately 500 feet away from the Ballington Plaza Apartments. The comment speculates that ambient noise levels at Ballington Plaza Apartments may be lower than at the substitute location but provides no evidence or alternative noise measurements demonstrating that this is the case. However, as discussed in the noise technical letter provided in Appendix C of this Final EIR, noise conditions at the substitute location were determined to be reasonably representative of conditions at Ballington Plaza Apartments based on principles of acoustic equivalency. Background steady-state noise levels at Ballington Plaza Apartments and the substitute location are primarily due to 7th Street traffic. Whereas Ballington Plaza Apartments is approximately 250 feet northeast of 7th Street, the substitute location is approximately 250 feet southwest of 7th Street. Therefore, background noise levels resultant from 7th Street traffic are likely comparable at both the receptor and the substitute location. With regard to intrusive noise events, traffic on Wall Street was observed to be fairly consistent north and south of 7th Street during the time of the noise monitoring study. This is confirmed by traffic volumes given in the Draft EIR's Traffic Impact Analysis (contained in Appendix K-1 of the Draft EIR), which show the following:

Wall Street Segment	**Hourly Traffic Volume**	
	A.M. Peak Hour	**P.M. Peak Hour**
N of 7th Street	281	450
S of 7th Street	344	526
Difference	63	76
Estimated Difference in Noise Level	0.9 dBA L_{eq}	0.7 dBA L_{eq}

As shown, Wall Street south of 7th Street does experience marginally greater traffic than Wall Street north of 7th Street, but the difference in vehicle trips would result in ambient noise conditions that are less than 1 dBA greater along Wall Street south of 7th Street when compared

to Wall Street north of 7th Street. This is a negligible difference that would have no implications with regard to the construction noise impact experienced by Ballington Plaza Apartments, which was determined to be just a 0.7 dBA increase before mitigation and a 0.1 dBA increase after mitigation. As a result, the substitute location may be considered acoustically equivalent to Ballington Plaza Apartments. Ballington Plaza Apartments is located 440 feet north of the Project Site: small adjustments to this receptor's baseline ambient noise level would have a negligible effect on its projected noise levels.

Comment No. B11-18

d. The study has assessed noise from construction related traffic based on additional traffic volume alone. However, it needs to take into account vehicle mix as construction traffic consists of large trucks which are considerably louder than typical cars that typically make up the majority of normal traffic volume. Operational Noise

Response to Comment No. B11-18

The comment claims that the Draft EIR did not consider vehicle mix when analyzing the noise impacts of construction traffic, but the Draft EIR (page 4.I-14) clearly states that "***though the addition of haul trucks would alter the fleet mix of the Project haul route***, their addition to local roadways would not nearly double those roads' traffic volumes, let alone increase their traffic to levels capable of producing 5 dBA ambient noise increases." The Draft EIR acknowledges that the fleet mix of the haul route would change with the addition of construction vehicles, but determines that the addition of construction trucks would still not be capable of increasing roadside noise levels by a significant degree. The comment does not demonstrate how the Project's construction traffic would result in an alternative finding.

Comment No. B11-19

e. This project proposes new residential uses in an established industrial zone (M2- D2). Such uses are generally incompatible due to the high noise levels often necessary for industrial-type businesses, and the need for quiet in residences for sleeping and other activities (residential uses are prohibited in the current zone per LAMC Chapter 1, Article 2, Section 12.19). The potential noise impacts need to be properly studied and mitigation strategies developed as part of the environmental review and this is missing from the DEIR.

f. The current study does not address the potential noise impacts to the new residential uses by activities associated with existing businesses in the project vicinity. This is required by Policy P12 in Noise Element of the Los Angeles General Plan. Such activities would include loading and unloading delivery trucks associated with the flower markets located directly across Wall Street from the proposed residential tower, and possibly others. As previously noted, this should have been properly documented as part of a proper and complete noise survey that should also include observations (see Existing Conditions comments above).

g. The study does not address the potential incompatibility of the new residential uses with the hours and operations of existing businesses, which reportedly include late night and early morning deliveries and open for business as early as 2:00 AM.

Response to Comment No. B11-19

The comment expresses concern regarding the compatibility of the proposed residential uses in an industrial zone, and also discusses General Plan Noise Element Policy P12, which requires an interior noise level of 45 dB only for proposed residential projects for which discretionary permits are required. The Project would comply with the California Building Code, which establishes a requirement for interior noise levels of 45 dB in residential (habitable) rooms. Therefore, the Project would also comply with Policy P12 of the Noise Element, as it establishes the same requirement as the California Building Code.

However, with respect to noise impacts that the existing environment may cause to the Project, CEQA generally does not require a lead agency to evaluate the effects of the environment on future residential uses of a proposed project. (*See Cal. Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 286-90.) Further, as discussed on Draft EIR page 3-2 (in Section 3, Environmental Setting) there are other residential developments in the Project vicinity. Specifically, across Maple Street, are the following four residential developments: the Santee Village (nearly 400 units); the Santee Court (238 units); the Garment Lofts (77 units); and the Textile Building Lofts (77 units) fronting on Los Angeles Street and 8th Street. The Project's environmental analysis properly addresses the Project's potential noise impacts upon surrounding residential receptors, as required by CEQA.

Comment No. B11-20

h. The study has not analyzed noise from on-site commercial wholesale/retail restaurant and office uses on off-site noise sensitive uses (such as Santee Court residential building and the Jardin de la Infancia School) as well as the new on-site residential units. The study claims noise associated with commercial uses would either not change (existing flower market) or be confined within the project and therefore would not be significant.

However, current plans appear to greatly reduce the existing loading dock area (north-east corner of the project site) while generally maintaining the same retail and commercial space. This may cause noisy activities such as loading and unloading delivery trucks to relocate to the public streets near noise sensitive uses and/or take place during quiet nighttime hours. The existing noise levels associated with commercial uses on-site should be properly documented and potential impacts due to the project analyzed.

Response to Comment No. B11-20

The Project's deliveries and loading/unloading activities would be confined to the proposed loading dock area, which would be located similarly to the existing loading dock area. As acknowledged by the comment itself, the Project would generally maintain the same level of

retail and commercial space. Deliveries and general loading/unloading activities would not change substantially in terms of frequency, duration, and setbacks from receivers (the nearest of which, Santee Court Apartments, is located approximately 240 feet northwest of the Project). The Project would retain the three existing loading bays, but it would remove 19 parking spaces for large trucks that are currently underutilized. Remaining parking spaces would be re-configured within the same existing area. Therefore, there would be no substantial change to the local noise environment as a result of the Project's proposed loading dock area. The Project could even reduce the delivery-related noise levels at the Jardin de la Infancia School. Though this receptor currently has line-of-sight to the existing use's loading areas, the Project's proposed restaurant and office space fronting 7th Street would break this line-of-sight and reduce delivery-related noise levels at the school. As a result, the Project's net operational impact related to loading and delivery noises could actually decrease. Furthermore, the comment does not provide any alternative analysis or findings demonstrating how the Project's proposed loading dock area could result in a substantial operational noise impact at nearby sensitive residential receptors, which would be located at least 240 feet from the proposed loading dock area. The Project's environmental analysis properly assesses the Project's potential noise impacts upon surrounding receptors.

Additionally, the Project is not required to assess the impact of its own commercial uses on its own proposed residences.

Comment No. B11-21

3. Under "Mitigation Measures" starting on Page 4.1-21

a. Measure 1-1: This measure proposes generic use of exhaust mufflers (or other "suitable noise reduction devices") on construction equipment but the study has not quantifiably shown this would properly mitigate construction noise. The equipment noise levels used in the assessment appear to already include these measures and further mitigation would be required, particularly for the Santee Court Apartments (requires 15 dB of noise reduction per Table 4.1-6).

Response to Comment No. B11-21

With regard to the Draft EIR's proposed mitigation measures, Mitigation Measures I-1 and I-2 represent standard "best practices" for the reduction of construction noise and are recommended by the L.A. CEQA Thresholds Guide. Exhibit I.1-2 of the L.A. CEQA Thresholds Guide shows that equipment mufflers should reduce excavation and grading phase noise levels by 3 dBA. The Draft EIR utilized excavation and grading equipment, specifically excavators and front-end loaders, to analyze the Project's potential construction noise impacts. Accordingly, construction noise modeling for the Project concluded that adherence to Mitigation Measure I-2 would be capable of attenuating the noise levels of excavation and grading equipment by 3 dBA. However, it is important to consider that the construction-related noise increases at all receptors would not exceed the 5 dBA threshold of significance with or without the implementation of Mitigation Measure I-1. For example, assuming no attenuation from mufflers or other noise-reduction devices, the construction noise impact after mitigation (i.e., with noise

barrier mitigation only) at Santee Court Apartments would be just a 2.8 dBA increase. Therefore, no further mitigation would be required even if Mitigation Measure I-1 were to be removed. Specifics related to the locations and performance standards for the required temporary sound barriers are provided by measure I-2. Barriers with a transmission loss value (TL) of 25 dBA would be capable of achieving a noise reduction of 15 dBA. Barrier materials capable of achieving this transmission loss include, but are not limited to: 18 gauge steel, 0.125 inch-thick aluminum sheeting, and 1-inch-thick plywood with acoustic blankets/curtains.[2] The comment does not explain how or why the proposed mitigation would be ineffective or infeasible, nor does it present its own analysis and alternative findings.

Comment No. B11-22

b. Measure I-2: Use of noise barriers to mitigate construction noise should be based on a project specific study to evaluate feasibility and identify specific locations, heights and extents, and any limitations in meeting noise limits. This is essential since noise attenuation provided by a barrier varies greatly depending on barrier height and location of source, receiver and barrier and topographical parameters. The noise reduction of 15 dB proposed by this measure may not be realistic or appropriate when taking these factors into account especially considering the nearest residential building (Santee Court) is multiple stories.

c. Additional mitigation would likely be required for construction noise as discussed in the comments above and in concept this could include setting minimum setbacks from noise sensitive receivers, use of alternative (quieter) construction methods and possibly others.

Response to Comment No. B11-22

As addressed in Response to Comment No. B11-21, details related to the locations and performance standards for the required temporary sound barriers are provided by Mitigation Measure I-2. Specifically, barriers would be installed along Maple Avenue where excavation and grading activities related to the new south building construction and north parking lot improvements would face Santee Court Apartments. Barriers with a transmission loss value (TL) of 25 dBA would be capable of achieving a noise reduction of 15 dBA. Barrier materials capable of achieving this transmission loss include, but are not limited to: 18 gauge steel, 0.125 inch-thick aluminum sheeting, and 1-inch-thick plywood with acoustic blankets/curtains.[3] A 15-foot-tall barrier installed along the specified Maple Avenue Project boundary would be capable of shielding even upper-story residences from noises generated by the Project's excavation and grading activities that would occur at or near the minimum distances to Santee Court Apartments.

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[2] California Department of Transportation (Caltrans), Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

[3] Ibid.

Comment No. B11-23

d. The study proposes no mitigation for operational noise, which would likely be required once a complete study has been carried out as described in the sections above. At this point, the study should require proper design of the new residential units to limit intruding noise from the surrounding uses, as well as protection for existing businesses (and associated activities such as deliveries) from future restrictions or legal action by the new development. Additional measures may be required once the full extent of these impacts is known.

Response to Comment No. B11-23

The Project's environmental analysis properly assesses the Project's potential noise impacts upon surrounding receptors. Conversely, CEQA generally does not require a lead agency to evaluate the effects of the environment on future residential uses of a proposed project. (*See Cal. Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015) 62 Cal.4th 369, 286-90.)

Santee Court Apartments: GRADER

Construction Noise - Unmitigated

Total Equipment Noise Levels

Source	Emission Level (dBA)	Usage Factor	Adjusted dBA
Grader	85	0.4	81.0
		Combined dBA	**81.0**

Housing Row Shielding

If gaps in the row of buildings constitute less than 35% of the length of the row:		
R	0	*number of rows of houses between source and receiver
A(rows1)	**0**	

If gaps in the row of buildings constitute between 35-65% of the length of the row:		
R	0	*number of rows of houses between source and receiver
A(rows2)	**0**	

If gaps in the row of buildings constitute more than 65% of the length of the row:		
A(rows3)	**0**	

Tree Zone Shielding

Where at least 100 feet of trees intervene between source and receiver, ***and*** *if no clear line of sight exists between source and receiver,* ***and*** *if the trees extend 15 feet or more above the line of sight:*		
W	0	*width of the tree zone along the line of sight between source and receiver, in feet.
A(trees)	**0**	

Cumulative Shielding

Axxx	0
Axxx	0
Axxx	0
A(rows1)	0
A(rows2)	0
A(trees)	0
A(cumulative)	**0**

Santee Court Apartments: GRADER

Unmitigated Construction Noise Level

Total Equipment Noise Level	81.0
Cumulative Shielding (A)	0
G	0
Distance	240
Unmitigated Construction Noise	**67.4**

Unmitigated Receptor Noise Level

Unmitigated Construction Noise	67.4
Existing Ambient Noise	50.8
Unmitigated Ambient Noise	67.5
Unmitigated Increase	**16.7**

Estimated Ambient Noise Level at Receptor

Monitored Noise Level	64.8
Reference Distance	40
G	0
D	200
Estimated Noise Level	**50.8**

Santee Court Apartments: GRADER

Construction Noise - Mitigated

Construction Equipment Mitigation

Source	Emission Level (dBA)	Usage Factor	Mitigative Attenuation	Adjusted dBA
Grader	85	0.4	3	78.0
		Combined dBA, Mitigated		**78.0**

Mitigated Construction Noise Level

Total Equipment Noise Level	78.0
Cumulative Shielding (A)	0
Sound Barrier Shielding	15.0
G	0.0
Distance	240
Mitigated Construction Noise	**49.4**

Mitigated Receptor Noise Level

Mitigated Construction Noise	49.4
Existing Ambient Noise	50.8
Mitigated Ambient Noise	53.2
Mitigated Increase	**2.4**

Sources

Federal Highway Administration (FHWA), *Construction Noise Handbook* , August 2006

Federal Transit Administration (FTA), *Transit Noise and Vibration Assessment* , May 2006

California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol* , September 2013

Construction Noise Impact Analysis

Santee Court Residences: BARRIER DETAIL

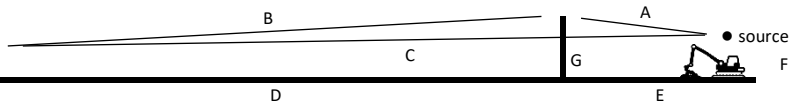
Mitigated

	Height	Transmission Loss	STC Rating	Possible dBA Reduction
Noise Barrier	15	25	-	15

Receiver/Floor Height (ft)

-
65
55
45
35
25
15
5
-
-

D:	240 ft
E:	10 ft
F:	7 ft
G:	15 ft



Receiver/Floor Height (ft)	A	B	C	P	Possible dBA Reduction
-	-	-	-	-	-
65	12.81	245.15	256.64	1.32	14.20
55	12.81	243.31	254.57	1.55	14.90
45	12.81	241.87	252.87	1.80	15.00
35	12.81	240.83	251.56	2.08	15.00
25	12.81	240.21	250.65	2.37	15.00
15	12.81	240.00	250.13	2.68	15.00
5	12.81	240.21	250.01	3.01	15.00
-	-	-	-	-	-
-	-	-	-	-	-