CITY OF Grand Junction COLORADO

Purchasing Division

ADDENDUM NO. 3

DATE: **July 23, 2018**
FROM: **City of Grand Junction Purchasing Division**
TO: **All Offerors**
RE: **Las Colonias Business Park Phase 2 IFB-4547-18-DH**

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. **Pond Liner Ventilation System** – See plan sheet and detail attached to Addendum No. 3. This work shall include approximately 2,000 lineal feet of 4" slotted corrugated polyethylene pipe, 10 crosses, 16 risers with caps and any other necessary appetencies to complete ventilation system.

2. **Most of the Shoreline Amenities drawings contain a general note stating that a structural engineer must review and stamp design details pertaining to structural components. The drawings are already stamped so there is a little confusion associated with this requirement. Please clarify if this is the responsibility of the contractor and the resulting engineering cost is to be included in the bid? If so, there does not appear to be a bid schedule item for this work, is it to be allotted to the different boat ramp bid items that qualify as needing this review?** A structural engineer will review and stamp the structural design components of the drawings once they have the geotech provided by the City; or at least review and redline and I (River Restoration rep.) will stamp them. This engineering cost will not be the responsibility of the contractor.

3. **The new roundabout does not appear to be governed by a CDOT Road & Bridge Specification. It is customary on CDOT projects for this work to be governed by Section 412 Portland Cement Concrete Pavement. This specification, while geared toward highway paving, specifies reinforcement, forming, placing, finishing etc. If this is the section we are to apply to this work, we would request that it be edited to apply to this application, ie. hand place and finish in lieu of machine, mit scan 2 testing required or not required, profiling excluded, smoothness testing via straight edge etc.**

Per the CITY OF GRAND JUNCTION, COLORADO DEPARTMENT OF PUBLIC WORKS AND PLANNING ENGINEERING DIVISION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION GENERAL Section 101 and Sections 200 through 717 of the Standard Specifications for Road and Bridge Construction, 2005 edition, published by the Colorado Department of Transportation (CDOT), State of Colorado, as re-emphasized, supplemented or amended by the State and by these specifications shall govern all road and bridge construction work within the public right-of way and in other areas of City jurisdiction or ownership. In cases of any conflicts of meaning between the CDOT specifications and other specifications, the supplements and amendments listed below or in the project Special Provisions shall govern. The Special Provisions (if any) contained in the Bid Documents shall have precedence over all other specifications.

For LCBP Phase 2 the following shall apply:

- Hand placement and finish installation of the roundabout will be permitted on this project.
- Mitt scan testing will not be required.
- Profiling has been excluded.
- Smoothness testing per city spec 412.17 which states will be measured using a10 straightedge.

4. **River Recreation Project –** The City is currently working on design for improvements to the existing slough. The improvements will consist of excavating a second slough immediately west of the proposed boat ramp which will then meander west and tie into the existing slough. This will require coordination with LCBP Phase 2 Contractor and River Recreation Contractor. LCBP Phase 2 Contractor will need to grant access to the boat ramp area for said work. River Recreation work is proposed for January/February 2019.
5. **Items 133 & 134 Landscape Boulders. Are these boulders on-site or do we need to import them? Items 133 & 134 Call for Granite Boulders.** These boulders are not on-site and will need to be imported.

6. **Item 191 calls for on-site boulders. Are there enough on-site at 200 tons?** Line item 21 represents the estimate for the amount of additional boulder material required to be furnished and imported. Line item 22 represents the estimate of the total amount of boulder, both repurposed on site and imported, that will need to be placed to finished grade. The estimate for the amount of boulder to be repurposed on site is approximately 151 tons (200 tons total boulder to place – 49 tons of boulder required to be imported).

   However, as I was checking this just now, I realized I had over-estimated the amount of boulder that would likely be able to be re-purposed – the amount of placed boulder required for the terraced landing was reduced in one of the later rounds of redlines here and that reduction was not taken out of the amount of boulder generated on site during excavation (the boulder at the toe

of the terraced bank will just remain in place and grading will tie into it). Anyway, a more accurate number is 80 tons to be able to be repurposed instead of 151 tons, which bumps up line item 21, the amount required to be furnished and imported to 119 tons.

7. **Electrical – See revised plan sheets attached.**

    a. Sheet "E1" note 9 has been added - PROVIDE 10 TOTAL PEDESTALS TOTAL FOR FOOD TRUCK SERVICE. FIVE OF THE PEDESTALS WILL BE PAD MOUNTED (PEDESTALS PD-6, PD-7,PD-8, PD-9, PD-10) WILL BE MILLBANK #U5210. THE OTHER FIVE PEDESTALS (PD-1, PD-2, PD-3, PD-4, PD-5) WILL BE MILBANK U5200-XL-75 FOR DIRECT EARTH BURIAL. THE PEDESTALS WILL BE ORDERED FROM DELANDSHEER SALES INC. 1011 W 46TH AVE., DENVER CO 80211, 303.202.2990.
    b. E6 and E9
    c. Sheet "E15" clarified that detail was for light type "SAPH2".
    d. Sheet "E11" schedule PP1-11,13 pedestal 10 will have a new 50 amp 1 phase 208 breaker.

8. **There is Bid Item #49 – Pour in Place Storm Drain Box. Box L2 on the plan set – 1 EA, but we have also found Box N1 on the plans and there does not appear to bid item for this box?** N1 has been added the to bid schedule (Addendum No.3).

9. **On pages 125-127 it calls out for approved water block seal behind termination bar and lap seal above. Is that referring to the butyl tape (water block) and Sika Flex 1A (lap seal) in this concrete attachment detail? If not can you explain what?** Yes, the butyl tape and Silka Flex is what is desired.

10. **On the plans it calls out both Small AI's and Single AI's, I am assuming the single AI are the large area inlets for bid item #58. The problem is I can only locate 3 EA inlets called out as Single AI (inlets A6, A9 & A10), so this does not match the bid item #58 quantity of 7 EA. And there is no bid item for the 5 EA regular small area inlets (inlets J1, J2, I2, B1 and Structure (60)), only the special small area inlets. Are all the Small AI's & Single AI's to be included in the large area inlet bid item with a revised quantity of 8 EA or are we missing a bid item for the small area inlets?** Small area inlets and single area inlets are one of the same which are to be per revised bid schedule to Large Area Inlet (24" x 36"). The description and quantities have been revised in the bid schedule (Addendum No. 3). See list below for further clarification**:**

    - **Large Area Inlet**
        - (60), A7, A9, A10, B1, I2, J1, and J2
    - **Single Storm Drain Inlet (Vertical Curb)**
        - A6, B2, B3, C1, C2, D1, E1, G1, and I1

11. **Do those special small area inlets require a sump?** Yes, 1 foot typical.

12. **There is a note throughout boat ramp drawings and specifically Note 4 on sheet 140/EC01 regarding structural engineering. Is a third party structural engineer to reengineer the boat ramp required and inclusive to the bid?** See Question No. 2.

13. **Sheet 6: note calls to fully encase sewer from station 5 + 00 to 5 + 50; however, there is no bid item for fully encasing sewer line.** Please provide a line item. Line Item has been added to bid schedule (Addendum No. 3).

14. **Sheet 106, 107, 109, 112: Note called for 4" wide double yellow stripe (typical); however, there is no bid item for yellow stripes. Please provide a line item for yellow striping.** Read Invitation to Bid, Section 3 Statement of Work, Subsection 3.3.29.

15. **Does Item 169 – Care of Water Practices include the pump and water system, turbidity curtain, oil boom and coffer dam shown on sheet EC01? Is the type of coffer dam used Contractor choice since there are multiple types shown in the details?** Yes, the Care of Water Practices includes installing and maintaining turbidity curtains, oil booms, coffer dam, concrete laden water control, and pumping/filtering. The specific method of coffer dam is up to the contractor.

16. **Are the boulders in line items 133 & 134 to be imported or are we to use rock generated onsite?** See question No. 4.

17. **Bid Item 118: Industry standard is a 50/50 black to color mix for the top layer. Full color is more expensive – what is the spec?** The 50/50 application will be utilized on this project. See specification attached.

18. **Bid Item 118: What is the Fall height for the bridge as this affects pricing? (not sure this question makes sense; it came from the pour in place EPDM subcontractor).** The bridge deck is 10' above finish grade of EPDM.

19. **Sheet 126: Is there supposed to be fabric between the engineer approved fill and the river cobble? Is there supposed to be fabric over the river cobble?** No and no.

20. **Sheet 126: Notes call for "engineer approved water stop", what is the spec on the water stop?** Swellstop for horizontal surfaces and SikaSwell2 for vertical applications. See attached product data sheets for these products.

21. **What is the spec on the structural concrete coating for Bid Items 77, 78 & 79 and what is the total area per line item?** Utilize approved product found on CDOT APL Structural Concrete Coating Product List.

22. **Drawings show a bridge over Butterfly lake in some areas and bid schedule references the butterfly bridge; however, there are no details or bid items for abutments or a bridge. Is this work done by others?** As discussed at the prebid and noted on Plan Sheet 95 the Suspension Bridge is "By Others". The line item in the bid schedule that references the "butterfly Bride" is for location purposes only.

23. **Please clarify the topsoil scope as it relates to bid items 63 & 197. Is it stripped and stockpiled onsite and then placed? Is it imported? Is there topsoil quantity included in item 197?** All topsoil is to be imported. See SP-5 for specifications. Line item 197 (Line Item 198 Per Addendum No. 3) shall consist of 186 CY of topsoil.

-- End Addendum No. 3 --

The original solicitation for the project noted above is amended as noted.

All other conditions of subject remain the same.

Respectfully,

Duane Hoff Jr., Senior Buyer
City of Grand Junction, Colorado

Bid Schedule: Las Colonias Business Park Phase 2
Addendum No. 3

Contractor: _____

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	104.4	Fully Encase sewer in concrete per City Standard Detail GU-04. See Plan Sheet 6.	1.	EA	$ _____	$ _____
2	104.4	Cap top half of sewer in concrete per City Standard Detail GU-04	4.	EA	$ _____	$ _____
3	108.2	6" Water Pipe (C-900 PVC)	500.	LF	$ _____	$ _____
4	108.2	6" Storm Drain (C-900 PVC)	450.	LF	$ _____	$ _____
5	108.2	8" Water Pipe (C-900 PVC)	2,900.	LF	$ _____	$ _____
6	108.2	12" Water Pipe (C-900 PVC)	600.	LF	$ _____	$ _____
7	108.2	4" Sewer Service Pipe (SDR 35)	220.	LF	$ _____	$ _____
8	108.2	6" Sewer Service Pipe (SDR 35)	600.	LF	$ _____	$ _____
9	108.2	8" Gravity Sewer Pipe (SDR 35)	1,300.	LF	$ _____	$ _____
10	108.2	12" Storm Drain Pipe	650.	LF	$ _____	$ _____
11	108.2	12" Storm Drain Pipe (C-900 PVC)	63.	LF	$ _____	$ _____
12	108.2	18" Storm Drain Pipe (C-900 PVC)	220.	LF	$ _____	$ _____
13	108.2	18" Storm Drain Pipe	1,000.	LF	$ _____	$ _____
14	108.2	21" Storm Drain Pipe	415.	LF	$ _____	$ _____
15	108.2	24" Storm Drain Pipe	300.	LF	$ _____	$ _____
16	108.2	36" Storm Drain Pipe	675.	LF	$ _____	$ _____
17	108.3	1' Water Pipe (Schedule 40 PVC)	600.	LF	$ _____	$ _____
18	108.3	1" Water Yard Hydrant	10.	EA	$ _____	$ _____
19	108.2	Import Trench Backfill	550.	CY	$ _____	$ _____
20	108.3	6" Gate Valve	18.	EA	$ _____	$ _____
21	108.3	8" Gate Valve	3.	EA	$ _____	$ _____
22	108.3	12" Gate Valve	2.	EA	$ _____	$ _____
23	108.3	8" x 6" Tee	12.	EA	$ _____	$ _____
24	108.3	12" x 6" Tee	4.	EA	$ _____	$ _____
25	108.3	12" x 8" Tee	1.	EA	$ _____	$ _____
26	108.3	8", 90° Elbow	1.	EA	$ _____	$ _____
27	108.3	8", 22.5° Elbow	8.	EA	$ _____	$ _____
28	108.3	8", 45° Elbow	16.	EA	$ _____	$ _____
29	108.3	8", 11.25° Elbow	1.	EA	$ _____	$ _____
30	108.3	12", 22.5° Elbow	3.	EA	$ _____	$ _____
31	108.3	12", 45° Elbow	2.	EA	$ _____	$ _____
32	108.3	8" x 6" Reducer	2.	EA	$ _____	$ _____
33	108.3	6" End Cap/Plug	8.	EA	$ _____	$ _____
34	108.3	8" x 8" Tee	2.	EA	$ _____	$ _____
35	108.3	Fire Hydrant	10.	EA	$ _____	$ _____
36	108.3	12" x 8" Reducer	1.	EA	$ _____	$ _____
37	108.3	4" Sewer Service Tap	8.	EA	$ _____	$ _____
38	108.3	Sanitary Sewer Cleanout (2-way) to include appurtenances per City Standard Detail SS - 07.	8.	EA	$ _____	$ _____
39	108.3	1" Tapping Saddle	2.	EA	$ _____	$ _____
40	108.3	1" Corporation Stop	2.	EA	$ _____	$ _____
41	108.3	1" Tee	10.	EA	$ _____	$ _____

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Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
42	108.3	1" Backflow Prevention Device	2.	EA	$ _____	$ _____
43	108.4	2" Water Service Line (HDPE)	300.	LF	$ _____	$ _____
44	108.4	2" Water Service Assembly	9.	EA	$ _____	$ _____
45	108.5	Sanitary Sewer Basic Manhole (48" I.D.)	10.	EA	$ _____	$ _____
46	108.5	Manhole Barrel Section (D>5')(48" I.D.)	30.	VLF	$ _____	$ _____
47	108.5	Storm Sewer Basic Manhole (48" I.D.)	4.	EA	$ _____	$ _____
48	108.5	Connect to Existing Manhole (8" Pipe)	1.	EA	$ _____	$ _____
49	108.5	Storm Sewer Flared End Section (36" I.D.)	3.	EA	$ _____	$ _____
50	108.5	Pour in Place Storm Drain Box. Box L2 and N1 on the plan set.	2.	EA	$ _____	$ _____
51	108.5	ADS Inlets or engineer approved equal	25.	EA	$ _____	$ _____
52	108.5	Storm Sewer Flared End Section (24" I.D.) (Directly in front of outlets structure pond 3)	1.	EA	$ _____	$ _____
53	108.6	Double Storm Drain Inlet (Vertical Curb)	1.	EA	$ _____	$ _____
54	108.6	Triple Large Storm Drain Area Inlet	1.	EA	$ _____	$ _____
55	108.6	Storm Sewer Basic Manhole (72" ID)	4.	EA	$ _____	$ _____
56	108.6	Special Small Storm Drain Area Inlet (see plan details)	10.	EA	$ _____	$ _____
57	108.6	Outlet Structure - See "Water Quality Outlet Structure Pond 3" to include all appurtenances (complete in place).	1.	EA	$ _____	$ _____
58	108.6	Single Storm Drain Inlet (Vertical Curb) (24"x36")	9.	EA	$ _____	$ _____
59	108.6	Large Area Inlet (24"x36")	8.	EA	$ _____	$ _____
60	108.7	Granular Stabilization Material (Type B)	1,500.	TON	$ _____	$ _____
61	203	Excavation and Embankment - See SP - 4.	47,800.	CY	$ _____	$ _____
62	206	Import Structure Backfill (Engineer Approved - Above Pond Liner) (1' Thick) See Special Previsions (SP-11) in Addendum No. 2.	12,000.	SY	$ _____	$ _____
63	206	Structure Backfill (Below Pond Liner) (4" Thick)	12,000.	SY	$ _____	$ _____
64	207	Topsoil (6" Thick) (all areas subject to plantings)	60,500.	SY	$ _____	$ _____
65	207	Import Fill Material - Clean fill 12" Thick at all areas with ground cover not paved	60,500.	SY	$ _____	$ _____
66	208	Erosion Control (Complete in Place)	Lump	SUM	- - -	$ _____
67	208	Stabilized Construction Entrance	2.	EA	$ _____	$ _____
68	209	Dust Abatement	270.	DAYS	$ _____	$ _____
69	210	Reset Structures - Reset SSMH C1	1.	EA		
70	304	Aggregate - River Cobble 1" -3" (6" Thick) to include approved fill below. (Butterfly Lake)	7,800.	SY	$ _____	$ _____
71	304	Subgrade Stabilization - Aggregate Base Course (Class 3) (12" Thick)	4,000.	SY	$ _____	$ _____
72	304	Aggregate Base Course (Class 6) (13" Thick)	12,250.	SY	$ _____	$ _____
73	306	Reconditioning (12" Deep)	16,000.	SY	$ _____	$ _____
74	304	Pond Aggregate (Generated on site) to be placed over engineer approved backfill. See Sp - 4.	4,200.	SY	$ _____	$ _____

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Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
75	401	Hot Mix Asphalt (5" thick) (Grading SX 75, Binder Grade 64-22)	3,400.	TON	$ _____	$ _____
76	420	Geosynthetics - Mirafi RS580i or approved equal	4,000.	SY	$ _____	$ _____
77	420	Geotextile Fabric (Non-Woven) Underlayment at Pond Liner.	108,000.	SF	$ _____	$ _____
78	504	Concrete Wall (Class D) per M and S Standard M-601-20 (Wall Design Height 5'). Work shall include approximately 720 lbs. Reinforcing Steel (Epoxy Coated), Structural Concrete Coating (Exterior of wall), 38 cy Structural Backfill (Class 1) and any necessary appurtenances to complete work. Includes water spill adjustment flat bar. Refer to Plan Sheets for detail. (waterfall wall)	20.	CY	$ _____	$ _____
79	504	Concrete Wall (Class D) per M and S Standard M-601-20 (Wall Design Height 3'). Work shall include approximately 12,650 lbs. Reinforcing Steel (Epoxy Coated), Structural Concrete Coating (Exterior of wall), 540 cy Structural Backfill (Class 1) and any necessary appurtenances to complete work. Refer to Plan Sheets for detail. (pond perimeter walls, upper/lower waterfall trough walls, and check dam wall)	286.	CY	$ _____	$ _____
80	504	Concrete Wall (Class D) per M and S Standard M-601-20 (Wall Design Height 3'). Work shall include approximately 15,100 lbs. Reinforcing Steel (Epoxy Coated), Structural Concrete Coating (Exterior of wall), 640 cy Structural Backfill (Class 1) and any necessary appurtenances to complete work. Refer to Plan Sheets for detail. (lake perimeter wall)	350.	CY	$ _____	$ _____
81	506	Riprap (d50=12" to include geogrid)	120.	SY	$ _____	$ _____
82	607	Steel Hand Rail (adjacent to HVOHP pole remaining in place)	40.	LF	$ _____	$ _____
83	607	6' Black Vinyl Coated Chain Link Fencing to include gates and appurtenances.	1,845.	LF	$ _____	$ _____
84	608	Concrete Pavement (Roundabout and in and around Trash enclosure) (10" Thick) to include 6" of Class 6 Aggregate Base Course.	1,800.	SY	$ _____	$ _____
85	608	Concrete Curb and Spill Gutter (1.5' Wide) to include 6" of Class 6 Aggregate Base	1,345.	LF	$ _____	$ _____
86	608	Concrete Median Edger (1.5' wide) to include 4" of Class 6 Aggregate Base Course)	410.	LF	$ _____	$ _____
87	608	Concrete Truck Apron (Roundabout) (10" Thick) to include 6" of Class 6 Aggregate Base Course.	300.	SY	$ _____	$ _____

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Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
88	608	Concrete Slope Pave (6" Thick) to include 6" of Class 6 Aggregate Base Course.	25.	SY	$ _____	$ _____
89	608	Concrete Terrace Edger to include 6" of Class 6 Aggregate Base Course. See Plan Details at both ends of Butterfly Bridge.	710.	LF	$ _____	$ _____
90	608	Concrete Art Pedestals (See Detail)	8.	EA	$ _____	$ _____
91	608	Concrete Curb (6" Wide, 14" High) to include 6" of Class 6 Aggregate Base Course.	1,925.	LF	$ _____	$ _____
92	608	Concrete Curb and Gutter (2' Wide) to include 6" of Class 6 Aggregate Base	3,600.	LF	$ _____	$ _____
93	608	Concrete Drive Over Curb and Gutter (2.5' Wide) to include 6" of Class 6 Aggregate Base Course.	705.	LF	$ _____	$ _____
94	608	Concrete Sidewalk (6" Thick) to include 6" of Class 6 Aggregate Base Course.	14,230.	SY	$ _____	$ _____
95	608	Concrete Pavement (Parking) (8" Thick) to include 6" of Class 6 Aggregate Base Course.	2,250.	SY	$ _____	$ _____
96	608	Concrete Drainage Pan (3' Wide) to include 6" of Class 6 Aggregate Base Course.	270.	LF	$ _____	$ _____
97	608	Concrete Drainage Pan (6' Wide) to include 6" of Class 6 Aggregate Base Course.	600.	LF	$ _____	$ _____
98	608	Concrete Corner Fillet to include 6" of Class 6 Aggregate Base Course.	42.	SY	$ _____	$ _____
99	608	Concrete Curb Ramp to include 6" of Class 6 Aggregate Base Course.	180.	SY	$ _____	$ _____
100	608	Concrete Sidewalk (Pond Edger) (Spanish Gold) (6" Thick) to include 6" of Class 6 Aggregate Base Course.	660.	SY	$ _____	$ _____
101	608	Detectable Warning (Cast Iron, Wet Set) (2'x2)	50.	EA	$ _____	$ _____
102	613	2" Schedule 80 PVC (Century Link)	2,200.	LF	$ _____	$ _____
103	613	4" Schedule 80 PVC (Century Link)	2,200.	LF	$ _____	$ _____
104	613	6" Schedule 80 PVC (City Broadband)	2,200.	LF	$ _____	$ _____
105	613	Joint Trench	3,000.	LF	$ _____	$ _____
106	613	Large Splice Box (Quasite) (3' - 2 5/8" x 2'-2")	12.	EA	$ _____	$ _____
107	620	Sanitary Facility	1.	EA	$ _____	$ _____
108	625	Construction Surveying	Lump	SUM	- - -	$ _____
109	626	Mobilization	Lump	SUM	- - -	$ _____
110	627	Preformed Thermoplastic Pavement Marking (Handicap Symbol)	8.	EA	$ _____	$ _____
111	627	Preformed Thermoplastic Pavement Marking (X-walk) (2' x 10' TYP.)	30.	EA	$ _____	$ _____
112	627	Preformed Thermoplastic Pavement Marking (8" White Dotted Line, 2' Segment, 3' Gap)	100.	LF	$ _____	$ _____
113	627	Preformed Thermoplastic Pavement Marking	20,000.	LF	$ _____	$ _____
114	630	Traffic Control (Complete In Place)	Lump	SUM	- - -	$ _____
115	630	Traffic Control Plan	Lump	SUM	- - -	$ _____
116	712	Geomembrane (40 Mil) - See SP - 9.	108,000.	SQ. FT.	$ _____	$ _____

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Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
117	712	Batten Bar (complete in place) (irrigation ponds and butterfly lake) See Sp - 10 for details.	3,000.	LF	$ _____	$ _____
118	712	Pond Liner Ventilation System.	Lump	SUM	- - -	$ _____
119	712	Plaza Area Surface Treatment (pour in place EPDM) (Engineer Approved)	1,250.	SY	$ _____	$ _____
120		**LANDSCAPE**				
121		Lawn, Hydroseeded, Fine Grade	345,620.	SF	$ _____	$ _____
122		Native Grass, Hydroseeded, Fine Grade	27,036.	SF	$ _____	$ _____
123		Shrub Bed - Wood mulch, No fabric	91,259.	SF	$ _____	$ _____
124		Shrub Bed - Decomposed Granite, No fabric	69,651.	SF	$ _____	$ _____
125		Pea Gravel	772.	SF	$ _____	$ _____
126		Concrete Edger	4,325.	LF	$ _____	$ _____
127		2" Canopy Trees	69.	EA	$ _____	$ _____
128		1-1/2" Ornamental Trees	17.	EA	$ _____	$ _____
129		6 ft Evergreen Trees	21.	EA	$ _____	$ _____
130		5 Gallon Deciduous Shrubs	814.	EA	$ _____	$ _____
131		1 Gallon Deciduous Shrubs	112.	EA	$ _____	$ _____
132		5 Gallon Evergreen Shrubs	248.	EA	$ _____	$ _____
133		1 Gallon Perennials	545.	EA	$ _____	$ _____
134		Boulders, 5'X3'	33.	EA	$ _____	$ _____
135		Boulders, 3'X2'	17.	EA	$ _____	$ _____
136		**IRRIGATION**				
137		4" Conduit Sleeves, includes trenching, backfill & compaction	920.	LF	$ _____	$ _____
138		6" Conduit Sleeves, includes trenching, backfill & compaction	30.	LF	$ _____	$ _____
139		2 Wire Irrigation Control Wire	4,560.	LF	$ _____	$ _____
140		Rainbird FD-101TURF decoder	71.	EA	$ _____	$ _____
141		LSP-1 Surge Protector	17.	EA	$ _____	$ _____
142		tap into existing irrigation system	1.	LS	$ _____	$ _____
143		6" C900 DR 18 PVC Mainline, including Trenching, Filling, and thrust blocking	4,560.	LF	$ _____	$ _____
144		4" Isolation Valve (at tap)	2.	EA	$ _____	$ _____
145		Flow Sensor	2.	EA	$ _____	$ _____
146		4" Master Valve	2.	EA	$ _____	$ _____
147		4" Pressure Reducing Valve	2.	EA	$ _____	$ _____
148		6" Isolation Valve	7.	EA	$ _____	$ _____
149		Drain Valve, 2" Mueller	1.	EA	$ _____	$ _____
150		1-1/2" Automatic Control Valve Assembly	28.	EA	$ _____	$ _____
151		2" Automatic Control Valve Assembly	43.	EA	$ _____	$ _____
152		Future Valve Location assembly	12.	EA	$ _____	$ _____
153		1401 Bubbler Heads, on riser, swing pipe	3,170.	EA	$ _____	$ _____
154		1804 Pop-up heads, spray nozzle	248.	LF	$ _____	$ _____
155		1804 Pop-up heads, R-VAN nozzle	100.	EA	$ _____	$ _____
156		5004 Gear Drive head, swing joint assembly	272.	EA	$ _____	$ _____

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Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
157		6504 Gear Drive head, swing joint assembly	171.	EA	$ _____	$ _____
158		Quick Coupler Valve	18.	EA	$ _____	$ _____
159		1" Poly Lateral for bubbler	13,930.	EA	$ _____	$ _____
160		1" Class 160 PVC Lateral Piping Including Trenching and Filling	11,360.	LF	$ _____	$ _____
161		1-1/2" Class 160 PVC Lateral Piping Including Trenching and Filling	8,310.	LF	$ _____	$ _____
162		2" Class 160 PVC Lateral Piping Including Trenching and Filling	3,640.	LF	$ _____	$ _____
163		2-1/2" Class 160 PVC Lateral Piping Including Trenching and Filling	810.	LF	$ _____	$ _____
164		Rainbird LDI (Large Decoder Interface)	1.	EA	$ _____	$ _____
165		Irrigation Controller Ground Plate and Grounding Rod Assembly	1.	EA	$ _____	$ _____
166		2 HP Otterbine Floating Fountain with anchor block	1.	EA	$ _____	$ _____
167		10 HP Recirculation Munro Pump and Slide Rail Assembly	1.	EA	$ _____	$ _____
168		60" manhole sump w/ 36" hatch		EA		
169		**Boat Ramp**				
170	**A**	**Preconstruction Services**				
171	1	Mobilization, General Conditions & Best Management Practices	Lump	SUM	- - -	$ _____
172	**B**	**Erosion Control and Care of Water**				
173	4	General Staging Area BMPs	Lump	SUM	- - -	$ _____
174	5	Care of Water (COW) Practices	Lump	SUM	- - -	$ _____
175	**C**	**BOAT RAMP CONSTRUCTION AND SITE IMPROVEMENTS**				
176	6	Clear and grub site	40,000.	SF	$ _____	$ _____
177	7	Unclassified Bank Excavation	2,675.	CY	$ _____	$ _____
178	8	Placement and Rough Grading of Excavated Material On Site	400.	CY	$ _____	$ _____
179	9	Stockpile Excavated Alluvium Nearby	2,635.	CY	$ _____	$ _____
180	10	Scarify and Recompact Subgrade (Depicted Parking Area & Under Concrete)	27,000.	SF	$ _____	$ _____
181	11	Furnish and Rough Grade Suitable Subgrade Base Course per Geotechnical Specifications	447.	TONS	$ _____	$ _____
182	12	Furnish and Compact 8" min. of CDOT Class-6 Road Base (Depicted Parking Area and Turn Around)	990.	TONS	$ _____	$ _____
183	13	Furnish and Install 6" Concrete Sidewalk, Including Curb and Gutter	37.	CY	$ _____	$ _____
184	14	Furnish and Install Cedar Log Parking Delineation	660.	LF	$ _____	$ _____
185	15	Furnish and Install #3 Rebar for Cedar Log Installation	132.	LF	$ _____	$ _____
186	16	98% Compacted Subgrade on Undisturbed Alluvium (Boat Ramp)	4,000.	SF	$ _____	$ _____
187	17	Furnish and Compact 6" CDOT Class-6 Road Base (Boat Ramp)	124.	TONS	$ _____	$ _____

Bid Schedule: Las Colonias Business Park Phase 2
Addendum No. 3

Contractor: _____

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
188	18	Reinforced Concrete Cast in Place and Texture Boat Ramp (8" Thick Slab)	79.	CY	$ _____	$ _____
189	19	Furnish and Install 3" Minus Ramp Shoulder (8" depth)	11.	CY	$ _____	$ _____
190	20	Furnish and Install 12" Minus Ramp Shoulder (18" depth)	25.	CY	$ _____	$ _____
191	21	Furnish and Install Boulder for Ramp Toe and Terraced Landing	119.	TONS	$ _____	$ _____
192	22	Place Boulder for Ramp Toe and Terraced Landing	200.	TONS	$ _____	$ _____
193	23	Furnish and Install Non-woven Filter Fabric	715.	SY	$ _____	$ _____
194	24	Furnish and Install 1-2mm Sand (8" depth)	63.	CY	$ _____	$ _____
195	25	Furnish and Install 5/8" Rounded Gravel (8" depth)	32.	CY	$ _____	$ _____
196	26	Furnish and Install 1" Rounded Gravel (8" depth)	28.	CY	$ _____	$ _____
197	27	Furnish and Install Boat Staging Tie-offs	4.	EA	$ _____	$ _____
198	28	Topsoil, Seeding, and Planting	Lump	SUM	- - -	$ _____
199	29	Furnish and Install Erosion Control Blankets	328.	SY	$ _____	$ _____
200	30	Irrigation	Lump	SUM	- - -	$ _____
201		**Composite Utility Schedules**				
202		2" Schedule 80 PVC	13,000.	LF	$ _____	$ _____
203		4" Schedule 80 PVC	600.	LF	$ _____	$ _____
204		Type One Pull Box	144.	EA	$ _____	$ _____
205		Wiring	Lump	SUM	- - -	$ _____
206		Light Standard and Luminaire (Pedestrian)	90.	EA	$ _____	$ _____
207		Light Standard and Luminaire (Street)	12.	EA	$ _____	$ _____
208		Light Standard Foundation (Pedestrian)	90.	EA	$ _____	$ _____
209		Light Standard Foundation (Street)	12.	EA	$ _____	$ _____
210		Light Standard and Luminaire (Waterfall)	3.	EA	$ _____	$ _____
211		Nema 3R Enclosure (Waterfall Controls)	1.	EA	$ _____	$ _____
212		Nema Disconnect Panels	3.	EA	$ _____	$ _____
213		Lighting Control Center PWR Pedestal (Special)	3.	EA	$ _____	$ _____
214		RV/Food Truck Pedestals	10.	EA	$ _____	$ _____
215		Trench - Site Lighting and Electrical will require approximately 10,000 Linear Feet of Trencing.	Lump	SUM	- - -	$ _____
MCR		Minor Contract Revisions	- - -	- - -	- - -	$ 300,000.00

Bid Amount: **$** _____

Bid Amount:

_____ **dollars**

PlayBound™ Poured-in-Place 10-Part Specification

1. Product Name

PlayBound™ Poured-in-Place Playground Surfacing: Super-7 (when aromatic urethane for the top surface is specified) with a 7-year warranty & Extreme-10 (when aliphatic urethane for the top surface is specified) with a 10-year warranty.

2. Manufacturer

Surface America, Inc.
PO Box 157
Williamsville, NY 14231
(800) 999-0555
(716) 632-8413
Fax: (716) 632-8324
E-mail: info@surfaceamerica.com
http://www.surfaceamerica.com

3. Product Description

BASIC USE

PlayBound™ Poured-in-Place Playground Surfacing is designed for playgrounds.

COMPOSITION & MATERIALS

PlayBound™ Poured-in-Place surfacing is a 2-layer system consisting of a basemat of 100% post-consumer recycled SBR (styrene butadiene rubber) and polyurethane and a top surface consisting of recycled post-industrial EPDM (ethylene propylene diene monomer) rubber and aromatic or aliphatic urethane binder.

The type of playground equipment determines the required basemat thickness, and the basemat thickness may be different at various locations on the playground site. Depending on ASTM F1292 requirements for critical fall height 4’, 5’, 6’, 7’, 8’, 9’ or 10’ (1.2, 1.75, 1.8, 2.1, 2.4, 2.7, 3.1, or 3.6 m), select basemat thickness from optional thicknesses 1 1/4 ", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", or 5" (31.75, 38, 51, 64, 76, 89, 102,

or 127 mm), respectively. Specify project requirements and coordinate with working drawings.

Typical design edge details include:

• Loose fill poured-in-place crushed stone (contained)

• Loose fill poured-in-place concrete

• Flush poured-in-place

• Overrun poured-in-place

• Saw Cut poured-in-place

BASEMAT THICKNESSES

1 1/4", 1 1/2", 2", 2 1/2", 3", 3 1/2", 4", 5" (31.75, 38, 51, 64, 76, 89, 102, 127 mm)

TOP SURFACE THICKNESS

Nominal 1/2" (12.7 mm), minimum 3/8" (9.5mm), maximum 5/8" (15.9 mm)

TOP SURFACE COLORS

- Standard Combination - 50% Terra Cotta Red / 50% Black
- Standard Combination - 50% Beige / 50% Black
- Standard Combination - 50% Hunter Green / 50% Black
- Standard Combination - 50% Royal Blue / 50% Black
- Terra Cotta Red
- Primary Red
- Orange (indoor only)
- Pink
- Gold
- Beige
- Yellow
- Bright Green
- Army Green
- Hunter Green
- Teal
- Sky Blue
- Royal Blue

- Purple
- Pearl
- Eggshell
- Brown
- Light Gray
- Dark Gray
- Black
- Custom color combinations and graphics

LIMITATIONS

The following chemicals may cause damage to the playground surface and should be avoided: disinfectants, concentrated chlorine bleach, gasoline, diesel fuel, hydraulic and lubricating oils, acids and organic solvents.

Though not commonly used in water play areas, pool surrounds and similar applications, dissolved minerals and other chemicals (hydrochlorides) may cause surface discoloration over time. This condition, should it occur, is not considered to be a product failure.

A yellowish shading of the top surface will be noticeable when using standard aromatic urethane binder (Super-7 system) to encapsulate some colors of EPDM granules. This characteristic is industry-wide. An aliphatic urethane binder (Extreme-10 system), which does not produce this yellowish shading, is recommended. The specifier should seriously consider its use, especially with the following surface colors: blue, teal, purple, pearl, eggshell and grays. For indoor applications where variable exposure to UV (ultraviolet) light occurs through windows, use of the aliphatic binder is recommended to ensure acceptable long-term aesthetic and visual consistency. Aliphatic binder must be used for water play areas.

4. Technical Data

APPLICABLE STANDARDS

ASTM International

• ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers- Tension

• ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers

• ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish- Coated Floor Surfaces as Measured by the James Machine

• ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials

• ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester

• ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment

• ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment

APPROVALS

PlayBound Poured-in-Place Playground Surfacing is certified by the International Play Equipment Manufacturers Association (IPEMA). Contact manufacturer for information on approvals by major owners, agencies and other industry entities.

ENVIRONMENTAL CONSIDERATIONS

This system makes extensive use of recycled tire rubber as a major component.

PHYSICAL/CHEMICAL PROPERTIES

• Shock attenuation (ASTM F1292) Gmax - Less than 200

• Head injury criteria - Less than 1000

• Tensile strength (ASTM D412) - 60 psi (413 kPa)

• Tear resistance (ASTM D624) - 140%

• Water permeability - 0.4 gal/yd2/second

• Dry static coefficient of friction (ASTM D2047) - 1.0

• Wet static coefficient of friction (ASTM D2047) - 0.9

• Dry skid resistance (ASTM E303) - 89

• Wet skid resistance (ASTM E303) - 57 Required mix proportions by weight:

• Basemat - 16+% urethane (as ratio: 14% urethane divided by 86% rubber). 14% urethane, 86% rubber (based on entire rubber & urethane mix).

• Top Surface - 22% urethane (ratio: 18% urethane divided by 82% rubber). 18% urethane, 82% rubber (based on entire rubber & urethane mix).

Test reports and additional product information are available upon request.

FIRE PERFORMANCE

Flammability (ASTM D2859) - Pass

5. Installation

PREPARATORY WORK

Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C).

METHODS

Do not proceed with playground surfacing installation until all applicable site work, including substrate preparation, fencing, playground equipment installation and other relevant work, has been completed.

Substrate preparation must be in accordance with surfacing manufacturer’s specification. New asphalt must be fully cured – up to 30 days. New concrete must be fully cured – up to 7 days.

Surface Preparation

Using a brush or short nap roller, apply primer to the substrate perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft2/gal (7.5 m2/L).

Basemat Installation

Using screeds and hand trowels, install the basemat at a consistent density of 29 pounds,

10 ounces per cubic foot (475 kg/m3) to the specified thickness.

Allow basemat to cure for sufficient time so that indentations are not left in the basemat from applicator foot traffic or equipment. Do not allow foot traffic or use of the basemat surface until it is sufficiently cured.

Primer Application

Using a brush or short nap roller, apply primer to the basemat perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft2/gal (7.5 m2/L).

Top Course Installation

Using a hand trowel, install basemat at a consistent density of 58 pounds, 9 ounces per cubic foot (938 kg/m3) to a nominal thickness of 1/2" (12.7 mm).

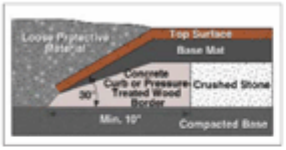
Allow top course to cure for a minimum of 48 hours. At the end of the minimum curing period, verify that the top course is sufficiently dry and firm to allow foot traffic and use without damage to the surface. Do not allow foot traffic or use of the surface until it is sufficiently cured.

Complete installation recommendations are available from the manufacturer.

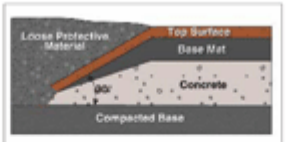
PRECAUTIONS

Protect the installed playground surface from damage resulting from subsequent construction activity on the site.

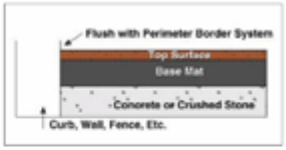
BUILDING CODES



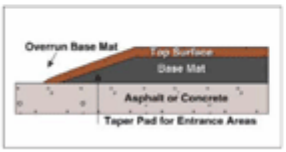
Typical Edge Detail: Loose-Fill with Crushed Stone (contained)



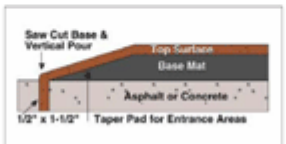
Typical Edge Detail: Loose-Fill with Concrete



Typical Edge Detail: Flush



Typical Edge Detail: Overrun



Typical Edge Detail: Saw Cut

Current data on product compliance may be obtained from the manufacturer’s technical support specialists.

6. Availability & Cost

AVAILABILITY

PlayBound Poured-in-Place Surfacing System is available through Surface America, Inc. Contact Surface America, Inc. for more information.

COST

Budget installed cost information may be obtained from Surface America, Inc.

7. Warranty

The standard warranty period is 7 years from date of completion of work when aromatic urethane is specified (Super-7 system). 10 years from date of completion of work when aliphatic urethane is specified (Extreme-10 system). 2 years from date of completion of work when surface is in water play areas, pool surrounds or similar applications. Contact Surface America, Inc. for more information on warranty terms.

8. Maintenance

Hose off entire playground surface to remove food, drink, sand, dirt and loose debris. A pressure washer may be used, but do not exceed 1500 psi (10 MPa) pressure or place nozzle closer than 12" (305 mm) to surface. While surface is still damp, apply a mild household or commercial cleaner to a small area using a sprayer. Scrub using a medium bristle brush. Repeat as necessary on heavily stained areas. Once entire surface has been cleaned, rinse using a garden hose with spray nozzle attachment. Complete maintenance recommendations are available from the manufacturer.

9. Technical Services

Surface America, Inc., works closely with the contractor to ensure the site is prepared and the installation is on schedule. For technical assistance, contact Surface America, Inc.

10. Filing System

Additional product information is available from Surface America, Inc., upon request.

Swellstop

Water Swellable Sealant

Waterproofing

Description	Swellstop is a butyl polymer based sealant tape.
Where to Use	■ Cold joint in foundation slabs or below grade walls ■ Precast concrete wall panel systems ■ Septic tanks ■ Sanitary and storm sewer manholes ■ Utility vaults, portable water tanks and box culverts ■ Pipes (round, oval, flat-base elliptical and arch types) ■ Wet wells Please note that Swellstop is not an expansion joint material and should not be used as one. Swellstop requires no special handling equipment. It is clean to the touch and does not contain any material that can discolor or irritate the skin.
Benefits	■ Swellstop is a water-swellable, waterproofing sealant designed for use on many types of poured-in-place and below grade precast concrete applications. ■ On exposure to water it will begin to swell to seal any exposed gaps in concrete joints. Swellstop has excellent adhesion to clean, dry concrete. It is specifically intended for non-moving joints. It features all weather application and is engineered for use under most temperature conditions. ■ Swellstop stays flexible in cold weather without shrinking or hardening and does not require heating for application. In hot weather, Swellstop remains pliable and does not become spongy.
Typical Data	
Packaging	Swellstop: 3/4” X 1” X 16’-8” roll (6 rolls or 100’ per carton) Swellstop II: 3/8” x 3/4” x 25’ roll (6 rolls or 150’ per carton)

Property	Test Method	Typical Values
Color	ASTM D1729	Black
Odor		None
Application Temperature		5°F to 125°F
Service Temperature		-40°F to 215°F
Cone Penetration, 300 g	ASTM D217	55-60 dmm
% Solids	ASTM C771	99% after 4 hours @ 212°F
Specific Gravity	ASTM D297	1.60 $\pm$ 0.05 g/cm^3
Weight per Gallon		13.3 pounds per gallon
Water Swell Capability	TP-001	After 3 days water immersion = > 25% by weight After 2 months water immersion = 140-170% by weight
Hydrostatic Pressure Test*		Maintains a minimum head pressure of 100 psi
Flow Resistance		No flow from a 3/4 inch overhead joint exposed to 135°F for 7 days
Flash Point	ASTM D92	610°F
Shelf Life		Indefinite when stored in dry warehouse conditions

*Note: Hydrostatic pressure test indicates the pressure necessary to penetrate directly through the sealant. It does not reflect application pressure to seal a joint.

Results may differ based upon statistical variations depending upon equipment, temperature, application methods, test methods, and actual site conditions.

Waterproofing

How to Use

Surface Prep

Joint surfaces must be clean and dry. For best results, apply adhesive primer to the joint surface (especially vertical joints) before applying Swellstop. The primer creates a tacky surface to ensure a firm bond to the concrete.

Swellstop is installed after the form is stripped from the first pour and before the second pour is placed. A keyway may be formed in the first pour with a slight draft angle at the joint face to accept the Swellstop, this will reduce the risk of the profile shifting during concrete placement. This may increase the chance of Swellstop being exposed to pooling water. However, Swellstop does not need to be located in a keyway.

The concrete surface should be smooth, dry, and cured for a minimum of 24 hours prior to Swellstop application.

Brush apply a 2" wide continuous coat of Swellstop Primer Adhesive along the joint and allow it to dry for two hours before applying the Swellstop waterstop. The primer adhesive provides a dust free, tacky surface to improve the adhesion of Swellstop to the concrete.

Application

■ Swellstop Primer Adhesive and Swellstop waterstop should be applied on the same day.

■ Press Swellstop waterstop firmly and continuously in place over and along the primed area. Swellstop can also be mechanically fastened to concrete using concrete nails in vertical or overhead applications. This should be done in addition to using the primer adhesive. Suggested fastener spacing is approximately 12" on center.

■ Swellstop adheres to the butt end of the previous concrete pour and should be positioned a minimum of 2-inches from the exterior joint surface. Concrete cut nails and/or adhesive must be used to secure Swellstop in place to prevent displacement during the pour.

■ Swellstop may also be installed in a cast-in-place recess at the exterior side of the joint. Precautions must be taken to protect the product from hydration prior to backfilling in this situation. Backfill must be compacted to 85% modified proctor minimum adjacent to the joint. The recess at the exterior of the joint should match the dimension of the Swellstop.

■ Swellstop waterstop should be spliced by butting the ends together with no separation or air pockets. Do not overlap the ends of the waterstop. It is not necessary to miter cut the Swellstop at these intersections. The pliable nature of Swellstop permits it to be bent around corners eliminating a 90° splice if desired. Place in maximum practical lengths to minimize splicing.

■ Protect waterstop from moisture, dirt, oil, and sunlight during the progress of the work. Do not remove separation paper from Swellstop waterstop until just prior to the second concrete pour. Inspect Swellstop for premature swell, discontinuity, and debris contamination immediately prior to the second concrete pour. If swelling and/or damage has occurred, remove and replace the material with new.

■ Place and thoroughly vibrate concrete, taking care not to disturb or displace the waterstop. Do not allow vibrator to contact the Swellstop.

Limitations

Swellstop waterstop should be used in below grade, nonmoving joints only and is not appropriate for expansion joint applications.

Cracking and/or spalling of the concrete can be caused by the expansion pressure of Swellstop waterstop. A minimum 2" of concrete coverage is recommended. Increase this coverage if using lightweight or low strength concrete (< 3,500 PSI compressive strength).

Swellstop waterstop requires the presence of moisture to initiate and maintain expansion. The expansion process begins immediately when Swellstop contacts water.

Shelf Life

2 years when stored in a cool, dark, and dry environment.

Storage

Store in a cool, dark, and dry environment.

KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR INDUSTRIAL USE ONLY • FOR PROFESSIONAL USE ONLY

Sika Greenstreak Sales Office
3400 Tree Court Industrial Blvd.
St. Louis, MO 63122
Tel: (636) 225-9400
Fax: (636) 225-2049
usa.sika.com

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: (201) 933-8800
Fax: (201) 933-6225
usa.sika.com

Sika Canada Inc.
601, Delmar Avenue
Pointe-Claire, QC H9R 4A9
Phone: (514) 697-2610
Fax: (514) 697-3087
can.sika.com

PRIOR TO EACH USE OF ANY SIKA PRODUCT, THE USER MUST ALWAYS READ AND FOLLOW THE WARNINGS AND INSTRUCTIONS ON THE PRODUCT'S MOST CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET WHICH ARE AVAILABLE ONLINE AT HTTP://USA.SIKA.COM/ OR BY CALLING SIKA'S TECHNICAL SERVICE DEPARTMENT AT 800-933-7452. NOTHING CONTAINED IN ANY SIKA MATERIALS RELIEVES THE USER OF THE OBLIGATION TO READ AND FOLLOW THE WARNINGS AND INSTRUCTION FOR EACH SIKA PRODUCT AS SET FORTH IN THE CURRENT PRODUCT DATA SHEET, PRODUCT LABEL AND SAFETY DATA SHEET PRIOR TO PRODUCT USE.

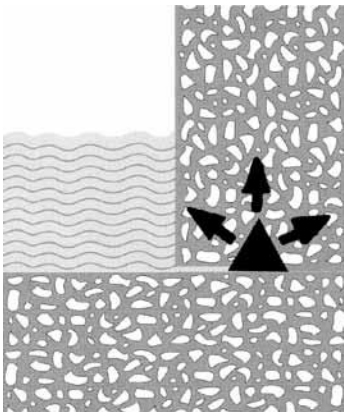
Construction

SikaSwell® S-2

One part polyurethane, extrudable swelling waterstop (bentonite-free)

Description

SikaSwell S-2 is a specially formulated, high-performance, swellable, one-component, polyurethane-based waterstop for use in all kinds of construction joints. Swelling rubber creates a compression seal within joint, blocking the passage of water.



Where to Use

- Designed for construction joints in new watertight concrete structures.
- Excellent for sealing pipe penetrations through walls and floor slabs.
- Excellent for sealing joints between precast elements.
- May be applied to horizontal, vertical and overhead surfaces.
- Ideal for watertight construction joints between new and existing concrete.

Advantages

- Swells up to 100% in potable water, slightly less in salt water and wastewater.
- Permanently water resistant, with no leaching and does not dissolve in water.
- Capable of sealing construction joints with head pressures of up to 50 psi (115 ft. head).
- Elastic-withstands wet/dry cycling.
- Easy, simple application.
- Adaptable in the field to suit job requirements.
- No nails, glue, or hooks required.
- Controlled expansion eliminates cracking in fresh concrete.
- Offers resistance to various chemicals.
- Thixotropic properties allow SikaSwell S-2 to seal irregular joint surfaces.
- Very economical.
- Saves labor by eliminating inverted keyways, split forming, heat splicing, special fittings and tieing to rebar associated with conventional PVC waterstops.
- No mixing required.
- Allows more thorough vibration of concrete at joint, resulting in better concrete consolidation which aids in achieving a watertight joint.

Typical Data *(Material and curing conditions 73°F (23°C) and 50% R.H.)*

RESULTS MAY DIFFER BASED UPON STATISTICAL VARIATIONS DEPENDING UPON MIXING METHODS AND EQUIPMENT, TEMPERATURE, APPLICATION METHODS, TEST METHODS, ACTUAL SITE CONDITIONS AND CURING CONDITIONS.

Shelf life	9 months	
Storage Conditions	For best results, store dry at 70°F (20°C) before using.	
Color	Red	
Temperature of Product for Best Application		50° to 90°F
Tack Free Time		2-3 hours
Shore A Hardness	Swollen (7 days in tap water)	>10
	Non Swollen (7 days)	40-60
Swelling Capacity	1 day	<20%
	7 days	>100%
	Reduced and delayed swelling properties in salty water.	

Suggested Cross Section of Extruded Bead

Concrete Thickness	Number of Beads (in.)	Side length of triangular bead (in.)
8-12	1	5/8
12-20	1	3/4
> 20	2	3/4

Note: *If the maximum size aggregate in the concrete is greater than 1 inch, use 3/4 inch triangular section(s).*

Construction

Coverage

20 fl.oz. uni-pac sausage seals:

Triangular	Yield
5/8 x 5/8 x 5/8 in.	18 lineal ft.
3/4 x 3/4 x 3/4 in.	12 lineal ft.

Note: Yield may vary based on substrate irregularities.

Packaging

Disposable 20 fl. oz., moisture-proof uni-pac sausages, 20/carton.

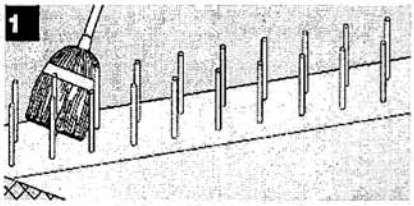
How to Use

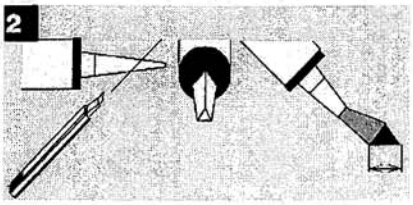
Surface Preparation

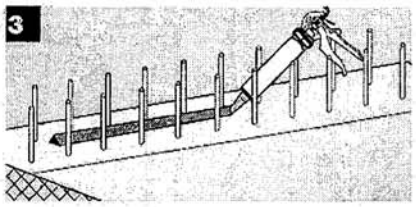
Clean all surfaces. Substrate must be clean, sound, free of loose particles, dust, laitance, oils, and other contaminants. Surface may be dry or damp, with no presence of standing water. Do not leave the product in contact with wet concrete, or on a surface with a very high moisture content, for a long period of time, before casting new concrete. These conditions will decrease the adhesion between the SikaSwell S-2 bead and the surface of the joint.

Application

Recommended application temperatures: 50°-90°F. Extrude material using Sika MK-5 bulk caulking gun or other approved bulk gun. Cut the nozzle to obtain a triangular extrusion section with a size fulfilling effective needs (or use nozzle included in carton of SikaSwell S-2). Apply a uniform, continuous bead to the hardened concrete. Wait for approximately 2 hours after placement of the SikaSwell S-2 before placing concrete. The minimum thickness of concrete around the SikaSwell S-2 should be 4 inches on each side (reinforced concrete) or 6 in. on each side (non-reinforced concrete) and 4 inches on top. For optimum application, store at 70°F for a minimum of 8 hours prior to use; if the material appears stiff, knead the sausage for a short time before placing in bulk gun.







SikaSwell S-2 Installation

1. Clean surface of concrete.
2. Cut nozzle to obtain triangular extrusion section (or use nozzle included in carton of SikaSwell S-2).
3. Apply a uniform, continuous bead to hardened concrete. Wait 2 hours before placing new concrete.

Limitations

- Not suitable for expansion joints.
- Protect from rain to avoid expansion before placing new concrete and to assure 100% swelling capacity.
- Avoid placement of the concrete from a height greater than 20 inches. If this is not possible, allow SikaSwell S-2 to cure for 2 days before placing concrete.

Caution

Avoid skin and eye contact. Use of NIOSH approved organic vapor respirator, safety goggles, and chemical resistant gloves recommended. Remove contaminated clothing and shoes.

First Aid

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes; contact a physician. Wash clothing before re-use. Discard contaminated shoes.

Clean Up

Uncured material can be removed with approved solvent. Cured material can only be removed mechanically. For spillage, collect and dispose of in accordance with current, applicable local, state, and federal regulations.

Visit our website at www.sikausa.com **1-800-933-SIKA NATIONWIDE**

Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 800-933-7452
Fax: 201-933-6225

Sika Canada Inc.
601 Delmar Avenue
Pointe Claire
Quebec H9R 4A9
Phone: 514-697-2610
Fax: 514-694-2792

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

N:\Landproj\2018 LAS COLONIAS BUSINESS PARK (Phase II and Later)\DWG\Phase 2\lake vent.dwg, Layout1, 7/25/2018 9:45:28 AM

N 31613.28
E 96230.75
FG 4575.20
RISER/CAP

N 31559.64
E 96100.18
FG 4575.16
RISER/CAP

N 31593.38
E 96299.07
FG 4575.29
RISER/CAP

N 31701.23
E 96450.00
FG 4575.18
RISER/CAP

N 31639.64
E 96414.37
FG 4575.23
RISER/CAP

N 31566.25
E 96223.21
FG 4567.95
CROSS

N 31575.55
E 96340.83
FG 4575.16
RISER/CAP

N 31597.89
E 96396.52
FG 4575.16
RISER/CAP

N 31672.45
E 96487.96
FG 4567.95
CROSS

N 31752.69
E 96581.45
FG 4575.18
RISER/CAP

N 31539.87
E 96305.99
FG 4567.95
CROSS

N 31596.17
E 96446.36
FG 4567.95
CROSS

N 31472.54
E 96208.18
FG 4575.24
RISER/CAP

N 31537.40
E 96310.86
FG 4567.95
PRC

N 31591.03
E 96444.54
FG 4567.95
PRC

N 31618.12
E 96559.61
FG 4575.17
RISER/CAP

N 31525.57
E 96360.88
FG 4567.95
CROSS

N 31530.40
E 96391.27
FG 4567.95
AP

N 31547.91
E 96416.57
FG 4567.95
CROSS

N 31584.36
E 96558.36
FG 4575.17
RISER/CAP

N 31453.92
E 96233.20
FG 4575.17
RISER/CAP

N 31477.94
E 96297.93
FG 4567.95
PRC

N 31471.36
E 96314.84
FG 4567.95
CROSS

N 31507.35
E 96432.84
FG 4567.95
CROSS

N 31540.54
E 96487.30
FG 4567.95
CROSS

N 31548.93
E 96491.56
FG 4567.95
PRC

N 31485.01
E 96377.15
FG 4567.95
CROSS

N 31500.13
E 96403.41
FG 4567.95
AP

N 31407.58
E 96323.08
FG 4575.11
RISER/CAP

N 31440.27
E 96395.10
FG 4575.18
RISER/CAP

N 31462.58
E 96450.80
FG 4575.18
RISER/CAP

N 31488.47
E 96525.62
FG 4575.18
RISER/CAP

4576.00
4570.00
4568.00
4578.00
R=291.76
R=106.21
R=50.00
R=81.04
R=68.43
SE
JS
Xcel ES

NOTES:

RISER/CAP LOCATIONS SHALL BE WHERE VENT LATERALS ARE SWEPT UP AND CAPPED 4–6 INCHES BELOW THE FINISHED GROUND ELEVATION CALLED OUT ON THE PLANS (SEE DETAIL)

CROSS LOCATIONS ARE 2'–6" BELOW THE FINISHED GROUND ELEVATIONS CALLED OUT ON THE PLANS (SEE DETAIL)

PIPES RUNNING ALONG THE BOTTOM OF THE LAKE ARE 2'–6" DEEP UNTIL THEY SWEEP UP FROM THE EDGE OF THE BOTTOM OF THE LAKE. (SEE DETAIL)

ALL VENTILATION PIPE SHALL BE 4" SLOTTED CORRUGATED POLYETHYLENE PIPE. INCLUDES 3/4" TO 1 1/2" GRAVEL BACKFILL. (SEE DETAIL)

QUANTITIES:

2000 LF PIPE
10 EA CROSSES
16 EA RISER/CAPS

DESCRIPTION	DATE
REVISION △	
REVISION △	
REVISION △	
REVISION △	

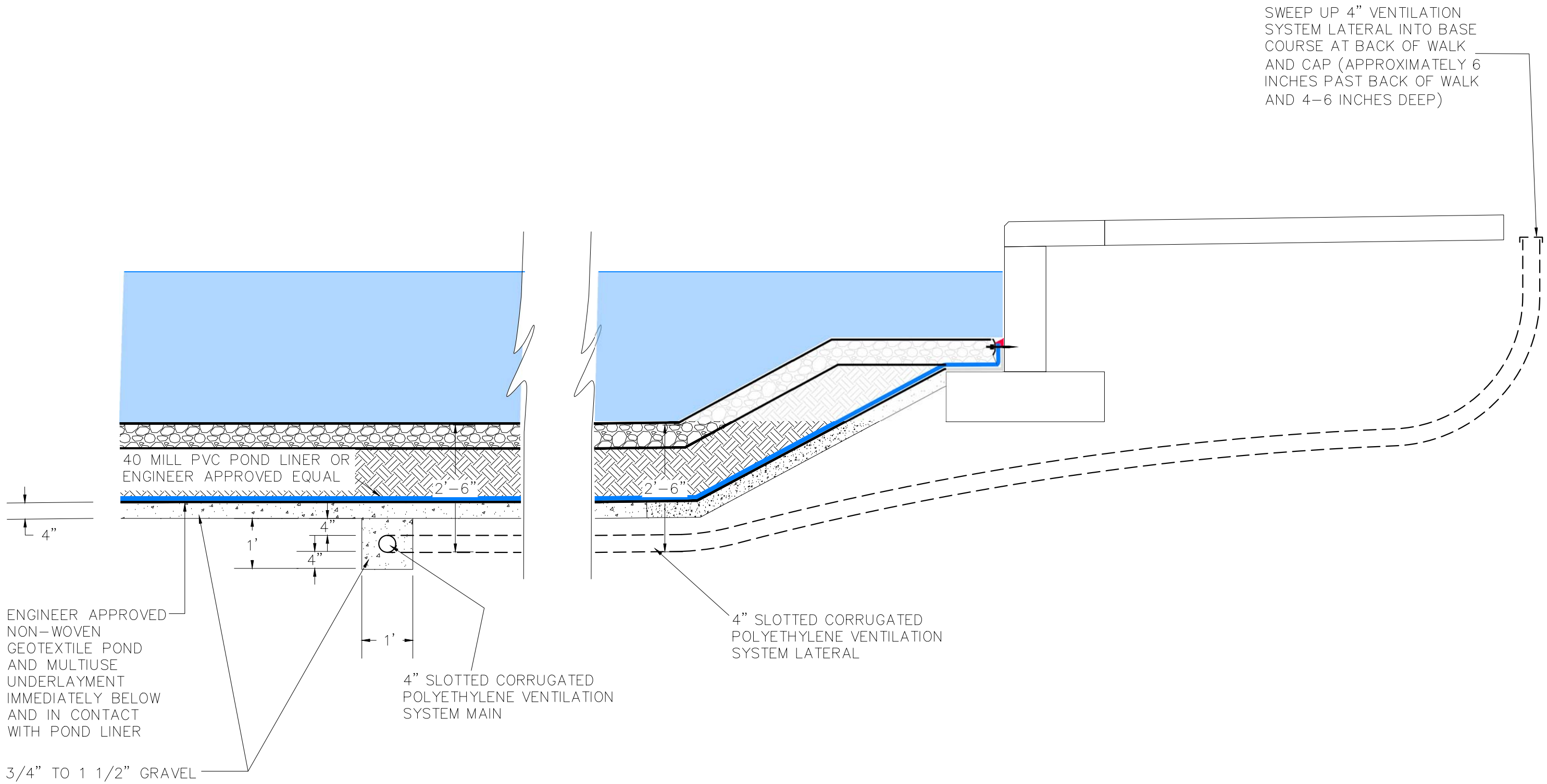
DRAWN BY JCS DATE 2017
DESIGNED BY JCS DATE 2017
CHECKED BY TCP DATE 2017
APPROVED BY TCP DATE 2017

SCALES:
PLAN & PROFILE
HORIZONTAL 0 10 20 40
VERTICAL 0 NA NA NA

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

Las Colonias Business Park Phase 2 Lake Ventilation System Plan



DESCRIPTION	DATE
REVISION △	
REVISION △	
REVISION △	
REVISION △	

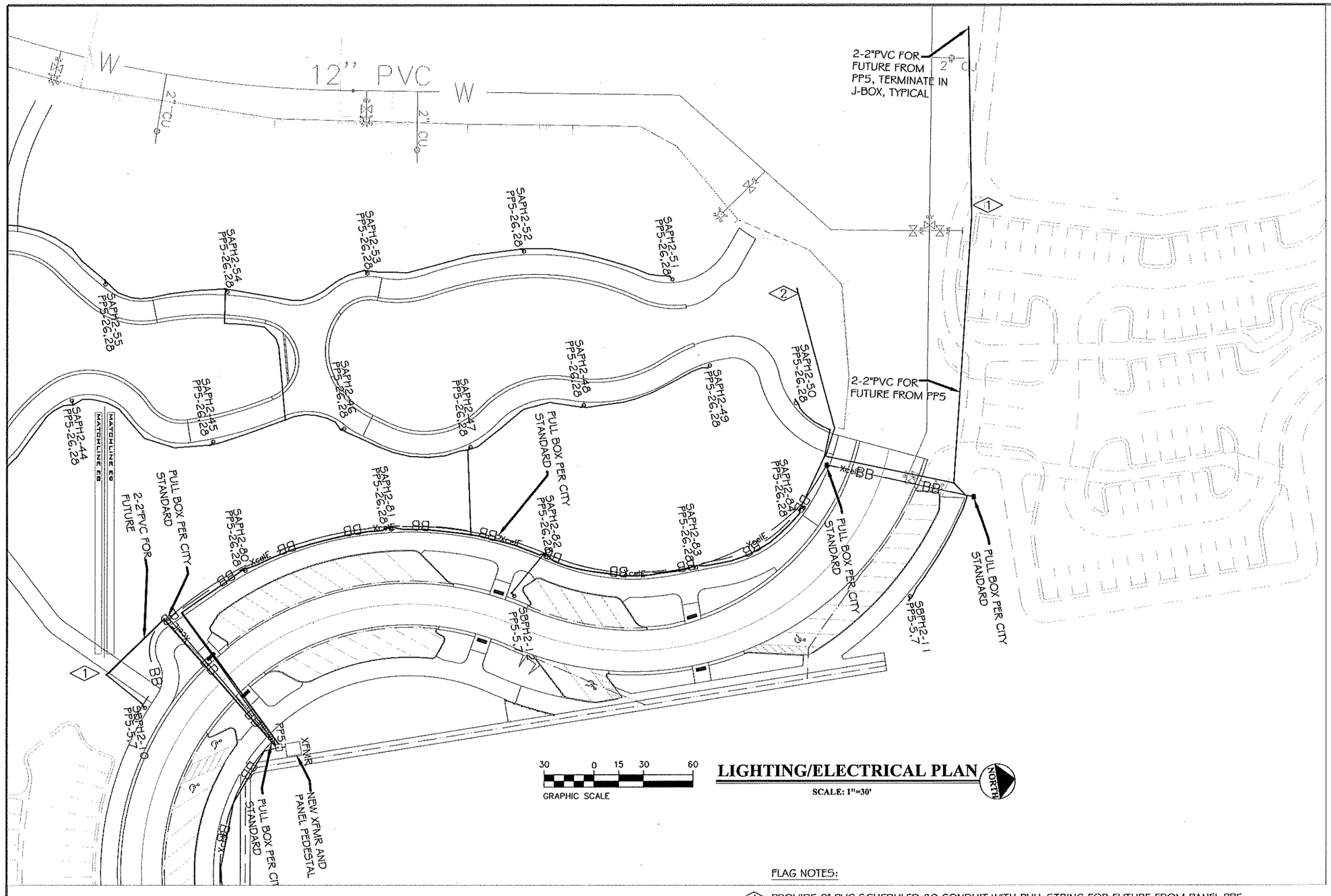
DRAWN BY JCS DATE 2018
DESIGNED BY JCS DATE 2018
CHECKED BY TCP DATE 2018
APPROVED BY TCP DATE 2018

SCALES:
PLAN HORIZONTAL
0 .25 .5 1

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 2
LAKE VENTILATION DETAIL



30 0 15 30 60
GRAPHIC SCALE

LIGHTING/ELECTRICAL PLAN

SCALE: 1"=30'

NORTH

GENERAL NOTES:

1. POWER CIRCUIT AS SHOWN ON DRAWING, TYPICAL.
2. LIGHT TO BE ORIENTED TO BE PERPENDICULAR TO SIDEWALK AND SHINE ON SIDEWALK, TYPICAL.
3. PROVIDE 2-#6 THWN + #8GND IN 2" PVC SCHEDULE 80 CONDUIT BETWEEN PULL BOXES UNLESS SHOWN OTHERWISE, TYPICAL.

FLAG NOTES:

1. PROVIDE 2" PVC SCHEDULED 80 CONDUIT WITH PULL STRING FOR FUTURE FROM PANEL PP5, TERMINATE IN JBOX.
2. PROVIDE 2-#10 +#12 GND FROM NEW 20 AMP BREAKER IN PANEL PP5 TO POND LEVEL TRANSMITTER, COORDINATE EXACT LOCATION AND WIRING WITH PROVIDER PRIOR TO ROUGH-IN.

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ELECTRICAL DESIGN, CONSULTING ENGINEERS; PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengrs.com

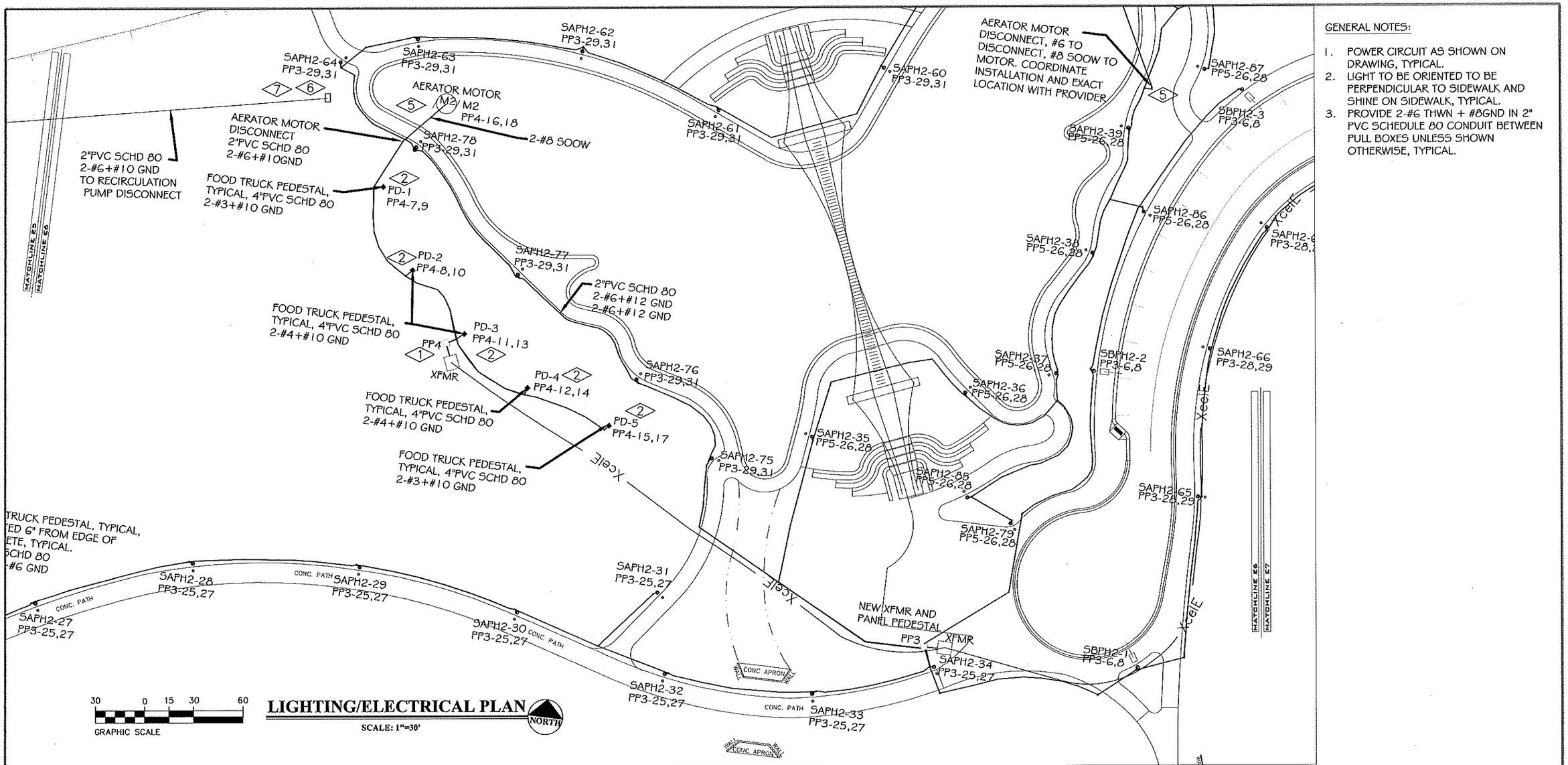
DESCRIPTION	DATE
REVISION 1 ADDENDUM 3, LEVEL CONTROL POWER	7-24-18
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY AJM DATE 7-12-18
DESIGNED BY AJM DATE 7-12-18
CHECKED BY AJM DATE 7-12-18
APPROVED BY JT DATE 7-12-18

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 2
COMPOSITE UTILITY PLAN



LIGHTING/ELECTRICAL PLAN

SCALE: 1"=30'

GENERAL NOTES:

1. POWER CIRCUIT AS SHOWN ON DRAWING, TYPICAL.
2. LIGHT TO BE ORIENTED TO BE PERPENDICULAR TO SIDEWALK AND SHINE ON SIDEWALK, TYPICAL.
3. PROVIDE 2-#6 THWN + #8GND IN 2" PVC SCHEDULE 80 CONDUIT BETWEEN PULL BOXES UNLESS SHOWN OTHERWISE, TYPICAL.

FLAG NOTES:

1. NEW 200 AMP 3 PHASE 208/120VOLT 4W PEDESTAL PANEL PP4 AND TRANSFORMER, COORDINATE INSTALLATION WITH XCEL PRIOR TO ROGH-IN.

   PEDESTAL TO BE MOUNTED IN SOIL, COORDINATE MOUNTING WITH PROVIDER PRIOR TO ROUGH-IN.
3. PROVIDE POWER TO FOOD TRUCK PEDESTALS FROM EXISTING PANEL PP4.
4. NEW 200 AMP 3 PHASE 208/120 VOLT 4W PEDESTAL PANEL PP3 AND TRANSFORMER, COORDINATE INSTALLATION WITH XCEL PRIOR TO ROUGH-IN.
5. COORDINATE INSTALLATION OF AREATOR MOTOR WITH PROVIDER PRIOR TO ROUGH-IN. PROVIDE 20A 1-PHASE 208 VOLTS NEMA 3R DISCONNECT INSTALLED PER CDOT STANDARD PLAN NO. M-613-1 SHEET 4 OF 4.
6. PROVIDE 3-#6 THWN TO NEW DISCONNECT FOR PUMP. FROM DISCONNECT PROVIDE 3-#6 THWN TO MOTOR. DISCONNECT AND CONTROLLER FOR MOTOR WILL BE ACTUATED WITH SIGNAL FROM FLOAT VALVE AT EAST LOCATION OF GOGGLE PONDS. FIELD VERIFY EXACT LOCATION WITH PROVIDER PRIOR TO INSTALLATION, REFERENCE SHEET 25 OF CITY PHASE 2 OUTLET WORKS PLAN AND PROFILE.
7. DISCONNECT AND CONTROLLER FOR MOTOR TO BE INSTALLED IN A NEMA 3R PANEL. COORDINATE EXACT SIZE OF PANEL WITH CONTROLS PROVIDER PRIOR TO ORDERING.

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REVISION	DESCRIPTION	DATE
REVISION 1	ADDENDUM 3, CLARIFIED NEW NEMA 3R PANEL.	7-24-18
REVISION 2		
REVISION 3		
REVISION 4		

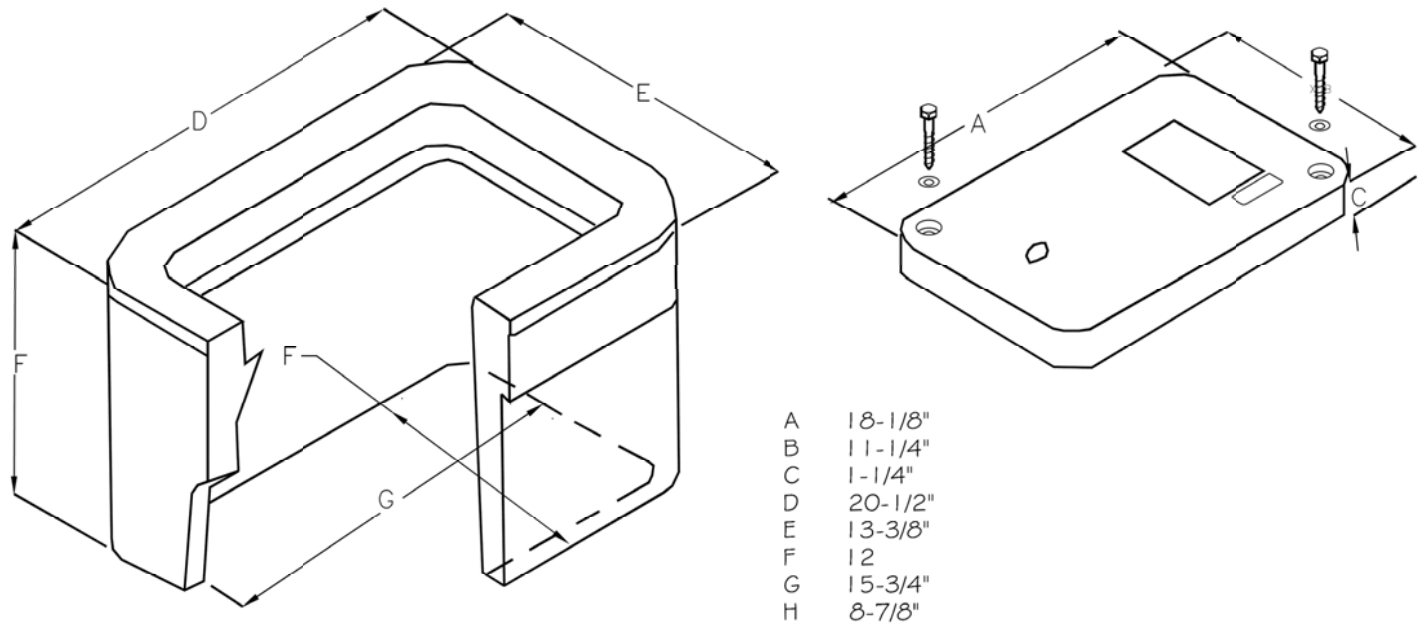
DRAWN BY AJM DATE 7-12-18
DESIGNED BY AJM DATE 7-12-18
CHECKED BY AJM DATE 7-12-18
APPROVED BY JT DATE 7-12-18

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 2
COMPOSITE UTILITY PLAN

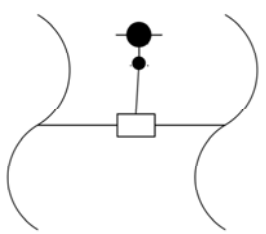
E6
of 18



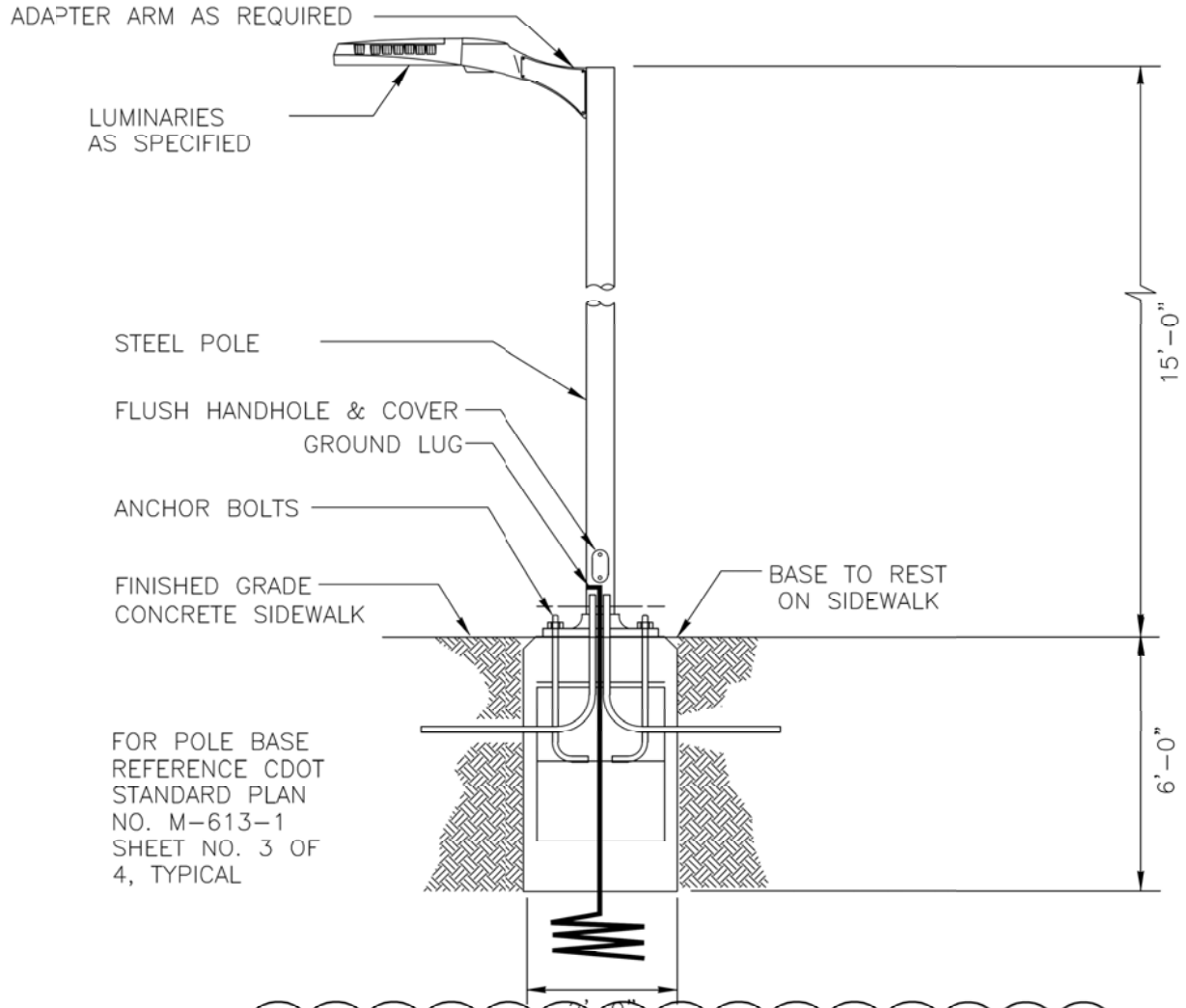
A	18-1/8"
B	11-1/4"
C	1-1/4"
D	20-1/2"
E	13-3/8"
F	12
G	15-3/4"
H	8-7/8"

1. PULL BOXES, PULL BOX COVERS AND EXTENSIONS SHALL BE MADE OF FIBERGLASS REINFORCED POLYMER CONCRETE. PULL BOXES SHALL BE VERIFIED BY A A 3RD PARTY NATIONALLY RECOGNIZED INDEPENDENT TESTING LABORATORY AS MEETING ALL TEST PROVISIONS OF THE LATEST ANSI/SCTE 77 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY, TIER 22 RATING. CERTIFICATION DOCUMENTS SHALL BE SUBMITTED WITH MATERIALS SUBMITTALS. THE PULL BOX SHALL HAVE A DETACHABLE COVER WITH A SKID RESISTANT SURFACE AND HAVE THE WORDS ELECTRICAL CAST INTO THE SURFACE. PAINTING THE WORDS SHALL NOT BE ACCEPTED. MARKINGS SHOWING THE TIER 22 RATING MUST BE LABELED OR STENCILED ON THE INSIDE AND OUTSIDE OF THE BOX AND THE ON THE UNDER SIDE OF THE COVER. THE COVER SHALL BE ATTACHED TO THE PULL BOX BODY BY MEANS OF A MINIMUM 3/8 - 7 UNIFIED NATIONAL COURSE (UNC) STAINLESS STEEL PENTA HEAD BOLTS AND SHALL HAVE TWO LIFT SLOTS TO AID IN THE REMOVAL OF THE LID.
2. PULL SLOTS SHALL BE RATED FOR A MINIMUM PULL OUT OF 3,000 POUNDS. MAGNESIUM CHLORIDE TESTS SHOULD BE PERFORMED IN ACCORDANCE WITH THE LATEST ANSI/SCTE 77 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY, TIER 22 RATING.
3. PROVIDE AT LEAST 6 INCHES OF PEA GRAVEL MEASURED FROM BOTTOM OF PULL BOX FOR DRAINAGE. PEA GRAVEL IS INCLUDED IN PULL BOX PAY ITEM.
4. REFERENCE CDOT STANDARD PLAN NO. M-613-1, SHEET NO. 4 OF 4

C 1 TYPICAL UTILITY BOX DETAIL
NOT TO SCALE



C 2 UTILITY BOX CONNECTION DETAIL
NOT TO SCALE



TYPICAL SAPH2 LIGHT DETAIL
NOT TO SCALE

GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO ORDER ALL REQUIRED HARDWARE FOR MOUNTING OF EACH LUMINARIES.
2. VERIFY THE BURY DEPTH AND DIAMETER OF THE SONOTUBE FOR POLE LUMINARIES WITH THE CIVIL ENGINEER PRIOR TO PURCHASING THE EQUIPMENT. DEPTH WILL DEPEND ON SOIL CONDITIONS. TYPICAL CONCRETE DEPTH IS 5 FT. VERIFY WITH CIVIL ENGINEER.
3. ELECTRICAL CONTRACTOR TO VERIFY THAT ALL FIXTURES TO COMPLY WITH LIGHT TRESPASS AND AND DARK SKY CODES.
4. NOTIFY ENGINEER OF ANY OBSTRUCTIONS TO POLE PLACEMENT IMMEDIATELY BEFORE PROCEEDING.
5. VERIFY REQUIRED VOLTAGE OF FOR EACH LUMINARIES WITH AVAILABLE VOLTAGES PRIOR TO ORDERING.
6. REFERENCE CDOT STANDARD PLAN NO. M-613-1 SHEET NO. 3 OF 4, TYPICAL

LUMINAIRE SCHEDULE

TYPE	MANUFACTURER / MODEL NUMEER	APPROVAL	VOLTAGE / MOUNTING / # OF LAMPS	BALLAST / LAMPE TYPE / LAMP CAT. #	DESCRIPTION
SAPH2	PHILIPS GARDCO GL13-1-2-70LA-6435-NW-UNV-BLP-LF	OWNER REQUESTED	208 POLE 1	ELECTRONIC LED 50 W	PEDESTRIAN LUMINAIRE, ARM MOUNTED, LED, CUTOFF, ORDER ROUND STEEL POLE SO THAT LAMP HEIGHT IS 15' AFG MEASURED AT BOTTOM OF LUMINAIRE. COLOR OF POLE AND ARM TO MATCH, BOTH BLACK. POLE#FRS-15-4-D1-BLP
SBPH2	PHILIPS GARDCO GL18-1-2-230LA-9680-NW-UNV-BLP-LF-PC-RPA2	OWNER REQUESTED	208 POLE 1	ELECTRONIC LED 230 W	STREET SIDE LUMINAIRE, ARM MOUNTED, LED, CUTOFF. ROUND STEEL POLE TO BE 27' SO THAT TOTAL HEIGHT AFG TO BOTTOM OF FIXTURE IS 27' . COLOR OF POLE AND ARM TO MATCH, BOTH BLACK. POLE # FRS-27-5-D1-BLP
SCPH2	LUMASCAPE LS333ANS-2LED-6W-RGB-WD-O7	OWNER REQUESTED	24 CONCRETE 1	ELECTRONIC LED 6 W	WATER FALL ILLUMINATION, MOUNTED IN 40 DEGREE ANGLE IN CONCRETE STEM WALL LOCATED DOWN STREAM FROM FRONT OF WATER FALL.

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DESCRIPTION	DATE
REVISION △ ADDENDUM 3, CLARIFIED TYPE SAPH2	7-24-18
REVISION △	
REVISION △	
REVISION △	

DRAWN BY AJM DATE 7-12-18
DESIGNED BY AJM DATE 7-12-18
CHECKED BY AJM DATE 7-12-18
APPROVED BY JT DATE 7-12-18

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 2
LIGHTING DETAILS

PANEL: SCH-PP1 | OC DEVICE TYPE: Breaker | ENCLOSURE: NEMA 3R | MAINS(A): BKR | CONTINUOUS(A): 320
LOCATION: | DEVICE FAMILY: Bolt On | MOUNTING: Flush | WIRING: 3-Phase 3-Wire | BUS SC RATING(A) 35000
FED FROM: BUS-0170 | VOLTAGE: 208 | FAULT CURRENT(A): 9043
INCIDENT ENERGY: 0.00 Cal/cm2 @18.00(in) | BOUNDARY: 0.00(in)

CKT	DESCRIPTION	NOTES	DEMAND CODE	VA	OC AMPS P	PHASE	OC AMPS P	VA	DEMAND CODE	NOTES	DESCRIPTION	CKT
1						A	20 1	180	LIGHTING		CONTROL PWR	2
3						B	60 3	100	GENERAL LOAD		SW CNTRL PWR	4
5	STREET LTS EAST	STREET LIGHT E	NONE	375	20 2	C	"	100			"	6
7	"			375	"	A	"	100			"	8
9	RECPT E. XMAS LTS		NONE	1000	20 1	B	100 3	3342	NONE		RECIRCULATION PUMP	10
11	PEDESTAL 10 <1>		NONE	4804	50 2	C	"	3342			"	12
13	"			4804	"	A	"	3342			"	14
15	PEDESTAL 6 <1>		NONE	4804	50 2	B	50 2	4804	NONE	<1>	PEDESTAL 8	16
17	"			4804	"	C	"	4804			"	18
19						A	50 2	4804	NONE	<1>	PEDESTAL 9	20
21						B	"	4804			"	22
23	PEDESTAL 7 <1>		NONE	4804	50 2	C						24
25	"			4804	"	A	60 3	3395	NONE		FUTURE RR4	26
27						B	"	3235			"	28
29						C	"	2700			"	30
<3> 31	PED LTS TO EAST		NONE	872	20 2	A	20 2	500	NONE		EAST MONUMENT SIGN	32
33	"			872	"	B	"	500			"	34
35						C						36
37						A						38
39						B						40
41						C						42

ALL CONNECTED	KVA	MAX PH AMPS	* PHASE TOTALS	VA	AMPS	BUS TOTALS	KVA	
TOTAL CONNECTED	72.30	214.2	* A-N	23141.9	192.7	CONNECTED	72.30	DATE: Jul 11, 2018
TOTAL DEMAND	72.30	214.2	* B-N	23432.9	195.1	DEMAND	72.30	TIME: 22:46:10
TOTAL DESIGN	75.31	221.4	* C-N	25724.7	214.2	DESIGN	75.31	

PANEL: SCH-PP2 | OC DEVICE TYPE: Breaker | ENCLOSURE: NEMA 3R | MAINS(A): BKR | CONTINUOUS(A): 320
LOCATION: | DEVICE FAMILY: Bolt On | MOUNTING: Flush | WIRING: 3-Phase 4-Wire | BUS SC RATING(A) 22000
FED FROM: BUS-0162 | VOLTAGE: 208/120 | FAULT CURRENT(A): 3400
INCIDENT ENERGY: 0.00 Cal/cm2 @ 0.00(in) | BOUNDARY: 0.00(in)

CKT	DESCRIPTION	NOTES	DEMAND CODE	VA	OC AMPS P	PHASE	OC AMPS P	VA	DEMAND CODE	NOTES	DESCRIPTION	CKT
1						A	20 1	180	LIGHTING		CONTROL PWR	2
3						B	60 3	0	GENERAL LOAD		SW CNTRL PWR	4
5	WEST STREET LTS		NONE	500	20 2	C	"	0			"	6
7	"			500	"	A	"	0			"	8
9	RCPT-WEST XMAS LTS		NONE	500	20 1	B						10
11	FUTURE West Parking		NONE	1125	20 2	C						12
13	"			1125	"	A	60 3	3395	NONE		FUTURE RR2	14
15	DOG PATH LTS <2>		NONE	700	20 2	B	"	3235			"	16
17	"			700	"	C	"	2700			"	18
19						A						20
21						B						22
23						C						24
25						A						26
27						B						28
29						C						30
<3> 31	W. PEDESTRIAN LTS		NONE	490	20 2	A	20 2	250	NONE		MONUMENT SIGN WEST	32
33	"			490	"	B	"	250			"	34
35						C						36
37						A						38
39						B						40
41						C						42

ALL CONNECTED	KVA	MAX PH AMPS	* PHASE TOTALS	VA	AMPS	BUS TOTALS	KVA	
TOTAL CONNECTED	16.07	49.2	* A-N	5913.7	49.2	CONNECTED	16.07	DATE: Jul 11, 2018
TOTAL DEMAND	16.07	49.2	* B-N	5155.8	42.9	DEMAND	16.07	TIME: 22:46:10
TOTAL DESIGN	16.57	49.6	* C-N	5001.9	41.7	DESIGN	16.57	

FLAG NOTES:

<1> PROVIDE 50A 1-PHASE 208 BREAKER IN EXISTING PANEL FOR NEW FOOD TRUCK PEDESTALS.

<2> PROVIDE 20A 1-PHASE 208 BREAKER IN EXISTING PANEL FOR DOG PATH LTS.

<3> CIRCUITS 31 TO 42 ARE SWITCHED CIRCUITS, TYPICAL

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EMAIL: joelm@ACMengrs.com

REVISION	DESCRIPTION	DATE
REVISION 1	ADDENDUM 3, CLARIFIED PP1-11,13	7-24-18
REVISION 2		
REVISION 3		
REVISION 4		

DRAWN BY AJM DATE 7-12-18
DESIGNED BY AJM DATE 7-12-18
CHECKED BY AJM DATE 7-12-18
APPROVED BY JT DATE 7-12-18

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 2
PANEL SCHEDULES

STREET LIGHTING GENERAL NOTES:

1. THIS PROJECT WILL BE BID FOR THE INSTALLATION OF THE PEDESTRIAN, AND STREET LIGHTING. BASE PROJECT: COMPLETE THE MAIN PATH PEDESTRIAN LIGHTING ALONG RIVERSIDE PARKWAY.
2. THIS PROJECT CONSISTS OF WORK TO INSTALL ALL WIRING, CONDUIT, PULL BOXES, AND POWER PANEL. REFERENCE SCHEDULE OF LIGHTING DEVICES AND SUMMARY OF QUANTITIES DRAWING E2.
3. TYPES "SAPH2 & SBP2" LIGHT STANDARD & LUMINARIES (PEDESTRIAN AND STREET LIGHT), SHALL INCLUDE THE FOLLOWING ITEMS FROM VISUAL INTEREST LIGHTING LOCATED AT 3444 BRIGHTON BLVD, DENVER, CO 80216, 303.861.8448.
4. TYPE "SCPH2" TO BE ORDERED FROM M&H LIGHTING LOCATED AT 1044 SPEER BLVD, DENVER COLORADO, 303-573-0222. THE ITEMS NUMBERS ARE AS FOLLOWS.
5. TYPE "SAPH2" PHILLIP GARDCO GL13-1-2-70LA-6345-NW-UNV-BLP-LF, PROVIDE COLLISION BREAK AWAY CONNECTORS. FIXTURE TO BE 15' ABOVE FINISHED GRADE TO BOTTOM OF LIGHT. POLE #FRS-15-4-D1-BLP
6. TYPE "SBPH2" PHILLIP GARDCO GL18-1-2-2230LA-9600-NW-UNV-LF-PC-RPA2, PROVIDE COLLISION BREAK AWAY CONNECTORS. FIXTURE TO BE 27' ABOVE FINISHED GRADE TO BOTTOM OF LIGHT. POLE #FRS-27-5-D1-BLP
7. TYPE "SCPH2" LUMASCAPE LS333ANS-2LED-6W-RGB-WD-07, FIXTURE TO BE DYNAMIC COLOR. FIXTURE TO BE INSET IN BEVEL STEM WALL DOWN STREAM FROM WATER FALL.COORDINATE INSTALLATION WITH PROVIDER AND CIVIL ENGINEER, PRIOR TO ROUGH-IN.
8. PROVIDE 3 TOTAL NEW MILL BANK PANELS (PP5, PP4, PP3), 208V, 3PH, 4W 200A , #CP3B5251XB22CSSL1 LOCATED AS SHOWN IN DRAWINGS.
9. PROVIDE 10 TOTAL PEDESTALS TOTAL FOR FOOD TRUCK SERVICE. FIVE OF THE PEDESTALS WILL BE PAD MOUNTED (PEDESTALS PD-6, PD-7,PD-8, PD-9, PD-10) WILL BE MILLBANK #U5210. THE OTHER FIVE PEDESTALS (PD-1, PD-2, PD-3, PD-4, PD-5) WILL BE MILBANK U5200-XL-75 FOR DIRECT EARTH BURIAL. THE PEDESTALS WILL BE ORDERED FROM DELANDSHEER SALES INC. 1011 W 46TH AVE., DENVER CO 80211, 303.202.2990. △1
10. ALL PEDESTRIAN LIGHTING FIXTURES(TYPE "SAPH2") INSTALLED ON THE PROJECT WILL BE CONTROLLED WITH A ELECTRICAL CONTRACTOR SUPPLIED PHOTO CELL TO BE LOCATED IN EACH NEW MILBANK POWER PEDESTALS IN SWITCHED SECTION OF PANEL. ORIENT PANEL SO THAT PHOTOCELL WILL BE ORIENTED NORTH, TYPICAL.
11. ALL STREET LIGHTING FIXTURES(TYPE "SBPH2") WILL EACH BE ORDERED WITH THEIR OWN PHOTOCELL INSTALLED IN THE FIXTURE, AND POWERED WITH NEW 208 VOLT 3PHASE MILBANK POWER PEDESTAL ON UN-SWITCHED SECTION.
12. PROVIDE 2-2" PVC SCHEDULE 80 CONDUIT WITH PULL STRING FROM PP5 TO FUTURE SOUTH PARKING LOT AS SHOWN IN DRAWINGS.
13. PROVIDE 2-2" PVC SCHEDULE 80 CONDUIT WITH PULL STRING TO FUTURE EAST PARKING LOT FROM PANEL PP5 AS SHOWN IN DRAWINGS.
14. ELEVATIONS SHOWN IN THE SCHEDULE OF LIGHTING DEVICES ON THE PLANS SHEETS REPRESENT THE DESIGN FINISHED GRADE OR THE EXISTING GROUND FINISHED GRADE. THESE ELEVATIONS DO NOT INDICATE THE TOP ELEVATION OF THE LUMINARIES (PEDESTRIAN) FOUNDATION. PEDESTRIAN LIGHTING FOUNDATIONS SHALL BE CONSTRUCTED PER THE MANUFACTURERS RECOMMENDATIONS.
15. PULL BOXES FOR LIGHT STANDARD (PEDESTRIAN AND STREET) WILL BE TYPE 1 CDOT PULL BOXES 11"X18"X12".
16. PULL BOXES WILL BE INSTALLED IN GRADES WITHOUT CONCRETE WHERE POSSIBLE.
17. ALL ELECTRICAL CONDUIT SHALL BE SCHEDULE 80 PVC UNLESS NOTED OTHERWISE, TYPICAL.
18. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS SHALL INCLUDE PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. FURNISH ALL REQUIRED ITEMS WHETHER SUCH ARE SPECIFICALLY SHOWN OR NOT.
19. INFORMATION SHOWN ON DRAWINGS IS DIAGRAMMATIC ONLY AND SHALL NOT BE SCALED. OBTAIN VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS AMONG TRADES AND FOR ADJUSTING THE WORK REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDER GROUND OBSTRUCTIONS AND MAKING ALLOWANCES FOR FIELD ADJUSTMENT OF LOCATION OF LUMINARIES TO AVOID SHUT DOWN OF ANY SERVICES OR SYSTEMS THAT ARE TO REMAIN.
20. BEFORE SUBMITTING THE BID ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE THE PREMISES AND/OR JOB SITE SO AS TO ASCERTAIN THE EXISTING CONDITIONS IN WHICH THE CONTRACTOR WILL BE OBLIGED TO OPERATE IN PERFORMING HIS PART OF THE CONTRACT TO ANTICIPATE ANY POSSIBLE SPACE RESTRICTIONS OR CONSTRAINTS THAT COULD AFFECT THE TIMELY COMPLETION OF THE ELECTRICAL WORK IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL REPORT TO THE THE PROJECT ENGINEER OR GENERAL CONTRACTOR ANY CONDITIONS THAT MIGHT PREVENT THE SPECIFIED ELECTRICAL WORK FROM BEING PERFORMED IN THE MANNER INTENDED. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED TO THE ELECTRICAL CONTRACTOR FOR FAILURE TO VISIT THE PROJECT SITE, OR FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR WORK TO BE DONE..
21. THE ELECTRICAL CONTRACTOR SHALL EXAMINE THE DRAWINGS OF ALL TRADES WHOSE WORK RELATES TO OR IS DEPENDENT ON ELECTRICAL WORK TO BECOME FULLY INFORMED OF THE EXTENT AND CHARACTER OF THEIR SPECIFIED WORK AND BE ABLE TO COORDINATE WITH OTHER TRADES WHILE AVOIDING POSSIBLE INTERFERENCE WITH THE ELECTRICAL WORK.
22. THE CONTRACTOR SHALL USE CONDUIT PLUGS AND SEALING PLUGS FOR SEALING ALL EMPTY CONDUITS AND CONDUITS OCCUPIED WITH CABLING, RESPECTIVELY, INSTALLED UNDER THIS CONTRACT. CONDUIT PLUGS SHALL BE MANUFACTURED FROM HIGH-IMPACT PLASTIC COMPONENTS, COMBINED WITH DURABLE ELASTIC GASKETS. THEY SHALL BE CORROSION PROOF AND APPROPRIATE FOR USE AS EITHER A LONG-TERM OR TEMPORARY SEAL. CONDUIT PLUGS SHALL BE REMOVABLE AND REUSABLE. THEY SHALL BE BOTH WATERTIGHT AND AIRTIGHT TO PREVENT THE FLOW OF WATER AND BUILDUP OF SEDIMENTATION WITHIN THE CONDUIT. EACH CONDUIT PLUG SHALL BE EQUIPPED WITH A ROPE TIE DEVICE TO ALLOW THE SECURING OF PULL ROPE TO THE PLUG'S BACK COMPRESSION PLATE. THE CONTRACTOR SHALL ATTACH THE PULL ROPE TO THE BACK COMPRESSION PLATE OF THE PLUG AND STORE EXCESS SLACK PULL ROPE BEHIND THE PLUG WITHIN THE CONDUIT FOR FUTURE USE.

PP1-X ELECTRICAL CIRCUIT NUMBER (REFER TO PANEL SCHEDULES)

HEAVY DUTY, TRAFFIC RATED, FLUSH-TO-GRADE POLYMER CONCRETE SPLICE BOX WITH HEAVY DUTY, TRAFFIC RATED, BOLTED COVER. 11"X18"X12" TYPE 1.

△ UNDER GROUND BURIED RACEWAY (2#6 THWN CU AND 1#8 GND) IN 2" PVC CONDUIT (UNLESS NOTED OTHERWISE ON PLANS) IN 24" DEEP TRENCH, BURY AND COMPACTED BACKFILL TO PRE CONSTRUCTION CONDITION.

INSTALL SINGLE ARM PEDESTRIAN STANDARD OR STREET STANDARD AS SPECIFIED.

N W E S

Know what's **below.** **Call** before you dig.

ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING ENGINEERS; PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengrs.com

DESCRIPTION	DATE
REVISION △ ADDENDUM 3, CLARIFIED PEDESTAL NUMBERS	7-24-18
REVISION △	
REVISION △	
REVISION △	

DRAWN BY AJM DATE 7-12-18
DESIGNED BY AJM DATE 7-12-18
CHECKED BY AJM DATE 7-12-18
APPROVED BY JT DATE 7-12-18

CITY OF Grand Junction COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

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COMPOSITE UTILITY PLAN