WEST LEGACY PARK 327 MAIN STREET CITY OF DELTA, COLORADO CONSTRUCTION PLANS

PREPARED FOR CITY OF DELTA, COLORADO Mike Konn, Project Manager, City of Delta - Public Works Department Delta, CO 81416 327 MAIN STREET

PREPARED BY: Landscape Architect/Land Planner: Ted Ciavonne, PLA Ciavonne Roberts and Associates, Inc. 222 North 7th Street Grand Junction, CO 81501

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DRAWN BY MH CHECKED CR, TC JOB NO. 1942 02-28-2020 REVISIONS
WEST LEGACY PARK 327 MAIN ST DELTA, COLORADO
CIAVONNE, ROBERTS & ASSOCIATES, INC. LAND PLANNING AND LANDSCAPE ARCHITECTURE 222 N. 7TH STREET GRAND JUNCTION, CO 81501 970-241-0745 P 970-241-0765 F www.ciavonne.com
WEST LEGACY PARK
COVER SHEET
SHEET NO.







LAYOUT PLAN LEGEND





(SEE IRRIGATION SHEET) FOR ELECTRICAL CONDUIT; SEE ELECTRICAL DRAINAGE PIPE (SEE DRAINAGE PLAN)

4' X 4' SCORE JOINT

WITH 12 INCHES

STRUCTURAL FILL)

CONCRETE STAIN (RIVER

PATTERN) WITH SAWCUTS

PLAYGROUND CUSHION

4" PVC IRRIGATION SLEEVING

FILL MATERIAL

BARRIER CURB/BLOCK

PROPOSED WATER SERVICE LINE

PEDESTRIAN LIGHT POLE, SEE ELECTRICAL EXISTING STORM DRAIN LOCATION APPROXIMATE

ABBREVIAT	TION LEGEND
FG	FINISH GRADE
HP	HIGH POINT
INLET	INLET
LP	LOW POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
РОВ	POINT OF BEGINNING
POC	POINT OF CONNECTION
PT	POINT OF TANGENCY
RP	RADIUS POINT

POINT TABLE

PNT#	DESC	Х	Y	ELEV.
	POB	0	0	
2	PI	0	27.6	101.23
3	PT	2.6	48.0	101.12
4	PT	4.7	44.7	101.12
5	PT	11.4	41.1	101.38
6	HP	27.7	41.1	101.60
7	PI	35.7	49.1	101.54
8	PI	64.4	49.3	101.54
9	HP	70.2	40.2	101.54
10	HP	82.8	32.3	101.54
	LP	98.6	31.7	101.48
12	PI	119.0	49.0	101.75
13	PI	112.7	0.9	101.66
14	PT	107.9	11.3	101.63
15	PT	97.9	15.5	101.40
16	PT	86.8	11.5	101.50
17	PT	81.3	4.0	101.54
18	PI	81.3	.9	101.58
19	PI	55.9	1.0	101.54
20	PI	55.9	27.7	101.60
21	HP	27.7	27.6	101.60

LAYOUT & GRADING NOTES:

RELATED WORK. 2. ALL WORK SHALL BE PER EXISTING CITY AND STATE CODES, IS SUBJECT TO INSPECTION AND APPROVAL BY APPROPRIATE INSPECTORS, AND IS RESPONSIBLE FOR SECURING PERMITS FROM THE CITY OF DELTA AND PROVIDING FOR TRAFFIC CONTROL. 3. THE CONTRACTOR OR HIS SURVEYOR SHALL VERIFY ALL FURNISHED SURVEY AND TOPOGRAPHIC DATA AND ALL POINTS, LINES, AND ELEVATIONS. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BETWEEN INFORMATION GIVEN ON DRAWINGS AND ACTUAL SITE OR FIELD CONDITIONS AND SHALL NOT PRECEDE WITH ANY AFFECTED WORK UNTIL THE OWNER'S REPRESENTATIVE ISSUES INSTRUCTIONS. ADDITIONAL BURIED UTILITIES NOT SHOWN ON THESE DRAWINGS MAY BE PRESENT IN THE PROJECT AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR SPECIFIC LOCATIONS PRIOR TO COMMENCING ANY EXCAVATION. 4. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL BENCHMARKS, CORNER MONUMENTS AND OTHER POINTS; IF DISTURBED OR DESTROYED, CONTRACTOR SHALL REPLACE AS DIRECTED, AT NO COST TO THE OWNER. 5. ALL PROPOSED LAYOUT & GRADING IS BASED ON EXISTING GRADE SURVEY FROM DOWL ENGINEERING

6. CONCRETE PAVEMENT PLACEMENT TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. 7. CONTRACTOR TO COORDINATE PLAY EQUIPMENT LOCATION AND INSTALLATION WITH SUPPLIER TO INSURE REQUIRED SAFETY ZONES AND INSTALLATION. 8. 4 FT CONCRETE JOINT PATTERN TO BEGIN AT CORNER OF PHASE | CONCRETE WHERE SHOWN ON PLAN.

9. RIVER PATTERN TO BE ACID-STAINED, USING TOOLED JOINTS TO DEFINE EDGES. STAIN TO BE SURESTAIN BY SURECRETE, COLOR = "PACIFIC BLUE". REMAINING PLAZA CONCRETE TO BE "SPANISH GOLD". www.surecretedesign.com, OR EQUAL. CONTRACTOR TO PROVIDE 2 FT X 2 FT. TEST PANELS OF EACH COLOR TO PROJECT MANAGER FOR APPROVAL PRIOR TO STAINING PLAZA CONCRETE. FINISH CONCRETE WITH SPARTAN CONCRETE SEAL. IO. PROPOSED GRADES DEPICT FINISH SURFACE OF MATERIAL. CONTRACTOR IS RESPONSIBLE FOR DETERMINING SUBGRADE ELEVATIONS.

I I. CONTRACTOR SHALL PROVIDE AND INSTALL CONSTRUCTION FENCING ALONG ALLEY AND MAIN STREET SIDEWALK EDGES. I 2. CONTRACTOR SHALL PROVIDE TOPSOIL FOR THE PLANTING BEDS TO DEPTHS SHOWN IN DETAILS, ALLOWING FOR MULCH DEPTH. DO NOT COMPACT TOPSOIL. TOPSOIL SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT. 13. BOULDERS TO BE PLACED PRIOR TO CONCRETE POUR AND TO BE LOCATED OUTSIDE OF PLAY EQUIPMENT FALL SAFETY ZONES (COORDINATE WITH PLAY EQUIPMENT SUPPLIER). BOULDER TYPE AND LAYOUT TO BE APPROVED BY OWNER'S REPRESENTATIVE.

CONCRETE PAVEMENT WITH PATTERN (ALL CONCRETE

CHECKED 1942 JOB NO. 03-12-2020 DATE REVISIONS R X A \square \triangleleft S E S E O \bigcirc \mathbf{C} ≥ 0 Ш N ` |---Ш S \square МШ **CIAVONNE, ROBERTS & ASSOCIATES, INC** LAND PLANNING AND LANDSCAPE ARCHITECTURE 222 N. 7TH STREET GRAND JUNCTION, CO 81501 970-241-0745 P 970-241-0765 F www.ciavonne.com

MH

CR, TC

DRAWN BY

I. SEE SPECIFICATIONS AND DETAILS ON THESE PLANS AND CITY OF DELTA SPECIFICATIONS AS THEY APPLY TO THIS AND

WEST LEGACY PARK

LAYOUT PLAN

SHEET NO.









ABBREVIAT	ION LEGEND
FG	FINISH GRADE
HP	HIGH POINT
INLET	INLET
LP	LOW POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POC	POINT OF CONNECTION
PT	POINT OF TANGENCY
RP	RADIUS POINT

DRAINAGE PLAN LEGEND



POINT	TABLE				
_PNT#	DESC	Х	Y	INVERT	RIM
22	POC	-16.4	35.5	EXISTING	
23	PI	2.7	35.6	97.2	
24	INLET	47.9	35.7	98.2	101.26
25	PI	74.7	35.70	99.1	
26	INLET	67.9	19.7	98.7	101.26
27	PI	73.9	4.	99.0	
28	PI	83.0	21.7	99.0	
29	ΡI	92.2	22.8	99.2	
30	INLET	99.9	23.8	99.3	101.32
31	INLET	105.4	40.0	99.3	100.82
32	PI	95.3	12.1	99.3	
33	PI	75.5	1.0	99.3	
34	INLET	78	40.0	99.32	100.82
35	PI	10.0	43.1	99.4	

** ALL DISTANCES ARE TO BASELINE/SOUTH BUSINESS WALL, NOT TO EXPOSED FOOTER



ND CONCRETE PAVEMENT WITH 4' X 4' SCORE JOINT PATTERN 6 INCH ŞEWER AND DRAINAGE PIPE		DRAWN BY MH CHECKED CR, TC JOB NO. 1942 02-28-2020 REVISIONS
4 INCH PERFORATED DRAINAGE PIPE BARRIER CURB/BLOCK PROPOSED WATER SERVICE LINE EXISTING STORM DRAIN, (LOCATION APPROXIMATE)		WEST LEGACY PARK DELTA, COLORADO
101.32 3 100.82 3		CIAVONNE, ROBERTS & ASSOCIATES, INC. LAND PLANNING AND LANDSCAPE ARCHITECTURE 222 N. 7TH STREET GRAND JUNCTION, CO 81501 970-241-0745 P 970-241-0765 F www.ciavonne.com
WALK WALK 4" PERFORATED PVC PIPE GRADED BOTTOM OF TRENCH GRADED TO DISCHARGE		WEST LEGACY PARK
SOIL FABRIC	OTADIZEOUS OTADIZEOUS OTIGITERI DETE OF LOSSINGE TRANSPORT CONCOLORING OF COLORING OF COLORINA OF COLORING OF COLORING OF COLORINGO OF COLORING OF COL	DRAINAGE PLAN SHEET NO. L-2



VALVE #	SIZE	ТҮРЕ	XERI- SPRAYS
#	1"	XERI-SPRAY - TREE	6
#2	1"	XERI-SPRAY - SOUTH PLANTINGS	51
#3	"	XERI-SPRAY - NORTH PLANTINGS	45

XERI-SPRAY PLACEMENT ALL XERI-SPRAYSARE TO BE PLACED AND STAKED AT PERIMETER OF ROOT BALL. EVENLY SPACE XERI-SPRAYS AROUND ROOT BALL PERENNIALS AND RNAMENTAL GRAS WO (2)XERI-SPRAY PER PLANT SHRUBS: THREE(3) XERI-SPRAYS PER PLANT TREES: 6 XERI-SPRAYS PER TREE

USH BOX PLACEMENT MINIMIZE NUMBER OF LUSH BOXES. LOCATE ADJACENT TO WALKS OR DRIVES FOR MAINTENANCE ACCESS. INSTALL 1800 SPRAY WNOZZLE CLOSED. SPRAY HEAD IS TO INDICATE WHEN ZONE IS ON AND LOCATION OF FLUSH BOX.





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WEST LEGACY PARK
IRRIGATION PLAN
SHEET NO.



LANDSCAPE LEGEND



- 3. EQUAL PART MIXTURE OF ROUND-UP AND 2-4-D DILUTED AS PER MANUFACTURER'S RECOMMENDATIONS SHALL BE
- 5. AREAS TO BE PLANTED (AS PER DRAWINGS) TO RECEIVE SOIL AMENDMENT. REMOVE UNSATISFACTORY MATERIAL (INCLUDING ROAD BASE, ASPHALT, CONCRETE AND TRASH) AND REMOVE FROM SITE. ALL LANDSCAPE AREAS TO RECEIVE 6 YDS/1000 S.F. SOIL AMENDMENT. SCARIFY ALL AREAS TO RECEIVE SOIL AMENDMENT TO A DEPTH OF 6". 6. SOIL AMENDMENT IS TO CONSIST OF 50% GROUND WELL-AGED MANURE, 50% FINELY GROUND AND AGED WOOD CHIPS. AMENDMENT IS TO BE INCORPORATED WITH FERTILIZER BY TILLING AT THE RATE OF 6 CUBIC YARDS/1000 SF
- 7. SOIL IS TO BE COMPACTED TO 85% MODIFIED PROCTOR (WHEEL ROLL) TO MINIMIZE SETTLING. BEDS ARE TO BE FILLED TO A DEPTH OF 6" ABOVE ADJACENT EDGE OF CURB, SHAPED TO FORM MOUNDED PLANTING AREA. SHRUB BED TO BE FINISHED WITH A 4:1 SLOPE FROM 2" BELOW ADJACENT CONCRETE TO FINISH GRADE. SHRUB BEDS ADJACENT TO
- 10. MULCH FOR SHRUB BEDS SHALL BE 1" TAN GRANITE. MULCH SHALL BE FREE OF TRASH, STICKS, ROOTS OR OTHER

. ,	Key	Common Name	Sa
Ever <i>o</i>	reen Tre	es	
	PPN	Pinon Pine	Pir
Decid	luous Sh	rubs	
_	DBB	Dwarf Burning Bush	Eυ
3	GFS	Gold Flame Spiraea	Sp
2	KDL	Korean Dwarf Lilac	S
	LVM	Munstead Lavender	La
3	NFS	Neon Flash Spirea	Sr
	SBH	All Summer Beauty Hydrangea	Ηγ
1	GLIVI	GLEETIIEAT IVIATIZATIILA	
Perer	inials/Gro	und Covers	7 (1
<u>Perer</u> 6	Inials/Gro	und Covers Black-eyed Susan	RL
Perer 6 3	nials/Gro BES BPF	und Covers Black-eyed Susan Blue Pincushion Flower	RL
Perer 6 3 6	BES BPF COB	und Covers Black-eyed Susan Blue Pincushion Flower Coral Bells	RL Sc He
Perer 6 3 6 3	BES BPF COB JGR	ound Covers Black-eyed Susan Blue Pincushion Flower Coral Bells Johnson's Blue Geranium	Ru Sa He Ge
Perer 6 3 6 3 3	mals/Gro BES BPF COB JGR PCF	und Covers Black-eyed Susan Blue Pincushion Flower Coral Bells Johnson's Blue Geranium Purple Cone Flower	RL Sc He Ge
Perer 6 3 6 3 3 3	mals/Grc BES BPF COB JGR PCF PTH	und Covers Black-eyed Susan Blue Pincushion Flower Coral Bells Johnson's Blue Geranium Purple Cone Flower Patriot Hosta	RL Sc He Ge Ec Hc
Perer 6 3 6 3 3 3 0rnar	nials/Gro BES BPF COB JGR PCF PTH nental Gr	und Covers Black-eyed Susan Blue Pincushion Flower Coral Bells Johnson's Blue Geranium Purple Cone Flower Patriot Hosta	Ru Sa He Ge Ec Ha
Perer 6 3 6 3 3 3 Ornar 3	mals/Grc BES BPF COB JGR PCF PTH nental Gr BBG	Black-eyed Susan Blue Pincushion Flower Coral Bells Johnson's Blue Geranium Purple Cone Flower Patriot Hosta Casses Blond Ambition Blue Grama Grass	RL Sa He Ec Ha Ba

PLANT LIST

NOTES: I. PLANT GROWTH CHARACTERISTICS VARY DUE TO ENVIRO MATURE HEIGHTS ARE INDICATED.

		DRAWN BY MH CHECKED TC, CR JOB NO. 1942 DATE 03-12-2020 REVISIONS
ERGREEN TREE		
TING TREE		
CIDUOUS SHRUBS		ADO ADO
RGREEN SHRUBS		NST OB/
RENNIALS		GA
RUB BED WITH ENDMENT AND LCH		ST LE 327 I DELTA,
HTING; SEE ELECTRIC	CAL	
uentific Name Nus cembroides edulis	Size Mature Height 6' 10-15'	
onymus alata 'Compacta' piraea bumalda 'Gold Flame' ringa meyeri 'Pablin'	5 gal 3-5' 5 gal 1.5-3' 5 gal 3-4'	CIAVONNE, ROBERTS & ASSOCIATES, INC.
vandula 'Munstead' praea japonica 'Neon Flash' drangea macrophylla 'All Summer Beauty'	l gal 1-2.5' 5 gal 2-3' 5 gal 3-5'	LANDSCAPE ARCHITECTURE 222 N. 7TH STREET GRAND JUNCTION, CO 81501 970-241-0745 P 970-241-0765 F
ctostaphylos patula	5 gal 1-2'	www.ciavonne.com
abexa loigida Goldstronn abiosa 'Blue Butterfly' cuchera sanguinea cranium x himalayense 'Johnson's Blue' hinacea purpurea 'Magnus'	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
osta 'Patriot' outeloua gracilis 'Blond Ambition' lamagrostis x acutiflora 'Karl Foerster'	<u> gal 1-2'</u> gal 2-3' gal 2-4'	
RONMENTAL CONDITIONS, THEREFORE A RA	NGE OF AVERAGE	
		FARN
	MCHAELS HOLS MUMBER	LANDSCAPE PLAN
	Original Date of Licensure 5-19-20	SHEET NO.
	LANDSCAPE	

SECTION 32 70 20 LANDSCAPE PLANTING PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Landscape development work as shown on the drawings and in specifications, including amending

1.2 SUBMITTALS A. Certification:

- 1. All plants and planting material shall meet or exceed the specifications of Federal, State, and County laws requiring inspection for plant disease, insect control, and weeds. All plants shall be free of insect and disease problems and shall be guaranteed healthy.
- 2. Plants shall be subject to inspection and approval of the Owner's Representative upon delivery to site. All plant material shall be true to size and form, and shall conform to the current edition of "Horticultural Standards" for #1 Grade nursery stock adopted by the American Association of Nurserymen.
- 3. All specifications of Article 26, Colorado Nursery Act, pertaining to root spread, definitions, etc. shall be followed. 4. All plants shall be "Colorado Grown", "Colorado Fielded" or "Northern Grown" as defined in ALCC Specifications
- Handbook, Section VIII, unless specified otherwise. B. Maintenance Instructions: Submit two (2) copies of typewritten instructions recommending procedures to be established by the Owner for the maintenance of landscape work for one (1) full year. Submit prior to completion of planting for review by Owner's Representative.
- C. Topsoil Report: A soil analysis will be done in accordance with C.S.U. S.A.#500 to determine soluble salt and nutrient levels. Test shall be performed by Colorado StateA University (through local cooperative extension service) or a private aboratory facility.
- **1.3 QUALITY ASSURANCE**
- A. Work of this Section shall be performed by a single firm specializing in landscape work having not less than five (5) years successful experience in landscape projects of similar scope to this one. All plant material shall be supplied by the Landscape Contractor. Size and quantity shall be equal to or better than specified. B. When specification is not defined within this document, conform to Associated Landscape Contractors of Colorado
- specifications. C. Trees and Shrubs: Provide trees and shrubs grown in a local Colorado nursery in accordance with good horticultural
- practice. Provide healthy, vigorous stock grown under climatic conditions similar to conditions in the locality of the project and free of disease, insects, eggs, larvae and defects such as knots, sun-scald, injuries, abrasions or disfigurement. D. Inspections:
- 1. In addition to normal progress inspections by the Owner's Representative, schedule and conduct the following formal inspections, giving the Owner's Representative at least 24 hours prior notice of readiness for inspection: 2. Inspection of plants and their locations to be prior to planting to check condition and compliance w/drawing.
- 3. Final inspection to be after completion of planting.
- 4. Final inspection to be at the end of the maintenance period.
- 1.4 PROJECT/SITE CONDITIONS
- A. Utilities: Prior to cutting into the soil, the Landscape Contractor shall locate all underground utilities and shall take proper precaution not to disturb them. Any damage done to the underground utilities or structures shall be repaired at Landscape Contractor's expense.
- B. Excavation:
- 1. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions or obstructions, notify Owner's Representative before planting. 2. Heavy equipment shall be kept off root zone areas of trees as much as possible. Snow fence shall be used if
- necessary to delineate this area 3. Excavations, necessary for curbing, footings, concrete flatwork, irrigation lines, etc. shall be done with minimal damage to roots of all existing trees and large shrubs scheduled to remain on site. Large roots defined as two (2) inches or
- more in caliper shall not be cut. 4. Prior to placement of fills, rototil or break up soil on sloped surfaces steeper than one vertical to four horizontal so that fill materials will bond with existing surface. Scarify, moisten, and re-compact subgrade for a minimum depth of eight (8) inches prior to the placement of fill and pavement materials.
- 1.5 WARRANTY
- A. Warrant trees and shrubs for a period of one year after date of acceptance against defects, including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond Landscape Installer's control. All replacement shall be made at the request of the Owner's Representative and shall have a one (1) year warrantee from date of replacement B. Plants shall be allowed 90 days to become established. The guarantee shall be a full, 100% guarantee on plant material
- and labor for replacement. 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Ship landscape materials with certificates of inspection as required by governmental authorities. Comply with governing regulations applicable to landscape materials.
- B. Deliver all items to the site in their original containers with all labels intact and legible at time of inspection by the Owner's Representative.
- C. Use all means necessary to protect plant materials before, during, and after installation and to protect the installed work and materials of all other trades. Plant nursery stock as soon as possible after approval by the Owner's Representative. PART 2 PRODUCTS
- 2.1 TOPSOIL
- A. Topsoil will be imported material from a reputable source, free of rocks larger than 1 inch; grade material and remove roots, debris, large weeds and foreign matter. B. Soil Mixes: Soil mix for planting holes shall be one part soil amendment, two parts topsoil.
- C. Plant Backfill: For backfill at trees and shrubs, use excavated material. Excavated material is that on-site material excavated from planting pits which is free from wood, rocks or stones having a dimension greater than one (1) inch and free of other foreign or deleterious materials.
- D. Soil Amendment: 50% ground well-aged cow,horse, sheep or chicken manure, and 50% decomposed wood fiber, nitrogen stabilized, with a proven analysis to verify organic content, PH, electro-conductivity, nitrogen, potassium, and phosphorus content. A sample of the material will be supplied to the Owner's Representative with an analysis. 2.2 BOULDERS
- A. Landscape boulders to be minimum 2 foot x 3.5 foot across x 1.5 feet deep. Boulders shall be buried such that exposed rock surface depicts natural exposure of outcrop formation. Boulders are to be tan/gold granite. Exposed surface of installed landscape boulders shall not show machine caused scarring or breakage. Contractor to submit sample to Owner's Representative prior to acquisition.
- B. Provide plant materials true to name and variety established by the American Joint Committee on Horticultural Nomenclature "Standardized Plant Names," Second Edition, 1942. Dig plants so that replanting will be completed as rapidly as possible and within 24 hours maximum. 2.3 PLANT MATERIALS
- A. No planting operations shall occur prior to April 15 nor later than September 30.
- B. Provide plant materials true to name and variety established by the American Joint Committee on Horticultural Nomenclature "Standardized Plant Names," Second Edition, 1942. Dig plants so that replanting will be completed as rapidly as possible and within 24 hours maximum
- C. Quality: Provide trees, shrubs and other plants complying with the recommendations and requirements of ANSI Z60.1, "Standard for Nursery Stock." and of not less than indicated sizes, balled and burlapped or container grown, unless otherwise indicated or specified. Do not fertilize young trees or shrubs until the following spring. Do not add fertilizer to D. Deciduous Shrubs: Provide shrubs of the size shown or listed and with not less than the minimum number of canes
- required by ANSI Z60.1 for the type and height of shrub required. 2.3 MISCELLANEOUS LANDSCAPE MATERIALS
- A. Wrapping: Tree-wrap tape not less than four (4) inches wide, designed to prevent sun scald and dehydration. Wrap from the ground line up to the second whorl of branches and secure. B. Stakes and Guys: Provide stakes. Provide wire ties and guys of two-strand, twisted, pliable, galvanized iron wire not
- lighter than 12 gauge. Provide fabric collar and grommets to protect tree trunks from damage by wires. Guy wire shall be flagged with a conspicuous material.
- C. Insecticide: Methoxychlor or similar insecticide. D. Rock Mulch: Mulch to be 1" inch tan granite in new landscape areas.
- E. Concrete Edging: Concrete Edging for use as shrub bed borders shall be 6" x 4" fiber mesh reinforced extruded Mortar. Mortar shall consist of fine and course sands, 6 sacks Portland Cement per cubic yard, fiber mesh reinforcing as per
- manufacturers recommendations. Mix at least three minutes and not more than five minutes in mechanical batch mixer, with maximum amount of water to produce workable consistency. F. Non-Selective Herbicide: equal part mixture of Round-up and 2-4-D diluted as per manufacturer's recommendations.
- Contractor to conform to all regulations for the transportation, application, storage and disposal of herbicides.

PART 3 EXECUTION 3.1 GENERAL

- A. All work shall be done in a businesslike manner and method acceptable by industry standards as outlined in The Guide for Colorado Landscape Industry Contracts & Specifications by the Associated Landscape Contractors of Colorado. Any discrepancies found in these plans shall be brought to the attention of the Owner's Representative.
- B. The Landscape Contractor shall coordinate all work with other Contractors on the job so conflict does not exist and will not delay completion of the work in any way.
- C. No change from the design shall be made without written authorization from the Owner's Representative.
- D. Requests for substitutions shall be made prior to bid. 3.2 PLACEMENT AND COMPACTION:
- A. Place backfill and fill materials in layers not more that four (4) inches in loose depth for material compacted by
- hand-operated tampers. B. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density for each area classification.
- C. Do not place fill material on surfaces that are muddy or frozen.
- D. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each

- E. Install Boulders per the Drawings and Details. Install three (3) seating boulders for the Owner's Representative's approval of before proceeding with the placement of remaining boulders. Boulders are to be set with tops level and at a height that is 16" to 18" above the finished elevation of the plaza paving. Bury portion of the boulder shown in detail, backfill and compact with approved site soils after geotextile fabric has been installed. Secure geotextile fabric to boulder with construction adhesive 4. Provide flexible expansion joint material around boulders within the plaza paving.

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- 3.3 GRADING A. Landscape Contractor is responsible for all finished grades in landscape area. Finish grade shall be established and
- inspected by the Owner's Representative prior to installation of irrigation or planting. All grades shall be smooth and flowing. Flat spots, points and any other forced conditions shall be avoided. B. Grade all areas adjacent to building lines to drain away from structures as shown on Drawings. Finish all surfaces free from irregular surface changes and within 0.10 foot of required sub grade or finish grade elevations. Make minor modifications as may be necessary to provide adequate drainage. Spread stockpiled topsoil and compact to minimum six (6) inches depth at all areas not designated for walks or structures.
- C. Areas to be planted with shrubs, groundcovers, or flowers shall be graded one (1) inch above top of concrete elevation on walks, curbs and other walking surfaces unless otherwise noted. All grades adjacent to retaining walls shall be set six (6) inches below top of wall unless noted otherwise. Mechanically compact backfill in 12 inch lifts to avoid settling. No water settling is to be allowed.
- 3.4 PREPARATION A. Site preparation: Non-selective herbicide shall be applied to all actively growing plants within the area to be landscaped as per manufacturers recommendations. No spraying shall take place during windy or rainy conditions. Rainfall within 24 hours of application shall require re-application at Contractor's expense. Herbicide shall be allowed to stand for two (2) weeks after application and prior to any disturbance. B. All excess excavated material, trash, debris, and waste materials shall be disposed of off the owner's property and
- transported to an approved disposal site.

. . .

- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure Owner's Representative's acceptance before start of planting work. Make minor adjustments as may be requested. D. Before mixing, clean topsoil of roots, plants, sod, stones, clay lumps and other extraneous materials harmful or toxic to
- plant growth E. Mix soil amendments and fertilizers at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting
- soil within a few davs. F. Mix soil amendments and fertilizer by suitable means to assure complete mixing and uniform texture using proportions for
- each use as recommended by topsoil report.
- J. Excavation for Trees 1. Excavate pits with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage. Loosen hard subsoil in bottom of excavation
- 2. For balled and burlapped or container grown stock, make excavations at least twice as wide as the ball diameter and two (2) inches shallower than ball depth.
- 3. For container grown stock, excavate as specified for balled and burlapped stock, except conform to container width and depth. Use prepared plant backfill mix for setting and filling all plants.
- 4. Where rubble fill is encountered, notify Owner's Representative and prepare planting pits properly by removal of rubble or other acceptable methods. When conditions encountered are severe and extensive (as determined by Owner's Representative) proceed with additional work at the direction of the Owner's Representative.
- 5. Drainage: If subsoil conditions indicate the retention of water in planting areas, as shown by seepage or other evidence indicating presence of underground water, notify the Owner's Representative before backfilling.
- 6. When directed by Owner's Representative, fill tree pits with water. Pits that do not drain completely within 24 hours shall be provided with 12-inch diameter, 36-inch deep auger holes (one per tree pit) filled with gravel. Drain holes, if required, will be considered as extra work and paid for by change order. K. Preparation for Other Plantings: 1. For pit and trench type plant backfill, mix planting soil prior to backfilling, and stockpile at the site.
- 2. Plant shall be set so that crown is at least two (2) inches and no more that four (4) inches above surrounding soil level. Add backfill until plant is anchored and will stand by itself. Water plant hole to work out large air pockets. Add remaining backfill, sloping level up to crown. Settle soil with water. Do not tamp backfill. Form a water basin just beyond edge of planting hole, if in planting beds.
- 3.5 PLANTING
- A. Planting Trees and Shrubs: 1. In clay or clay loam soil, the planting hole shall be made two (2) inches to four (4) inches shallower than the soil ball and a minimum of one (1) foot larger in diameter. In well-drained, sandy loam, the plating hole shall be not deeper than the height of the root ball and a minimum of one (1) foot larger.
- B. Planting Container Grown Stock: 1. Containers shall be removed and the fibrous roots teased, manipulated, or scarred with a knife to discourage circling
- roots. Care should be taken not to break the root ball. 2. Planting on slopes shall be placed in wells for better watering.
- C. Backfill Material: 1. Backfill tree and shrub planting pits with plant backfill mix using topsoil and soil amendments. a. Premix backfill materials, then turn several times with a front end loader to a uniform, evenly blended consistency, free of all pockets of unblended material and any clods or stones greater than one (1) inch in diameter.
- D. Pruning: 1. Prune, thin out and shape trees and shrubs in accordance with standard horticultural practice. Prune trees to retain required height and spread. Prune shrubs to retain natural character and accomplish their use in the landscape
- 2. Remove and replace excessively pruned or misformed stock resulting from improper pruning. E. Insecticide Spray: All deciduous tree trunks shall be thoroughly sprayed with a Methoxychlor or similar insecticide prior to
- application of tree wrap. F. Guying and Staking: Guy and stake trees immediately after planting, as indicated. Encase wire in fabric collar to protect bark and place around trunk in a single loop. Tighten wires by twisting together. 3.6 MULCH
- A. Fine Grading for Mulch Installation:
- 2. Form trench at all landscape edgers or pavements to accommodate mulch at depth specified. See details.
- B. Rock Mulch Installation: 2. Place rock, in all areas shown to receive mulch on drawings.
- 3. Spread carefully and evenly to a minimum depth of 3" in planted areas.

3.9 MAINTENANCE

- A. Begin maintenance immediately after planting.
- B. Maintain trees, shrubs and other plants by pruning, cultivating and weeding as required for healthy growth for a period of 30 days. Restore planting saucers. Maintain moisture depth to ensure vigorous growth. C. Tighten and repair stake and guy supports and reset trees and shrubs to proper grades or vertical position as required.
- Restore and replace damaged wrappings. Spray as required to keep trees and shrubs free of insects and disease. D. Installer will inspect work periodically following maintenance period and notify Owner's Representative in writing (copy to Owner's Representative) of any deficiencies in irrigation or other maintenance procedures.
- 3.10 CLEANUP AND PROTECTION F. During landscape work, store materials and equipment where directed. Keep pavements clean and work area in an
- orderly condition. G. Protect landscape work and materials from damage due to landscaping operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace
- damaged landscape work as directed.
- 3.11 INSPECTION AND ACCEPTANCE
- A. When the landscape work is completed, including maintenance, the Owner's Representative will, upon request, make an inspection to determine acceptability. B. Where inspected landscape work does not comply with the requirements, replace rejected work and continue specified
- maintenance until re-inspected by the Owner's Representative and found to be acceptable. Rejected materials shall be removed from the project site and replaced by the Landscape Installer at his expense. END OF SECTION 32 70 20

- 1. Remove any dikes used to facilitate watering. Smooth surface, contour to distribute drip or bubbler irrigation to root

SECTION 32 84 00 LANDSCAPE IRRIGATION SYSTEM PART 1 GENERAL

PART 1 GENERAL 1.1 SUMMARY

- A. Section Includes: The extent of landscape irrigation system is shown on the Drawings and is intended to be a schematic representation of the system. Adapt system to field conditions in the most efficient and effective way so as to achieve even coverage in each irrigation zone. Furnish and install system, complete with all accessories and fittings necessary for proper function.
- 1.2 OBJECTIVE OF WORK A. The objective of the system is to provide even watering of plant materials in each zone while preventing overspray and wetting of all non-planting area.
- 1.3 QUALITY ASSURANCE: A. To the maximum extent possible, provide the landscape irrigation system as a complete unit as produced by Rain Bird,
- including heads, valves, controls and accessories. B. Hunter, Buckner, Nelson, Royal Coach etc. are also acceptable manufacturers subject to Owner's Representative written approval. However, if one of these alternative manufacturers is used, provide a system of comparable quality and function as
- shown on Drawings and submit: Manufacturer's technical data.
- 2. Installation instructions,
- 3. Operation and maintenance manuals, 4. Winterizing instructions,
- Complete design and shop drawings.
- 6. Final acceptance of alternative system is subject to Owner's Representative's approval. 1.4 SUBMITTALS
- A. Product Data:
- 1. Submit manufacturer's technical data and installation instructions for the landscape irrigation system. 2. Transmit a copy of each instruction to the Installer and Owner's Representative.
- 3. Provide operating and maintenance manuals in duplicate including winterizing instructions to Owner's Representative,
- and demonstrate use of manuals in the field. B. As-Built Drawings: Prepare an accurate as-built drawing of the irrigation system as installation proceeds. Provide Owner's Representative with such a drawing in a format, accuracy and orderliness similar to that of Construction Drawings.
- PART 2 PRODUCTS 2.1 MATERIALS:
- A. Pipes and Fittings:
- 1. All pipes and pipe fittings shall be polyvinyl chloride (PVC) unless otherwise specified. 2. All lateral and Mainlines shall be Class 200 PVC.
- 3. Pipes shall be continuously and permanently marked with the manufacturer's name, size, schedule, type and working pressure. B. Sleeves: All sleeves shall be Class 200 pipe, sized as shown on drawing.
- c. Valves: Provide automatic valves, (pressure compensating valves where noted), isolation valves, check valves, foot valves, and manual drain valves as required and as specified on Drawings, complete with Ametek valve boxes for automatic valves and check valves, complete with PVC risers, locking rubber covers, two 2049 keys for rubber covers and two valve keys three (3) feet long for isolation valves and manual drain valves, including gate valve at tap point.
- D. Sprinkler Heads: All heads shall conform to specifications set forth on Drawings. E. Drip Irrigation Pipe laterals - Polyethylene 1/2": Pipe shall be flexible polyethylene pipe or equal rated at 100 psi and of size indicated on drawings.
- F. Drip Distribution Tubing: 1/4" tubing (or approved equal) used with necessary couplings, stakes and end plugs to provide the system shown on the drawing
- Drip Zone Wye Filter: Drip zone inline Wye filter shall be Rainbird RBY-100-200
- Drip Zone Pressure Regulator: Drip zone inline pressure regulator shall be Rainbird PSI-L-30 Drip Emitter - to be Rainbird Xeri-Spray XS-360TS-SPYK: connected to 1/4" distribution tubing and 1/4" barbed transfer fitting between 1/4" poly tubing and 1/2" poly tubing as shown on drawing.
- Bedding Material: Sand or rock-free soil of a sandy loam structure.
- Drainage Backfill: Clean gravel, graded from 3/4 inch minimum to 1-1/2 inch maximum. 2.2 AUTOMATIC CONTROL SYSTEM
- A. Use existing Automatic controller (where noted on drawing). Control system will include wiring and connections necessary to fully operate the system. Wires shall be color-coded, copper conductor, types and sized according to manufacturer's recommendations, buried
- below the irrigation main or placed in 1" min. conduit, unless noted otherwise.
- PART 3 EXECUTION: 3.1 INSPECTION
- A. Installer must examine the areas and conditions under which landscape irrigation system is to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of the work. B. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.
- 3.2 SYSTEM LAYOUT
- A. All heads, valves and drains shall be flagged on site for approval by Owner's Representative prior to trenching. B. Minor adjustment or relocations of system elements are permitted to avoid existing fixed obstructions. All damage done during installation of the irrigation system shall be replaced or repaired by Installer.
- Utilities: 1. Determine, based on Owner's site survey and Project Record Document, location of underground utilities and perform
- work in a manner which will avoid possible damage. 2. Hand excavate, as required to minimize possibility of damage to underground utilities.
- 3. Maintain grade stakes set by others until removal is mutually agreed upon by all parties concerned. E. During construction and storage, protect materials from damage and prolonged exposure to sunlight.
- 3.3 TRENCHING AND BACKFILLING
- A. Excavate straight and true with bottom uniformly sloped to low points.
- B. Over-excavate trenches three (3) inches and bring back to indicated depth by filling with sand or rock-free materials. as specified. Cover pipes both top and sides with three (3) inches of specified bedding materials. Do not cover joints or fittings until sc
- directed by Owner's Representative and until joints have been tested under pressure. D. Backfill and compact so that the pipes are protected and so there will be no subsequent settling of the trenches. Any
- settlement that does occur will be repaired by Installer at no added cost 3.4 INSTALLATION
- A. Unless otherwise indicated, comply with requirements of Uniform Plumbing Code.
- B. Water Supply: Irrigation system shall be tied to irrigation water main service where shown on drawings.
- c. Pipe: 1. Unless otherwise specified, install main lines with a minimum cover of 18 inches below final grade. Install lateral lines with a minimum cover of 18 inches below final grade. Failure to comply with these requirements will be reason for
- rejection of work. All replacements will be made at expense of Installer 2. Lay pipe on solid sub-base, uniformly sloped without humps or depressions. For laterals, slope to drain valve at least
- 1/2 inch in 10 feet of run. 3. No pipe shall be placed in a trench immediately adjacent to concrete or other fixed objects so as inhibit future repairs
- of pipe or fitting. 4. Cut plastic pipe square. Remove burrs at cut ends. Make solvent weld joints as per manufacturer's recommendations
- so that unobstructed flow will result. Allow joints to set at least 24 hours before applying pressure to PVC pipes. 5. Coat threaded connections with teflon tape, no rectorseal or pipe dope.
- 6. Install pipe in weather conditions acceptable to manufacturer.
- 7. Use dielectric fittings at connections where pipes of dissimilar metal are joined. D. Sleeves:
- 1. Specified sleeve material shall be placed in all areas to be hard surfaced, including driveways, sidewalks and curbs, where it is necessary, according to the Drawings, to extend elements of the landscape irrigation system, specifically piping and electric wires for remote valves.
- 2. Separate sleeves shall be provided for wires and pipes, but such sleeves may be placed side by side in the same trench. Sleeves for pipes shall be placed at 18 inches for main lines and 18 inches for lateral lines. Sleeves for wires shall be placed at the same depth as the pipe if sharing a common trench, and otherwise shall be placed at a minimum depth of 18 inches.
- 3. Sleeves shall be bedded in the same fashion as piping with specified bedding material. E. Automatic Controller System: Controller shall be mounted at existing location(s) as shown on drawing.
- F. Remote Automatic Valves and Wires: 1. Install valves and wires according to recommendations of manufacturer. Place remote valves in specified valve boxes so that cover of valve box is 1/2 inch above finished grade of mulch surface. Install valve over nine (9) inches of approved drainage backfill. Arrange valve in box for easy adjustment and removal. Provide union on downstream
- side. Adjust valves to provide proper amount of water to each type of vegetation served. 2. Install controller/valve wires in trench with pipe wherever possible. Place wire loosely into trench, but do not tape to pipe. Waterproof wire connectors shall be installed at all splices. All splices are to be located in approved valve box.
- Tape wire into bundle with tape at intervals of 20' min. Form strain relief loops at a minimum of every 200' using a minimum of 18" of wire to form loop c. Pressure Reduction Valves: Adjust all pressure reduction valves to levels recommended by manufacturer for maximum
- efficiency of system. н. Drip Irrigation:
- 1. Drip Irrigation Pipe laterals 1/2" Polyethylene: Pipe shall installed in lengths no longer than 200', max 200 gph. Pipe is to be staked a minimum of every 5'. Pipe is to be installed below weed control fabric where fabric occurs, and below mulch where mulch occurs. Pipe is to terminate with flush cap in 6" round valve box.
- 2. Drip Distribution Tubing-1/4": Tubing to be installed as shown on detail. Tubing is to be laid beneath weed control fabric and mulch, stake at plant and every 2.5'.
- 3. Drip Emitter Install Rainbird Xeri-Sprays in quantities shown on detail, connected to 1/4" distribution tubing and 1/4" barbed transfer fitting between 1/4" poly tubing and 1/2" poly tubing as shown on drawing. Emitters & tube is to be staked at root ball of plant. Install beneath mulch where mulches are used. 3.5 TESTING
- A. Notify Owner's Representative in writing when testing will be conducted. Conduct test in the presence of the Owner's Representative.
- B. Hydrostatic Test: Test pump, water piping and valves, after backfilling trenches, except leave joints exposed, to a hydrostatic pressure of not less than 100 psi, unless otherwise indicated. . Piping may be tested in sections to expedite the work.
- 2. Remove and repair piping, connections, valves which do not pass the hydrostatic testing.

- c. Operational Testing: to final position
- a. Demonstrate to the Owner's Representative that system meets coverage requirements and that automatic controls function properly
- b. Coverage requirements are based on operation of one circuit at a time 3.6 ADJUSTMENTS
- height according to manufacturer's recommendations 3.7 WARRANTY
- repair or replace said items.

1.1 SUMMARY

1.2 SUBMITTALS

A. Product Data:

B. Inspections:

1.3 QUALITY ASSURANCE

1.4 PROJECT/SITE CONDITIONS

1.5 DELIVERY, STORAGE, AND HANDLING

applicable to fencing materials

and materials of all other trades.

completion of the work in any way.

3.3 CLEANUP AND PROTECTION

3.4 INSPECTION AND ACCEPTANCE

orderly condition.

PRODUCTS

any defects.

3.1 GENERAL

3.2 PLACEMENT

directed

acceptability.

PART 3 EXECUTION

Contractor's expense.

SECTION 32 30 00 SITE IMPROVEMENTS- SITE FURNITURE AND PLAY EQUIPMENT PART 1 GENERAL

1. Perform operational testing after hydrostatic testing is completed, backfill is in place and sprinkler heads are adjusted

A. After completion of all landscape improvements affecting finish grade or surface treatment, adjust all heads to proper

A. Warrant the entire irrigation system for a period of one year from the time of acceptance by Owner's Representative. Such warranty shall include all elements of the system, any damage caused by the improper function thereof, and all labor to END OF SECTION 32 84 00

A. Section Includes: Slte Furniture and Play Equipment as shown on the drawings.

1. Submit manufacturer's technical data and installation instructions for Site Furniture and Play Equipment.

A. Work of this Section shall be performed by a single firm specializing in fence work having not less than five (5) years successful experience in landscape projects of similar scope to this one.

1. In addition to normal progress inspections by the Owner's Representative, schedule and conduct the following formal inspections, giving the Owner's Representative at least 24 hours prior notice of readiness for inspection: 2. Final inspection to be after completion of installation.

A. Utilities: Prior to cutting into the soil, the Landscape Contractor shall locate all underground utilities and shall take proper precaution not to disturb them. Any damage done to the underground utilities or structures shall be repaired at Landscape

A. Ship materials with certificates of inspection as required by governmental authorities. Comply with governing regulations B. Use all means necessary to protect fencing materials before, during, and after installation and to protect the installed work

2.1 BENCHES, BIKE RACKS AND PLAY EQUIPMENT

A. Benches, Blke Racks and Play Equipment shall be as specified on drawings, free of holes, scratches, gouges or chips, or

A. All work shall be done in a businesslike manner and method acceptable by industry standards. Any discrepancies found in these plans shall be brought to the attention of the Owner's Representative. B. The Contractor shall coordinate all work with other Contractors on the job so conflict does not exist and will not delay

C. No change from the design shall be made without written authorization from the Owner's Representative. D. Requests for substitutions shall be made prior to bid.

A. Benches, Bike Racks and Play Equipment shall be installed in accordance with plans and details provided and in accordance with manufacturers recommendations. Concrete Footings recommended by Play Equipment Manufacturer are to be set plumb and at grades required. Benches and Bike Racks to be set horizontally level as shown in Drawing detail.

A. During installation work, store materials and equipment where directed. Keep pavements clean and work area in an B. Protect work and materials from damage due to landscaping operations, operations by other contractors and trades and

trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged work as A. When the fencing work is completed, the Owner's Representative will, upon request, make an inspection to determine

B. Where inspected fencing work does not comply with the requirements, replace rejected work and continue specified maintenance until re-inspected by the Owner's Representative and found to be acceptable. Rejected materials shall be removed from the project site and replaced by the Installer at his expense. END OF SECTION 32 30 00

CHECKED JOB NO. DATE REVISIONS

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PARK

LANDSCAPE, **IRRIGATION AND SITE** FURNISHINGS SPECIFICATIONS

-5

SHEET NO.





ELECTRICAL SPECIFICATIONS

A. GENERAL AND SPECIAL CONDITIONS

1. SCOPE

A. THESE SPECIFICATIONS APPLY TO THE ELECTRICAL WORK SHOWN ON THE PLANS AND DESCRIBED

B. PROVIDE LABOR AND MATERIAL REQUIRED FOR COMPLETE AND OPERATIONAL ELECTRICAL SYSTEMS.

C. THE SCOPE OF THE ELECTRICAL WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING : 1. POWER SERVICE ENTRANCE AND POWER DISTRIBUTION SYSTEM INCLUDING BUT NOT LIMITED

- TO METER SOCKET, SERVICE SWITCH, RECEPTACLES, CIRCUIT BREAKER PANEL BOARD, CONDUIT AND WIRE
- 2. TELEPHONE AND/OR CABLE SERVICE ENTRANCE INCLUDING BUT NOT LIMITED TO WEATHER PROOF DEMARCATION ENCLOSURE AND CONDUIT FOR SIGNAL DISTRIBUTION
- 3. LIGHTING SYSTEM INCLUDING BUT NOT LIMITED TO LIGHT FIXTURES, LIGHT POLE BASES BRANCH CIRCUIT WIRING AND PROGRAMMABLE LIGHTING CONTROL RELAY PANEL
- 4. TEMPORARY CONSTRUCTION POWER

2. SHOP DRAWINGS

A. SUBMIT TO THE ENGINEER FOUR COPIES OF CATALOG CUTS AND DIMENSIONAL DRAWINGS WHERE SUBMITTAL REQUIREMENTS ARE LISTED IN THESE SPECIFICATIONS BEFORE COMMENCEMENT OF

3. AS BUILT DRAWINGS

A. THE CONTRACTOR SHALL MAINTAIN ON THE JOB SITE AN UP-TO-DATE SET OF CONTRACT DRAWINGS AND SPECIFICATIONS, MARKED UP TO SHOW CONTRACT, AND FIELD CHANGES MADE DURING THE COURSE OF CONSTRUCTION. THESE CONTRACT DRAWINGS AND SPECIFICATIONS SHALL BE AVAILABLE FOR INSPECTION BY THE ELECTRICAL ENGINEER AT ANY TIME. UPON COMPLETION OF THE WORK, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ONE SET OF AS-BUILT DRAWINGS FOR HIS REVIEW, AND IF FOUND ACCEPTABLE, TRANSFER TO THE OWNER.

4. CODES AND PERMITS

A. PERFORM WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES.

B. OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS, AND CERTIFICATES THAT MAY BE NECESSARY FOR COMPLETION OF THE WORK.

5. COORDINATION

A. COORDINATE WORK WITH OTHER TRADES TO ELIMINATE CONFLICTS.

B. COMPLY WITH ALL REQUIREMENTS FOR SERVICE OF THE POWER COMPANY, THE TELEPHONE COMPANY AND THE CABLE COMPANY. MEET WITH UTILITY COMPANIES PRIOR TO ROUGH-IN TO CONFIRM ALL OF THEIR REQUIREMENTS INCLUDING CLEARANCES WILL BE MET.

6. INSPECTION

A. ALL WORK SHALL BE SUBJECT TO OBSERVATION AT ANY TIME BY THE ARCHITECT, OWNER, OR ENGINEER

B. NOTIFY BUILDING DEPARTMENT OFFICIALS WHEN WORK IS READY FOR ANY REQUIRED INSPECTIONS. 7. GUARANTEE

A. GUARANTEE THAT ALL MATERIALS SHALL BE NEW AND FREE OF DEFECT AT THE TIME OF INSTALLATION. REPAIR OR REPLACE ANY DEFECTIVE MATERIAL OR WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF WRITTEN ACCEPTANCE BY THE OWNER. 8. MAINTENANCE AND OPERATING PROCEDURES

A. AT THE COMPLETION OF WORK, INSTRUCT THE OWNER ON THE CORRECT MAINTENANCE AND OPERATING PROCEDURES FOR THE ELECTRICAL SYSTEMS.

B. PREPARE A MAINTENANCE MANUAL FOR THE OWNER CONSISTING OF THE FOLLOWING: 1. ONE COPY OF ALL APPROVED SHOP DRAWINGS. EACH SHOP DRAWING SHALL INDICATE THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE SUPPLIER.

2. MANUFACTURER'S INSTALLATION INSTRUCTIONS, OWNER'S MANUALS, PARTS LISTS, OWNER'S MAINTENANCE PROCEDURES, AND WARRANTIES.

THE MAINTENANCE MANUAL BY THE ENGINEER SHALL BE A CONDITION OF FINAL PAYMENT. 9. PROTECTION

A. ALL WORK, MATERIAL, AND EQUIPMENT SHALL BE PROTECTED FROM DAMAGE OR LOSS DUE TO THEFT, WEATHER, ETC., UNTIL FINAL WRITTEN ACCEPTANCE BY THE OWNER. B. POST DANGER SIGNS AND PHYSICAL BARRIERS TO PROTECT PEOPLE AGAINST HAZARDS CREATED BY THE WORK. 10. IDENTIFICATION

A. PROVIDE AND INSTALL ENGRAVED LAMINATED BLACK AND WHITE PHENOLIC NAMEPLATES FOR ALL SERVICE SWITCHES, PANELBOARDS, SAFETY SWITCHES, AND CABINETS.

B. NAMEPLATE SHALL INDICATE EQUIPMENT DESIGNATION, OR DESIGNATION OF EQUIPMENT SERVED PER PLANS.

C. NAMEPLATES SHALL BE FIRMLY SECURED WITH TWO SHEET METAL SCREWS. 11. TRENCHING AND BACKFILLING

A. PERFORM ALL TRENCHING AND BACKFILLING REQUIRED FOR THE ELECTRICAL WORK. B. BACKFILLING SHALL BE SUPERVISED BY THE GENERAL CONTRACTOR, AND SHALL BE ACCOMPLISHED IN 6" LIFTS, EACH COMPACTED TO 95% OR BETTER.

RATINGS: REQUIRED OPTIONS			IONS & ACCES	SORIES:	RE	QUIRED C	OPTIONS & ACCESSO	DRIES:		
240/120 VOLTS SINGLE PHASE 3 WIRECOPPER BUSNEMA3R ENCLOSURESURFACE MOUNTIN200 AMP BUS10000 AIC		NTING	ſ	GR	OUND BU	S				
OAD TYPE AND CIRCU	IT DESCRIPTION		#/VA A	MPS	AMPS	#/VA	LOAD TYPE AND C	IRCUIT DESCRIPTION		
DUTLET: OUTLETS (RO	DD1) IN PLANTERS		1 540 —	20		2 175	LIGHTING: POLE L	IGHTS (LPL1) IN PARK		
LIGHTING: ITALIAN LIG	HT STRINGS		3	20		4	OUTLET: IRRIGAT	ION CONTROLLER		
MISCELLANEOUS: LIG	HTING RELAY PANEL		5	20		6	PROCESS: FUTUR	RE NORTH INFORMATION KIOSK		
SPARE: UNALLOCATE) FUTURE		7	20	20	8	PROCESS: FUTUR	RE SOUTH INFORMATION KIOSK		
SPARE: UNALLOCATE) FUTURE		9	20	20	10	LIGHTING: ENTRY	STRUCTURE		
SPARE: UNALLOCATE) FUTURE		1200	20		12	LIGHTING: ENTRY	STRUCTURE		
SPARE: UNALLOCATE) FUTURE		1200	20	20	14	PROCESS: FUTUR	RE WATER FEATURE		
SPARE: UNALLOCATE) FUTURE		1200	20	20	800	SPARE: UNALLOC	ATED FUTURE		
SPARE: UNALLOCATE) FUTURE		1200		20	- 1200 18	SPARE: UNALLOC	ATED FUTURE		
SPARE: UNALLOCATE) FUTURE		1200	20		- 1200 20	SPARE: UNALLOC	ATED FUTURE		
SPARE: UNALLOCATE) FUTURE		1200 - 21	20		1200 22	SPARE: UNALLOC	SPARE: UNALLOCATED FUTURE		
SPARE: UNALLOCATE) FUTURE		1200	20		- 1200 24	SPARE: UNALLOCATED FUTURE			
SPARE: UNALLOCATE) FUTURE		1200	20	20	1200 26	SPARE: UNALLOCATED FUTURE			
SPARE UNALLOCATE			1200	20	20	1200	SPARE: UNALLOCATED FUTURE			
SPACE			1200			1200	SPACE:			
			0			- 0				
			0		—	0	SFACE			
SPACE:			0			- 0	SPACE:			
SPACE:			35 0			36 0	SPACE:			
SPACE:			37 0 —			- 38 - 0	SPACE:			
SPACE:			39 0			40 0	SPACE:			
OADS BY TYPE (KVA)	CONNECTED DEM	1AND		A	В	TOTAL	LOAD BY TYPE (KV	A) CONNECTED DEMAND		
	2.4 3	.0 CON		: 102.6	114.8 1	08.7	KITCHEN	0.0 0.0		
KECEPTACLE MOTOR - HEATING	0.7 0 0.0 0	./ DEN .0 CON	IAND AMPS:	64.7 12 3	67.8 13.8	00.2 26.1	PROCESS	1.2 1.2 0.2 0.2		
NOTOR - COOLING	0.0 0	.0 DEN	IAND KVA	7.8	8.1	15.9	SPACE	0.0 0.0		
10TOR - YR RND	0.0 0	.0						21.6 10.8		
LECTRIC HEAT	0.0 0	.u BAL	ANCE % :	89.4			LARGEST MUTUR	0.0 0.0		
PROGRAMMABLE	LIGHTING CON	TROLLER - SC	HEDULE OF	LOADS						
		OVERRIDE		DESIGNIA		N				
	10:00 PM					<u> </u>	PP1-1	OUTLETS IN PLANTERS (R0D1)		
2 DUSK	DAWN						PP1-2	POLE LIGHTS (LPL1)		
3 7:00AM MON-SUN	10:00 PM MON-SUN						PP1-12	FOUNTAIN		

			OVERRIDE				EQUIPMENT		
RELAY #	ON CONTROL	OFF CONTROL	DEVICE	DESIGNATION	FUNCTION	CIRCUIT	CONTROLLED		
1	DUSK	10:00 PM				PP1-1	OUTLETS IN PLANTERS (R0D1)		
2	DUSK	DAWN				PP1-2	POLE LIGHTS (LPL1)		
3	7:00AM MON-SUN	10:00 PM MON-SUN				PP1-12	FOUNTAIN		
4	DUSK	8:00 PM MON-SUN				PP1-3	ITALIAN LIGHT STRINGS		
5	DUSK	10:00 PM				PP1-10	LIGHTING ON ENTRY STRUCTURE		
6						PP1-*	SPARE FOR FUTURE		
7						PP1-*	SPARE FOR FUTURE		
8						PP1-*	SPARE FOR FUTURE		

C. SUBMIT THE MAINTENANCE MANUAL FOR REVIEW AT THE COMPLETION OF THE JOB. APPROVAL OF

12. EQUIPMENT INSTALLATION

A. ALL EQUIPMENT SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED OTHERWISE.

B. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SUPPORTS, FOUNDATIONS, PADS, LIGHT POLE BASES, ETC., AS REQUIRED. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF OTHER APPLICABLE DIVISIONS OF THE SPECIFICATIONS.

13. CHASES, SLEEVES, CUTTING AND PATCHING

A. PROVIDE FOR NECESSARY CHASES, HOLES, SLEEVES, BOXES, INSERTS, AND HANGERS BY ARRANGEMENT WITH CONTRACTORS OF OTHER TRADES. B. PROVIDE FOR THE REPAIR OF ALL HOLES, OR OPENINGS, MADE TO ACCOMMODATE ELECTRICAL

EQUIPMENT C. OBTAIN WRITTEN APPROVAL FROM THE ARCHITECT BEFORE NOTCHING, CHIPPING, BURRING, DRILLING, OR WELDING OF STRUCTURAL MEMBERS.

B. BASIC MATERIALS AND EQUIPMENT

1. GENERAL

A. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE OF THE TYPE AND QUALITY SPECIFIED, NEW, AND, WHEN LISTED BY UNDERWRITERS LABORATORIES, SHALL MEET THEIR REQUIREMENTS AND BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE REGULARLY FURNISHED.

2. CIRCUIT BREAKER PANELBOARDS

A. THE PANELBOARD BUS ASSEMBLY AND BREAKERS SHALL BE ENCLOSED IN A STEEL CABINET. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, STAINLESS STEEL, CYLINDER TUMBLER-TYPE LOCKS WITH CATCHES AND SPRING-LOADED DOOR PULLS. ALL PANELBOARD LOCKS SHALL BE KEYED ALIKE. A CIRCUIT DIRECTORY FRAME AND CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE LOAD FED BY EACH CIRCUIT

B. CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC TYPE, AND SHALL HAVE COMMON TRIP ON ALL MULTI-POLE BREAKERS.

C. BUS BAR CONNECTIONS TO THE BRANCH CIRCUIT BREAKERS SHALL BE THE "DISTRIBUTED PHASE" TYPE. THREE-PHASE, FOUR-WIRE BUSSING SHALL BE SUCH THAT ANY THREE ADJACENT SINGLE-POLE BREAKERS ARE INDIVIDUALLY CONNECTED TO EACH OF THE THREE DIFFERENT PHASES IN SUCH A MANNER THAT TWO OR THREE-POLE BREAKERS CAN BE INSTALLED AT ANY LOCATION.

D. WHERE INDICATED ON THE DRAWINGS OR REQUIRED BY CODE, CIRCUIT BREAKER PANELBOARDS SHALL BE SUITABLE FOR USE AS SERVICE EQUIPMENT, AND SHALL BEAR A UL SERVICE EQUIPMENT

E. SEE INDIVIDUAL SCHEDULES ON THE DRAWINGS FOR MAIN LUGS, OR MAIN BREAKER, BUS MATERIAL AND RATING, VOLTAGE, PHASES, SHORT CIRCUIT RATING, MOUNTING, NEMA RATING, AND BRANCH BREAKER REQUIREMENTS.

F. PANEL BOARDS SHALL BE SQUARE D TYPE NQOD OR EQUAL BY G.E., WESTINGHOUSE, CUTLER-HAMMER. OR SIEMENS.

G. SUBMITTALS SHALL INCLUDE BOTH GENERAL SPECIFICATIONS FOR THE EQUIPMENT AND FOR EACH PANELBOARD, AN ELEVATION SHOWING PHYSICAL SIZE OF THE EQUIPMENT AND LOCATION AND RATING OF EACH CIRCUIT BREAKER. ALL SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY IN 8 1/2" X 11" ADOBE PDF FORMAT.

3. SAFETY SWITCHES

A. PROVIDE SAFETY SWITCHES FOR SERVICE ENTRANCE AND ALL POLYPHASE MECHANICAL EQUIPMENT. SWITCHES SHALL BE FURNISHED IN NEMA 1 GENERAL PURPOSE ENCLOSURES UNLESS NEMA 3R (RAINPROOF) IS REQUIRED OR INDICATED ON THE PLANS. COVERS ON NEMA 1 ENCLOSURES SHALL BE ATTACHED WITH PIN TYPE HINGES. RAINPROOF COVERS SHALL BE SECURABLE IN THE OPEN POSITION.

B. SWITCHES SHALL HAVE A QUICK-MAKE AND QUICK-BREAK OPERATING HANDLE AND MECHANISM WHICH SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER. SWITCHES SHALL HAVE A DUAL COVER INTERLOCK TO PREVENT UNAUTHORIZED OPENING OF THE SWITCH DOOR IN THE "ON" POSITION OR CLOSING OF THE SWITCH MECHANISM WITH THE DOOR OPEN. HANDLE POSITION SHALL INDICATE IF THE SWITCH IS "ON" OR "OFF". ALL SWITCHES SHALL HAVE SWITCH BLADES WHICH ARE FULLY VISIBLE IN THE "OFF" POSITION WHEN THE DOOR IS OPEN.

C. SWITCH RATINGS SHALL BE AS INDICATED ON THE PLANS, OR AS REQUIRED FOR THE EQUIPMENT SERVED.

D. SAFETY SWITCHES SHALL BE SQUARE D, HEAVY DUTY TYPE, OR EQUAL BY G.E., WESTINGHOUSE, CUTLER-HAMMER, OR SIEMENS.

E. SUBMITTALS SHALL INCLUDE MANUFACTURER'S STANDARD LITERATURE INDICATION DESIGN ALL SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY IN 8 1/2" ADOBE PDF FORMAT

4. WIRING DEVICES

A. CONVENIENCE OUTLETS SHALL BE 3 WIRE GROUNDING TYPE, 15 OR 20 AMP @ 125 VOLTS. MANUFACTURERS AND CATALOG NUMBERS ARE INDICATED IN THE WIRING DEVICE SCHEDULE ON THE DRAWINGS. ALTERNATE MANUFACTURERS ARE INDICATED IN THE WIRING DEVICE SCHEDULE ON THE DRAWINGS. EQUALS BY OTHER MANUFACTURERS WILL BE CONSIDERED IF REQUESTED IN WRITING PRIOR TO BID.

B. SUBMITTALS SHALL CONSIST OF GENERAL SPECIFICATION SHEETS FOR EACH DEVICE AND COVERPLATE. THE SPECIFIC DEVICE(S) TO BE SUPPLIED SHALL BE CLEARLY INDICATED ON THE GENERAL SPECIFICATION SHEETS. ALL SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY IN 8 1/2" X 11" ADOBE PDE FORMAT

5. LIGHTING FIXTURES

A. LIGHTING FIXTURES SHALL BE AS SHOWN ON THE LIGHTING FIXTURE SCHEDULE. COMPLETE WITH LAMPS, PLASTER FRAMES, AND ACCESSORIES REQUIRED. CATALOG NUMBERS SHOWN ARE THE LATEST AVAILABLE AT THE TIME OF DESIGN. IN CASE OF DISCREPANCY BETWEEN CATALOG NUMBER AND DESCRIPTIVE INFORMATION. DESCRIPTIVE INFORMATION SHALL TAKE PRECEDENCE. BEFORE ORDERING ANY FIXTURES, VERIFY THE EXACT TYPE CEILING CONSTRUCTION, FIXTURE TRIMS, AND FINISHES WITH THE ARCHITECT AND MODIFY FIXTURE DESCRIPTION AND CATALOG NUMBER ACCORDINGLY.

B. BALLASTS SHALL COMPLY WITH THE BALLAST DESCRIPTION, AND NOTES IN THE LIGHTING FIXTURE SCHEDULE. UNIVERSAL, ADVANCE, JEFFERSON, OR G.E. BALLASTS MAY BE USED.

C. LAMP CATALOG NUMBERS SHOWN ARE FOR G.E. LAMPS. PHILIPS, WESTINGHOUSE OR SYLVANIA LAMPS ARE ACCEPTABLE SUBSTITUTES.

D. INSTALL LIGHTING FIXTURES STRAIGHT AND TRUE WITH REFERENCE TO ADJACENT WALLS, AND SECURELY FASTEN TO AND SUPPORT BY STRUCTURAL MEMBERS OF THE BUILDING.

E. ALL FIXTURES SURFACE MOUNTED ON CONCRETE SLABS SHALL BE FASTENED TO THE CONCRETE AT EACH FIXTURE CORNER WITH WEJ-IT EXPANSION SCREWS.

F. UPON COMPLETION OF THE INSTALLATION, DIRECT ALL ADJUSTABLE FIXTURES AS DIRECTED BY THE ENGINEER.

G. SUBMITTALS SHALL CONSIST OF GENERAL SPECIFICATION SHEETS FOR EACH FIXTURE, LAMP AND BALLAST TYPE PROPOSED. THE SPECIFIC EQUIPMENT TO BE SUPPLIED SHALL BE CLEARLY INDICATED ON THE GENERAL SPECIFICATION SHEETS. ALL SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY IN 8 1/2" X 11" ADOBE PDF FORMAT.

6. PROGRAMMABLE LIGHTING CONTROL PANEL

A PROVIDE AND INSTALL A MICROPROCESSOR BASED LIGHTING CONTROLLER, LOW VOLTAGE SWITCHES, AND OPTIONAL EXPANSION PANELS (SEE PLANS FOR QUANTITIES) FOR THE CONTROL OF LOADS LISTED IN THE SCHEDULE ON THE PLANS. THE LIGHTING CONTROLLER SHALL CONSIST OF A CONTROL MODULE WITH LCD DISPLAY AND MEMBRANE KEYPAD, 8 2-WIRE 120/277 VOLT 20 AMP RELAYS, AND A 24 VOLT CONTROL POWER TRANSFORMER IN A NEMA 1 ENCLOSURE WITH HINGED LOCKABLE COVER. EXPANSION PANELS SHALL CONSIST OF 8 2-WIRE RELAYS AND TERMINAL BLOCKS IN A NEMA 1 ENCLOSURE WITH SCREW COVER.

POWER FAILURE. IT SHALL BE CAPABLE OF UP TO 900 EVENTS PER WEEK.

OUTPUT SHALL BE PROGRAMMABLE TO SWITCH RELAY IN ANY OF THE FOLLOWING MODES:

- 1. TIMED ON, TIMED OFF
- 2. ASTRONOMICAL ON, ASTRONOMICAL OFF 3. MANUAL ON/OFF OVERRIDE
- 4. MANUAL ON, TIME-OUT OFF
- 5. PHOTOMETRIC CONTROL

D. THE PROGRAMMABLE LIGHTING CONTROLLER SHALL BE MANUFACTURED BY DOUGLAS LIGHTING CONTROLS, AND SHALL BE CATALOG #WPAD-33518. EXPANSION PANELS, IF REQUIRED, SHALL BE DOUGLAS LIGHTING CONTROLS CATALOG #WPAD-33018. OVERRIDE SWITCHES, IF REQUIRED, SHALL BE DOUGLAS LIGHTING CONTROLS CATALOG #SWITCHES. E. SUBMITTALS SHALL CONSIST OF GENERAL SPECIFICATION SHEETS. THE SPECIFIC EQUIPMENT TO

7. OUTLETS

A. CHECK ARCHITECTURAL AND MECHANICAL DRAWINGS BEFORE INSTALLING OUTLETS. CHANGING OF OUTLETS TO CONFORM TO THESE DRAWINGS AND ANY OTHER SLIGHT CHANGE IN MOUNTING HEIGHT OR LOCATION OF OUTLETS REQUIRED SHALL BE CONSIDERED AS PART OF THIS CONTRACT AND NO EXTRA CHARGE SHALL BE ALLOWED. B. USE OUTLET BOXES OF SUFFICIENT SIZE AND SHAPE TO BEST SUIT THE PARTICULAR LOCATION

BOXES SMALLER THAN 4" SHALL BE INSTALLED.

C. SWITCH AND RECEPTACLE OUTLETS SHALL BE STANDARD 4" BOXES WITH COVER PLATES. WHERE MORE THAN ONE SWITCH OR DEVICE IS LOCATED AT ONE POINT, USE GANG BOXES AND GANG COVER PLATES. SECTIONALIZED OR GANGABLE BOXES ARE NOT ACCEPTABLE.

D. FLUSH MOUNT LIGHTING SWITCHES AND RECEPTACLES UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE PLANS.

E. USE WEATHERPROOF SWITCHES AND RECEPTACLES MOUNTED IN WEATHERPROOF OUTLET BOXES IN LOCATIONS EXPOSED TO WEATHER. WHERE RECEPTACLES ARE TO BE INSTALLED ABOVE HOT WATER BASEBOARD HEATING UNITS.

G. OUTLET BOXES SHALL BE ONE-PIECE STEEL, GALVANIZED OR SHERADIZED AS MANUFACTURED BY STEEL CITY ELECTRIC, APPLETON ELECTRIC, OR RACO ALL-STEEL PRODUCTS. FOR INSTALLATION IN TILE, BRICK, WOOD PANELING, OR CEMENT BLOCK, BOXES SHALL HAVE 4" SQUARE TILE COVERS. USE "CADDY" BOX SUPPORTS FOR MOUNTING ON STEEL STUDS.

8. RACEWAYS

A. RACEWAYS SHALL BE SCHEDULE 40 PVC OR ELECTRICAL METALLIC TUBING (EMT) AS INDICATED. METAL RACEWAYS SHALL BE GALVANIZED OR SHERADIZED, AND SHALL BE MANUFACTURED BY JONES & LAUGHLIN, ALLIED, OR TRIANGLE CONDUIT & CABLE.

9. RACEWAY FITTINGS

SERIES 1222.

A. CONDUIT SEALS SHALL BE OF THE SIZE AND TYPE REQUIRED AND SHALL BE MANUFACTURED BY CROUSE-HINDS. B. RIGID STEEL CONDUIT BUSHINGS SHALL BE NYLON INSULATED STEEL TYPE, AND SHALL BE T&B

1/2" X 11" ADOBE PDF FORMAT.

E. EMT CONNECTORS AND COUPLINGS SHALL BE NYLON INSULATED THROAT TYPE, STEEL CONSTRUCTION, SET SCREW, T&B SERIES 5031 AND 5030.

10. RACEWAY INSTALLATION

SCHEDULE 40 PVC WITH A GROUND WIRE SIZED PER THE NEC

C. MAKE CONDUIT BENDS WITH STANDARD CONDUIT ELBOWS OR CONDUIT BENT TO NOT LESS THAN THE SAME RADIUS. ALL BENDS SHALL BE FREE FROM DENT

D. ALL FITTINGS IN WET PLACES, LOCATIONS EXPOSED TO WEATHER, OR BURIED IN MASONRY CONCRETE, OR FILL SHALL BE WATERTIGHT. PROVIDE EXPANSION FITTINGS AT BUILDING EXPANSION JOINTS. CAP CONDUIT ENDS TO PREVENT ENTRANCE OF FOREIGN MATERIALS DURING CONSTRUCTION.

E. TAKE CARE TO PREVENT THE COLLECTION OF MOISTURE DUE TO CONDENSATION IN CONDUIT. SEAL ALL CONDUITS BETWEEN AREAS OF WIDELY DIFFERENT TEMPERATURES WITH THE SEAL BEING PLACED IN THE CONDUIT ON THE WARMER SIDE OF THE WALL.

G. WHERE CONDUIT TERMINATES AT A MOTOR LOCATION, FURNISH AND INSTALL A 12" SECTION OF FLEXIBLE CONDUIT BETWEEN THE MOTOR TERMINAL BOX AND THE CONDUIT OR OUTLET BOX. H. RUN UNDERGROUND CONDUITS AND CONDUITS BURIED IN CONCRETE SLABS IN A DIRECT LINE.

A. UNLESS INDICATED OTHERWISE, ALL CONDUCTORS SHALL BE HIGH-CONDUCTIVITY COPPER, #12 OR

FOLLOWS:

#12 THROUGH #6, DRY LOCATIONS: TYPE THHN, 90 DEGREE C. #12 THROUGH #6, IN SLABS OR WET LOCATIONS: TYPE THWN, 75 DEGREE C.

#4 AND LARGER: TYPE THW, 75 DEGREE C. WIRE #10 AND SMALLER: SOLID.

WIRE #8 AND LARGER: STRANDED.

C. INSTALL A SEPARATE GREEN INSULATED GROUND WIRE SIZED PER TABLE 250-122 OF THE NATIONAL ELECTRICAL CODE IN ALL RACEWAYS.

D. DO NOT USE ALUMINUM CONDUCTORS. 12. PROJECT CLOSEOUT ITEMS

TO OUR OFFICE FOR APPROVAL.

B. AT THE COMPLETION FO THE PROJECT, AND BEFORE FINAL PAYMENT, SUBMIT MAINTENANCE MANUALS TO OUR OFFICE FOR APPROVAL. MAINTENANCE MANUALS SHALL CONSIST OF THE FOLLOWING:

1. APPROVED COPIES OF ALL SUBMITTALS 2. COPIES OF INSTALLATION INSTRUCTIONS IF SUPPLIED BY THE MANUFACTURER 3. COPIES OF ALL WARRANTIES AND GUARANTEES FROM MANUFACTURERS 4. COPIES OF ALL WARRANTIES AND GUARANTEES FROM THE INSTALLING CONTRACTOR 5. OPERATING INSTRUCTIONS FOR ALL EQUIPMENT REQUIRING SET-UP

F. EQUIP ALL EMPTY CONDUITS WITH GALVANIZED IRON PULL-WIRES OF ADEQUATE SIZE.

RUN EXPOSED CONDUITS AND CONDUITS CONCEALED IN WALLS OR ABOVE CEILINGS PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE BUILDING. 11. WIRE AND CABLE

B. THE CONTROL MODULE SHALL BE BATTERY BACKED SO THAT THE PROGRAM IS NOT LOST ON C. THE LIGHTING CONTROLLER SHALL HAVE 8 OUTPUTS, EACH CAPABLE OF DRIVING 4 RELAYS. EACH

BE SUPPLIED SHALL BE CLEARLY INDICATED ON THE GENERAL SPECIFICATION SHEETS. ALL SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY IN 8 1/2" X 11" ADOBE PDF FORMAT.

AND TO CONTAIN ENCLOSED WIRE AND CONNECTIONS WITHOUT CROWDING. USE DEEP BOXES WITH CONDUITS 1" AND LARGER. PROVIDE EXTENSIONS AND COVERS WHERE REQUIRED. NO OUTLET

C. SUBMITTALS SHALL INCLUDE STANDARD MANUFACTURER'S CATALOG CUTS INDICATING COMPLIANCE TO THESE SPECIFICATIONS. SUBMITTALS SHALL BE PROVIDED ELECTRONICALLY IN 8

D. LOCKNUTS SHALL BE CASE HARDENED STEEL TYPE, AND SHALL BE T&B SERIES 141.

F. FITTINGS AS MANUFACTURED BY O-Z ELECTRIC, APPLETON ELECTRIC, OR STEEL CITY ELECTRIC, OR EQUAL QUALITY MAY BE SUBSTITUTED FOR THOSE SPECIFIED.

A. CONDUITS INSTALLED UNDERGROUND OR IN CONCRETE SLABS SHALL BE A MINIMUM OF 3/4"

B. CONDUIT EXPOSED TO MECHANICAL DAMAGE SHALL BE RIGID STEEL GALVANIZED. ALL OTHER CONDUITS MAY BE ELECTRIC METALLIC TUBING OR INTERMEDIATE METALLIC CONDUIT.

LARGER, WITH 600 VOLT INSULATION, SIZED AS INDICATED. ACCEPTABLE MANUFACTURERS SHALL BE G.E., ROME CABLE, ANACONDA WIRE & CABLE, TRIANGLE CONDUIT & CABLE, AND OKONITE.

B. UNLESS OTHERWISE DESIGNATED, WIRE AND CABLE FOR VARIOUS APPLICATIONS SHALL BE AS

A. AT THE COMPLETION OF THE PROJECT, AND BEFORE FINAL PAYMENT, SUBMIT AS-BUILT DRAWINGS







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ABBREVIATIONS	GENERAL NOTES CONT. 4. STEEL:	GENERAL NOTES
A.B. - ANCHOR BOLT F.O.B. FACE OF BRICK RED. - REQURED ADDL - ADDITONAL F.O.CONC. FACE OF CONCRETE RM. - RODM ALJ.S.C. - AMERICAN INSTITUTE OF F.S. - FACE OF WALL SCHED. - SCHEDULE ALS.C. - AMERICAN INSTITUTE OF F.S. - FACE OF WALL SCHED. - SCHEDULE ALS.C. - AMERICAN INSTITUTE OF F.G. - FACE OF WALL SCHED. - SCHEDULE ALT. - ALTERNATE F.G. - FACE OF WALL SCHED. - SCHEDULE ALT. - ALTERNATE F.W. - FLET WELD SIL - SNOW LOAD ACT. - AMERICAN SOLETY FOR CAL - GUL-LAM BEAM SPEC. - SPECIFICATION BLD. - BUTOM OF GR. BM. - GRADE STD. - STANDARD BOT. - BOTTOM OF H.A.S. - HEADE DALVARIZED STL. - STRUARD BTWN. - BETWEN H.D.G. - HOT DPPED ALVARIZED STL. - STRUARD CANT. - CANTREVEN H.S.B. - HOT STRUCTAL STUR. - STRUARD	 A. ALL STRUCTURAL STEEL WIDE FLANCE SHAPES SHALL CONFORM TO ASTM A992 (F, = 50 ks). ALL RECTANGULAR AND SQUARE HSS SHALL CONFORM TO ASTM A53, GRADE B ALL STEEL PLATES, CHANNELS, AND ANGLES SHALL CONFORM TO ASTM A53, GRADE B ALL STEEL PLATES, CHANNELS, AND ANGLES SHALL CONFORM TO ASTM A53, GRADE B ALL STEEL PLATES, CHANNELS, AND ANGLES SHALL CONFORM TO ASTM A54, LATEST EDITIONS, C. USE FRAMED BEAM CONNECTIONS WITH 3/4" DIAMETER ASTM A325 BOLTS, OR WELDED EQUIVALENT, UNLESS OTHERWISE SHOWN OR NOTED. FOR BEAMS WITHOUT DESIGNATED LOADS ON DRAWING, SELECT CONNECTIONS TO SUPPORT 50% OF TOTAL UNFORM LOAD CAPACITY IN BENDING FOR EACH GIVEN BEAM AND SPAN, PLUS THE REACTION DUE TO ANY CONCENTRATED LOADS, MINIMUM OF (2) BOLTS PER CONNECTION. D. ALL WELDERS SHALL HAVE EVIDENCE OF PASSING THE A.W.S. STANDARD QUALIFICATION TESTS. MASONRY: A. ALL REINFORCING IN MASONRY WALLS SHALL BE FULLY ENCLOSED WITH GROUT. USE PEA GRAVEL MIX WITH f° = 3,000 PSI. B. CONCRETE MASONRY SHALL CONSIST OF LIGHTWEIGHT CONCRETE BLOCK WITH A COMPRESSIVE STRENGTH OF 1,900 PSI. C. FILL ALL VOIDS AND BLOCK CELLS SOLD WITH MORTAR FOR A DISTANCE OF 24" BENEATH AND 12" EACH SIDE OF ALL BEAM REACTIONS OR OTHER CONCENTRATED LOADS, UNLESS OTHERWISE SHOWN OR NOTED. D. MASONRY IS TO BE LAID IN TYPE "M" OR "S" MORTAR IN ACCORDANCE WITH SECTION 2103 IN THE 2018 INTERNATIONAL BUILDING CODE. TYPE "N" MASONRY CEMENT MORTAR IS NOT ACCEPTABLE. 6. FOUNDATIONS: FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS BY HUDDLESTON-BERRY ENGINEERING AND TESTING, LL.C., JOB NO. 0123-0005. RECOMMENDATIONS IN THIS REPORT SHOULD BE FOLLOWED. A. ALL WARLE SOL BEARING PRESSURE AND SUBS CONDITIONS FRIGOR TO CONSTRUCTION. 7. ALL DIMENSION ON STRUCTURAL DRAWINGS TO BE CHECKED AGAINST ARCHITECTURAL. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH CONSTRUCTION. 	2. LIVE LOADS USED IN DESIGN: A. WIND: EXPOSURE

SPECIAL INSPECTIONS: A. SPECIAL INSPECTIONS SHALL COMPLY WITH CHAPTER 17 OF THE 2012 I.B.C.

SYSTEM OR COMPONENT	VERIFICATION OF INSPECTION TASK	FREQUENCY (DURING TASK LISTED)		APPLICABLE CODE & SECTION			FREQUENCY (DURING TASK LISTED)		APPLICABLE CODE & SECTION			FREQUENCY (DURING TASK LISTED)		APPLICABLE CODE & SECTION
		CONTINUOUS	PERIODIC	FOR INSPECTION CRITERIA	SYSTEM OR COMPONENT	VERIFICATION OF INSPECTION TASK	CONTINUOUS	PERIODIC	FOR INSPECTION CRITERIA	SYSTEM OR COMPONENT	VERIFICATION OF INSPECTION TASK	CONTINUOUS	PERIODIC	FOR INSPECTION CRITERIA
1) SOILS	a) VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH & HAVE REACHED PROPER MATERIAL		Х		3) MASONRY	a) VERIFY fm OF CONCRETE MASONRY UNITS PRIOR TO CONSTRUCTION.		х	ACI 530: Art 2.6A	4) STEEL	a) MATERIAL VERIFICATION OF HIGH STRENGTH BOLTS, NUTS & WASHERS			
	b) PERFORM CLASSIFICATION & TESTING OF CONTROLLED FILL MATERIALS		Х			b) AS MASONRY CONSTRUCTION BEGINS VERIFY THE FOLLOWING TO ENSURE COMPLIANCE:					- IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS		X	APPLICABLE AS IM MATERIAL SPEC AISC 360 SECTION A3.3
	c) VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT &	Х				- PROPORTIONS OF SITE – PREPARED MORTAR	X		ACI 530: Art 1.4B		- MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED		Х	
	COMPLETION OF CONTROLLED FILL d) OBSERVE SUBGRADE FOR PROPER		Х			- CONSTRUCTION OF MORTAR JOINTS	X		ACI 530: Art 3.3B		b) INSPECTION OF HIGH-STRENGTH BOLTING OF BEARING TYPE		Х	AISC 360, SECTION M2.5 IBC SECTION 1704.3.3
	PREPARATION BEFORE PLACEMENT OF CONTROLLED FILL					- LOCATION OF REINFORCEMENT CONNECTORS & ANCHORAGES	Х		ACI 530: Art 3.4, 3.6A		CONNECTIONS			
2) CONCRETE	a) INSPECT REINFORCING STEEL	Х		ACI 318: 3.5, 7.1-7.7		c) THE INSPECTION PROGRAM SHALL VERIFY:					STRUCTURAL STEEL:			
	b) VERIFY USE OF REQUIRED DESIGN MIX		Х			- SIZE & LOCATION OF STRUCTURAL ELEMENTS		Х	ACI 530: Art 3.36		- IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS		X	ASTM A6 OR A568 IBC SECTION 1708.4
	c) INSPECT REINFORCING STEEL WELDING		Х	AWS D1.4 ACI 318: 3.5.2		- TYPE, SIZE & LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO		х	ACI 530: SECTION 1.22(e), 7.1.4, 3.1.6		- MANUFACTURERS CERTIFIED MILL TEST REPORTS		Х	ASTM A6 OR A568 IBC SECTION 1708.4
	d) FABRICATE TEST SPECIMENS FROM FRESH CONCRETE FOR STRENGTH TESTS, SLUMP & AIR CONTENT TESTS AND TO DETERMINE CONCRETE TEMPERATURE	X		ASTM C172 ASTM C31 ACI 318: 5 6 5 8		STRUCTURAL MEMBERS - SPECIFIED SIZE, GRADE, AND TYPE		X	ACI 530: SECTION		d) MATERIAL VERIFICATION OF WELD FILLER MATERIALS:			
						OF REINFORCEMENT - WELDING OF REINFORCING BARS	X		1.13, Art 2.4, 3.4 ACI 530: SECTION 2.1.10.7.2, 3.3.34(B)		- IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION		Х	AISC 360, SECTION A3.5
	e) INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	Х		ACI 318: 5.9, 5.10		- PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40*F) OR HOT WEATHER (TEMP ABOVE 90*F)		х	IBC 2104.3, 2104.4 ACI 530 Art 1.8C, 1 8D		DOCUMENTS - MANUFACTURER'S CERTIFICATE OF		X	
	f) INSPECT FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE		Х	ACI 318: 5.11- 5.13		d) PRIOR TO GROUTING, VERIFY					COMPLIANCE REQUIRED			
	& TECHNIQUES					THE FOLLOWING TO ENSURE COMPLIANCE:					1) COMPLETE & PARTIAL	х		AWS D1.1, IBC
	g) INSPECT FORMWORK FOR SHAPE,		X	ACI 318: 6.1.1	1	- GROUT SPACE IS CLEAR		Х	ACI 530: Art 3.2D		2) MULTI-PASS FILLET WELDS	х		AWS D1.1, IBC
	CONCRETE MEMBERS BEING FORMED					- PLACEMENT OF REINFORCEMENT, CONNECTORS & ANCHORAGES	Х		ACI 530: SECTION 1.13, Art 3.4			Y		1704.3.1
						- PROPORTIONS OF SITE PREPARED GROUT		х	ACI 530: Art 2.6B		3) SINGLE PASS FILLET WELDS > 5/16"	х		AWS D1.1, IBC 1704.3.1
						- CONSTRUCTION OF MORTAR JOINTS		х	ACI 530: Art 3.3B		4) SINGLE PASS FILLET WELDS < 5/16"		Х	AWS D1.1, IBC 1704.3.1
						e) VERIFY GROUT PLACEMENT TO	Х		ACI 530: Art 3.5		5) FLOOR & ROOF DECK WELDS		Х	AWS D1.3
						CONSTRUCTION DOCUMENT PROVISIONS					f) STUD SHEAR CONNECTOR SIZES, SPACING, MATERIALS & QUANTITY	Х		AISC 360, SECTION A3.6
						f) OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	Х		IBC 2105.2.2, 2105.3 ACI 530: Art 1.4		g) WELDING OF STUD SHEAR CONNECTORS		Х	AWS D1.1
						g) VERIFY COMPLIANCE WITH INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND COMPLIANCE WITH THE APPROVED SUBMITTALS		x	ACI 530: Art 1.5		h) INSPECT STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS		X	IBC 1704.3.2

----C ----||| > 300) -120 MPH 93 MPH +/-0.18

· — — — ||| E > 300) -1.25 ---3.0

--0.291 --0.077 ---0.304 ---0.123 ___D ---В

AIR +/- 1 1/2%. Nº IN COLUMN INDICATES ADDITION OF ENTRAINED AIR IS NOT PERMITTED.

(3) ABBREVIATIONS FOR REQUIRED ADMIXTURES AS FOLLOWS: AE = AIR - ENTRAINING ADMIXTURE. DO NOT USE ENTRAINED AIR FORSTEEL TROWELED FINISHED FLOORS. WRA = WATER REDUCING ADMIXTURE.

SLAB VAPOR TRANSMISSION, AND SLAB FLATNESS/LEVELNESS ARE COMPATIBLE WITH FLOORING SYSTEM AND ADHESIVES PRIOR TO INSTALLING FLOORING.

(4) ABBREVIATIONS FOR OTHER REQUIREMENTS AS FOLLOWS: FAR = 20% CLASS F FLY ASH REQUIRED.

SHALL BE TIED TOGETHER.

SOG = CONTRACTOR TO VERIFY ALKALINITY OF CONCRETE SURFACE,

(5) FOR CONCRETE PLACED BY PUMPING, PROVIDE CONCRETE MIX FLOWABILITY TO FACILITY PUMPING.

B. ALL REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT COLUMN TIES AND DOWELS TO SLABS ON GRADE MAY BE GRADE 40.

C. NO SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES, WHERE PERMITTED, SHALL BE A MINIMUM OF 36 BAR DIAMETERS. MAKE ALL BARS CONTINUOUS AROUND CORNERS. D. STAGGER SPLICES A MINIMUM OF 4'-O FOR TOP AND BOTTOM CONTINUOUS BARS IN

FOUNDATION, UNLESS OTHERWISE SHOWN OR NOTED. E. DETAIL BARS IN ACCORDANCE WITH A.C.I. DETAILING MANUAL AND A.C.I. BUILDING CODE

REQUIREMENTS FOR REINFORCED CONCRETE, LATEST EDITIONS. F. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON THE DRAWINGS. DO NOT ATTEMPT TO LOCATE REINFORCING DURING CONCRETE PLACEMENT. G. REINFORCEMENT PROTECTION SHALL BE AS FOLLOWS:

(1) CONCRETE POURED AGAINST EARTH------3" (2) FORMED CONCRETE EXPOSED TO EARTH OR WEATHER------2" (3) FORMED STAIRS OR WALLS NOT EXPOSED TO WEATHER------3/4"

H. PLACE 2-#5 (ONE EACH FACE) WITH 2'-0 PROJECTION AROUND ALL OPENINGS IN CONCRETE UNLESS OTHERWISE SHOWN OR NOTED. I. SLABS, BEAMS, AND GRADE BEAMS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE. ANY

STOP IN CONCRETE WORK MUST BE MADE AT MIDDLE OF SPAN WITH KEYS AS INDICATED IN THE TYPICAL CONCRETE WALL CONSTRUCTION JOINT DETAIL. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR AS APPROVED BY THE STRUCTURAL ENGINEER. J. WIRE FABRIC REINFORCEMENT MUST LAP ON FULL MESH +2" AT SIDE AND END LAPS, AND

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SHEET NO.

S-3

WEST LEGACY PARK 327 MAIN STREET

BID ALTERNATE 1

SOUTH MASONRY WALL SURFACE TREATMENT

Description

General- This work consists of providing a wall surface treatment for the south wall of the project park along the south side of the Lot 7 at an approximate starting point at the southeast corner of the lot and extending approximately westward for a distance of approximately 60 feet. The vertical limits are defined by the top of the existing wall at approximately 21 feet. The bid area is 1250 square feet.

The construction limits of the wall surface treatment shall be discussed with the Contractor and Owner in the preconstruction meeting.

The Contractor shall provide wall surface treatment, materials and labor. The contractor shall include pre-brush cleaning of the wall, replacing failed bricks as needed, spray with surface bonder, apply Portland based trowel coating, also with concrete bonder/anti-hydro for increased surface tension and to limit moisture uptake. Also pour drip ledge along base of wall.

<u>Material</u>

Concrete Bonding Adhesive shall meet or exceed the following:

- ASTM C1059 Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete
- ASTM C1583 Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)

Masonry Cement Type N and S shall meet or exceed the following:

- ASTM C91, Standard Specification for Masonry Cements
- ASTM C144, Standard Specification for Aggregates for Masonry Mortar
- ASTM C270, Standard Specification for Mortar for Unit Masonry
- ASTM C780, Standard Test Method for Preconstruction and Construction Evaluation of Mortar for Plain and Reinforced Unit Masonry

<u>Submittals</u>

The following documents and shop drawings shall be submitted to the Owner per the City of Delta's submittal requirements. Wall surface treatment shall not be undertaken or placed upon the project prior to approval by the Owner.

- (a) Cleaning and application of wall surface treatment method The cleaning and application of wall surface treatment method shall indicate the process and materials to be used in each step and shall include any drawings, notes describing equipment, procedures, sequencing and safety measures to be used in completing the work.
- (b) Quality Control Plan The quality control plan shall outline measures to be taken to ensure a quality product and shall include:
 - Method for determining cleanliness of the wall
 - Method for determination and replacement of loose masonry
 - Determining thickness of the motor
 - Identifying strength of materials
 - Identifying and ensuring a consistent surface finish
 - Cold and Hot weather placement procedures
- (c) Application The contractor shall provide to the Owner for approval a test panel of the concrete surface treatment and finish style.
- (d) Mix Design A concrete surfacing mix design for type N or S mortar meeting the manufacturers requirements.
 - Type N For wall surfacing coat
 - i. Minimum compressive strength 750 psi
 - Type S For masonry unit replacement
 - i. Minimum compressive strength 1800 psi
- (e) Shop drawing of the application area The contractor shall submit a shop drawing depicting the area (limits) of the wall surface treatment area as discussed in the preconstruction meeting. The shop drawing shall indicate all pertinent dimensions, proposed area quantity, location of drip edge and location of masonry to be replaced.

Construction Requirements

General- The wall surface treatment procedure shall be applied at the locations and to an approximate 1/4 inch thickness or in multiple 1/4 inch layers as necessary to create a smooth and uniform finish. The uniform finish of the wall shall not deviate in irregularities, humps, discontinuities exceeding 3/8 inch in relief for 10 feet in any direction.

Acceptable wall finish shall consist of a uniform mixture without inclusions, segregation, or weakness of the bond between the existing masonry wall and surface treatment. Mortar wall surface treatment that exhibits movements or settlement after placement shall be repaired or replaced at the Contractors expense. Applications deemed by the Owner to be unacceptable or not in conformance with the accepted submittals shall also be repaired or replaced at the Contractors expense.

The work shall not proceed unit the proposed plan and methods have been reviewed and approved by the Owner.

Dirt and loose debris shall be brushed cleaned from existing wall and loose masonry replaced prior to the application of the wall surface treatment. Wall surface treatment includes application

of the bonding agent and other methods used to develop a solid bond between the existing masonry and mortar.

If multiple layers of the surface treatment are necessary to create a smooth and uniform finish the existing mortar surface shall be cleaned, and a bonding agent applied such that the additional layers adhere to each other.

Curing – Curing of the mortar wall finish is required between subsequent layers of mortar. Curing time shall be per the manufacturer's requirements.

Acceptance -

- (a) Test Panel The test panel shall be approximately 24 inches x 24 inches and shall be completed in the presence of the Owner. The test panel shall include and incorporate all methods, materials, and equipment outlined in the wall surface treatment method. The cost of the Test Panel shall be at the Contractors expense. The Owner may request multiple test panels to evaluate and select a final wall finish.
- (b) Field Compressive Strength The field compressive strength shall be completed for each mix design (N&S) per 1000 square feet. The compressive strength shall be determined in accordance with ASTM C109.
- (c) Smooth and Uniform Finish The Contractor in conjunction with the Contractor shall review the overall smoothness and uniform finish over the initial 100 square feet. The smoothness and uniform finish shall match the test panel and smoothness requirements. Initial areas not meeting the Owners requirements or specifications shall be removed and the area refinished. The cost of removal and refinish of the initial 100 square feet shall be at the expense of the Contractor. Upon acceptance of the initial 100 square feet of wall finish and accepted application procedure and method the Contractor and Owner shall determine the rate of application and acceptance.
- (d) Areas of the wall finish not meeting the requirements of the specifications or the aforementioned criteria or other reasonable objection by the Owner is cause for a Noted Deficiency. Areas deemed by the Owner as a Noted Deficiency shall be removed and replaced at the Contractors expense.

Method of Measurements

The wall surface treatment will be measured by the actual number of square feet applied and accepted. The quantity will be determined by the Owner. There will be no increase in pay if the thickness of the wall surface finish exceeds the 1/4 inch.

Basis of Payment

The accepted quantities will be paid for at the contract unit price per square foot for each of the items listed below that appear on the bid schedule:

Pay Item

<u>Pay Unit</u>

South Masonry Wall Surface Treatment

Square Feet (SF)