STRUCTURAL NOTES

GENERAL NOTES:

1. The Governing Code for this project is the Florida Buiding Code, Seventh Edition (2020). This Code prescribes which Edition of each referenced standard applies to this project.
2. To the best of our knowledge, the Structural drawings and specifications comply with the applicable requirements of the Governing Building Code.
3. Construction is to comply with the requirements of the Governing Building Code and all other applicable Federal, State, and local Codes, Standards, Regulations and Laws.
4. The Structural documents are to be used in conjunction with the Architectural documents. Use these notes in conjunction with the project specifications. If a conflict exist, notify the Architect.
5. Details labeled "Typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. Questions regarding the applicability of typical details shall be resolved by the Architect.
6. Openings shown on Structural drawings are only pictorial. See the Architectural and M.E.P. drawings for the size and location of openings in the structure.
7. Contractors who discover discrepancies, omissions or variations in the contract documents during bidding shall immediately notify the Architect. The Architect will resolve the condition and issue a written clarification.
8. The General Contractor shall coordinate all contract documents with field conditions and dimensions and project shop drawings prior to construction. Do not scale drawings; use only printed dimensions. Report any discrepancies in writing to the Architect prior to proceeding with work. Do not change size or location of Structural members without written instructions from the Structural Engineer of record.
9. The contractor shall protect adjacent property, his own work and the public from harm. The contractor is solely responsible for construction means and methods, and jobsite safety including all OSHA requirements.
10. The Structure is designed to be structurally sound when completed. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Wherever the Contractor is unsure of these requirements, the Contractor shall retain a Florida Licensed Engineer to design and inspect the temporary bracing and stability of the Structure.
11. DESIGN SUPERIMPOSED LOADS:

Occupancy	LIVE LOAD	LIVE LOAD RED	DEAD LOAD
Roof	20 PSF	12 PSF	5 PSF
Floor	100 PSF		20 PSF
Floor (Point Load)	8,000 lbs. over 20"x40" CONTACT AREA		

12. DESIGN WIND LOADS:

Governing Code	ASCE 7-16
Basic Wind Speed	Vult= 160 MPH/Vasd= 124 MPH
Risk Category	II
Building Enclosure	Partially Enclosed; Open
Directionality Factor	Kd = 0.85
Exposure	C
Mean Roof Height	34 FEET
Serviceability Wind Speed	Vasd= 124 MPH

13. FLOOD DESIGN:

Flood Design Class	2
Elevation of Proposed Lowest Floor	24'-6" NAVD 88

14. RAIN DESIGN:

Rain Load	0 PSF
Rain Intensity	4.5 in/hr

EXCAVATION, BACKFILL AND DEWATERING:

1. The Contractor is solely responsible for all excavation procedures including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local Building Department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.
2. Do not backfill against walls until 7 days after the walls are braced by the Structure or are temporarily braced. Do not backfill cantilevered retaining walls until concrete is **14** days old. Do not backfill until after completion and inspection of any waterproofing.
3. The Contractor is responsible for the disposal of all accumulated water in a manner that does not inconvenience or damage the work.

SHALLOW FOUNDATIONS:

1. Foundation design, soil preparation and compaction are based on geotechnical investigation, data and recommendations in report **#21-109 by Andersen Andre Consulting Engineers, Inc., dated March 23, 2021.**
2. Footing sizes and reinforcing are based on an allowable soil bearing capacity of **2,500 psf.** All footings shall bear on compacted fill, natural soil or rock prepared per the geotechnical report.
3. Subgrade preparation shall be field controlled and tested by a licensed soils Engineer in accordance with the geotechnical report. At completion, that Engineer shall prepare and submit to the owner, Architect, contractor and Structural Engineer a signed and sealed letter indicating that the recommendations of the geotechnical report have been followed.
4. Center all footings under their respective columns or walls, u.o.n

SLABS ON GRADE:

1. Refer to geotechnical report for subgrade preparation more than 12" below bottom of slab.
2. Above subgrade, use fill containing not more than 10% passing #200 sieve and maximum 1 inch diameter. Compact to 95% of maximum dry density as determined by modified proctor ASTM D-1557. Each layer of fill shall not exceed 6" loose thickness. Compact prior to placement of the next layer.
3. Fill placement and compaction shall be monitored and accepted by the testing agency. Take a min. of one field density test (ASTM D-1556 or D-2922) for each 2,500 square feet of each layer. The testing agency shall randomly select test locations.
4. For interior slabs place 10 mil polyethylene sheeting between soil and bottom of slab. Do not use any sheeting below exterior concrete slabs.
5. In sidewalks and walkways, locate isolation joints at 20 ft. o.c. maximum score and tool between isolation joints in equal bays of 5 ft. or less.
6. See the Architectural drawings for slab on grade depressions and other requirements.

REINFORCED CONCRETE:

1. Comply with ACI 301 and 318.
2. Provide Structural Concrete with a minimum ultimate Compressive Design Strength of **4,000** psi in 28 days (max. w/cm=0.45).
3. Use normal weight concrete for all Structural Members. u.o.n.
4. Provide ASTM A-615 Grade 60 reinforcing steel. Weldable Rebar shall be ASTM-706, Grade 60 per AWS D.1. Reinforcing shall be accurately placed, rigidly supported and firmly tied in place, with appropriate bar supports and spacers. Lap bottom steel over supports and top steel at midspan (u.o.n.). Hook discontinuous ends of all top bars and all bars in walls, u.o.n. Provide cover over reinforcing as follows:

Element	bottom	top	sides
Footings	3"	2"	3"
Slabs on Grade	2"	1"	2"
Slabs Above Grade	3/4"	3/4"	1"
Slabs Exposed to Weather	1 1/2"	1 1/2"	1 1/2"
Walls Retaining Fill	–	–	2"
Walls Above Grade	–	–	1"

5. Tension Development Length and Lap Splice Lengths shall be per schedule.
6. Where specified, provide plain, cold-drawn electrically-welded wire reinforcement conforming to ASTM A-185. Supply in flat sheets only. Lap splice two cross wire spacing.
7. In addition to specified reinforcing, provide **1** tons of reinforcing bars to be detailed, fabricated, delivered to site and placed as directed by the Architect/Engineer to account for unforeseeable conditions.
8. Utilities shall not penetrate beams or columns but may pass through slabs and walls individually, u.o.n. For openings 24" long or less, cut reinforcing and replace alongside opening with splice bars of equivalent area with 48 bar dia. lap. Prepare and submit shop drawings for openings longer than 24". For rectangular openings 12" long or longer, add 1#5 x 6' mid depth diagonal at all 4 corners.
9. Where reinforcing steel congestion permits, conduit and pipes up to 1" diameter may be embedded in concrete per ACI 318, section 6.3. Space at 3 diameters o.c. Place between outer layers of reinforcing if conduits are significantly congested, additional reinforcing perpendicular to piping may be required. Requests to embed larger pipes shall be accompanied by a detailed description and be submitted to the Architect for evaluation.
10. Provide construction joints in accordance with ACI 318, section 6.4. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for review.
11. Provide 3/4" chamfer for all exposed corners.
12. Provide reinforcing steel placer with a set of Structural Drawings for field reference. Inspect reinforcing steel placing from Structural Drawings.

MIN. LAP SPLICE LENGTH SCHEDULE

BAR TYPE	BAR SIZE								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
48 BAR DIAMETER	18"	24"	30"	36"	42"	48"	54"	61"	68"
FOOTINGS	16"	16"	19"	23"	33"	37"	42"	47"	53"
COLUMNS	–	–	19"	23"	33"	39"	49"	60"	72"
WALLS	16"	16"	19"	23"	33"	39"	49"	60"	–
SLABS	16"	19"	28"	37"	60"	74"	–	–	–
BEAMS (TOP)	–	–	25"	29"	43"	51"	63"	78"	93"
BEAMS (MID. & BOTT.)	–	–	19"	23"	33"	39"	49"	60"	72"
STIRRUPS	16"	16"	19"	23"	–	–	–	–	–
MASONRY FILLED CELLS (f'm=2500)	–	–	24"	44"	60"	–	–	–	–

CONCRETE MASONRY:

1. Construct masonry in accordance ACI 530/ASCE 5, "Building Code Requirements for Masonry Structures"; and ACI 530.1/ASCE 6, "Specifications for Masonry Structures".
2. The structure is supported by **NON-LOAD bearing** walls, u.o.n. Erect masonry prior to casting concrete columns.

   Use 50% solid, nominal **8"x8"x16"**, concrete masonry units conforming to ASTM C90. block net area compressive strength shall be **3,750 psi.** Lay up units in running bond. Sawcut units which are not in multiples of 8". Units shall be at least 8" long. Bond corners by lapping ends 8" in successive vertical courses. Design of walls is based on a f'm of **2,500 psi.**
3. Use type S mortar in accordance with ASTM C270 except use type M mortar below grade. Head and bed joints shall be 3/8" for the thickness of the face shell. Webs are to be fully mortared in all courses of piers, columns and pilasters; in the starting course; and where an adjacent cell is to be grouted. Remove mortar protrusions extending 1/2" or more into cells to be grouted.
4. Use standard W1.7 horizontal ladder type joint reinforcing in every other course. Joint reinforcing and anchors in exterior walls shall conform to ASTM A153 Class B2, with a coating thickness of 1.50 oz/sf; conform to ASTM A 641 in interior walls. Overlap discontinuous ends 6". Use prefabricated corners and tees. Extend joint reinforcing a minimum of 4" into tie columns.
5. Use fine grout conforming to ASTM C476, with a minimum compressive strength of **2,500 psi** in 28 days. Aggregate to conform to ASTM C404 for fine grout, with slump of 8" to 10". Grout all masonry containing reinforcing, All cells of 4 hour rated walls, and where indicated on the drawings. Allow mortar to cure 24 hours prior to grouting. Provide cleanout openings at the base of cells containing reinforcing steel to clean the cell and to tie the vertical bar to the dowel. In high-lift grouting, Use 4'-0" (max.) lifts, with 1/2 hour to 1 hour between lifts. Vibrate each lift and reconsolidate the previous lift.
6. Use ASTM A-615 grade 60 reinforcing steel. Reinforce walls where indicated on the drawings and at all intersections, each side of openings and at the ends of walls. Use bar spacers at 10 ft. o.c. where grout pour height exceeds 10 ft.
7. At bond/tie beam corners and intersections, place 1 #5 x 5'-0" T & B corner bar, with 30" legs each way, at the exterior face.
8. Beams not scheduled are min. 8" x 12" tie beams with 2 #5 bars top and bottom and #3 ties spaced at 48" o.c. typical and 4 ties at 12" o.c. at ends and intersections, u.o.n. Columns not scheduled are min. 8" x 12" tie columns with 4 #5 vertical bars and #2 ties at 12" o.c. use 30" lap splices. Hook all bars at discontinuous ends.
9. Reinforced masonry wall construction shall be inspected by an Engineer or Architect in accordance with ACI 530.1/ASCE 6.
10. Where anchor bolts, wedge anchors or anchors set in epoxy are set in a masonry wall, fill cells with grout for bolted course, one course above and two courses below.
11. Provide lintels or headers with min. 8" bearing over all masonry openings.
12. Use pressure-treated wood for wood in contact with masonry.

STRUCTURAL STEEL:

1. Fabricate and erect structural steel in conformance AISC "Specification for the design, fabrication and erection of structural steel for buildings", with commentary, and all OSHA requirements.
2. Structural steel shapes shall be fabricated from the following materials:
   a. Rolled W and WT shapes: ASTM A992, grade 50.
   b. Rolled M, S, C and MC shapes and Angles: ASTM A36, Fy=36 ksi.
   c. Plates and bars: ASTM A36, Fy=36 ksi.
   d. Cold-formed hollow structural sections (HSS):
      1. Round sections: ASTM A500, grade C, Fy=46 ksi.
      2. Square and rectangular sections: ASTM A500, grade B, Fy=46 ksi.
   e. Steel pipe: ASTM A53, type E or S, grade B, Fy=35 ksi.
3. All shop and field welding shall conform to the AWS D1.1 structural welding code by the American Welding Society. Use E70 series welding electrodes, u.o.n. where necessary, remove galvanizing or primer prior to welding. Use E80 Series for Weldable Rebar
4. A325 and A490 bolts shall comply with "Specification for structural joints using ASTM A325 or A490 bolts", including commentary.
   a. Typical bolts used in structural connections for this project are **5/8"** diameter and **3/4"** diameter A325N.
   b. Tighten bearing-type bolts (A-325N, A-325X, A-490N, and A-490X) to the snug tight condition as follows:
      1. Bolts shall be placed in all holes, with washers positioned as required and nuts threaded to complete the assembly.
      2. Compacting the joint to the snug-tight condition shall progress systematically from the most rigid part of the joint.
      3. The snug-tightened condition is the tightness that is attained with a few impacts of an impact wrench or the full effort of an ironworker using an ordinary spud wrench.
      4. More than one cycle through the bolt pattern may be required to achieve the snug-tightened joint.
   c. Provide hardened washers conforming to ASTM F436 and place under the part being turned.
   d. Do not reuse or retighten bolts which have been fully tightened. Use only non-galvanized nuts and bolts that are clean, rust-free, and well lubricated. Bolts and nuts shall be wax dipped by the bolt supplier or lubricated with Johnson's stick wax 140. Cleaning and lubrication of ASTM F1852 twist-off-type tension-control bolts is not permitted.
   e. Where slotted holes are used to accommodate thermal movement, notify the Architect if bolt is expected to hit the end of slot, based on temperature at time of installation.
   f. Store fastener components in sealed containers until ready for use. Reseal open containers to prevent contamination by moisture or other deleterious substances. Store closed containers from dirt and moisture in a protective shelter. Take from protective storage only as many fastener components as are anticipated to be installed during the work shift. Fastener components that are not incorporated into the work shall be returned to protective storage at the end of the work shift. Fasteners from open containers and fasteners that accumulate rust or dirt shall not be used and shall be immediately and permanently removed from the project site.
5. Use A-307 bolts for all erection bolts and bolts less than 3/4" diameter, u.o.n. Anchor rods shall be ASTM F1554 grade 55 with supplementary requirement S1, threaded with nuts and washers each end.
6. Cut, drill, or punch holes perpendicular to metal surfaces. Ream holes that must be enlarged to admit bolts as permitted by architect. Do not enlarge unfair holes by burning or using drift pins.
7. See Architectural and Mechanical drawings for miscellaneous steel not shown on the Structural drawings.
8. Refer to the Architectural drawings for painting and fireproofing of structural steel. Provide a minimum of one shop coat of paint for exposed structural steel U.N.O. Steel exposed to the atmosphere or elements shall receive a second shop coat of paint or be field painted in addition to the initial shop coat with lead, graphite or asphalt paint or other approved coating compatible with the shop coat. Do not paint steel surfaces in contact with fireproofing or embedded in concrete. Steel elements that are hot-dipped galvanized do not require shop and field painting.

COLD FORM STEEL FRAMING:

1. All field cutting of studs nust be done by sawing or shearing. Torch cutting of cold-formed members is unacceptable.
2. No notching or coping of studs is allowed, unless stated within this drawing package.
3. Ends of studs must seat firmly in runner track, which have full bearing on structure.
4. Framing fabricator is to ensure punch out alignment when assembling lateral bracing and field cutting studs to length. Lateral bracing must be installed at the time the wall is erected. Failure to install bracing at this time may compromise the structural integrity of the building.
5. Temporary bracing shall be provided and remain in place until work is completely stabilized.
6. Framing shall be galvanized G60 and conform to ASTM A653 with a minimum yield of 33 ksi for studs 20-18 gage; 50 ksi for 16-12 gage.

CHEMICAL ADHESIVE FOR ANCHORING REINFORCING BARS, THREADED BARS AND ANCHOR BOLTS:

1. Use an epoxy, acrylic or polyester resin adhesive system such as the Hilti Hit HY200, ITW Ramset/Red Head Epcon A7 or C6 injection system, Powers Rawl Power-Fast System, Simpson Strong-Tie AT or ET, Allied Fastener Allied Gold A-1000, or accepted equivalent. Follow manufacturer's specifications for use and installation.
2. Confirm the absence of reinforcing steel by drilling a 1/4" diameter pilot hole for each anchor. Do not cut reinforcing steel without approval of the Structural Engineer.
3. Refer to manufacturer's installation instructions for appropriate drill size. Thoroughly clean hole including removal of dust prior to filling with epoxy.
4. Provide anchor embedment, spacing and edge distance as shown on the drawings.
5. Threaded rods are A-36 galvanized steel, u.o.n.

SHOP DRAWINGS AND OTHER SUBMITTALS:

1. Submit specific components, such as columns, footings, etc., in a single package. Submit similar floors together.
2. On first submittal, clearly flag and cloud all differences from the contract documents. On resubmittals, flag and cloud all changes and additions to previous submittal; only clouded items will be reviewed.
3. Submittals for special structural, load-carrying items that are required by codes or standards to resist forces must be prepared by, or under the direct supervision of, a delegated engineer as follows:

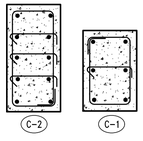
SHOP DRAWING SUBMITTAL REQUIREMENTS

COMPONENT	DRAWINGS/ MATERIAL SHEETS	PRODUCT APPROVALS	SIGNED & SEALED DRAWINGS	SIGNED & SEALED CALCULATIONS
REINFORCEMENT	X			
MASONRY	X			
PRECAST LINTELS	X	X		
CONCRETE MIXES	X			
CONCRETE ACCESSORIES	X			
EPOXY, EXPANSION, OR SCREW ANCHORS	X			
RAILINGS			X	X
DOORS/WINDOWS/LOUVERS		X	X	X
PREFABRICATED BUILDING			X	X

4. A delegated Engineer is defined as a Florida licensed Engineer who specializes in and undertakes the design of structural components or structural systems included in a specific submittal prepared for this project and is an employee or officer of, or consultant to, the contractor or fabricator responsible for the submittal. The delegated Engineer shall sign, seal and date the submittal, including calculations and drawings.
5. The trade contractor is responsible for confirming and correlating dimensions at the job sites, for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of the work with other trades and full compliance with the contract documents.
6. The general contractor/construction manager shall review and approve submittals and shall sign and date each drawing prior to submitting to the Architect. This approval is to confirm that the submittal is complete, complies with the submittal requirements and is coordinated with field dimensions, other trades, erection sequencing and constructibility.
7. The structural Engineer reviews submittals to confirm that the submittal is in general conformance with the design concept presented in the contract documents. Quantities and dimensions are not checked. Notations on submittals do not authorize changes to the contract sum. Checking of the submittal by the Structural Engineer shall not relieve the contractor of responsibility for deviations from the contract documents and from errors or omissions in the submittal.
8. In addition to the above, the structural Engineer's review of delegated Engineer submittals is limited to verifying that the specified structural submittal has been furnished, signed and sealed by the delegated Engineer and that the delegated Engineer has understood the design intent and used the specified structural criteria. No detailed check of calculations will be made. The delegated Enginner is solely responsible for their design, including but not limited to the accuracy of their calculations and compliance with the applicable codes and standards.
9. CAD files of Structural Drawings may be used as an aid in preparing shop drawings only upon the contractor signing an agreement.

FOOTING SCHEDULE

MARK	SIZE WxLxD	REINFORCING				REMARKS
		BOTTOM		TOP		
		L.W.	S.W.	L.W.	S.W.	
TE-16	16"xCONT.x16"	2#5		#5	#4 AT 12"	THICKENED EDGE
MF-18	18"xCONT.x24"	2#5				MONOLITHIC FOOTING
MF-24	24"xCONT.x24"	3#5	#5 AT 6"	3#5	#4 AT 12"	MONOLITHIC FOOTING
WF-36	36"xCONT.x12"	4#5	#5 AT 12"			
WF-60	*	*	*	*	*	*REFER TO 2/S-302
F6.0	6'-0"x6'-0"x12"	6#5	6#5	6#5	6#5	
MF5.0	5'-0"x5'-0"x24"	5#5	5#5	5#5	5#5	MONOLITHIC FOOTING
MF6.0	6'-0"x6'-0"x24"	6#5	6#5	6#5	6#5	MONOLITHIC FOOTING
MF7.0	7'-0"x7'-0"x24"	7#5	7#5	7#5	7#5	MONOLITHIC FOOTING
MF11.0	11'-0"x11'-0"x24"	11#5	11#5	11#5	11#5	MONOLITHIC FOOTING
MF14.5	14'-6"x14'-6"x24"	15#5	15#5	15#5	15#5	MONOLITHIC FOOTING
MF18.0	18'-0"x18'-0"x24"	18#5	18#5	18#5	18#5	MONOLITHIC FOOTING
MF24.5	24'-6"x24'-6"x24"	25#5	25#5	25#5	25#5	MONOLITHIC FOOTING
MF17x24.5	17'-0"x24'-6"x24"	17#5	25#5	17#5	25#5	MONOLITHIC FOOTING



TIE COLUMN SCHEDULE

MARK	SIZE "B X D"	REINFORCING			REMARKS
		DOWELS	VERTICAL	TIES	
C-1	8"X16"	3#6	6#6	#3 AT 8" *	* + (1) HAIRPIN
C-2	8"X32"	5#6	10#6	#3 AT 8" *	* + (3) HAIRPIN

No.	REVISIONS	DATE	BY

Kimley»Horn
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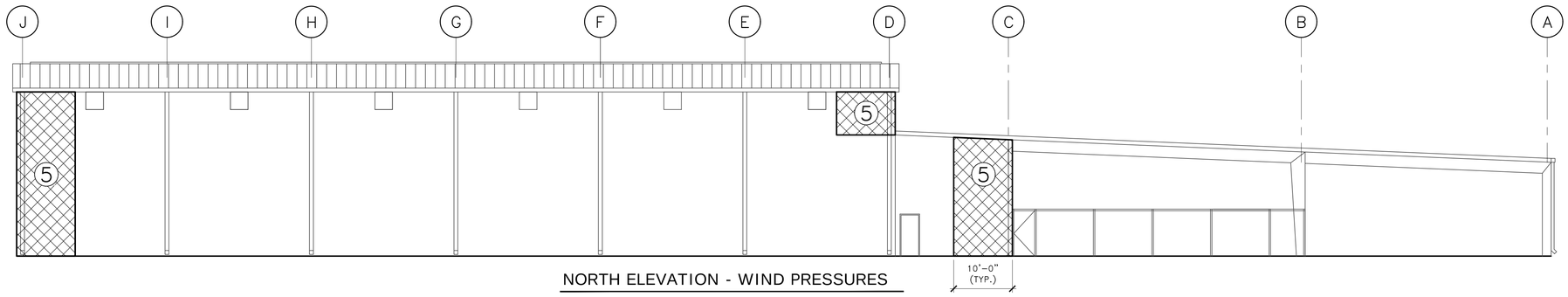
LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE APRIL 2021
SCALE AS SHOWN
DESIGNED BY JF
DRAWN BY WR
CHECKED BY JF
DATE:

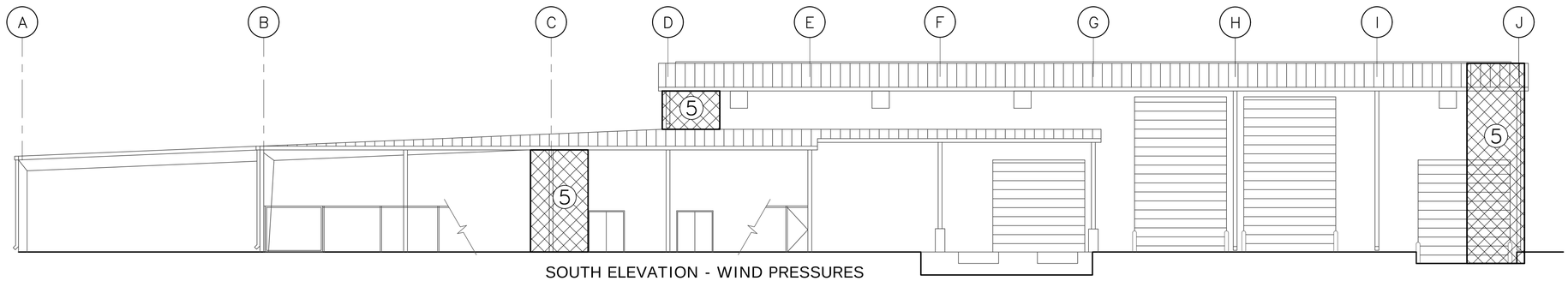
GENERAL NOTES

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY FL
INDIAN RIVER COUNTY

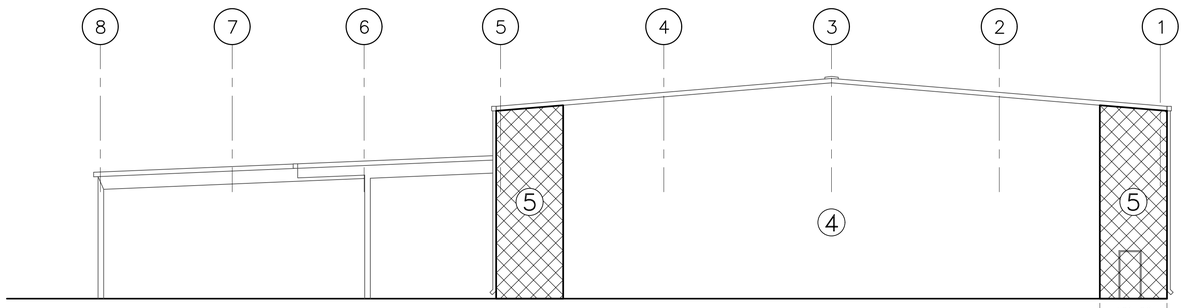
SHEET NUMBER
S-000



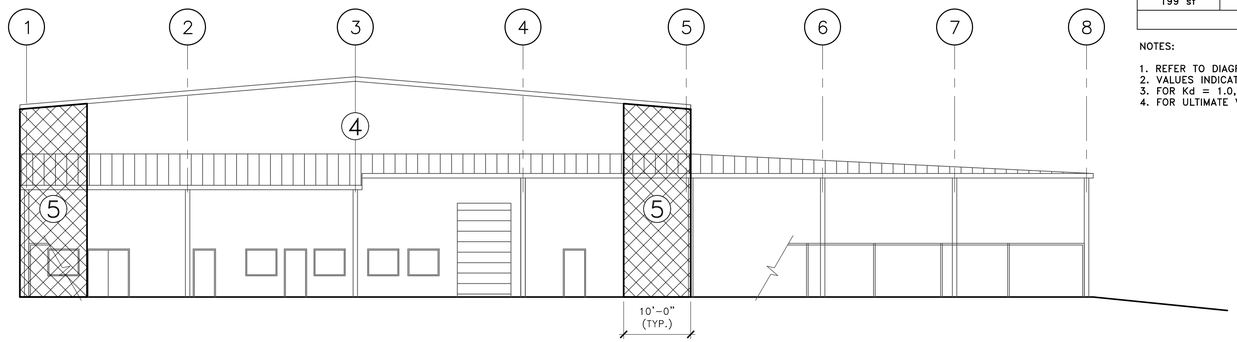
NORTH ELEVATION - WIND PRESSURES



SOUTH ELEVATION - WIND PRESSURES



EAST ELEVATION - WIND PRESSURES



WEST ELEVATION - WIND PRESSURES

ASD WIND LOAD WALL PRESSURES Kd=0.85				
TRIBUTARY AREA	ZONE 4 (PSF)		ZONE 5 (PSF)	
	(+)	(-)	(+)	(-)
WINDOW	+46.9	-49.9	+46.9	-58.6
DOOR	+45.4	-48.3	+45.4	-55.5
0 sf to 19 sf	+46.9	-49.9	+46.9	-58.6
20 sf to 29 sf	+45.4	-48.3	+45.4	-55.5
30 sf to 49 sf	+44.5	-47.4	+44.5	-53.7
50 sf to 99 sf	+43.3	-46.3	+43.3	-51.4
100 sf to 199 sf	+41.8	-44.7	+41.8	-48.3

NOTES:

1. REFER TO DIAGRAM FOR LOCATION OF ZONE ④ AND ⑤ .
2. VALUES INDICATED CAN BE INTERPOLATED.
3. FOR Kd = 1.0, MULTIPLY VALUES BY 1.18.
4. FOR ULTIMATE VALUES, MULTIPLY VALUES IN TABLE BY 1.67.

No.	REVISIONS	DATE	BY

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LICENSED PROFESSIONAL

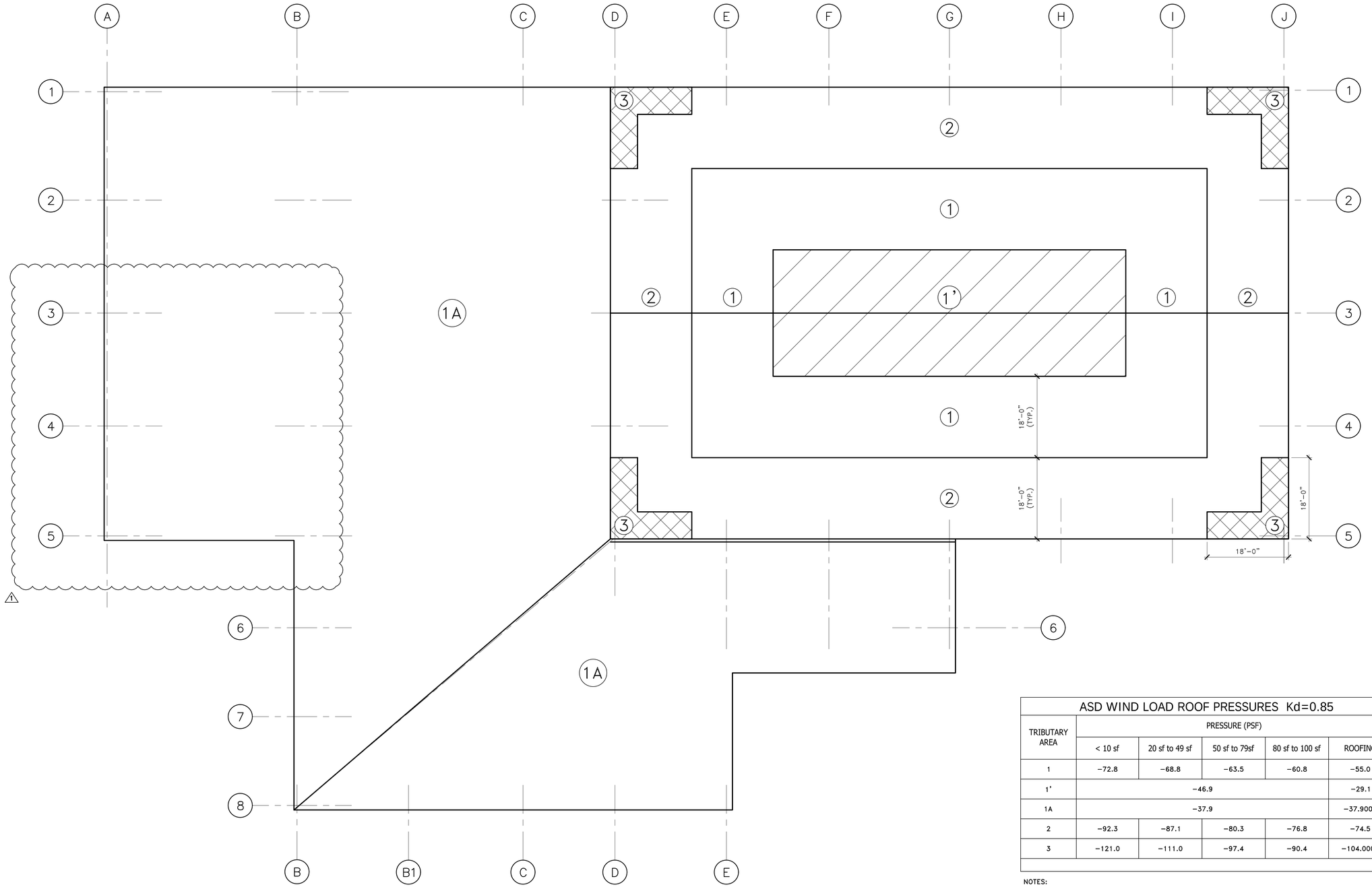
DATE:

KHA PROJECT 143228000
DATE APRIL 2021
SCALE AS SHOWN
DESIGNED BY JF
DRAWN BY WR
CHECKED BY JF

ELEVATIONS WIND PRESSURE DIAGRAMS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
S-101



ROOF WIND PRESSURE DIAGRAM

N

ASD WIND LOAD ROOF PRESSURES Kd=0.85					
TRIBUTARY AREA	PRESSURE (PSF)				
	< 10 sf	20 sf to 49 sf	50 sf to 79sf	80 sf to 100 sf	ROOFING
1	−72.8	−68.8	−63.5	−60.8	−55.0
1'	−46.9				−29.1
1A	−37.9				−37.9000
2	−92.3	−87.1	−80.3	−76.8	−74.5
3	−121.0	−111.0	−97.4	−90.4	−104.0000

NOTES:

1. FOR Kd = 1.0, MULTIPLY VALUES BY 1.18.
2. THE FIGURES SHOWN REPRESENT GROSS VALUES. TO OBTAIN NET UPLIFT VALUES ONLY 10 PSF OF DEAD LOAD SHALL BE DEDUCTED FROM THEM.
3. FOR ULTIMATE VALUES, MULTIPLY VALUES IN TABLE BY 1.67.

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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LICENSED PROFESSIONAL

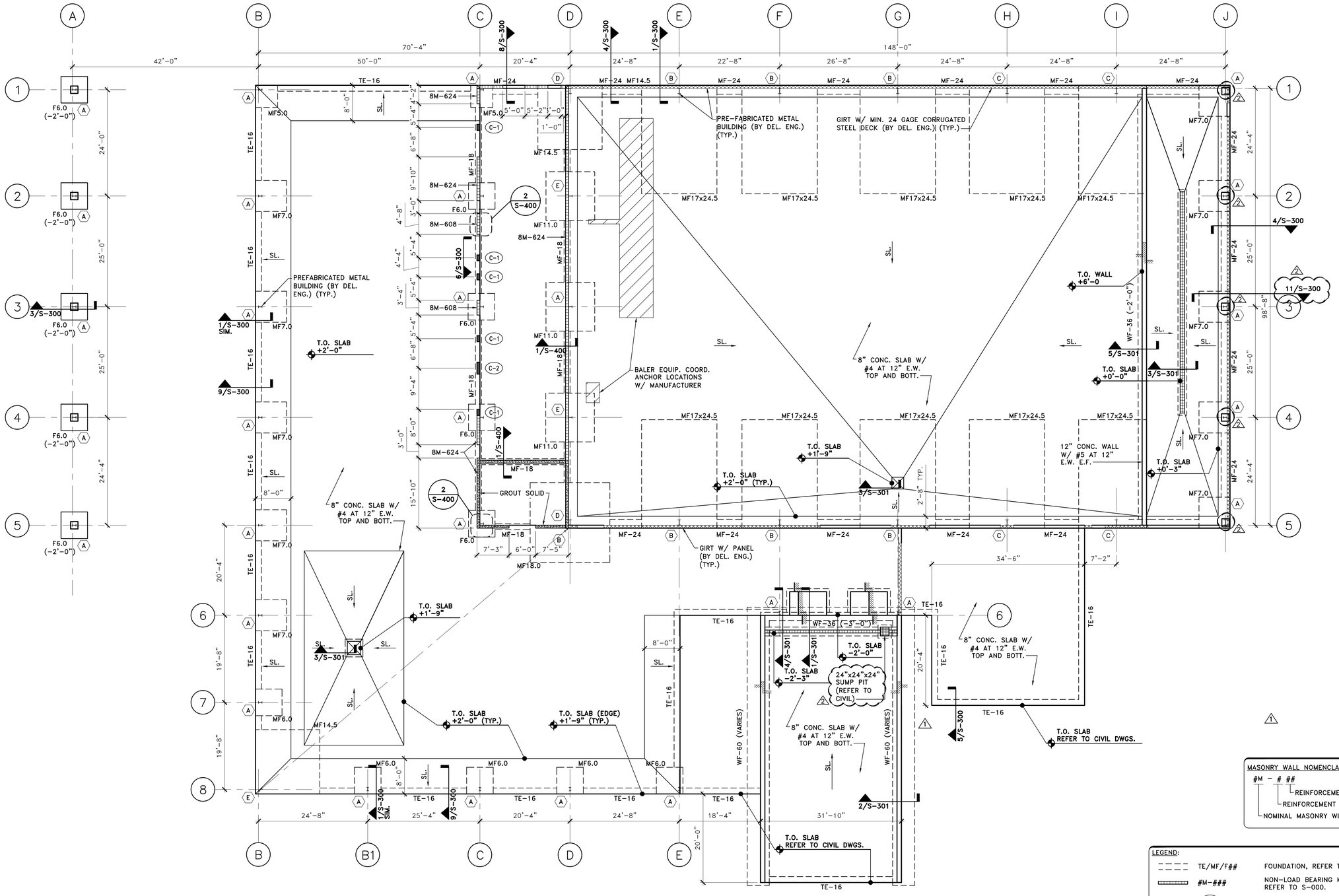
KHA PROJECT	143228000
DATE	APRIL 2021
SCALE	AS SHOWN
DESIGNED BY	JF
DRAWN BY	WR
CHECKED BY	JF

ROOF WIND PRESSURE DIAGRAM

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
S-102



FOUNDATION AND SLAB ON GRADE PLAN

SCALE: 3/32"=1'-0"

N

FOUNDATION/FLOOR PLAN NOTES:

1. ELEVATION +0'-0" = +24.5 NAVD 88
2. FOR GENERAL NOTES, SEE SHEET S-000.
3. FOR COLUMN/FOOTING SCHEDULE, SEE SHEET S-000.

MASONRY WALL NOMENCLATURE:

#M - # ##

- REINFORCEMENT SPACING IN INCHES
- REINFORCEMENT SIZE
- NOMINAL MASONRY WIDTH

LEGEND:

TE/MF/F##	FOUNDATION, REFER TO S-000.
#M-###	NON-LOAD BEARING MASONRY WALL, REFER TO S-000.
C-X	CONC. TIE COLUMN, REFER TO S-000.
X	PREFABRICATED BLDG. COLUMN ANCHOR ROD, REFER TO 2/S-300.
	PREFABRICATED BLDG. WALL FRAMING
	ELEVATION CHANGE OR STEP
SL.	SLOPE, REFER TO ARCH. DWGS.

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF
2	BIDDING REVISION	12/02/2021	JF

Kimley»Horn
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

DATE:

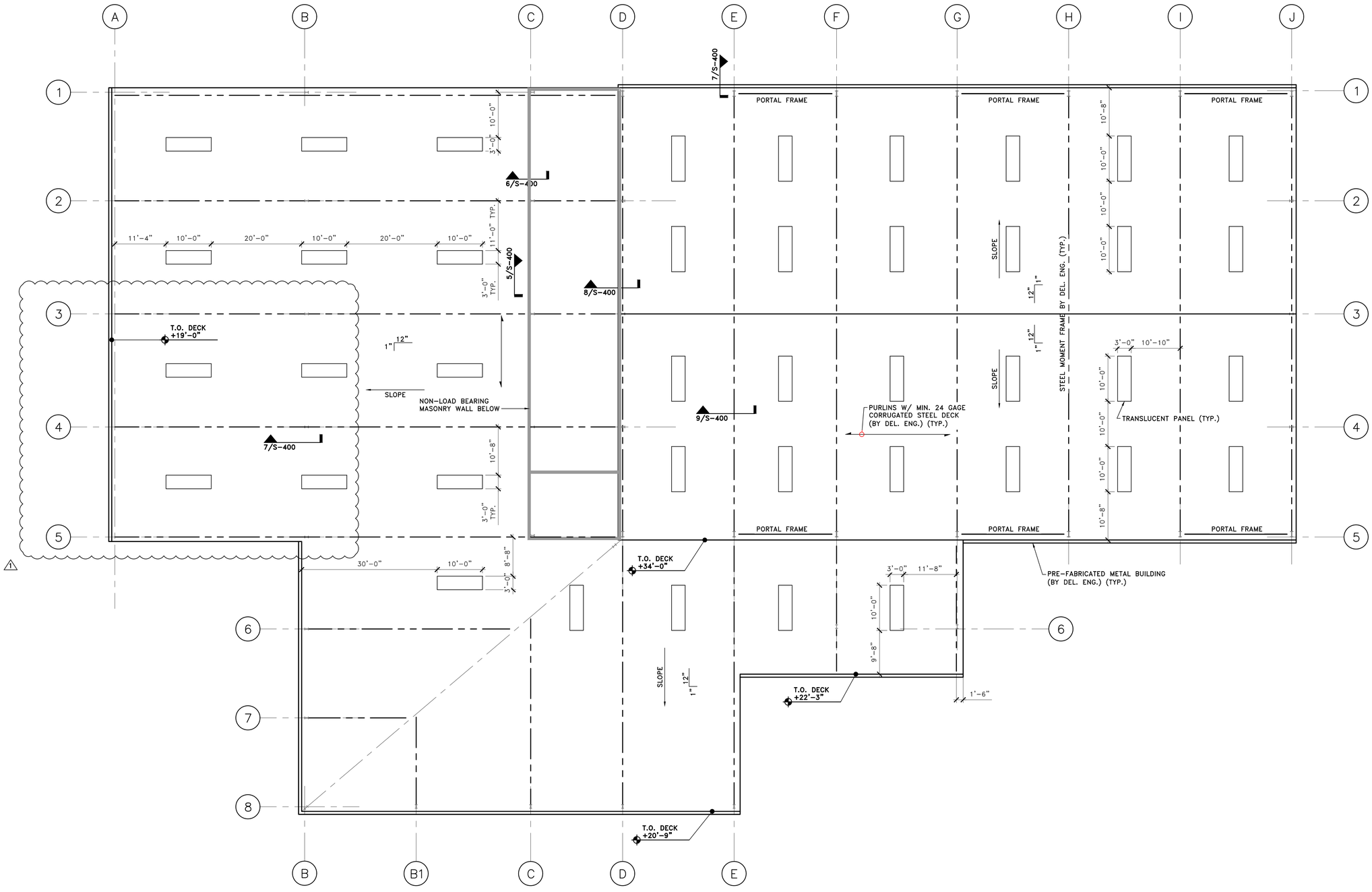
KHA PROJECT 143228000
DATE APRIL 2021
SCALE AS SHOWN
DESIGNED BY JF
DRAWN BY WR
CHECKED BY JF

FOUNDATION AND SLAB-ON-GRADE PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY

INDIAN RIVER COUNTY FL

SHEET NUMBER
S-200



ROOF FRAMING PLAN

SCALE: 3/32"=1'-0"

N

ROOF PLAN NOTES:

1. ELEVATION +0'-0" = +24.5 NAVD 88
2. FOR GENERAL NOTES, SEE SHEET S-000.
3. COORD. ALL SLOPES AND ELEVATIONS W/ ARCH. DWGS.

LEGEND:

- PORTAL FRAME BEAM (BY DEL. ENG.)
- STEEL FRAME BEAM (BY DEL. ENG.)
- I STEEL COLUMN (BY DEL. ENG.)
- NON-LOAD BEARING MASONRY WALL
- PURLING FRAMING (BY DEL. ENG.)
- 1" | 12" ROOF SLOPE

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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PHONE: 305-673-2025
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LICENSED PROFESSIONAL

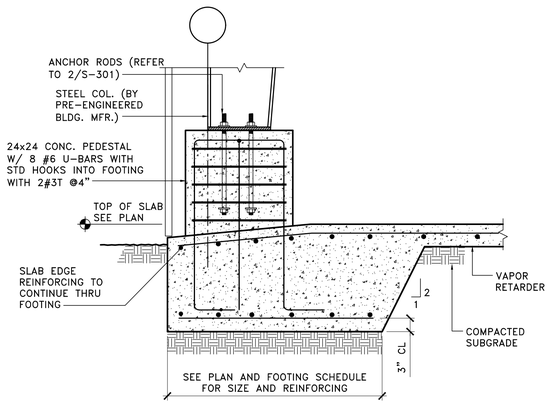
DATE:

KHA PROJECT 143228000
DATE APRIL 2021
SCALE AS SHOWN
DESIGNED BY JF
DRAWN BY WR
CHECKED BY JF

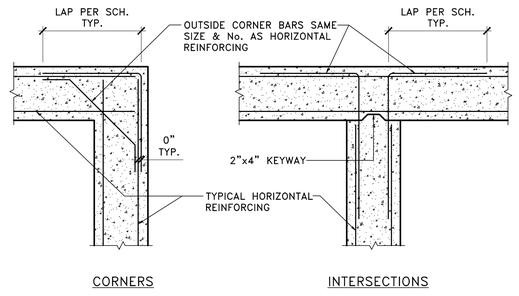
ROOF FRAMING PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY FL
INDIAN RIVER COUNTY

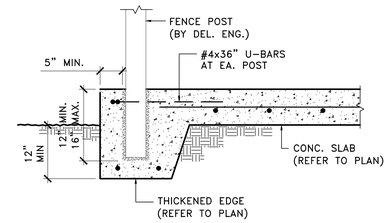
SHEET NUMBER
S-201



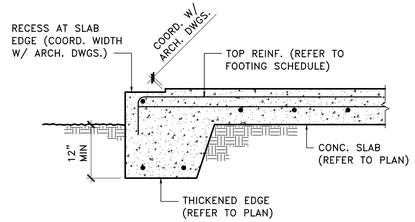
11 TYP. PEDESTAL AT GL J
SCALE: 3/4"=1'-0"



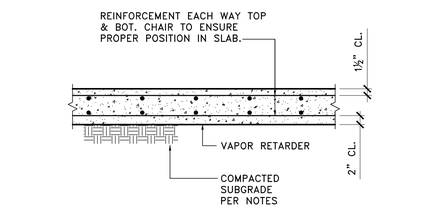
10 TYPICAL HORIZONTAL REINFORCING
CONCRETE TIE BEAMS, WALLS, AND FOOTINGS



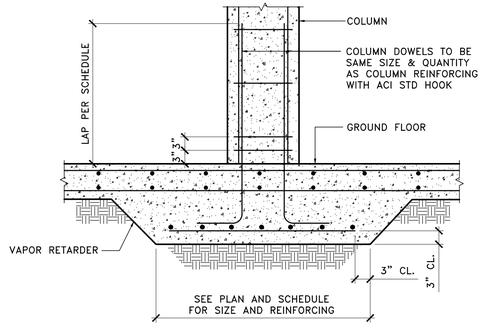
9 TYP. FENCE POST CONN.
SCALE: 3/4"=1'-0"



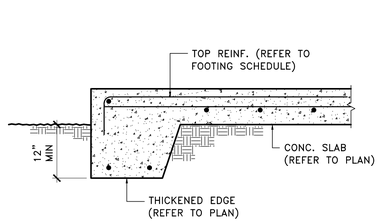
8 TYP. SLAB EDGE AT DOOR
SCALE: 3/4"=1'-0"



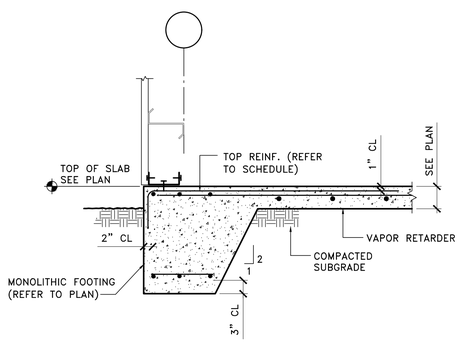
7 TYP. CONC. SLAB-ON-GRADE
NTS



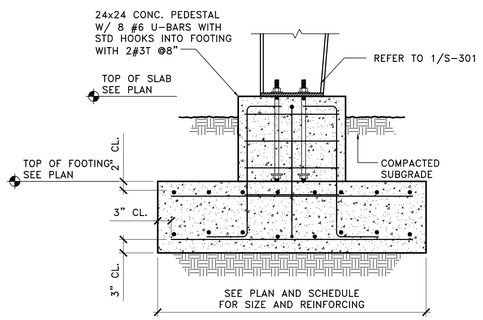
6 TYP. COL. TO FOOTING
SCALE: 3/4"=1'-0"



5 TYP. SLAB EDGE
SCALE: 3/4"=1'-0"



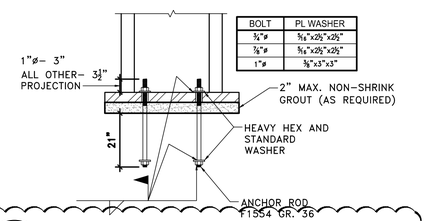
4 TYP. BLDG. SLAB EDGE
SCALE: 3/4"=1'-0"



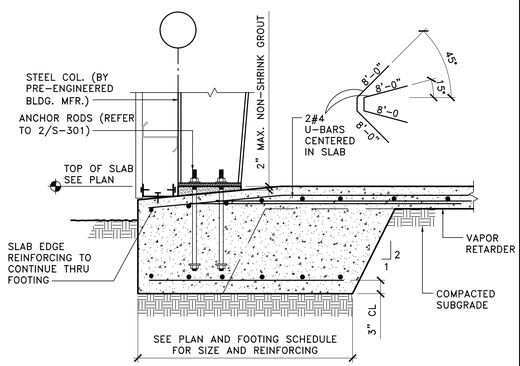
3 TYP. COL. TO FOOTING
SCALE: 3/4"=1'-0"

ANCHOR BOLT SCHEDULE		
MARK	ANCHOR BOLT	BOLT PATTERN
A	4 – ¾"ø	2 x 2
B	6 – 1"ø	2 x 3
C	6 – ⅞"ø	2 x 3
D	6 – ¾"ø	2 x 3
E	8 – 1"ø	2 x 4

BOLT	PL WASHER
¾"ø	5/16"x2½"x2½"
⅞"ø	5/16"x2½"x2½"
1"ø	⅜"x3"x3"



2 TYP. ANCHOR RODS
NTS



1 TYP. FOOTING AT COL.
SCALE: 3/4"=1'-0"

No.	REVISIONS	DATE	BY
1	BIDDING REVISION	12/02/2021	JF

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PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT	143228000
DATE	APRIL 2021
SCALE	AS SHOWN
DESIGNED BY	JF
DRAWN BY	WR
CHECKED BY	JF
DATE:	

FOUNDATION SECTIONS

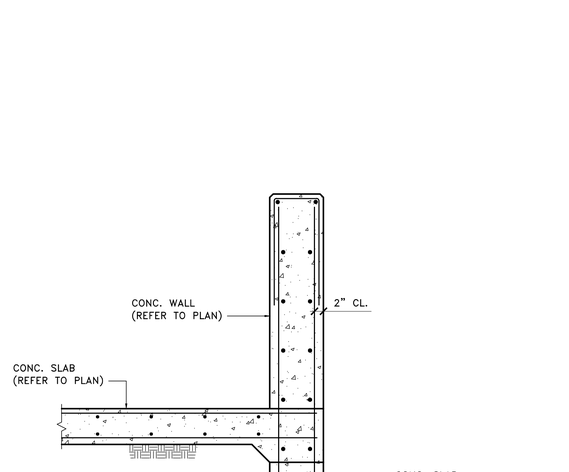
IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY FL
INDIAN RIVER COUNTY

SHEET NUMBER
S-300

4 COLUMN AT LOADING DOCK
SCALE: 3/4"=1'-0"

3 TYP. TRENCH DRAIN
SCALE: 3/4"=1'-0"

2 TYP. RETAINING WALL
AT LOADING DOCK
SCALE: 3/4"=1'-0"



1 TYP. LOADING DOCK
SCALE: 3/4"=1'-0"

5 INTERIOR CONC. WALL
SCALE: 3/4"=1'-0"

No.	REVISIONS	DATE	BY
1	BIDDING REVISION	12/02/2021	JF

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PHONE: 305-673-2025
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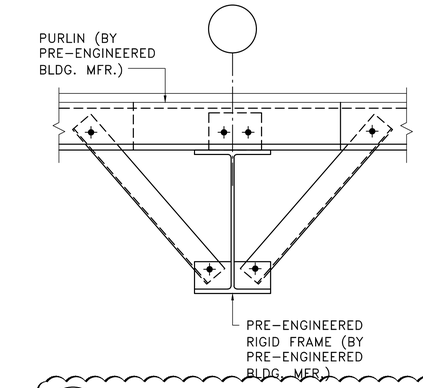
LICENSED PROFESSIONAL

KHA PROJECT	143228000
DATE	APRIL 2021
SCALE	AS SHOWN
DESIGNED BY	JF
DRAWN BY	WR
CHECKED BY	JF
DATE:	

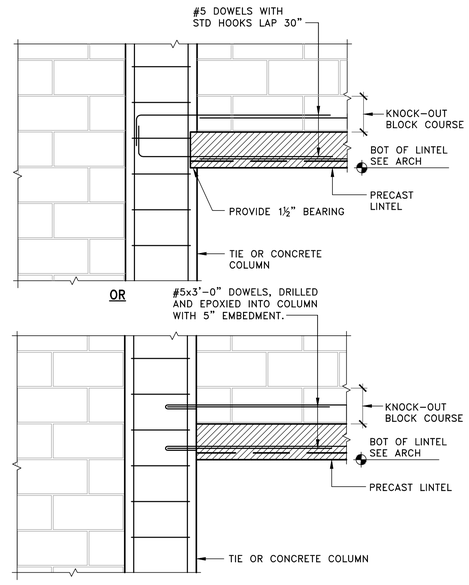
FOUNDATION SECTIONS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY FL
INDIAN RIVER COUNTY

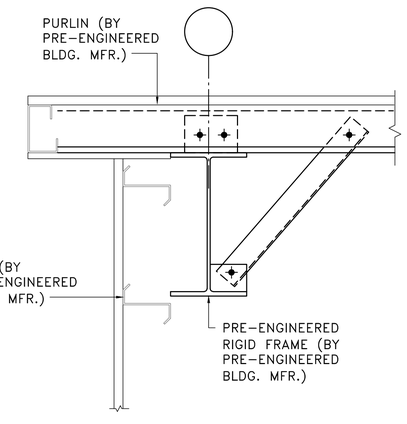
SHEET NUMBER
S-301



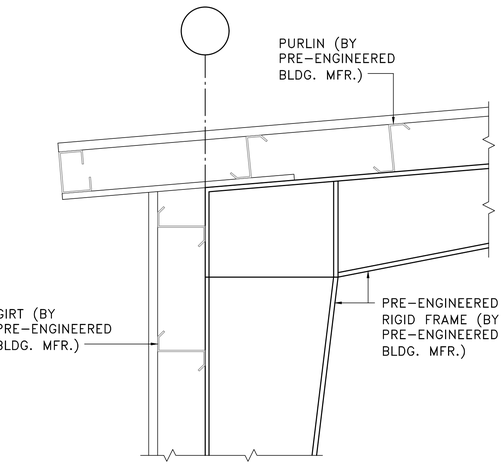
9 TYP. PURLIN
SCALE: 1"=1'-0"



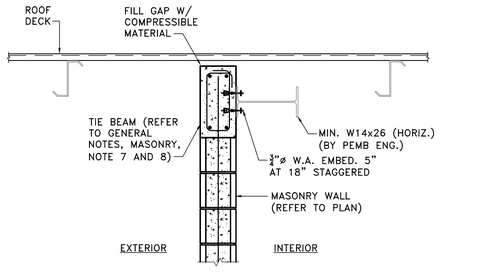
5 PRECAST LINTEL AT COL.
SCALE: 3/4"=1'-0"



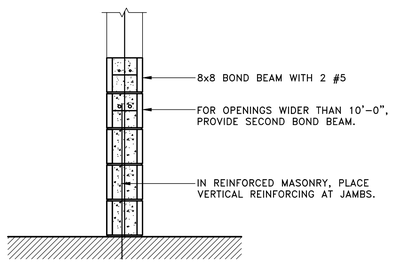
8 TYP. EDGE FRAME
SCALE: 1"=1'-0"



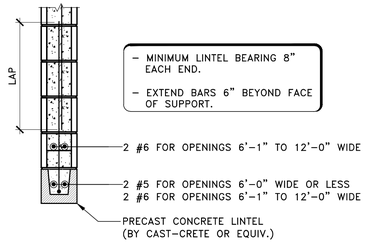
7 TYP. FRAME
SCALE: 1"=1'-0"



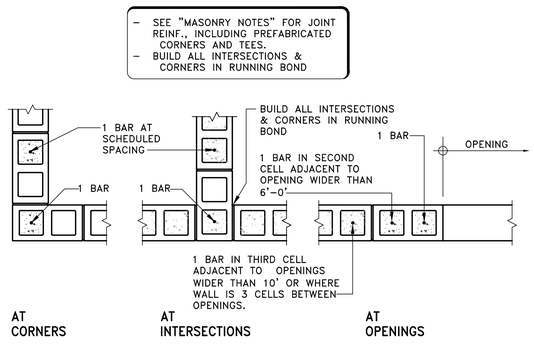
6 PRECAST LINTEL AT COL.
SCALE: 3/4"=1'-0"



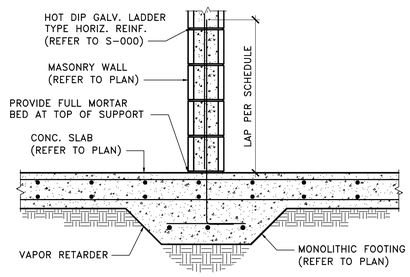
4 TYP. MASONRY SILL
SCALE: 3/4"=1'-0"



3 MASONRY WALL REINFORCING
SCALE: 3/4"=1'-0"



2 MASONRY WALL REINFORCING
SCALE: 3/4"=1'-0"



1 TYP. MASONRY WALL TO FOOTING
SCALE: 3/4"=1'-0"

No.	REVISIONS	DATE	BY
2	BIDDING REVISION	12/02/2021	JF

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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000	SCALE AS SHOWN	DESIGNED BY JF	CHECKED BY JF
DATE APRIL 2021		DRAWN BY WR	DATE:

MASONRY AND ROOF SECTIONS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
FL
INDIAN RIVER COUNTY

SHEET NUMBER
S-400

INDIAN RIVER COUNTY
HOUSEHOLD HAZARDOUS WASTE
AND RECYCLING FACILITY
Indian River County, FL

PROJECT INFORMATION

SUMMARY OF WORK:
1. CONSTRUCT NEW HOUSEHOLD HAZARDOUS WASTE AND SINGLE-STREAM RECYCLING FACILITY.
2. CONSTRUCT SITE IMPROVEMENTS INCLUDING PAVING, DRAINAGE, UTILITIES AND LANDSCAPING.

CODES IN EFFECT:
WORK SHALL BE DESIGNED IN FULL COMPLIANCE WITH THE LATEST EDITION OF THE APPLICABLE SECTIONS OF THE FOLLOWING CODES, STANDARDS AND GUIDELINES. IN CASE OF A CONFLICT BETWEEN CODES, THE MOST STRINGENT CONDITION SHALL APPLY. ADDITIONAL CODE REFERENCES MAY BE FOUND IN EACH OF THE ENGINEERING DISCIPLINES.
- FLORIDA BUILDING CODE, SEVENTH EDITION (2020)
- FLORIDA MECHANICAL CODE, SEVENTH EDITION (2020)
- FLORIDA ELECTRICAL CODE, SEVENTH EDITION (2020)
- FLORIDA PLUMBING CODE, SEVENTH EDITION (2020)
- FLORIDA FIRE PREVENTION CODE, SEVENTH EDITION (2020)
- NFPA 70 - NATIONAL ELECTRIC CODE 2017

FLORIDA PRODUCT APPROVALS

THE FOLLOWING PRODUCTS ARE TO BE CONSIDERED THE BASIS OF DESIGN AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AS SPECIFIED IN THE APPLICABLE FLORIDA APPROVAL CODE DOCUMENTATION. ANY PROPOSED CHANGE OF PRODUCTS SHALL BE SUBMITTED FOR CONSIDERATION WITH FLORIDA APPROVAL CODE INFORMATION.

STOREFRONT (FIXED) WINDOWS
- KAWNEER IR501, FLORIDA APPROVAL NO.: 8787.2.

EXTERIOR SWINGING METAL DOORS
- TELL MANUFACTURING OUT-SWINGING STEEL DOOR SYSTEM; FLORIDA APPROVAL NO.: FL 22211.2

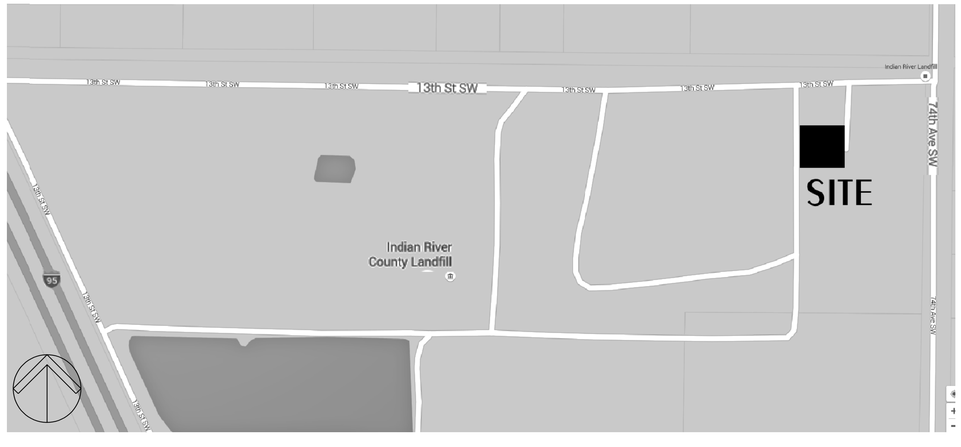
EXTERIOR COILING DOORS
- BEST ROLLING DOOR, INC.
  MIAMI-DADE N.O.A. NO.: 17-1031.07
  FLORIDA APPROVAL NO.: 10706-R3

METAL ROOFING AND SIDING PANELS
- 26 GA. PBR ROOF PANELS, FLORIDA APPROVAL NO.: FL 6617.2
- 26 GA. PBR WALL PANELS, FLORIDA APPROVAL NO.: 7548.1

TRANSLUCENT PANELS
- TRANSLUCENT ROOF PANELS BY GLASTEEL, FLORIDA APPROVAL NO.: FL15531-R4
- TRANSLUCENT WALL PANELS BY GLASTEEL, FLORIDA APPROVAL NO.: FL5614-R6

METAL LOUVERS
- GREENHECK EVH-501D STATIONARY LOUVER
- MIAMI-DADE N.O.A. NO.: 15-0415.05.
- APPROVAL NO.: FL 19277.1

VICINITY MAP



CONTACT INFORMATION

CIVIL ENGINEER OF RECORD

LANDSCAPE ARCHITECT

STRUCTURAL ENGINEER OF RECORD:
KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE, SUITE 1400
CORAL GABLES, FL 33134
PHONE: (305) 673-2025

ARCHITECT OF RECORD:
MARCOS IBARGUEN, RA
CMK DESIGN STUDIO, INC.
6822 22ND AVE. N. #148
ST. PETERSBURG, FL 33710
PHONE: (813) 362-6381

M/E/P/FP ENGINEER OF RECORD:
TODD WILSON & JOE GIRGENTI
WILSON & GIRGENTI, LLC
PO BOX 1377
SAFETY HARBOR, FL 34695
PHONE: (813) 855-3330

BUILDING AND FIRE CODE ANALYSIS

Based on the Florida Building Code (FBC), 2020 (Seventh) Edition and the Florida Fire Prevention Code (FFPC), 2020 (Seventh) Edition, and NFPA 101, LIfe Safety Code, 2018 Edition.

OCCUPANCY
GROUP S-1, STORAGE, MODERATE HAZARD PER FBC 311.2
MIXED STORAGE AND OFFICE PER FFPC/NFPA 101: 6.1.13.1.

CONSTRUCTION TYPE
VB, NON-COMBUSTIBLE, PER FBC SECTION 602.2; FULLY SPRINKLED

ALLOWABLE AREA (FBC SECTION 506.2)
UNLIMITED

PROPOSED AREA
28,750 SF COMPLIES

ALLOWABLE HEIGHT (FBC TABLE 503)
UNLIMITED

PROPOSED HEIGHT
HEIGHT PROPOSED: 35 FEET AT RIDGE. COMPLIES

REQUIRED SEPARATION OF OCCUPANCIES (FBC TABLE 508.4 AND FFPC/NFPA 101:6.1.14.1 EXCEPTION 3)
GROUP B TO GROUP S-1 - NO SEPARATION REQUIRED

PROPOSED SEPARATION OF OCCUPANCIES
NO SEPARATION PROPOSED BETWEEN GROUP B AND GROUP S-1. COMPLIES

REQUIRED SEPARATION FOR H-2 STORAGE ROOM (NFPA 30: 9.9.1)
2-HOUR SEPARATION WALL; 90-MINUTE "B" LABEL DOORS

PROPOSED SEPARATION FOR H-2 STORAGE ROOM.
2-HOUR SEPARATION WALL; 90-MINUTE "B" LABEL DOORS. COMPLIES

OCCUPANT LOAD (TABLE 1004.5)
SEE LIFE SAFETY PLAN LS101. MAX. COMBINED OCCUPANT LOAD = 100

REQUIRED MEANS OF EGRESS:
ALL EXIT DOORS SHALL COMPLY WITH FFPC/NFPA 101:7.2.1.
ALL HANDRAILS, GUARDRAILS AND RAMPS SHALL COMPLY WITH FFPC/NFPA 101:7.2.2.

REQUIRED NUMBER AND PLACEMENT OF EXITS PER FBC SECTION 1006.2 AND FFPC/NFPA101 SECTIONS 7.4.1 AND 7.5.1.3.2: TWO EXITS PLACED A DISTANCE APART NOT LESS THAN ONE-HALF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED.

REQUIRED EGRESS WIDTH PER OCCUPANT (FBC SECT. 1005, FFPC/NFPA 101:7.3), SPRINKLED:
DOORS: 0.2 INCHES
0.2 X 100 = 20 INCHES

PROPOSED EXITS
FIRST FLOOR: 4 EXITS, 136 INCHES, COMPLIES
PROPOSED PLACEMENT OF EXITS COMPLIES - SEE LIFE SAFETY PLANS

MAXIMUM ALLOWABLE TRAVEL DISTANCE TO EXITS (FBC TABLE 1016.1, FFPC/NFPA 101:42.2.6)
GROUP S-1, SPRINKLED: 400 FEET
NOTE: MAX. TRAVEL DISTANCE N/A IF FLAMMABLE LIQUIDS ARE STORED IN ACCORDANCE WITH NFPA 30.

PROPOSED MAXIMUM TRAVEL DISTANCE TO EXITS
GROUP S-1, SPRINKLED: 114 FEET COMPLIES; SEE LIFE SAFETY PLANS
NOTE: FLAMMABLE LIQUIDS SHALL BE STORED IN ACCORDANCE WITH NFPA 30. COMPLIES.

MAXIMUM COMMON PATH OF TRAVEL TO EXITS (FBC TABLE 1016.1, FFPC/NFPA 101:42.2.5)
GROUP S-1, SPRINKLED: 100 FEET

PROPOSED COMMON PATH OF TRAVEL TO EXITS :
NOT APPLICABLE - NO COMMON PATH OF TRAVEL PROPOSED. COMPLIES; SEE LIFE SAFETY PLANS

PLUMBING FIXTURES REQUIRED PER F.P.C. 403.1:
PER FPC TABLE 403.1: 1 WC (WOMEN), 1 LAV (WOMEN), 1 WC (MEN), 1 LAV (MEN), 1 DF, 1 SERVICE SINK
FIXTURES PROVIDED: 1 WC (WOMEN), 1 LAV (WOMEN), 1 WC 1 (MEN), 1 LAV (MEN), 2 DF, 2 SERVICE SINKS

ADDITIONAL FFPC CODE ANALYSIS

Previous Use:
- Vacant.

Proposed Use:
- Collection and transfer of household hazardous waste and single-stream recycling.

Hazard Classification per FFPC 101:6.2.2.3
- Ordinary Hazard, all areas

Fire Alarm requirement
- Per FFPC 101:40.3.4.1, a fire alarm system is required.
- See Electrical drawings for fire alarm system proposed.

Fire Sprinkler System requirement
- Per NFPA, facility must be fully sprinklered. See Fire Protection drawings for compliance.

1

SHEET INDEX

PRE-ENGINEERED METAL BUILDING DRAWINGS SUBMITTED SEPARATELY

PERMIT SET

CMK Design Studio, Inc.
Planning & Design of the Built Environment
6822 22nd Ave. N. #148
St. Petersburg, Florida 33710
Ph: 813.362.6381
FL. LIC. NO.: AA26002603
marcos@cmkdesignstudio.com

STATE OF FLORIDA
MARCOS F. IBARGUEN
AR0013117
REGISTERED ARCHITECT

MARCOS IBARGUEN
AR 13117

Drawing Not Valid Unless Signed, Sealed & Dated By Registered Professional

INDIAN RIVER COUNTY LANDFILL
HOUSEHOLD HAZARDOUS WASTE
AND RECYCLING FACILITY
Indian River County, Florida

NO.	REVISIONS	DATE
1	PLAN REVIEW & OWNER CHANGES	10/19/21

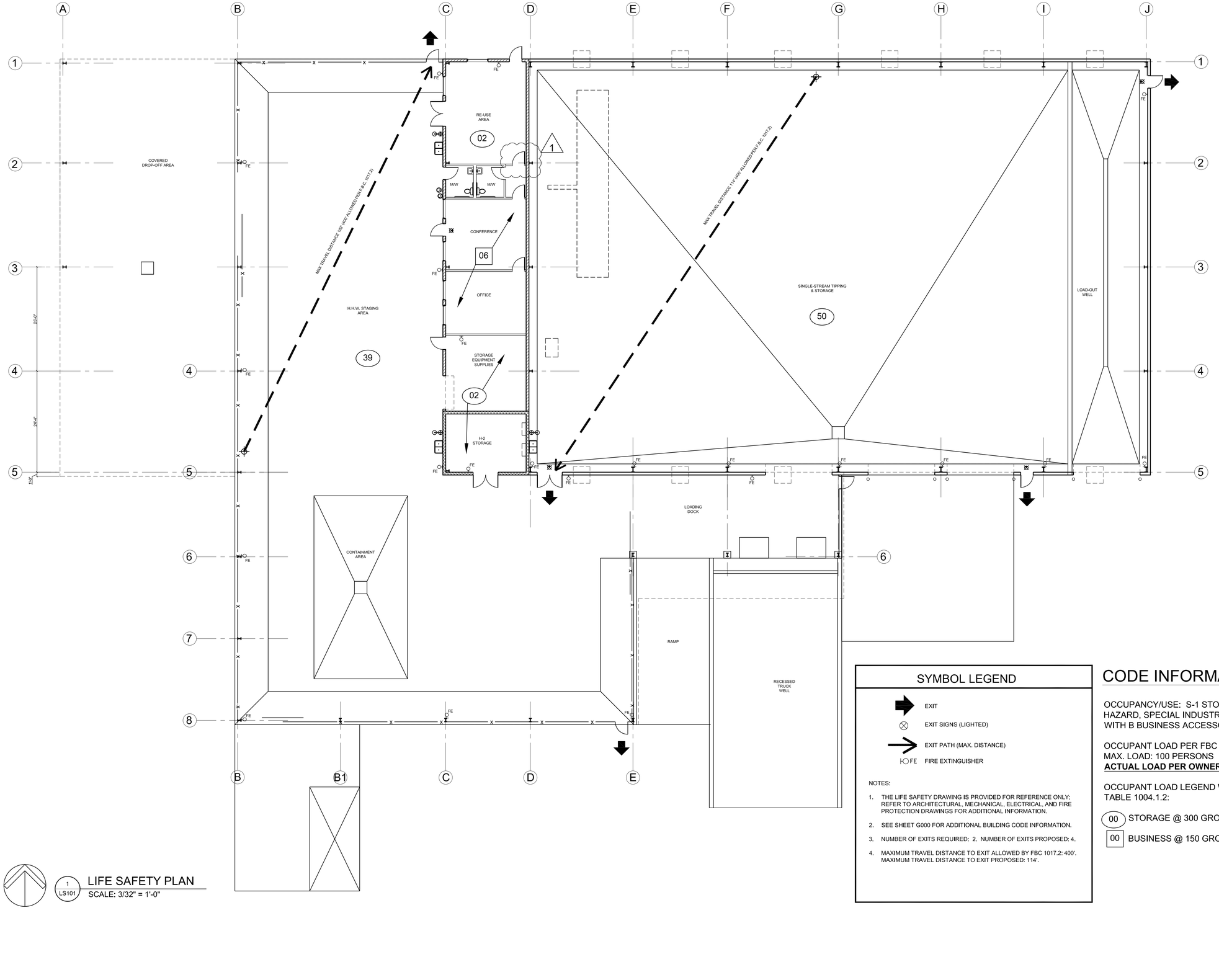
JOB NO.
2016

ISSUE DATE:
7/2/2021

DRAWN BY:
MI

SHEET TITLE
COVER SHEET

SHEET NO.
G000



1 LS101 LIFE SAFETY PLAN
SCALE: 3/32" = 1'-0"

SYMBOL LEGEND

- EXIT
- EXIT SIGNS (LIGHTED)
- EXIT PATH (MAX. DISTANCE)
- FE FIRE EXTINGUISHER

NOTES:

1. THE LIFE SAFETY DRAWING IS PROVIDED FOR REFERENCE ONLY; REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
2. SEE SHEET G000 FOR ADDITIONAL BUILDING CODE INFORMATION.
3. NUMBER OF EXITS REQUIRED: 2. NUMBER OF EXITS PROPOSED: 4.
4. MAXIMUM TRAVEL DISTANCE TO EXIT ALLOWED BY FBC 1017.2: 400'. MAXIMUM TRAVEL DISTANCE TO EXIT PROPOSED: 114'.

CODE INFORMATION

OCCUPANCY/USE: S-1 STORAGE - MODERATE HAZARD, SPECIAL INDUSTRIAL OCCUPANCY, WITH B BUSINESS ACCESSORY USE

OCCUPANT LOAD PER FBC 1004.5:
MAX. LOAD: 100 PERSONS
ACTUAL LOAD PER OWNER: 10 PERSONS

OCCUPANT LOAD LEGEND W/LOADS PER FBC TABLE 1004.1.2:

(00) STORAGE @ 300 GROSS, 28,200/300 = 94

[00] BUSINESS @ 150 GROSS, 790/150 = 6

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STATE OF FLORIDA · MARCOS F. IBARGUEN · AR0013117 · REGISTERED ARCHITECT

MARCOS IBARGUEN
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INDIAN RIVER COUNTY LANDFILL HOUSEHOLD HAZARDOUS WASTE AND RECYCLING FACILITY

Indian River County, Florida

NO.	REVISIONS	DATE
1	PLAN REVIEW & OWNER CHANGES	10/19/21

JOB NO. **2016**

ISSUE DATE: 7/2/2021

DRAWN BY: MI

SHEET TITLE: LIFE SAFETY PLAN

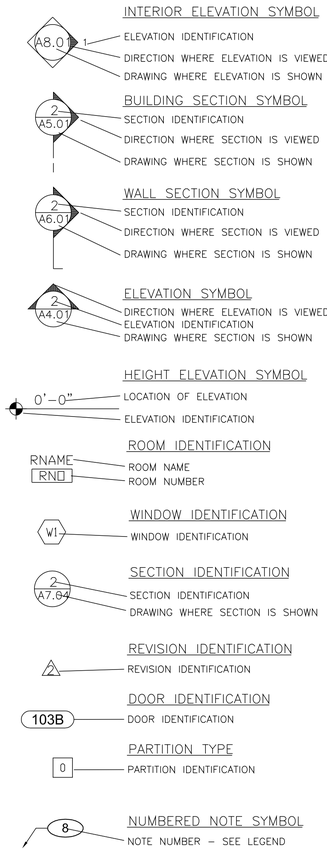
SHEET NO. **LS101**

PERMIT SET

GENERAL NOTES

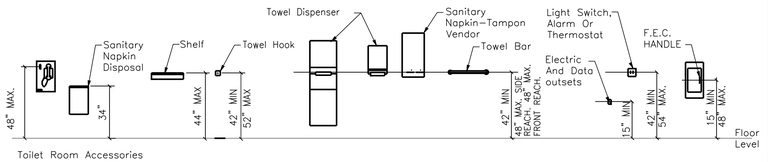
1. ALL LABOR, MATERIALS, FINISH REQUIREMENTS AND FINAL FINISHED PRODUCT AS OUTLINED AND REQUIRED BY THE PLANS, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS SHALL CONFORM WITH THE CURRENT STANDARD EDITION OF LOCAL CODES AND REQUIREMENTS.
2. CONTRACTOR SHALL SECURE ALL BUILDING PERMITS AND INSPECTIONS NECESSARY FOR CONSTRUCTION.
3. DRAWINGS ARE NOT TO BE SCALED FOR INFORMATION.
4. DISCREPANCIES BETWEEN ARCHITECTURAL AND ENGINEERING DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY UPON DISCOVERY AND PRIOR TO CONTINUING WITH THE WORK.
5. ALL NEW DOOR HARDWARE DEPICTED HEREIN SHALL BE HEAVY-DUTY EXTERIOR GRADE STAINLESS STEEL HARDWARE. NEW DOOR HANDLES SHALL BE HEAVY-DUTY EXTERIOR GRADE LEVER-TYPE HANDLES. NEW CLOSERS SHALL BE HEAVY-DUTY EXTERIOR GRADE PARALLEL ARM CLOSERS. COORDINATE ALL LOCKING REQUIREMENTS DIRECTLY WITH OWNER.
6. ALL DIMENSIONS ARE TO FACE OF STEEL STRUCTURE OR CENTERLINE OF PARTITION UNLESS NOTED OTHERWISE. DIMENSIONS NOTED AS "CLEAR" REFER TO FINISHED FACE OF CONSTRUCTION.
7. DOOR FRAMES OCCURRING ADJACENT TO INTERSECTING PARTITIONS SHALL BE INSTALLED FOUR INCHES FROM THE PARTITION UNLESS OTHERWISE NOTED.
8. ALL PARTITION EXTERIOR CORNERS SHALL HAVE SCREW ATTACHED METAL CORNER BEADS UNLESS NOTED OTHERWISE.
9. WALL SURFACES SHALL BE PROPERLY PREPARED TO RECEIVE NEW FINISHES. JOINTS SHALL NOT BE VISIBLE AFTER NEW FINISH HAS BEEN APPLIED.
10. GYPSUM WALLBOARD ON PARTITIONS SHALL BE TAPED AND THE SCREWS SPOTTED WHETHER OR NOT WALL TREATMENT IS SCHEDULED.
11. BLOCKING/BACKING IS REQUIRED IN WALLS AT THE FOLLOWING LOCATIONS:
    a. WALL MOUNTED CABINETS
    b. WALL MOUNTED ACCESSORIES OR EQUIPMENT
    c. WALL MOUNTED DOOR STOPS
    d. WALL MOUNTED DOOR HOLD-OPEN DEVICES AND/OR CLOSERS
    e. TOILET ROOM ACCESSORIES
    f. OTHER LOCATIONS AS INDICATED OR REQUIRED FOR PROPER INSTALLATION OF DEPICTED ITEMS
15. GENERAL CONTRACTOR TO VERIFY ALL OWNER-PROVIDED EQUIPMENT AND APPLIANCE DIMENSIONS AND INSTALLATION REQUIREMENTS WITH OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION.
16. ALL FINISHES SHALL MEET FLORIDA BUILDING CODE FINISH REQUIREMENTS.
17. REFER TO CIVIL ENGINEERING DRAWINGS FOR SIDEWALKS, RAMPS AND OTHER EXTERIOR FEATURES NOT SHOWN. NOTE: MAXIMUM LEVEL CHANGE AT ALL EXTERIOR DOORS SHALL NOT EXCEED 1/2".
18. PROVIDE BRACKET-MOUNTED FIRE EXTINGUISHERS AS SHOWN ON PLANS AFTER VERIFICATION OF REQUIREMENTS WITH LOCAL FIRE PROTECTION AUTHORITIES.

SYMBOLS LEGEND



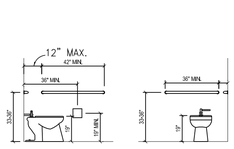
ADA CLEARANCES

NOTE: PROVIDE BLOCKING IN WALL FOR MOUNTING OF ALL ACCESSORIES. BLOCKING TO BE F.R. TREATED LUMBER.

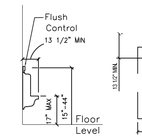


Toilet Room Accessories

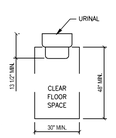
Clear Floor Space at Water Closets



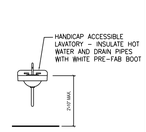
Water Closet Elevations



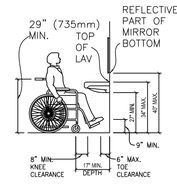
Urinal SIDE VIEW



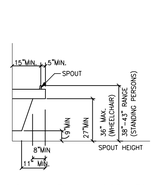
Urinal PLAN VIEW



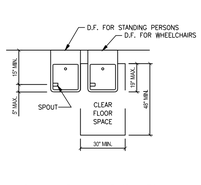
Lavatory Elevation



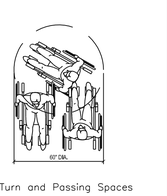
Lavatory Clearances



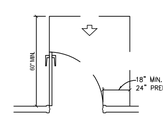
Drinking Fountain SIDE VIEW



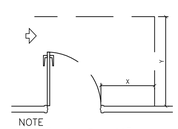
Drinking Fountain PLAN VIEW



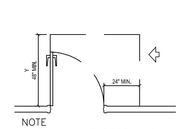
U-Turn and Passing Spaces



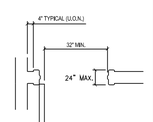
Pull Side Door Clearance



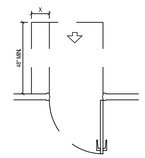
NOTE
X=36" MIN, IF Y=60"
X=42" MIN, IF Y=54"
Pull Side Door Clearance



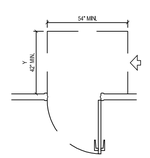
NOTE
Y=54" MIN. IF DOOR HAS CLOSER
Pull Side Door Clearance



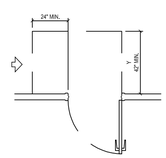
Doorway Opening



NOTE
X=12" IF DOOR HAS BOTH A CLOSER AND LATCH
Push Side Door Clearance



NOTE
Y=48" MIN. IF DOOR HAS BOTH A LATCH AND CLOSER
Push Side Door Clearance



NOTE
Y=48" MIN. IF DOOR HAS CLOSER
Push Side Door Clearance

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INDIAN RIVER COUNTY LANDFILL HOUSEHOLD HAZARDOUS WASTE AND RECYCLING FACILITY

Indian River County, Florida

NO.	REVISIONS	DATE

JOB NO.
2016

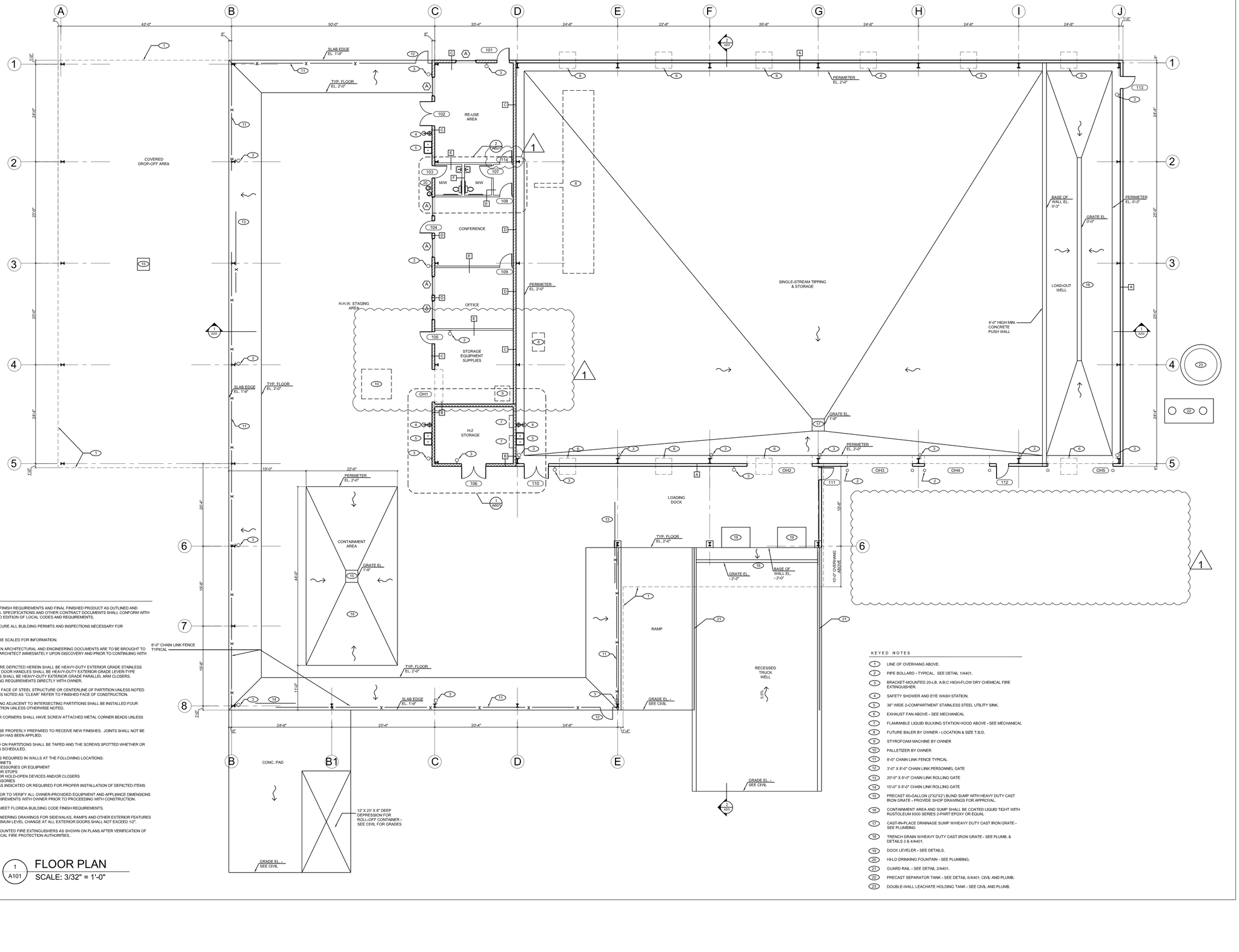
ISSUE DATE:
7/2/2021

DRAWN BY:
MI

SHEET TITLE
LEGEND AND GENERAL INFORMATION

SHEET NO.
A001

PERMIT SET



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18. PROVIDE BRACKET-MOUNTED FIRE EXTINGUISHERS AS SHOWN ON PLANS AFTER VERIFICATION OF REQUIREMENTS WITH LOCAL FIRE PROTECTION AUTHORITIES.

1 / A101 FLOOR PLAN
SCALE: 3/32" = 1'-0"

KEYED NOTES

1. LINE OF OVERHANG ABOVE.
2. PIPE BOLLARD - TYPICAL. SEE DETAIL 1/A401.
3. BRACKET-MOUNTED 20-LB. A:B:C HIGH-FLOW DRY CHEMICAL FIRE EXTINGUISHER.
4. SAFETY SHOWER AND EYE WASH STATION.
5. 36" WIDE 2-COMPARTMENT STAINLESS STEEL UTILITY SINK.
6. EXHAUST FAN ABOVE - SEE MECHANICAL
7. FLAMMABLE LIQUID BULKING STATION HOOD ABOVE - SEE MECHANICAL
8. FUTURE BALER BY OWNER - LOCATION & SIZE T.B.D.
9. STYROFOAM MACHINE BY OWNER
10. PALLETIZER BY OWNER
11. 8'-0" CHAIN LINK FENCE TYPICAL
12. 3'-0" X 8'-0" CHAIN LINK PERSONNEL GATE
13. 20'-0" X 8'-0" CHAIN LINK ROLLING GATE
14. 10'-0" X 8'-0" CHAIN LINK ROLLING GATE
15. PRECAST 60-GALLON (2'X2'X2') BLIND SUMP WITH HEAVY DUTY CAST IRON GRATE - PROVIDE SHOP DRAWINGS FOR APPROVAL.
16. CONTAINMENT AREA AND SUMP SHALL BE COATED LIQUID TIGHT WITH RUSTOLEUM 6500 SERIES 2-PART EPOXY OR EQUAL
17. CAST-IN-PLACE DRAINAGE SUMP W/HEAVY DUTY CAST IRON GRATE - SEE PLUMBING
18. TRENCH DRAIN W/HEAVY DUTY CAST IRON GRATE - SEE PLUMB. & DETAILS 3 & 4/A401.
19. DOCK LEVELER - SEE DETAILS.
20. HI-LO DRINKING FOUNTAIN - SEE PLUMBING.
21. GUARD RAIL - SEE DETAIL 2/A401.
22. PRECAST SEPARATOR TANK - SEE DETAIL 6/A401, CIVIL AND PLUMB.
23. DOUBLE-WALL LEACHATE HOLDING TANK - SEE CIVIL AND PLUMB.

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INDIAN RIVER COUNTY LANDFILL HOUSEHOLD HAZARDOUS WASTE AND RECYCLING FACILITY

Indian River County, Florida

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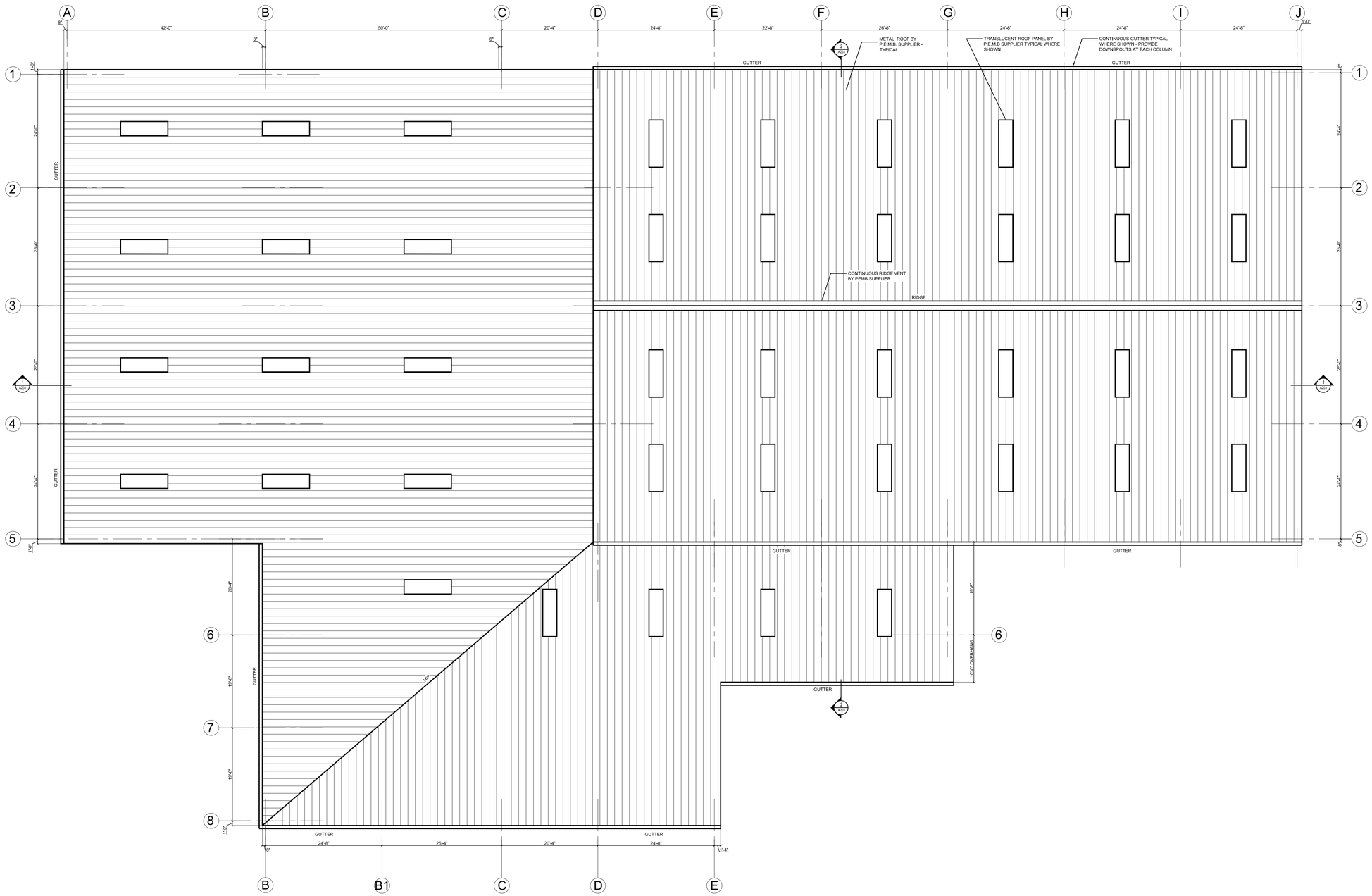
7/2/2021

DRAWN BY:
MI

SHEET TITLE
FLOOR PLAN

SHEET NO.
A101

PERMIT SET



1 A102 ROOF PLAN
SCALE: 3/32" = 1'-0"

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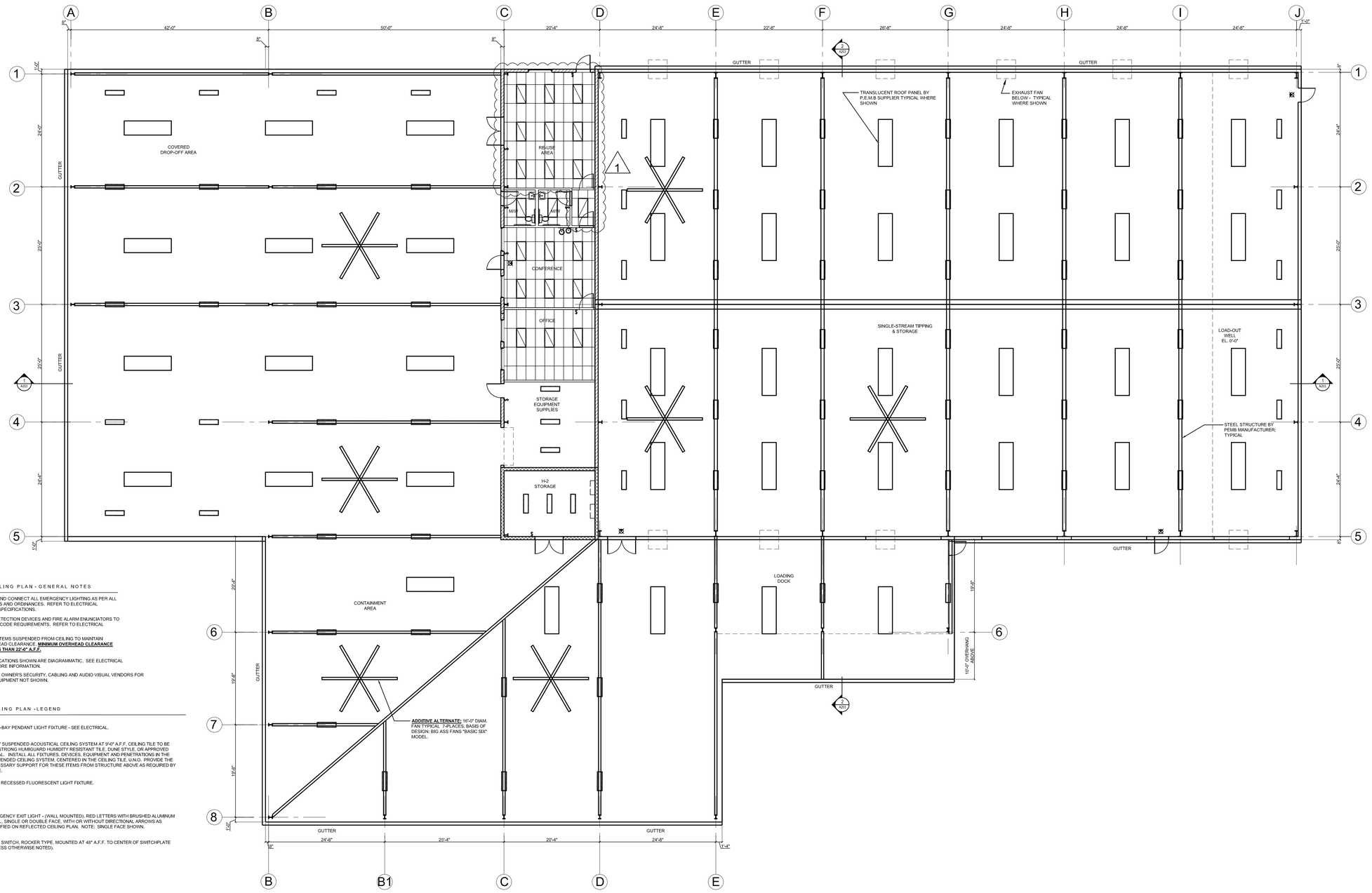
7/2/2021

DRAWN BY:
MI

SHEET TITLE
ROOF PLAN

SHEET NO.
A102

PERMIT SET



REFLECTED CEILING PLAN - GENERAL NOTES

1. SUPPLY, INSTALL AND CONNECT ALL EMERGENCY LIGHTING AS PER ALL APPLICABLE CODES AND ORDINANCES. REFER TO ELECTRICAL DOCUMENTS FOR SPECIFICATIONS.
2. INSTALL SMOKE DETECTION DEVICES AND FIRE ALARM ENUNCIATORS TO COMPLY WITH ALL CODE REQUIREMENTS. REFER TO ELECTRICAL DOCUMENTS.
3. COORDINATE ALL ITEMS SUSPENDED FROM CEILING TO MAINTAIN REQUIRED OVERHEAD CLEARANCE. **MINIMUM OVERHEAD CLEARANCE SHALL BE NO LESS THAN 22'-0" A.F.F.**
4. LIGHT FIXTURE LOCATIONS SHOWN ARE DIAGRAMMATIC. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
5. COORDINATE WITH OWNER'S SECURITY, CABLING AND AUDIO VISUAL VENDORS FOR LOCATIONS OF EQUIPMENT NOT SHOWN.

REFLECTED CEILING PLAN -LEGEND

- HIGH-BAY PENDANT LIGHT FIXTURE - SEE ELECTRICAL.
- 2' X 4' SUSPENDED ACOUSTICAL CEILING SYSTEM AT 9'-0" A.F.F. CEILING TILE TO BE ARMSTRONG HUMIGUARD HUMIDITY RESISTANT TILE, DUNE STYLE, OR APPROVED EQUAL. INSTALL ALL FIXTURES, DEVICES, EQUIPMENT AND PENETRATIONS IN THE SUSPENDED CEILING SYSTEM, CENTERED IN THE CEILING TILE U.N.O. PROVIDE THE NECESSARY SUPPORT FOR THESE ITEMS FROM STRUCTURE ABOVE AS REQUIRED BY CODE.
- 2' x 4' RECESSED FLUORESCENT LIGHT FIXTURE.
- EMERGENCY EXIT LIGHT - (WALL MOUNTED), RED LETTERS WITH BRUSHED ALUMINUM PANEL, SINGLE OR DOUBLE FACE, WITH OR WITHOUT DIRECTIONAL ARROWS AS SPECIFIED ON REFLECTED CEILING PLAN. NOTE: SINGLE FACE SHOWN.
- WALL SWITCH, ROCKER TYPE, MOUNTED AT 48" A.F.F. TO CENTER OF SWITCHPLATE (UNLESS OTHERWISE NOTED).

1 A103 CEILING PLAN

SCALE: 3/32" = 1'-0"

PERMIT SET

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ISSUE DATE:
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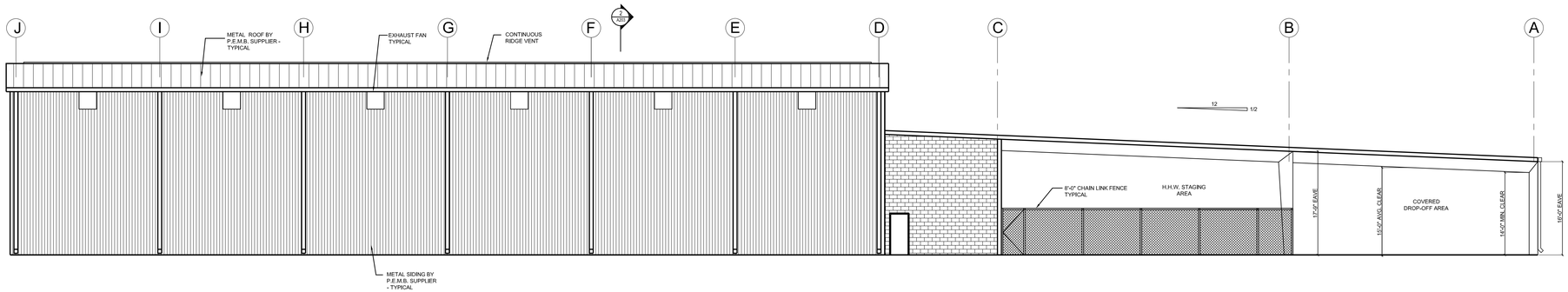
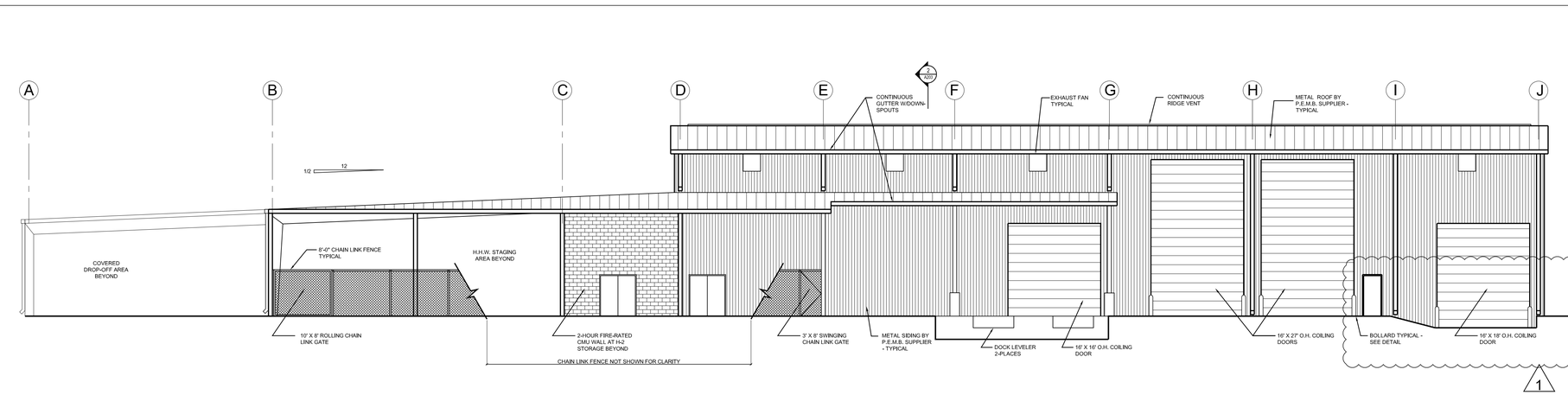
DRAWN BY:
MI

SHEET TITLE
CEILING PLAN

SHEET NO.
A103



1 A201 NORTH ELEVATION
SCALE: 3/32" = 1'-0"



2 A201 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"

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INDIAN RIVER COUNTY LANDFILL
HOUSEHOLD HAZARDOUS WASTE AND RECYCLING FACILITY

Indian River County, Florida

NO.	REVISIONS	DATE
1	PLAN REVIEW & OWNER CHANGES	10/19/21

JOB NO.
2016

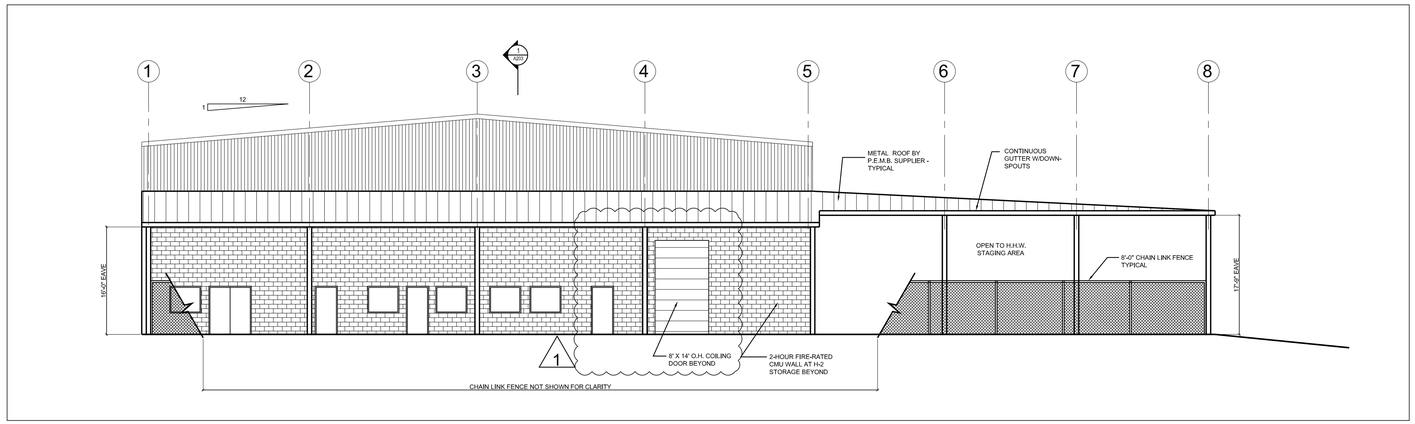
ISSUE DATE:
7/2/2021

DRAWN BY:
MI

SHEET TITLE
ELEVATIONS

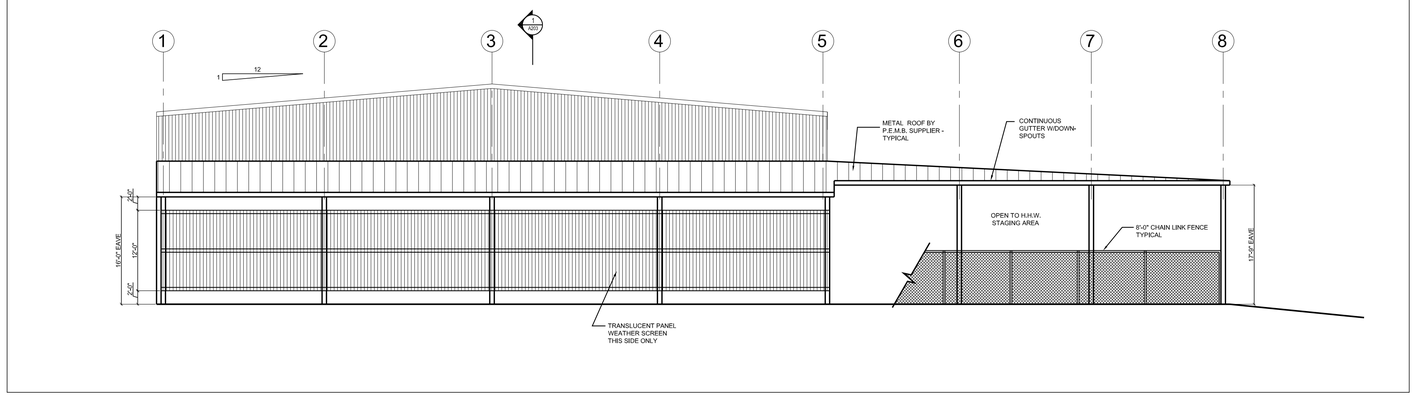
SHEET NO.
A201

PERMIT SET



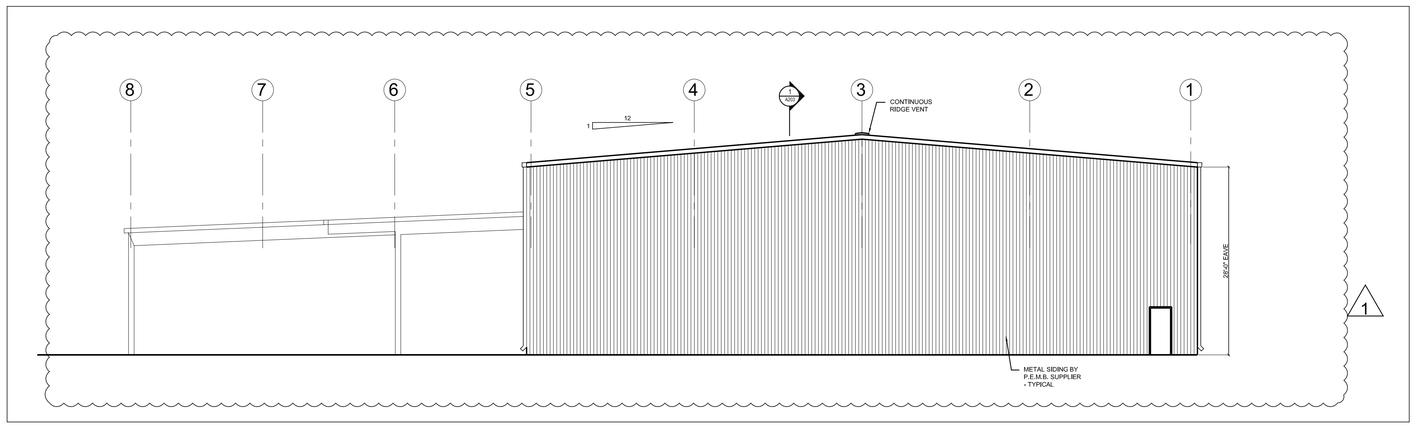
1 A202 WEST ELEVATION (WEATHER SCREEN NOT SHOWN)

SCALE: 3/32" = 1'-0"



2 A202 WEST ELEVATION (WITH WEATHER SCREEN)

SCALE: 3/32" = 1'-0"



3 A202 EAST ELEVATION

SCALE: 3/32" = 1'-0"

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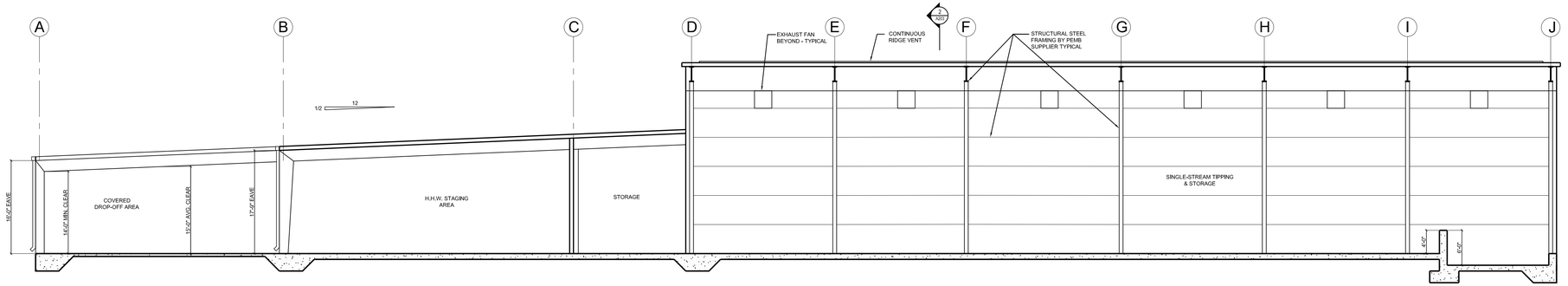
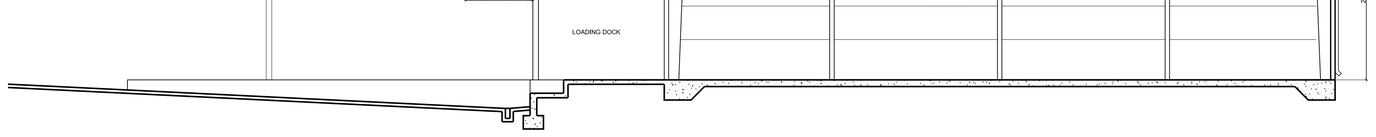


1 A203 LONGITUDINAL BUILDING SECTION

SCALE: 3/32" = 1'-0"



2 A203 BUILDING CROSS SECTION

SCALE: 3/32" = 1'-0"

PERMIT SET

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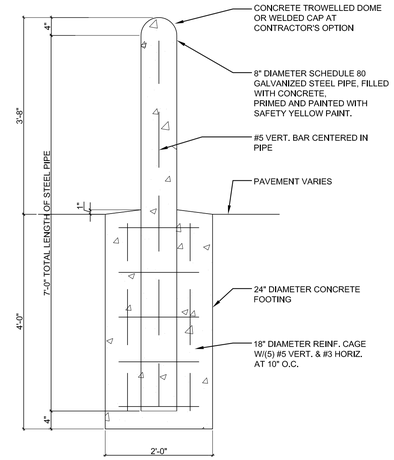
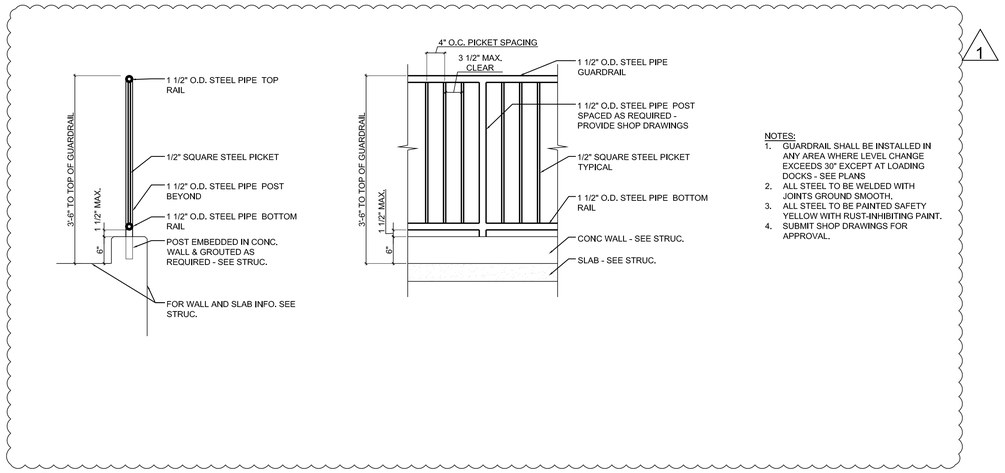
SHEET TITLE
BUILDING SECTIONS

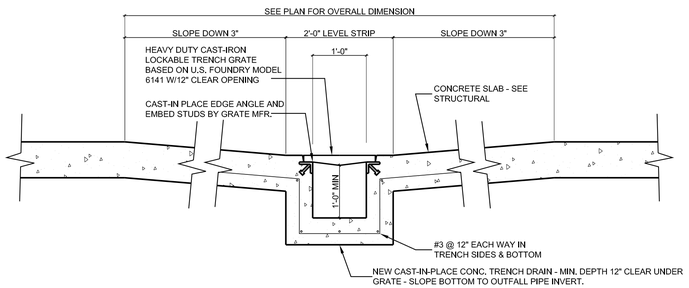
SHEET NO.
A203



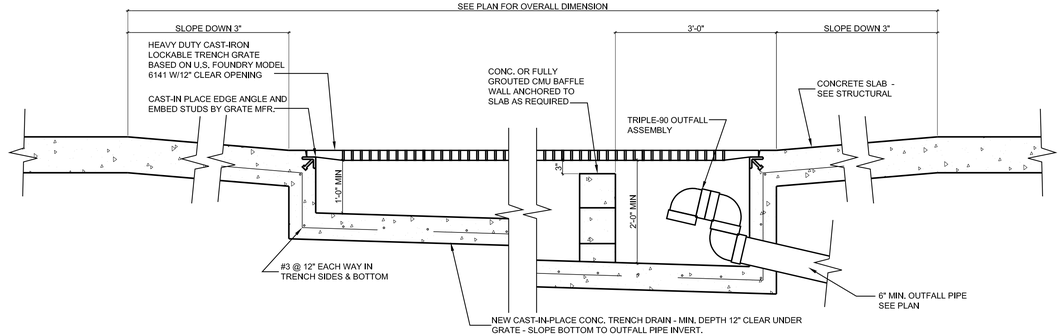
1 A401 **TYPICAL BOLLARD DETAIL**
SCALE: 3/4" = 1'-0"



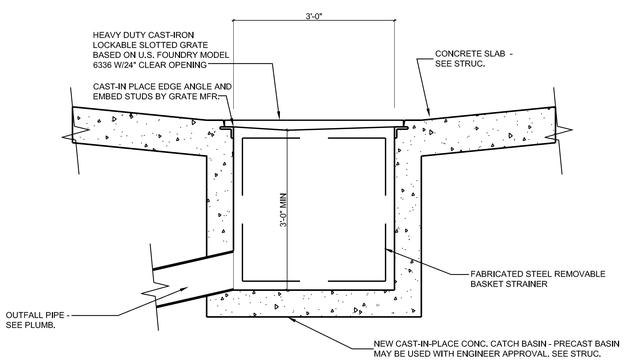
2 A401 **GUARD RAIL DETAIL**
SCALE: 3/4" = 1'-0"



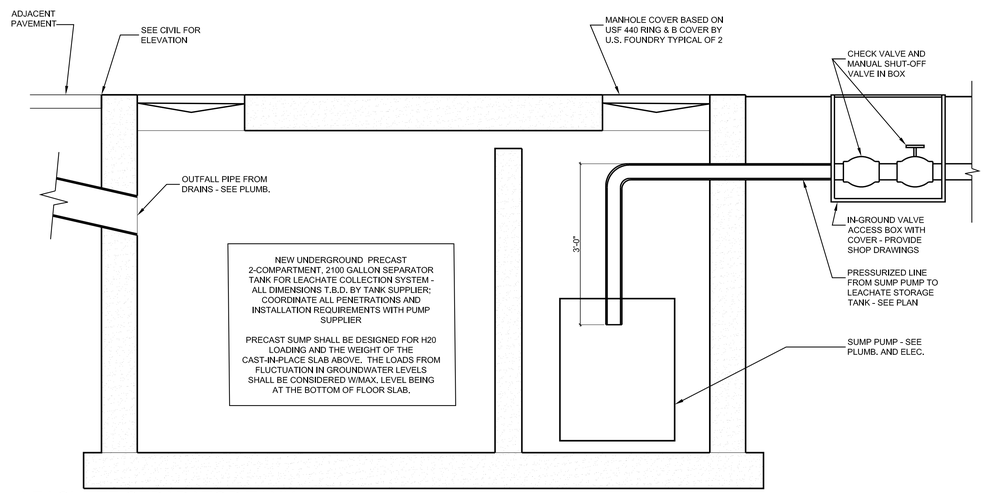
4 A401 **TRENCH DRAIN CROSS SECTION**
SCALE: 3/4" = 1'-0"



3 A401 **TRENCH DRAIN LONG. SECTION**
SCALE: 3/4" = 1'-0"



5 A401 **CATCH BASIN DETAIL**
SCALE: 3/4" = 1'-0"



6 A401 **LEACHATE SEPARATOR TANK**
SCALE: 3/4" = 1'-0"

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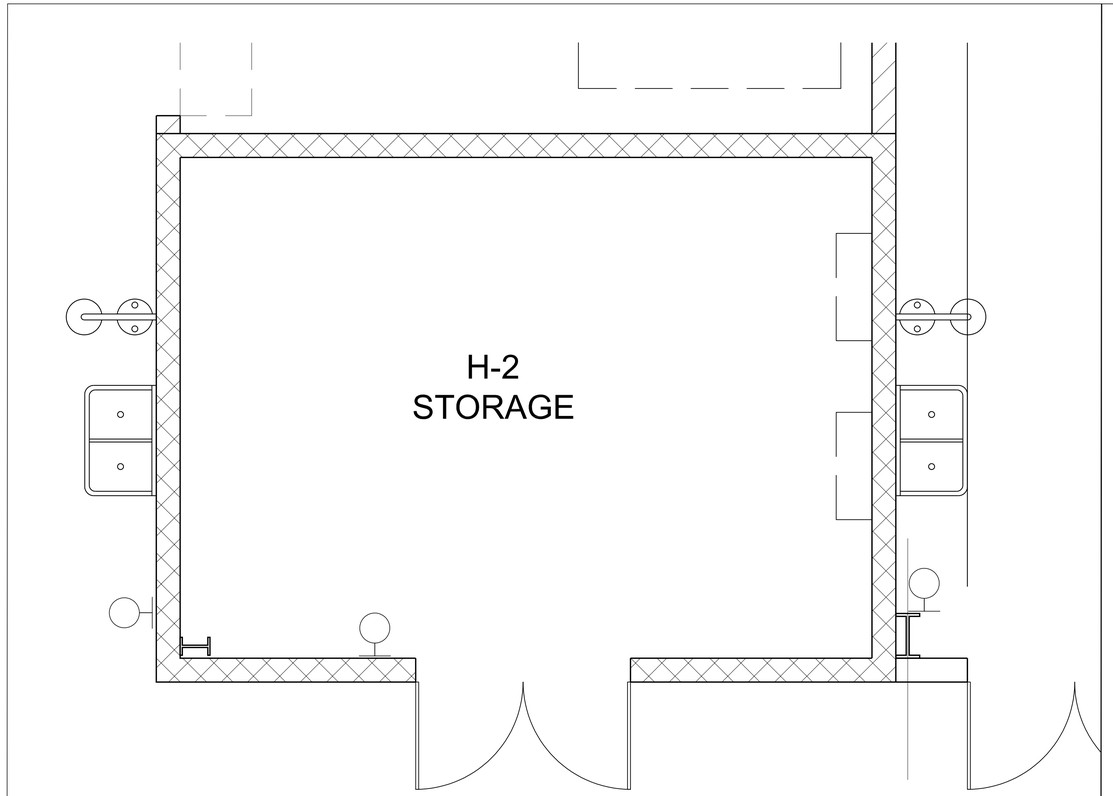
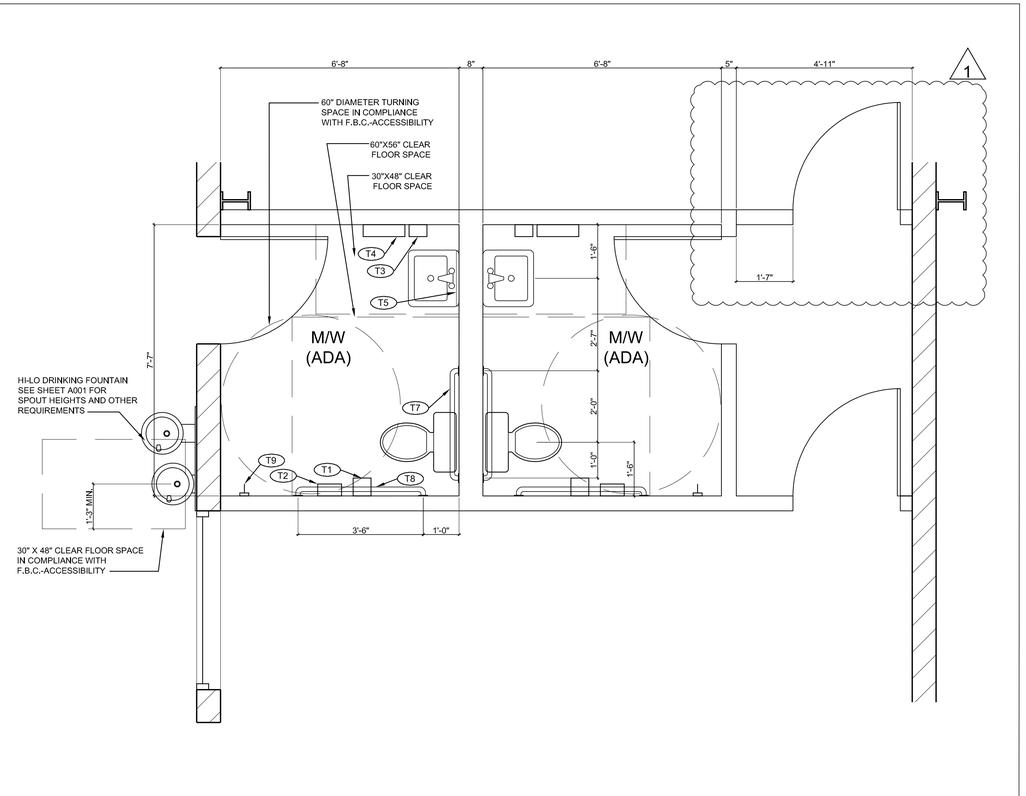
SHEET TITLE
SECTIONS & DETAILS

SHEET NO.
A401

PERMIT SET



1 A601 ENLARGED PLAN AT H2 STORAGE
SCALE: 1/2" = 1'-0"



2 A601 ENLARGED PLAN AT RESTROOMS
SCALE: 1/2" = 1'-0"

TOILET ACCESSORY SCHEDULE

MARK	MANUF./MODEL #	ACCESSORY	MOUNTING HEIGHT (A.F.F.)	REMARKS
T1	ASI 0030	SURFACE MOUNTED DOUBLE ROLL TOILET TISSUE DISPENSER	29" A.F.F. TO TOP OF PART	
T2	ASI 0852	SURFACE MOUNTED NAPKIN DISPOSAL CABINET	30" A.F.F. TO OPERABLE PART	(1)
T3	ASI 9343	SURFACE MOUNTED SOAP DISPENSER		
T4	ASI 0462-AD9	SURFACE MOUNTED COMPACT TOWEL DISPENSER & WASTE	46" A.F.F. TO OPERABLE PART	
T5	ASI 0600 - 20 X 30	STAINLESS STEEL FRAMED MIRROR	CENTER OVER SINK	
T6	NOT USED			
T7	ASI 3801-36"	GRAB BAR	33" - 36" A.F.F.	
T8	ASI 3801-42"	GRAB BAR	33" - 36" A.F.F.	
T9	ASI 0751	HEAVY DUTY CLOTHES HOOK		

NOTES:
-REFER TO FLOOR PLAN FOR ADDITIONAL LOCATIONS.
-MODEL NUMBERS ARE BASED ON ASI (AMERICAN SPECIALTIES, INC.) WASHROOM ACCESSORIES. ACCEPTABLE PRODUCTS INCLUDE BOBRICK.
-SEE SHEET A001 FOR ADDITIONAL INFORMATION ON MOUNTING REQUIREMENTS.

REMARKS:
(1) MOUNT ADJACENT TO TOILET PAPER HOLDER

DIMENSIONING NOTE:
ALL DIMENSIONS ON THIS SHEET ARE "CLEAR" DIMENSIONS. COORDINATE WITH CENTERLINE DIMENSIONS SHOWN ELSEWHERE AND WITH WALL CONSTRUCTION DETAILS ON DRAWING A701 AND A.D.A. CLEARANCES ON DRAWING A001.

A.D.A. NOTE:
SEE DRAWING A001 FOR MOUNTING HEIGHTS, CLEARANCES AND OTHER INFORMATION REQUIRED FOR COMPLIANCE WITH A.D.A. AND THE FLORIDA BUILDING CODE - ACCESSIBILITY.

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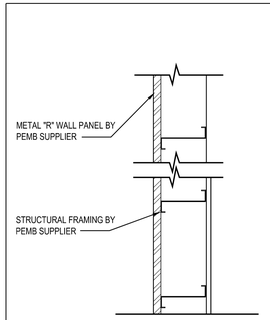
SHEET TITLE
ENLARGED PLANS AND INTERIOR ELEVATIONS

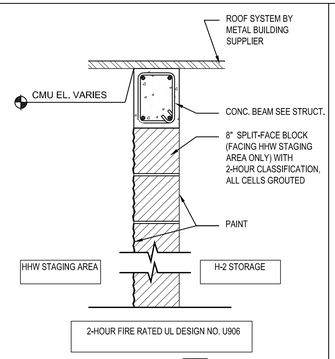
SHEET NO.
A601

PERMIT SET



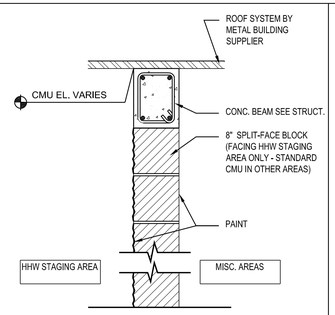
WALL TYPE A

METAL BUILDING EXTERIOR WALL



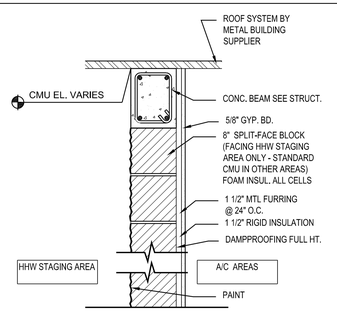
WALL TYPE B

2-HOUR FIRE SEPARATION WALL AT H-2 STORAGE



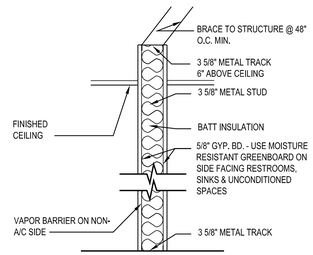
WALL TYPE C

CMU WALL



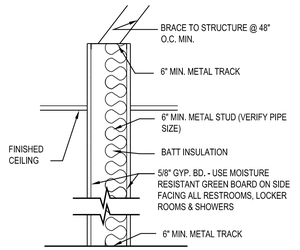
WALL TYPE D

CMU WALL AT A/C AREAS



WALL TYPE E

INTERIOR PARTITION



WALL TYPE F

WET WALL AT RESTROOMS

1 A701 WALL TYPES

SCALE: 1" = 1'-0"

DOOR SCHEDULE

ROOM NAME	ROOM NUM.	DOOR SYMB.	SIZE	TYPE	MAT.	FRAME	FINISH DOOR/ FRAME	DETAILS HEAD	DETAILS SILL	DETAILS JAMB	HDW GRP	FIRE LABEL	FLORIDA PRODUCT APPVL.	REMARKS
RE-USE AREA		101	3'-0" X 7'-0"	A	HM	A	P	5/A702	6/A702	5/A702	1		22211.2	
RE-USE AREA		102	PR. 3'-0" X 7'-0"	A	HM	A	P	5/A702	6/A702	5/A702	1A		22211.2	
M/W		103	3'-0" X 7'-0"	A	HM	A	P	5/A702	6/A702	5/A702	4		22211.2	
CONF		104	3'-0" X 7'-0"	A	HM	A	P	5/A702	6/A702	5/A702	1		22211.2	
STORAGE		105	3'-0" X 7'-0"	A	HM	A	P	5/A702	6/A702	5/A702	1	1	22211.2	
H-2 STORAGE		106	PR. 3'-0" X 7'-0"	A	HM	A	P	5/A702	6/A702	5/A702	3	90-MIN"B"	22211.2	
M/W		107	3'-0" X 7'-0"	A	HM	A	P	3/A701	--	3/A701	4			
CONF		108	3'-0" X 7'-0"	A	HM	A	P	3/A701	--	3/A701	2			
OFFICE		109	3'-0" X 7'-0"	A	HM	A	P	3/A701	--	3/A701	2			
SINGLE STREAM		110	PR. 3'-0" X 7'-0"	A	HM	A	P	SEE P.E.M.B. DRAWINGS			1A		22211.2	
LOADING DOCK		111	3'-0" X 7'-0"	A	HM	A	P	SEE P.E.M.B. DRAWINGS			1		22211.2	
SINGLE STREAM		112	3'-0" X 7'-0"	A	HM	A	P	SEE P.E.M.B. DRAWINGS			1		22211.2	
LOAD-OUT WELL		113	3'-0" X 7'-0"	A	HM	A	P	SEE P.E.M.B. DRAWINGS			1		22211.2	
RE-USE AREA		114	3'-0" X 7'-0"	A	HM	A	P	3/A701	--	3/A701	2	1		
OVERHEAD DOORS														
STORAGE		OH1	8'-0" X 14'-0"										10706-R3	MOTOR OP.
SINGLE-STREAM		OH2	16'-0" X 16'-0"										10706-R3	MOTOR OP.
SINGLE-STREAM		OH3	16'-0" X 27'-0"										10706-R3	MOTOR OP.
SINGLE-STREAM		OH4	16'-0" X 27'-0"										10706-R3	MOTOR OP.
LOAD-OUT WELL		OH5	16'-0" X 18'-0"										10706-R3	MOTOR OP.

HARDWARE SCHEDULE

SET	DESCRIPTION	ITEMS
1	EXTERIOR LOCKSET	1 LEVER HANDLE EXTERIOR LOCKSET 1.5 PAIR BUTT HINGES 1 CLOSER 1 WALL STOP 1 A.D.A. THRESHOLD WEATHER-STRIP ALL JAMB EDGES
1A	EXTERIOR LOCKSET (DOUBLE DOORS)	2 LEVER HANDLE EXTERIOR LOCKSET 3 PAIR BUTT HINGES 2 CLOSER 2 WALL STOP 1 ASTRAGAL 1 A.D.A. THRESHOLD WEATHER-STRIP ALL JAMB EDGES
2	INTERIOR LOCKSET	1 LEVER HANDLE INTERIOR LOCKSET 1.5 PAIR BUTT HINGES 1 CLOSER 1 WALL STOP 1
3	EXTERIOR PANIC SET (DOUBLE DOORS)	2 LOCKABLE PANIC BARS (INNER SIDE) 2 LEVER HANDLES (OUTER SIDE) 3 PAIR BUTT HINGES 2 CLOSER 2 WALL STOP 1 ASTRAGAL 1 A.D.A. THRESHOLD WEATHER-STRIP ALL JAMB EDGES
4	PRIVACY SET	1 LEVER HANDLE INTERIOR PRIVACY SET 1.5 PAIR BUTT HINGES 1 WALL STOP 1 CLOSER ACOUSTIC SWEEP & ACOUSTIC GASKETS

DOOR NOTES & LEGEND

MATERIAL
HM HOLLOW METAL, INSULATED

FINISH
P PAINTED

NOTES
1. ALL THRESHOLDS SHALL BE A.D.A. COMPLIANT WITH MAX ELEVATION CHANGE OF 1 / 2".
2. VERIFY ALL LOCKING REQUIREMENTS WITH OWNER.

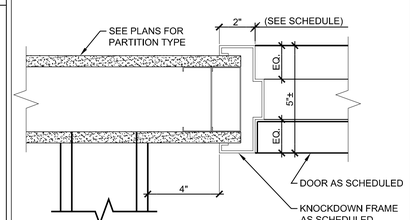
DOOR AND FRAME TYPES

DOOR TYPE A

1/4" = 1'-0"

FRAME TYPE

NO SCALE



FINISH NOTES:

1. FIELD CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO ORDERING MATERIALS.
2. FINISH SCHEDULE PROVIDED AS "BASIS OF DESIGN" AND FOR PRICING PURPOSES. PROVIDE SAMPLES OF ALL SELECTIONS TO OWNER FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK.
3. ADHERE TO ALL CURRENT MANUFACTURER WRITTEN SPECIFICATIONS FOR APPROVED INSTALLATION METHODS (INCLUDING, BUT NOT LIMITED TO, ADHESIVE TYPES, CUTTING METHODS, SEALERS AND PRIMERS)
4. ALL PAINT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS FOR THE PARTICULAR SURFACE. TWO (2) FINISH COATS MINIMUM APPLICATION AFTER ONE PRIME COAT MINIMUM.
5. ALL CHANGES IN FLOOR FINISH MATERIALS OCCURRING AT DOORWAYS SHALL BE AT THE CENTERLINE OF THE DOORWAY. PROVIDE TRANSITION ACCESSORIES AS REQUIRED.
6. PATCH ALL HOLES IN SURFACES TO BE PAINTED PRIOR TO PRIMING.

FINISH SCHEDULE:

ALL AIR-CONDITIONED ROOMS:
- FLOORS: VINYL TILE TO BE SELECTED FROM STANDARD PRODUCTS SUBMITTED BY CONTRACTOR.
- TYPICAL WALLS: PAINT P-1
- RESTROOM WALLS: F.R.P. PANELING TO 48" A.F.F., PAINT P-1 ABOVE
- BASE: VINYL BASE
- DOORS AND DOOR FRAMES: PAINT P-1
- CEILINGS: SEE CEILING PLAN

HHW STAGING, H-2 STORAGE AND SINGLE-STREAM BUILDING:
- FLOORS: SEALED CONCRETE, LIGHT BROOM FINISH
- CMU WALLS: PAINT P-2
- METAL BUILDING WALLS: N/A
- BASE: N/A
- DOORS AND DOOR FRAMES: PAINT P-2
- CEILINGS: N/A

FINISH SCHEDULE BASIS OF DESIGN:

VINYL WALL BASE:
BURKE FLOORING 502 BROWN 4" COVE

PAINT P-1:
COLOR MATCH: BENJAMIN MOORE LINEN SAND 2151-60
EPOXY COATING

PAINT P-2:
EXTERIOR GRADE LATEX T.B.D. COLOR MATCH TO PEMB PANELS OR AS DIRECTED BY OWNER.

2 A701 DOOR SCHEDULE
SCALE: N/A

3 A701 DOOR JAMB/HEAD DETAIL
SCALE: 3" = 1'-0"

4 A701 FINISH SCHEDULE AND NOTES
SCALE: N/A

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SHEET TITLE
WALL TYPES, DOOR & FINISH SCHEDULE

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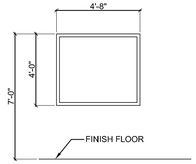
A701



FIXED STOREFRONT
(DOUBLE-GLAZED)

WINDOW TYPE A

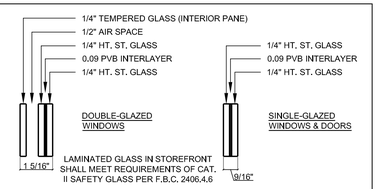
1/4" = 1'-0"

WINDOW NOTES & LEGEND

1. ALL EXTERIOR GLAZING SHALL BE IMPACT RESISTANT IN ACCORDANCE WITH FLORIDA BUILDING CODE AND PRODUCT APPROVALS. EXTERIOR GLAZING CHARACTERISTICS SHALL BE AS FOLLOWS (SEE ALSO GLAZING DIAGRAM ON THIS SHEET):
   a. DOUBLE-GLAZED WINDOWS: LAMINATED GLASS OUTER PANE W/P.V.B. INTERLAYER; TOTAL THICKNESS 1 5/16".
   b. ALL VISION GLAZING SHALL HAVE TINTED INTERLAYER.
   c. INTERLAYER TINT SHALL BE SELECTED FROM MANUFACTURER'S STANDARD COLORS.
2. BASIS OF DESIGN FOR STOREFRONT WINDOW SYSTEM IS KAWNEER IR501. SEE SHEET G000 FOR APPLICABLE FLORIDA PRODUCT APPROVAL NUMBERS. NO SUBSTITUTION OF ALTERNATE PRODUCTS WILL BE PERMITTED WITHOUT DOCUMENTATION OF EQUIVALENT PERFORMANCE AND SUBMISSION OF FLORIDA PRODUCT APPROVAL INFORMATION FOR THE PROPOSED ALTERNATE PRODUCTS.
3. ALL STOREFRONT FRAMES SHALL BE ALUMINUM WITH A POWDER-COAT FINISH; COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS.
4. SEE STRUCTURAL DRAWINGS FOR WIND LOAD INFORMATION.
5. DIMENSIONS SHOWN REFER TO MASONRY ROUGH OPENINGS. SUPPLIER SHALL VERIFY REQUIRED MEASUREMENTS AND SUBMIT FULL SHOP DRAWINGS FOR REVIEW PRIOR TO MANUFACTURING WINDOWS.

WINDOW SCHEDULE

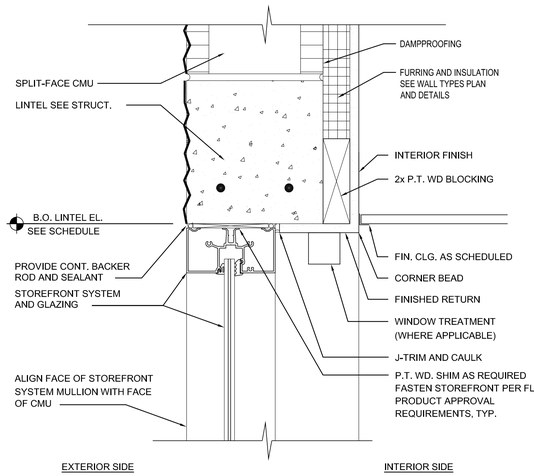
WINDOW TYPE	LOCATION ZONE	DESIGN PRESSURE	FLORIDA PRODUCT APPROVAL	APPROVAL DATE	NOA #	MANUFACTURER	MODEL #	OPENING SIZE	FRAME DETAILS		
									HEAD	SILL	JAMB
A	5	+ / - 65 psf	FL 8787.2	11 / 02 / 2017	11-0915.06	KAWNEER	IR501	5'-0" X 4'-0"	3/A702	4/A702	3/A702



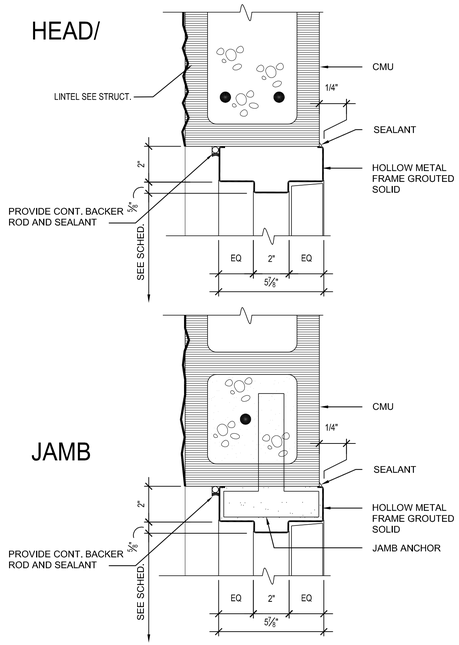
GLAZING CHARACTERISTICS

1 A702 WINDOW TYPES
SCALE: 1/4" = 1'-0"

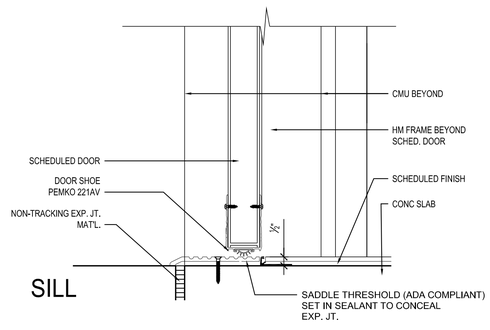
2 A702 WINDOW SCHEDULE
SCALE: N/A



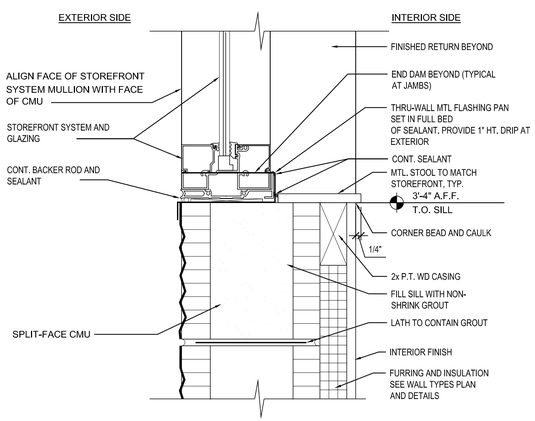
3 A702 STOREFRONT HEAD/JAMB
SCALE: 3" = 1'-0"



5 A702 DOOR HEAD/JAMB
SCALE: 3" = 1'-0"



6 A702 DOOR SILL
SCALE: 3" = 1'-0"



4 A702 STOREFRONT SILL
SCALE: 3" = 1'-0"

CMK Design Studio, Inc.
Planning & Design of the Built Environment
6822 22nd Ave. N. #148
St. Petersburg, Florida 33710
Ph: 813.362.6381
FL. LIC. NO.: AA26002603
marcos@cmkdesignstudio.com

STATE OF FLORIDA
MARCOS F. IBARGUEN
AR0013117
REGISTERED ARCHITECT

MARCOS IBARGUEN
AR 13117
Drawing Not Valid Unless Signed, Sealed & Dated By Registered Professional

INDIAN RIVER COUNTY LANDFILL
HOUSEHOLD HAZARDOUS WASTE
AND RECYCLING FACILITY

Indian River County, Florida

NO.	REVISIONS	DATE

JOB NO.
2016

ISSUE DATE:
7/2/2021

DRAWN BY:
MI

SHEET TITLE
WINDOW SCHEDULE AND DETAILS

SHEET NO.
A702

PERMIT SET

IRC HHW AND RECYCLING FACILITY

1327 74TH AVENUE SW, VERO BEACH, FL 32968
INDIAN RIVER COUNTY
TAX PARCEL ID: 33-28-25-00001-0090-00001.0
JULY 2021

BUILDING DEPARTMENT SUBMITTAL

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PALM BAY, FL 329009
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CONTACT: MARK CROSBY

WATER AND SEWER
INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
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CONTACT: KEVIN OSTHUS

FIRE PREVENTION
INDIAN RIVER COUNTY FIRE DEPARTMENT
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VERO BEACH, FL 32960
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CONTACT: LT. SANDRA SEELEY, FIRE CHIEF

ENGINEERING
INDIAN RIVER COUNTY PUBLIC WORKS DEPARTMENT
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VERO BEACH, FL 32960
3772-226-1283

NATURAL GAS PROVIDER
CITY GAS COMPANY FLORIDA
4180 S. U.S. HWY 1
ROCKLEDGE, FLORIDA 32955
321-638-3419
CONTACT: HOLLY COOMBS

PLANNING AND ZONING
INDIAN RIVER COUNTY
PLANNING DEPARTMENT
1801 27TH STREET
VERO BEACH, FL 32960
772-226-1235
CONTACT: JOHN MCCOY

BUILDING DIVISION
INDIAN RIVER COUNTY
BUILDING DEPARTMENT
1801 27TH STREET
VERO BEACH, FL 32960
772-226-1268
CONTACT: SCOTT MCADAMS

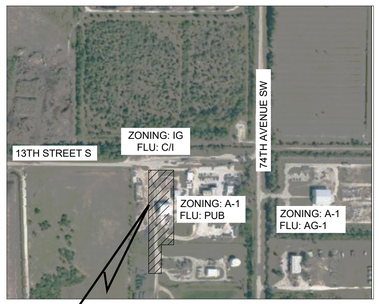
TELEPHONE PROVIDER
AT&T DISTRIBUTION
600 NW 79th AVE
ROOM 336
MIAMI, FL 33126
305-260-8243
CONTACT: DINNO FARRUGGIO

ELECTRIC PROVIDER
FLORIDA POWER AND LIGHT
425 N WILLIAMSON BLVD.
DAYTONA BEACH, FL 32114
386-586-6403
CONTACT: JOEL BRAY

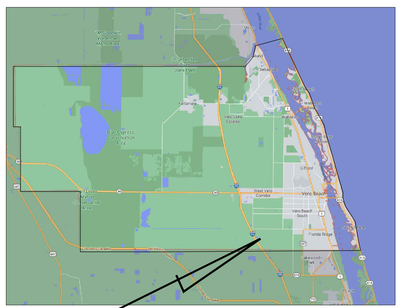
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT FOUR
3400 WEST COMMERCIAL BLVD
FT. LAUDERDALE, FL 33309
954-777-4377
CONTACT: CHRISTINE NABONG BACOMO

OWNER:

INDIAN RIVER COUNTY
1325 75TH AVENUE SW
VERO BEACH, FLORIDA 32968
772-226-3211



VICINITY MAP
GRAPHIC SCALE IN FEET
0 250 500 1000



LOCATION MAP
N.T.S.

NORTH

Kimley»Horn
© 2021 KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

1

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Sheet Number	Sheet Title
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C-200	DEMOLITION NOTES
C-210	DEMOLITION PLAN I
C-211	DEMOLITION PLAN II
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C-310	EROSION CONTROL PLAN I
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C-400	OVERALL SITE PLAN
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C-510	PAVING, GRADING AND DRAINAGE PLAN
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C-715	INDIAN RIVER COUNTY SEWER DETAILS
C-800	LIGHTING PLAN

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: 11/17/2021

Sunshine811
Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn

355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

COVER SHEET

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-100

I. GENERAL NOTES AND SPECIFICATIONS

1. ALL MATERIALS AND CONSTRUCTION UNDER THIS PROJECT SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE INDIAN RIVER COUNTY PUBLIC WORKS MANUAL, THE FLORIDA BUILDING CODE, FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) DESIGN STANDARDS AND SPECIFICATIONS AND ALL OTHER LOCAL, STATE AND FEDERAL REQUIREMENTS.

2. LOCATIONS, SIZE AND MATERIAL OF EXISTING UTILITIES HAVE BEEN DETERMINED FROM AVAILABLE RECORDS. NEITHER THE DEVELOPER, CLIENT, OWNER NOR THE ENGINEER OF RECORD GUARANTEES THE ACCURACY OF THIS DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HORIZONTALLY AND VERTICALLY LOCATE AND PROTECT ALL EXISTING UTILITIES AND STRUCTURES ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL PHYSICALLY FIELD VERIFY BOTH THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UNDERGROUND AND ABOVE GROUND UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL BEAR ALL COSTS FOR THIS WORK.

3. ALL EXISTING UNDERGROUND OR ABOVEGROUND UTILITY PIPES, CABLES, DUCTS, EQUIPMENT, DEVICES, ETC. WITHIN OR OUTSIDE THE PROJECT CONSTRUCTION LIMITS WHICH ARE DAMAGED OR DISRUPTED AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE IMMEDIATELY REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE UTILITY OWNER. REGARDLESS OF WHETHER THEY WERE SHOWN OR NOT SHOWN ON THE PLANS OR LOCATED OR NOT BY THE OWNER'S REPRESENTATIVE, THE UTILITY COMPANY, SUNSHINE STATE ONE-CALL OF FLORIDA, ETC.

4. ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO COMMENCING ANY CONSTRUCTION WORK.

5. NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

6. ALL DEFECTIVE WORK NOT ACCEPTED BY THE ENGINEER OF RECORD, BY THE OWNER'S REPRESENTATIVE, OR BY ANY GOVERNMENTAL PERMITTING REGULATORY AGENCY SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

7. ALL STAGING AREAS SHALL BE PROPERLY FENCED AND SECURED BY THE CONTRACTOR.

8. ALL AREAS WHICH ARE BEING EXCAVATED SHALL BE PROPERLY PROTECTED AND BARRICADED BY THE CONTRACTOR. ALL TRENCH WORK SHALL COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 C.F.R.S. 1926.650 SUBPART P AND THE FLORIDA TRENCH SAFETY ACT.

9. ALL EXISTING CONCRETE AND/OR ASPHALT PAVEMENT, CURB AND GUTTERS, CURBS AND WALKS, SOD, LANDSCAPING, FENCE, ETC. DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITIONS, AT NO ADDITIONAL COST TO THE OWNER OR CLIENT.

10. TEMPORARY ASPHALT PAVEMENT SHALL BE APPLIED TO ALL TRENCHES, WITHIN AN EXISTING PAVED RIGHT OF WAY, AT THE END OF EACH WORKDAY. PLATING MAY BE USED WITH THE RIGHT-OF-WAY OWNER'S PRIOR CONSENT.

11. PROVIDE FILL TO ENSURE THAT THE FINISH GRADE (INCLUDING SOD) IN LANDSCAPE AREAS ARE AT LEVEL OF CURBS AND/OR EDGE OF SIDEWALKS.

12. WHERE NEW GRADES BLEND INTO EXISTING GRADES IN LANDSCAPE AREAS PROVIDE A UNIFORM TRANSITION. PROTECT ALL EXISTING PAVEMENT AND LANDSCAPE AREAS THAT ARE TO REMAIN.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING UNINTERRUPTED WATER AND SEWER SERVICE DURING THE CONSTRUCTION OF THE TIE-IN CONNECTION OF ALL PROPOSED WATER OR SANITARY SEWER SYSTEMS, TO ANY EXISTING WATER OR SANITARY MAINS AND SERVICE LINES. ABANDONMENT SHALL NOT OCCUR UNTIL THE PROPOSED WORK HAS BEEN APPROVED AND ACCEPTED FOR OPERATION BY THE ENGINEER OF RECORD AND INDIAN RIVER COUNTY PUBLIC WORKS. ALL EXISTING FIRE HYDRANTS SHALL BE RECONNECTED TO THE PROPOSED WATER MAIN. INDIAN RIVER COUNTY PUBLIC WORKS DEPARTMENT FIELD OPERATIONS SECTION WILL COORDINATE IN THE FIELD WITH THE WATER DISTRIBUTION DIVISION TO DETERMINE IF AN EXISTING FIRE HYDRANT SHALL BE REPLACED AS NEEDED OR REQUIRED.

14. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC HEALTH AND ENSURE JOB SAFETY. THE CONTRACTOR SHALL CONFORM TO ALL APPLICABLE OCCUPATIONAL SAFETY & HEALTH AGENCY (OSHA) STANDARDS AND FEDERAL, STATE AND LOCAL GOVERNMENT SAFETY REQUIREMENTS.

15. THE CONTRACTOR SHALL ENSURE THAT OVERFLOWS OR RAW SEWAGE SPILLS DO NOT OCCUR DURING CONSTRUCTION OF PROPOSED SANITARY SEWER TIE-IN CONNECTIONS.

16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT STORM WATER POLLUTION PREVENTION AND EROSION CONTROL MEASURES AND PRACTICES DURING CONSTRUCTION IN ACCORDANCE WITH THE EROSION CONTROL PLAN/DETAILS AND THE CURRENT FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (N.P.D.E.S.) PERMIT FOR CONSTRUCTION ACTIVITIES REQUIREMENTS.

17. CONTRACTOR SHALL ENSURE THAT ALL STORM WATER RUN-OFF WITHIN THE CONSTRUCTION AREA IS CONTAINED ON-SITE.

18. WHEN POWER POLES ARE ADJACENT TO ANY PROPOSED UTILITY, THE CONTRACTOR SHALL PROVIDE PROPER SHORING OR OTHER SUITABLE SUPPORT DURING CONSTRUCTION. THE SHORING AND SUPPORT METHODS SHALL BE APPROVED BY THE UTILITY COMPANY'S ENGINEERING DEPARTMENT.

19. DUE TO FEDERAL REGULATIONS, THE CONTRACTOR MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES AND MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE WITHIN THE PROJECT AREA.

20. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER EXISTING SITE IMPROVEMENTS, FEATURES AND CONDITIONS SHOWN ON THE DRAWINGS WERE OBTAINED FROM THE FOLLOWING TOPOGRAPHIC BOUNDARY SURVEY SPECIFICALLY PREPARED FOR THIS PROJECT:

TITLE: "MAP OF SURVEY"
DATE: 8/21/20
MASTELLER, MOLER & TAYLOR, INC.
1655 27TH STREET, SUITE 2
VERO BEACH, FL 32960
(772) 564-8050 PHONE
(772) 794-0647 FAX

1

21. ALL ELEVATIONS SHOWN ARE BASED ON THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD88). ELEVATION CONVERSION FACTOR FOR THE SITE: NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) = NAVD88 + 1.43'

22. ALL UTILITY CONNECTIONS TO THE BLDG. SHALL BE CONSTRUCTED AND CAPPED OR PLUGGED FIVE FEET FROM THE PROPOSED BUILDING. CONTRACTOR SHALL PERFORM TIE-INS TO THE BUILDING. THE COST ASSOCIATED WITH THE TAPPING/PLUGGING OF THE UTILITIES SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

23. CONTRACTOR SHALL COORDINATE WORK WITH OTHER UTILITY AND BUILDING TRADES WORKING ON THIS OR ADJACENT PROJECTS.

24. THE CONTRACTOR SHALL TAKE SPECIAL NOTE OF THE EXISTING SOIL CONDITIONS THROUGHOUT THIS PROJECT. ANY SPECIAL SHORING, SHEETING AND/OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY , EITHER PUBLIC OR PRIVATE, DURING CONSTRUCTION ACTIVITIES. ALL COST ASSOCIATED WITH SUCH WORK SHALL BE AT THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

25. AFTER LOCATING AND VERIFYING EXISTING UTILITY TIE IN POINTS, CONTRACTOR IS TO VERIFY THAT DESIGN COMPONENTS SUCH AS, BUT NOT LIMITED TO, PERCENT SLOPE, INVERT, TAP LOCATIONS, PIPE RUNS, INFRASTRUCTURE DEPTH, ETC. WILL STILL BE IN ACCORDANCE WITH THE ENGINEERING PLANS.

26. IF IT SHOULD BECOME NECESSARY TO STOP WORK FOR INDEFINITE PERIODS, THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PREVENT DAMAGE OR DETERIORATION OF THE WORK ALREADY PERFORMED.

II. PRE-CONSTRUCTION RESPONSIBILITIES

1. THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED AND UPON WHICH THEIR BIDS WILL BE BASED.

2. CONTRACTOR MUST CONTACT THE ARCHITECT/ENGINEER OF RECORD TO ARRANGE FOR A PRE-CONSTRUCTION MEETING, A MINIMUM 2 BUSINESS DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

3. THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE-CALL OF FLORIDA (1-800-432-4770) AND ALL KNOWN EXISTING UTILITY OWNERS AT LEAST 2 BUSINESS DAYS BEFORE DIGGING TO ALLOW FOR FIELD LOCATION OF UNDERGROUND UTILITIES. CONTRACTOR SHALL ASSIST THE UTILITY COMPANIES IN THEIR EFFORTS TO FIELD VERIFY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BEAR ALL COSTS FOR THIS WORK.

4. THE CONTRACTOR SHALL APPLY FOR AND PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, TAXES, ROYALTIES & FEES, AND GIVE ALL NOTICES NECESSARY TO COMPLETE THIS PROJECT.

5. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO ARRANGE FOR ANY REMOVAL, RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC. AS NECESSARY TO COMPLETE THE WORK, IF APPLICABLE.

III. OBSERVATIONS AND TESTING

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 2 BUSINESS DAYS IN ADVANCE OF PERFORMING ALL CIVIL RELATED TESTS. UNLESS AUTHORIZED BY THE ENGINEER OF RECORD, THE CONTRACTOR SHALL NOT PROCEED WITH TESTING UNLESS THE ENGINEER OR A DESIGNATED REPRESENTATIVE IS PRESENT TO WITNESS THE TESTS.

2. THE ENGINEER OF RECORD WILL REQUIRE THAT THE FOLLOWING TESTS BE PERFORMED WITH ACCEPTABLE RESULTS:
   A. SANITARY SEWAGE COLLECTION SYSTEM:
      I. LAMPING TEST FROM MANHOLE TO MANHOLE, INCLUDING CONNECTING MANHOLE
      II. INFILTRATION/EXFILTRATION TEST UP TO THE CONNECTING MANHOLE
      III. PRESSURE TEST AS REQUIRED BY DRER
   B. STORM DRAINAGE-(EXFILTRATION TRENCH DEPTH)
      I. EXFILTRATION TRENCH DEPTH
      II. LAMPING TEST FROM MANHOLE TO MANHOLE, INCLUDING CONNECTING MANHOLE (IF APPLICABLE)
   C. DRAINAGE WELL SPECIFIC CAPACITY TEST.
   D. WATER SYSTEM-(PRESSURE TEST AND BACTERIOLOGICAL TEST)
   E. SUBGRADE - SUBMIT AND HAVE APPROVED DENSITIES PRIOR TO PLACEMENT OF ROCK.
   F. LIME ROCK BASE - SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT. (FLAT BOARDING ALSO REQUIRED.)
   G. ASPHALT PAVEMENT
   H. FINAL WALK-THROUGH INSPECTION - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL APPLICABLE REGULATORY AGENCIES FOR INSPECTION REQUIREMENTS.
   I. CONCRETE FORMWORK AND ADA SLOPE VERIFICATIONS.

3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 2 BUSINESS DAYS IN ADVANCE OF THE FOLLOWING EVENTS:
   A. PRIOR TO PLACING BALLAST ROCK WITHIN EXFILTRATION TRENCH AND PIPE RUNS TO MEASURE DEPTH AND WIDTH, AS WELL AS DIRECTIONS RESPECTIVELY.
   B. PRIOR TO BACKFILLING WATER MAINS AND SERVICES
   C. PRIOR TO BACKFILLING SANITARY SEWER MAINS AND SERVICES
   D. AFTER COMPACTION OF LIMEROCK BASE AND PRIOR TO PLACEMENT OF FIRST LIFT OF ASPHALT
   E. AFTER 2ND LIFT AND CONCRETE PLACEMENT OF PEDESTRIAN PATHWAYS
   F. INSTALLING CONNECTIONS TO EXISTING WATER AND SEWER MAINS/SERVICES AFTER SECOND LIFT AND CONCRETE PLACEMENT OF PEDESTRIAN PATHWAYS.
   G. AT SUBSTANTIAL COMPLETION
   H. FINAL INSPECTION

UNLESS AUTHORIZED BY THE ENGINEER OF RECORD, THE CONTRACTOR SHALL NOT PROCEED WITH THESE ACTIVITIES, UNLESS THE ENGINEER OR A DESIGNATED REPRESENTATIVE IS PRESENT TO PERFORM AN INSPECTION.

4. SHOULD THE CONTRACTOR FAIL TO GIVE THE ENGINEER OF RECORD ADVANCE NOTICE OF TESTING AND INSPECTIONS AS SPECIFIED ABOVE, THE ENGINEER SHALL RESERVE THE RIGHT TO REFUSE ISSUANCE OF ANY CERTIFICATIONS OF COMPLETION AND FINAL INSPECTIONS, AND RESERVES THE RIGHT TO RECOMMEND THAT ANY CONTRACT AMOUNTS STILL HELD IN RETAINAGE NOT BE RELEASED. CITY INSPECTOR REPORTS SHALL NOT BE ACCEPTED AS A SUBSTITUTE FOR THE ENGINEER'S PRESENCE AT THE TESTING AND INSPECTION INTERVALS SPECIFIED ABOVE.

IV. SHOP DRAWINGS

1. PRIOR TO CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD FOR THE FOLLOWING ITEMS:
   A. DRAINAGE STRUCTURES, INCLUDING CATCH BASINS, WELL BOXES, PUMPS, MANHOLES/INLET FRAMES/GRATES, BAFFLES, ETC.
   B. ALL DRAINAGE PIPES.
   C. TRENCH DRAINS.
   D. EXFILTRATION FILTER FABRIC
   E. ALL WATER AND SEWER SYSTEM COMPONENTS
   F. ASPHALT PAVEMENT MIX DESIGN
   G. LIMEROCK MATERIAL
   H. CONCRETE MIX FOR PAVEMENT
   I. MATERIAL SUBSTITUTION REQUESTS
   J. EROSION CONTROL MATERIALS
   K. FILL MATERIAL

2. ALL PRECAST STRUCTURAL DRAWINGS MUST BE SIGNED AND SEALED BY A STATE OF FLORIDA LICENSED ENGINEER OF RECORD STATING THAT THE STRUCTURE(S) MEETS THE H20 LOAD RATING REQUIREMENTS. STRUCTURAL SHOP DRAWINGS WILL BE REJECTED AND NOT REVIEWED IF NOT SEALED BY A FLORIDA LICENSED ENGINEER.

IN ADDITION, SOME CITIES, COUNTIES, STATE AND/OR NATIONAL REGULATORY AGENCIES REQUIRE THEIR OWN INDIVIDUAL REVIEW AND APPROVAL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL OTHER AGENCY SHOP DRAWING APPROVALS AS REQUIRED.

V. TEMPORARY FACILITIES

1. TEMPORARY FACILITIES

A. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES, AND ELECTRICITY, DURING CONSTRUCTION.

B. THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION, IF APPLICABLE.

C. CONTRACTOR SHALL OBTAIN THE ENGINEERING DESIGN AND PERMIT FOR SUCH FACILITIES AT THE CONTRACTOR'S SOLE COST.

2. TRAFFIC REGULATION

A. THE CONTRACTOR SHALL PROVIDE ALL MAINTENANCE OF TRAFFIC DURING CONSTRUCTION. TO INCLUDE BUT IS NOT LIMITED TO WARNING SIGNALS, SIGNS, LIGHTS AND FLAG PERSONS AS NECESSARY WITHIN PUBLIC RIGHT-OF-WAYS IN ACCORDANCE WITH M.U.T.C.D. AND INDIAN RIVER COUNTY WORKS DEPARTMENT.

B. CONTRACTOR SHALL DIRECT ENTERING AND EXITING RECYCLING TRUCKS TO EXISTING 80' X 240' CONCRETE PAD FOR MATERIAL DROP OFF.

C. CONTRACTOR SHALL DIRECT ENTERING AND EXITING SEMI TRUCKS LOADED FOR DELIVERY AT THE EXISTING 80' X 240' CONCRETE PAD. SEMI TRUCKS LOADED AT THE EXISTING 80' X 240' CONCRETE PAD ARE ROUTED FOR DELIVERY TO ST. LUCIE COUNTY. A TEMPORARY TRAFFIC PLAN FOR THESE ACTIVITIES SHALL BE PROVIDED BY THE CONTRACTOR.

D. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC AT ALL TIMES. SPECIAL PRECAUTION IS TO BE TAKEN IN PATHS OF EGRESS.

E. NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE INDIAN RIVER COUNTY PUBLIC WORKS DEPARTMENT.

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VI. PROJECT CLOSE OUT

1. CLEANING UP

A. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER AND THE PAVED AREAS SHALL BE SWEPT BROOM CLEAN. UPON FINAL CLEANUP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH, AND THE PAVED AREAS SHALL BE BROOMED AND PRESSURE CLEANED.

B. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS/HER WORK, EQUIPMENT AND/OR EMPLOYEES TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE COMMENCEMENT OF OPERATIONS AND TO THE OWNER'S SATISFACTION.

C. THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SIDEWALKS, FENCES, MAILBOXES, SIGNS AND ANY OTHER IMPROVEMENTS REMOVED DURING CONSTRUCTION WITH THE SAME TYPE OF MATERIAL AND TO THE CONDITION WHICH EXISTED PRIOR TO THE COMMENCEMENT OF OPERATIONS AND TO THE OWNER'S SATISFACTION.

D. WHERE MATERIAL OR DEBRIS HAVE WASHED OR FLOWED INTO, OR HAVE BEEN PLACED IN WATER COURSES, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING THE PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION. ANY ADVERSE EFFECTS OR BUILDUP IN PUBLIC INFRASTRUCTURE WILL BE CLEANED AND REDUCED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.

E. ALL DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATED MATERIAL, DEMOLITION, VEGETATION, RUBBISH AND DEBRIS SHALL BE MADE OUTSIDE THE LIMITS OF CONSTRUCTION AT A LEGAL DISPOSAL SITE PROVIDED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE, WITH THE PRIOR APPROVAL OF THE ENGINEER OF RECORD. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT AND/OR NEARBY PROPERTY.

2. ALL PROPERTY MONUMENTS OR PERMANENT SURVEY REFERENCES, REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.

3. PROJECT RECORD DOCUMENTS

A. DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON HIS SET OF CONSTRUCTION DRAWINGS THE EXACT LOCATION, LENGTH AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS. PRIOR APPROVAL FROM THE ENGINEER OF RECORD IS REQUIRED FOR SAID FACILITIES.

B. AT THE COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL SUBMIT THREE (3) SIGNED & SEALED AS-BUILT DRAWINGS, SIGNED & SEALED BY A REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA. ADDITIONAL AS-BUILT DRAWINGS REQUIRED BY THE CITY, COUNTY, STATE AND/OR FEDERAL REGULATORY AGENCIES SHALL ALSO BE SUBMITTED ONCE REQUIRED. THE AS-BUILT DRAWINGS SHALL INDICATE LOCATION, SIZE, ELEVATION, MATERIAL, ETC., OF ALL WORK COMPLETED UNDER THIS CONTRACT AND OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION.

VII. STORM DRAINAGE

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1. WHEN EXISTING MANHOLE RINGS, CATCH BASIN GRATE AND FRAMES, VALVE BOXES, PULL BOXES OR OTHER UTILITY CASTINGS ARE ENCOUNTERED WITHIN THE PROPOSED LIMITS OF WORK THE CONTRACTOR SHALL FIELD ADJUST THE EXISTING RING AND FRAME, GRATE AND FRAME, VALVE BOXES OR PULL BOXES TO MATCH THE PROPOSED ELEVATION. SUCH WORK SHALL BE INCLUDED IN THE BID PRICE.

2. ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS OTHERWISE INDICATED.

3. UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL DRAINAGE PIPE SHALL BE HDPE DOUBLE WALLED SMOOTH INTERIOR PIPE AND SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE S, MPT AND ASTM D2321, D3212, F1417, F477, F667 OR AS NOTED ON THE CONSTRUCTION DRAWINGS.

4. CONTRACTOR SHALL VACUUM CLEAN AND REMOVE ALL SILT, SEDIMENT AND DEBRIS FROM ALL OF THE EXISTING AND PROPOSED DRAINAGE STRUCTURES AND PIPE NETWORK WITHIN THE PROJECT LIMITS PRIOR TO FINAL ACCEPTANCE OF DRAINAGE SYSTEM. ALL COST OF SUCH WORK SHALL BE INCLUDED IN THE BID PRICE.

5. ALL DRAINAGE WORK SHALL CONFORM TO THE GOVERNING JURISDICTIONAL AGENCY REGULATIONS AND STANDARDS

6. UNLESS OTHERWISE SPECIFIED ON THE PLANS, MINIMUM COVER OVER ALL STORM DRAINAGE PIPE SHALL BE 36-INCHES. CONTRACTOR SHALL AVOID ALL UNNECESSARY CROSSINGS BY HEAVY CONSTRUCTION EQUIPMENT DURING CONSTRUCTION.

7. UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL CATCH BASINS, MANHOLES, FRAMES AND GRATES, RINGS AND COVERS, WITHIN PRIVATE PROPERTY, SHALL BE DESIGNED TO WITHSTAND AN AASHTO AND FDOT H20 LOAD RATING AND SHALL BE OBTAINED FROM PLAN SPECIFIED MANUFACTURERS OR APPROVED EQUIVALENT MANUFACTURER.

8. CONTRACTOR SHALL PROVIDE A COPY OF CCTV VIDEO OF WORK PERFORMED.

VIII. EARTHWORK AND PAVING

1. ALL UNDERGROUND UTILITY WORK SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF SUB BASE. ANY SUBGRADE RE-WORK DUE TO UNDERGROUND INFRASTRUCTURE INCONSISTENCIES WILL BE DONE AT THE CONTRACTOR'S EXPENSE.

2. PROPOSED ASPHALT PAVEMENT SHALL BE CONNECTED TO EXISTING AS INDIAN RIVER COUNTY PUBLIC WORKS STANDARD DETAILS. CONTRACTOR SHALL MATCH EXISTING ELEVATIONS ON NEW SIDEWALK OR NEW PAVEMENT.

3. SAW CUT EXISTING CONCRETE WALKS, CURB AND GUTTERS, AND ASPHALT OR CONCRETE PAVEMENT CAREFULLY AND IN A STRAIGHT LINE WHERE UNDERGROUND WORK IS REQUIRED. WHERE PROPOSED ASPHALT OR CONCRETE PAVEMENT, CURB, SIDEWALK, ETC. WILL MEET AN EXISTING LOCATION CUT CONCRETE WALKS, CONCRETE PAVEMENT, CURB AND GUTTERS AT NEAREST EXISTING JOINT.

BARTON J. FYE
LICENSE
No 73898
STATE OF FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: 11/17/2021

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No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn
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LICENSED PROFESSIONAL

DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

GENERAL NOTES

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-110

DEMOLITION NOTES AND SPECIFICATIONS:

SHOULD ANY SECTION OF THESE DEMOLITION NOTES BE IN DIRECT CONFLICT WITH THE PROVISIONS OR TECHNICAL SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS FOR THIS PROJECT, THE MORE STRINGENT OF THE TWO SHALL GOVERN.

I. GENERAL

1. FOR THIS PROJECT, "OWNER" SHALL MEAN INDIAN RIVER COUNTY. "SURVEY" SHALL MEAN THE BOUNDARY SURVEY PREPARED BY MASTELLER, MOLER & TAYLOR,INC. AND "ENGINEER" SHALL MEAN THE ENGINEER OF RECORD.

2. EXISTING CONDITIONS, UTILITIES, STRUCTURES AND OTHER IMPROVEMENTS, AS SHOWN ON THE DEMOLITION DRAWINGS, WERE TAKEN FROM THE SURVEY (PREPARED BY MASTELLER, MOLER & TAYLOR,INC. LAST AMENDED ON 8/21/20), AND FROM INFORMATION PROVIDED BY UTILITY COMPANIES. AN ATTEMPT HAS BEEN MADE TO SHOW ALL EXISTING STRUCTURES, UTILITIES, DRIVES, WALKS, ETC., IN THEIR APPROXIMATE LOCATION. OTHERS MAY EXIST AND MAY BE FOUND UPON VISITING THE SITE. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY LOCATE ALL FACILITIES AND TO DETERMINE THEIR EXTENT. IF SUCH FACILITIES OBSTRUCT THE PROGRESS OF THE WORK AND ARE NOT INDICATED TO BE REMOVED OR RELOCATED, THEY SHALL BE REMOVED OR RELOCATED ONLY AS DIRECTED BY THE OWNER, ARCHITECT, OR ENGINEER OF RECORD, AT NO ADDITIONAL COST TO THE OWNER.

3. ORGANIZE AND PERFORM DEMOLITION WORK TO AVOID DAMAGE TO CONSTRUCTION INTENDED TO REMAIN. ANY COMPONENTS INTENDED TO REMAIN BUT DAMAGED DURING DEMOLITION WILL BE REPLACED, NEW, BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE

4. DEMOLITION AND REMOVAL OPERATIONS SHALL BE CONDUCTED IN AN EXPEDIENT MANNER, WITH PRECAUTIONS TAKEN TO PREVENT THE DEMOLITION SITE FROM BEING A NUISANCE.

5. PERFORM REMOVAL AND DEMOLITION IN ACCORDANCE WITH DEMOLITION SCHEDULE (REFER TO SECTION IV.) AND TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING ADJACENT BUILDINGS, FURNISHINGS, AND EQUIPMENT. NOTIFY THE ENGINEER OF ANY CONDITIONS THAT MAY AFFECT THE SAFETY OF OCCUPANTS OF ADJACENT BUILDINGS, THE NORMAL USE OF THESE FACILITIES, OR THE PHYSICAL CONDITION OF THE STRUCTURES.

6. ALL EXISTING UTILITIES OUTSIDE THE PROPERTY BOUNDARIES ARE TO REMAIN, UNLESS OTHERWISE NOTED. ALL DEMOLITION WORK SHALL BE VERIFIED AGAINST PROPOSED WORK.

7. PRIOR TO DEMOLITION ACTIVITIES, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL AFFECTED UTILITY COMPANIES IN ORDER TO COORDINATE THE DEACTIVATION OF ALL EXISTING UTILITY LINES WITHIN THE PROPERTY. ONCE ALL ONSITE UTILITIES HAVE BEEN DEACTIVATED, ALL LINES SHALL BE CUT AND CAPPED INSIDE THE PROPERTY LINE, AND REMOVED (UNLESS OTHERWISE INDICATED).

8. THE CONTRACTOR SHALL USE EXTREME CAUTION IN REMOVING ANY STRUCTURES AND UTILITIES ABOVE AND BELOW GRADE TO PREVENT DAMAGE TO EXISTING UTILITIES WHICH ARE TO REMAIN IN SERVICE. ANY DAMAGE TO EXISTING PIPELINES, UTILITIES, ETC., CAUSED BY THE CONTRACTOR SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, IN A MANNER ACCEPTABLE TO THE PARTY IN OWNERSHIP OF THE DAMAGED PROPERTY. THE CONTRACTOR SHALL REPORT ANY EXISTING DAMAGE PRIOR TO BEGINNING WORK. IN THE EVENT OF ACCIDENTAL DISRUPTION OF UTILITIES OR THE DISCOVERY OF PREVIOUSLY UNKNOWN UTILITIES, CONTRACTOR MUST NOTIFY THE AFFECTED UTILITY COMPANY AND THE ENGINEER. THE UTILITY COMPANY, ENGINEER, AND CONTRACTOR MUST FIRST AGREE ON A PLAN TO CORRECT THE SITUATION OR IDENTIFY THE UTILITY SERVICE LINE. ALL ASSOCIATED COSTS SHALL BE INCURRED AT THE CONTRACTOR'S EXPENSE.

9. NO LIGHTING MAY BE REMOVED FROM PUBLIC STREETS UNTIL PROPOSED LIGHTING IS FULLY IN PLACE, OTHERWISE CONTRACTOR SHALL INSTALL A TEMPORARY LIGHTING SYSTEM, SO THAT NO AREA USED BY THE PUBLIC WILL HAVE LESS LIGHTING THAN CURRENTLY EXISTS.

10. EXISTING WORK NOT SPECIFIED FOR REMOVAL WHICH IS TEMPORARILY REMOVED, DAMAGED, EXPOSED, OR IN ANY WAY DISTURBED OR ALTERED BY REMOVAL WORK SHALL BE REPAIRED, PATCHED OR REPLACED, AT THE CONTRACTOR'S EXPENSE, TO THE ENGINEER'S SATISFACTION.

11. TITLE AND RESPONSIBILITY OF MATERIALS AND EQUIPMENT TO BE REMOVED, EXCEPT SALVAGEABLE EQUIPMENT TO BE RETAINED BY THE OWNER, IS VESTED TO THE CONTRACTOR UPON RECEIPT OF NOTICE TO PROCEED. THE OWNER WILL NOT BE RESPONSIBLE FOR THE CONDITION, LOSS OR DAMAGE TO SUCH MATERIALS AND EQUIPMENT AFTER NOTICE TO PROCEED.

12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO:

   A. PROTECT ALL EXISTING STRUCTURAL ELEMENTS TO REMAIN DURING DEMOLITION
   B. IF APPLICABLE, PROVIDE A TEMPORARY PATCH AND REPAIR TO ALL SURFACES AFFECTED BY DEMOLITION WHICH ARE TO BE RECONSTRUCTED AS PART OF THIS PROJECT.
   C. EXIST. CONC. OR ASPHALT PAVEMENT TO BE REMOVED SHALL BE SAW-CUT IN NEAT, STRAIGHT LINES.
   D. EXIST. IRRIGATION LINES WITHIN THE LIMITS OF DEMOLITION TO BE REMOVED.
   E. ALL EXISTING WIRE, IRON, CHAIN LINK, WOOD FENCES ARE TO REMAIN UNLESS OTHERWISE SPECIFIED.
   F. NO ELECTRIC POLE, STREET LIGHT, WATER METER/VALVE, FIRE HYDRANT ETC. WILL BE REMOVED WITHIN THE ROADWAY RIGHT OF WAY LINES.
   G. REFER TO LANDSCAPE PLANS FOR ALL EXIST. TREES.
   H. EXIST. MONITORING WELLS TO REMAIN AND BE PROTECTED AT ALL TIMES.
   I. ALL EXISTING SURVEY REFERENCES AND MARKERS SHALL REMAIN IN PLACE OR BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

II. DESCRIPTION

1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, ETC., NECESSARY AND INCIDENTAL TO THE COMPLETION OF ALL SITE DEMOLITION AND CLEARING WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING THE LEGAL TRANSPORT AND OFF-SITE DISPOSAL OF DEMOLITION DEBRIS.

2. ALL ONSITE WORK INCLUDED CONSISTS OF, BUT IS NOT LIMITED TO, THE FOLLOWING:

   A. FULL-DEPTH REMOVAL OF EXISTING SIDEWALKS, DRIVES, CURBS, PAVEMENT, ETC.
   B. CLEARING SITE OF DEMOLITION DEBRIS.
   C. REMOVAL FROM SITE AND DISPOSAL OF ALL EXCESS AND UNUSABLE MATERIAL.
   D. COORDINATION WITH ALL UTILITY COMPANIES/OWNERS PRIOR TO DEACTIVATION.

III. APPLICABLE CODES

1. DEMOLITION AND TRANSPORTATION OF DEBRIS SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS GOVERNING THESE OPERATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ANY PERMITS, BONDS, LICENSES, ETC., REQUIRED FOR DEMOLITION AND CLEARING WORK.

2. ANY WORK WITHIN PUBLIC RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE INDIAN RIVER COUNTY PUBLIC WORKS DEPARTMENT, FLORIDA DEPARTMENT OF TRANSPORTATION, AND OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION, AND SHALL NOT BEGIN UNTIL THE CONTRACTOR HAS NOTIFIED, AND ALL REQUIRED PERMITS HAVE BEEN OBTAINED FROM, THESE GOVERNING AUTHORITIES.

IV. SEQUENCING AND SCHEDULING

1. AREAS ADJACENT TO DEMOLITION AND REMOVAL WORK MAY BE OCCUPIED BUT THE ACTIVITIES IN THOSE AREAS CANNOT BE INTERRUPTED OR DISTURBED DURING NORMAL WORKING HOURS. DEMOLITION SCHEDULE SHALL BE COORDINATED WITH ALL ADJACENT PROPERTY OWNERS AND ANY OTHER PARTIES WHOSE DAILY ACTIVITIES WOULD BE AFFECTED BY THE DEMOLITION WORK.

2. COORDINATE WITH APPLICABLE UTILITY COMPANIES FOR UTILITY LINE REMOVAL, CAPPING AND UTILITY SHUTDOWNS NECESSITATED BY REMOVAL WORK.

V. ENVIRONMENTAL PROTECTION

1. CONTROL AMOUNT OF DUST RESULTING FROM CONSTRUCTION OR DEMOLITION TO PREVENT SPREAD OF DUST TO OTHER BUILDINGS AND TO AVOID CREATION OF A NUISANCE IN SURROUNDING AREAS. USE OF WATER TO CONTROL DUST WILL NOT BE PERMITTED WHEN IT WILL RESULT IN, OR CREATE, HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS FLOODING.

2. NOISE PRODUCING ACTIVITIES SHALL BE HELD TO A MINIMUM. INTERNAL COMBUSTION ENGINES AND COMPRESSORS, ETC., SHALL BE EQUIPPED WITH MUFFLERS TO REDUCE NOISE TO A MINIMUM. COMPLY WITH ALL NOISE ABATEMENT ORDINANCES.

3. THE USE OF EXPLOSIVES WILL NOT BE PERMITTED.

4. DISPOSITION OF DEMOLISHED MATERIALS BY BURNING IS NOT PERMITTED.

5. ALL CLEARING SHALL BE PERFORMED IN A MANNER SUCH AS TO PREVENT ANY WASH-OFF OF SOILS AND DEBRIS FROM THE SITE INTO PUBLIC RIGHT-OF-WAY STREAMS, AND/OR STORM DRAINAGE SYSTEMS. APPROPRIATE SEDIMENTATION PONDS, DIKES, COLLARS, AND FILTER MEDIA SHALL BE EMPLOYED IN ACORDANCE WITH THE EROSION CONTROL PLANS TO INSURE COMPLIANCE WITH THESE REQUIREMENTS. WHERE A SPECIFIC STATUTE GOVERNS THESE PROCEDURES, SUCH STATUTE SHALL BE COMPLIED WITH IN ITS ENTIRETY.

6. DURING THE ENTIRE COURSE OF OPERATIONS, ALL EXISTING DRAINAGE WAYS, BOTH INTO AND FROM THE PROJECT AREA SHALL BE MAINTAINED IN A FUNCTIONAL CONDITION, AND BE CLEANED AS NECESSARY.

7. AT ALL TIMES DURING THE CLEARING OPERATION, THE EXPOSED AREAS OF SUBGRADE SHALL BE MAINTAINED IN A CONDITION COMPATIBLE WITH POSITIVE DRAINAGE OF THE WORK AREA. NO WATER WILL BE PERMITTED TO STAND IN OPEN EXCAVATIONS. ALL STORMWATER RUNOFF SHALL BE CONTAINED WITHIN THE SITE. FAILURE TO MAINTAIN SUCH DRAINAGE SHALL BE CONSIDERED ADEQUATE CAUSE FOR THE ENGINEER, OWNER, OR INSPECTOR TO ORDER TEMPORARY SUSPENSION OF THE WORK. ALL ASSOCIATED COSTS SHALL BE INCURRED AT THE CONTRACTOR'S EXPENSE.

8. PROVIDE SUITABLE AND FUNCTIONAL DRAINAGE BY OPENING DITCHES, FILTER DRAINS, TEMPORARY CUT-OFF LINES, ETC., AND ERECT TEMPORARY PROTECTIVE STRUCTURES WHERE NECESSARY. ALL EMBANKMENTS SHALL BE BACK-BLADED AND SUITABLY SEALED TO PROTECT AGAINST ADVERSE WEATHER CONDITIONS.

9. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS WHEN REMOVING ABANDONED AND DE-ENERGIZED MATERIALS. IF ASBESTOS PIPES ARE ENCOUNTERED, THE CONTRACTOR WILL TAKE ALL NECESSARY ABATEMENT STEPS AS REQUIRED BY GOVERNING REGULATIONS TO SAFELY REMOVE AND DISPOSE OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF SAID MATERIALS.

VI. TRAFFIC MAINTENANCE

1. CONTRACTOR SHALL FOLLOW THE MORE STRINGENT AND APPLICABLE PROCEDURE OUT OF THE FLORIDA DEPARTMENT OF TRANSPORTATION AND/OR INDIAN RIVER COUNTY PUBLIC WORKS MAINTENANCE OF TRAFFIC PROCEDURES DURING DEMOLITION IN PUBLIC RIGHT-OF-WAYS AND PRIVATE DRIVEWAYS, PEDESTRIANS PATHS, AND ROADWAYS (FDOT INDEX 600 SERIES).

2. THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING, SHORING, TEMPORARY CROSSOVER FOR PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING PLATING, GUARDRAILS, LAMPS, WARNING SIGNS, FLAGS, ETC. AS REQUIRED BY AGENCIES HAVING JURISDICTION, AND SHALL NOT REMOVE THESE UNTIL THE NEED FOR PROTECTION CEASES.

3. THE CONTRACTOR MAY NOT CLOSE ANY SIDEWALKS WITHOUT PROVIDING ALTERNATE ROUTES IN ACCORDANCE WITH FDOT INDEX 660 AND AUTHORIZATION FROM AGENCIES HAVING JURISDICTION.

4. CONDUCT REMOVAL OPERATIONS SO THAT TRAFFIC IS MAINTAINED ALONG EXISTING STREETS AND WALKS. KEEP PAVED STREETS AND WALKWAYS CLEAN AND FREE OF DEBRIS. REMOVE MATERIAL AND OTHER MATTER TRACKED OR FALLEN ONTO TRAFFIC SURFACES.

VII. CLEAN UP

1. REMOVE DEMOLISHED CONSTRUCTION MATERIALS AND RELATED DEBRIS FROM THE SITE ON A REGULAR BASIS. ACCUMULATION OF DEBRIS ON THE SITE WILL NOT BE PERMITTED. SELLING OF SALVAGEABLE MATERIALS IS NOT PERMITTED AT THE SITE. LEED RELATED SALVAGEABLE MATERIALS MUST BE DOCUMENTED BY THE CONTRACTOR.

2. REMOVE MATERIALS, INCLUDING DEBRIS AND DUST, AND DISPOSE OF LEGALLY OFF SITE. NO DEBRIS SHALL BE BURNED OR BURIED ON THE SITE AS A MEANS OF DISPOSAL. USE METHODS APPROVED BY THE REGULATORY AGENCIES PRIOR TO BEGINNING CLEANUP OPERATIONS. USE OF BLOWERS TO DISTRIBUTE DUST WILL NOT BE PERMITTED.

3. MATERIAL DESIGNATED FOR REMOVAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

BARTON J. FYE
LICENSE
No 73898
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

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Date: 11/17/2021

No. | REVISIONS | DATE | BY

Kimley»Horn

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PHONE: 305-673-2025 REGISTRY 696
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LICENSED PROFESSIONAL

DATE:

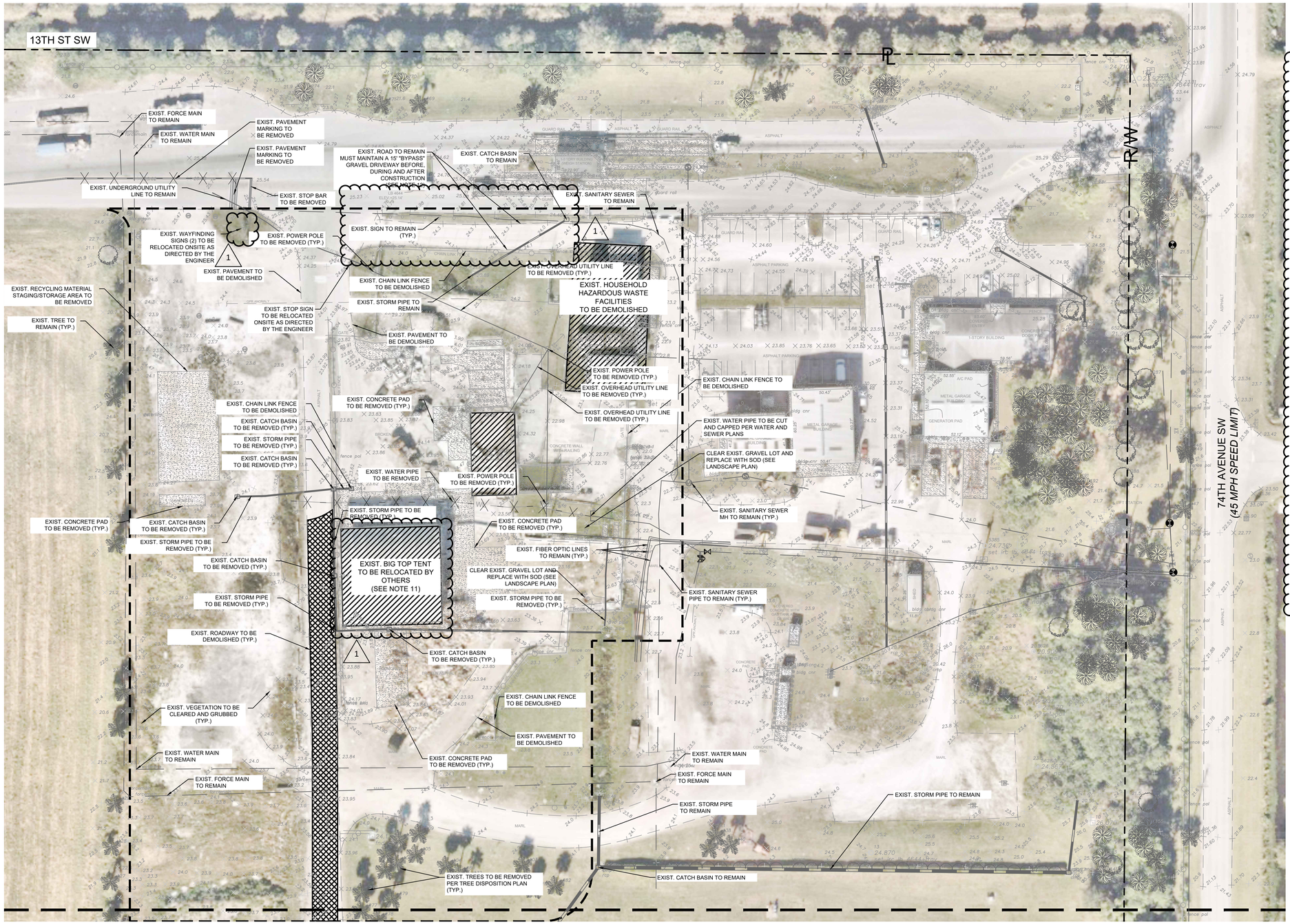
KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

DEMOLITION NOTES

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY

INDIAN RIVER COUNTY FL

SHEET NUMBER
C-200



SEE SHEET C-211 FOR CONTINUATION

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

1

LEGEND

- RW / PL — RIGHT-OF-WAY LINE / PROPERTY LINE
- LIMITS OF DEMOLITION AREA
- EXIST. FIRE HYDRANT ASSEMBLY
- EXIST. LIGHT POLES
- EXIST. SAN. SEWER MANHOLE
- EXIST. STORM MANHOLE
- EXIST. WATER GATE VALVE
- EXIST. GRAVEL ROAD

NOTES

1. THE INTENT OF THE DEMOLITION PLAN IS TO DEPICT ALL EXISTING FEATURES THAT ENCUMBER THE PROPOSED CONSTRUCTION AREA AND ARE SCHEDULED FOR REMOVAL. SOME INCIDENTAL ITEMS MAY HAVE BEEN INADVERTENTLY OMITTED FROM THE PLAN. THE CONTRACTOR IS ENCOURAGED TO THOROUGHLY INSPECT THE SITE AS WELL AS REVIEW THE PLANS AND SPECIFICATIONS PRIOR TO SUBMITTING PRICING. CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR INCIDENTAL ITEMS NOT SHOWN ON THIS DEMOLITION PLAN.
2. SEE SHEET C-510 FOR LIMITS AND GRADING OF RESURFACED DRIVEWAYS AND ENTRANCES. ADDITIONAL DEMOLITION MAY BE REQUIRED.
3. SEE SHEET C-310 FOR INLET PROTECTION AND EROSION PREVENTION MEASURES TO BE IN PLACE PRIOR TO DEMOLITION ACTIVITIES.
4. CONTRACTOR TO CONFIRM EXISTING DEMO LIMITS AND SITE GRADING PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO SAWCUT WHEN REMOVING EXIST. PAVEMENT THAT IS ADJACENT TO EXIST. PAVEMENT THAT IS TO REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO EXISTING CONCRETE OR ASPHALT TO REMAIN IF DAMAGED DURING CONSTRUCTION.
6. EXISTING TREES TO BE REMOVED SEE LANDSCAPE PLANS FOR TREE DISPOSITION (TYP.)
7. EVERYTHING WITHIN THE DEMOLITION AREA IS TO BE REMOVED INCLUDING UNDERGROUND UTILITIES UNLESS NOTED OTHERWISE.
9. ALL DEMOLITION IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE A SEPARATE RIGHT-OF-WAY CONSTRUCTION PERMIT.
10. IF MONITORING WELLS ARE ENCOUNTERED, THE ENGINEER OF RECORD IS TO BE NOTIFIED OF THE LOCATION(S).
11. EXIST. BIG TOP TENT TO BE RELOCATED SOUTH TO EXISTING 80' X 240' CONCRETE PAD BY OTHERS. ANY REMAINING FACILITIES, FOUNDATIONS OR OTHER EXISTING APPURTENANCES AFTER RELOCATION SHALL BE DEMOLISHED.
12. CONTRACTOR SHALL COORDINATE FINAL GRAVEL ROAD LAYOUT WITH ENGINEER IN THE FIELD DURING CONSTRUCTION.

No.	REVISIONS	DATE	BY
1	OWNER COMMENTS	11/16/2021	JF

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LICENSED PROFESSIONAL

PROJECT NO.	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
143228000	JULY 2021	AS SHOWN	MRG	RMR	BF

DEMOLITION PLAN I

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY FL

INDIAN RIVER COUNTY

SHEET NUMBER
C-210

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

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Date: 11/17/2021

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SEE SHEET C-210 FOR CONTINUATION

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

1

LEGEND

- RAW – RPL — RIGHT-OF-WAY LINE / PROPERTY LINE
- LIMITS OF DEMOLITION AREA
- EXIST. FIRE HYDRANT ASSEMBLY
- EXIST. LIGHT POLES
- EXIST. SAN. SEWER MANHOLE
- EXIST. STORM MANHOLE
- EXIST. WATER GATE VALVE
- EXIST. GRAVEL ROAD

NOTES

1. THE INTENT OF THE DEMOLITION PLAN IS TO DEPICT ALL EXISTING FEATURES THAT ENCUMBER THE PROPOSED CONSTRUCTION AREA AND ARE SCHEDULED FOR REMOVAL. SOME INCIDENTAL ITEMS MAY HAVE BEEN INADVERTENTLY OMITTED FROM THE PLAN. THE CONTRACTOR IS ENCOURAGED TO THOROUGHLY INSPECT THE SITE AS WELL AS REVIEW THE PLANS AND SPECIFICATIONS PRIOR TO SUBMITTING PRICING. CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR INCIDENTAL ITEMS NOT SHOWN ON THIS DEMOLITION PLAN.
2. SEE SHEET C-510 FOR LIMITS AND GRADING OF RESURFACED DRIVEWAYS AND ENTRANCES. ADDITIONAL DEMOLITION MAY BE REQUIRED.
3. SEE SHEET C-310 FOR INLET PROTECTION AND EROSION PREVENTION MEASURES TO BE IN PLACE PRIOR TO DEMOLITION ACTIVITIES.
4. CONTRACTOR TO CONFIRM EXISTING DEMO LIMITS AND SITE GRADING PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO SAWCUT WHEN REMOVING EXIST. PAVEMENT THAT IS ADJACENT TO EXIST. PAVEMENT THAT IS TO REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO EXISTING CONCRETE OR ASPHALT TO REMAIN IF DAMAGED DURING CONSTRUCTION.
6. EXISTING TREES TO BE REMOVED SEE LANDSCAPE PLANS FOR TREE DISPOSITION (TYP.)
7. EVERYTHING WITHIN THE DEMOLITION AREA IS TO BE REMOVED INCLUDING UNDERGROUND UTILITIES UNLESS NOTED OTHERWISE.
9. ALL DEMOLITION IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE A SEPARATE RIGHT-OF-WAY CONSTRUCTION PERMIT.
10. IF MONITORING WELLS ARE ENCOUNTERED, THE ENGINEER OF RECORD IS TO BE NOTIFIED OF THE LOCATION(S).
11. EXIST. BIG TOP TENT TO BE RELOCATED SOUTH TO EXISTING 80' X 240' CONCRETE PAD BY OTHERS. ANY REMAINING FACILITIES, FOUNDATIONS OR OTHER EXISTING APPURTENANCES AFTER RELOCATION SHALL BE DEMOLISHED.
12. CONTRACTOR SHALL COORDINATE FINAL GRAVEL ROAD LAYOUT WITH ENGINEER IN THE FIELD DURING CONSTRUCTION.

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: 11/17/2021

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LICENSED PROFESSIONAL

DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

DEMOLITION PLAN II

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-211

BEST MANAGEMENT PRACTICES (BMPS):

THIS PLAN HAS BEEN PREPARED TO ENSURE COMPLIANCE WITH APPROPRIATE CONDITIONS OF THE INDIAN RIVER COUNTY LAND DEVELOPMENT REGULATIONS, THE RULES OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP), CHAPTER 17–25, F.A.C., ST. JOHNS RIVER WATER MANAGEMENT DISTRICT (SJRWMD), CHAPTER 40D–4, F.A.C. AND THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA) DOCUMENT NO. EPA 832/R–92–005 (SEPTEMBER 1992). THE PLAN ADDRESSES THE FOLLOWING:

A. PREVENT LOSS OF SOIL DURING CONSTRUCTION BY STORMWATER RUNOFF AND/OR WIND EROSION, INCLUDING PROTECTING TOPSOIL BY STOCKPILING FOR REUSE.

B. SEDIMENTION PROTECTION OF STORM SEWER OR RECEIVING STREAM.

C. PREVENT POLLUTING THE AIR WITH DUST AND PARTICULATE MATTER. THE VARIOUS TECHNIQUES OR ACTIONS IDENTIFIED UNDER EACH SECTION INDICATE THE APPROPRIATE SITUATION WHEN THE TECHNIQUES SHOULD BE EMPLOYED. ALSO IDENTIFIED IS A CROSS–REFERENCE TO A DIAGRAM OR FIGURE REPRESENTING THE TECHNIQUE. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BMP(S). THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS SPECIFIED IN ACCORDANCE WITH THE CURRENT FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS. CONTRACTOR SHALL PREPARE REQUIRED NPDES DOCUMENTATION AND OBTAIN PERMIT PRIOR TO COMMENCEMENT OF CONSTRUCTION. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE THE REQUIRED NPDES DOCUMENT AND OBTAIN THE NPDES PERMIT. ALL COST ASSOCIATED WITH SUCH WORK SHALL BE DEEMED INCIDENTAL TO THE PROJECT LUMP SUM COST.

GENERAL EROSION CONTROL NOTES:

A. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS COMPRISED OF THIS DRAWING, THE STANDARD DETAILS, THE NPDES PERMIT (TO BE OBTAINED BY CONTRACTOR) AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.

B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THIS DRAWING AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.

C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP) IN ALL CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. FUEL SPILLS AND LEAKS PREVENTION
2. PREVENT/REDUCE VEHICLE AND EQUIPTMENT WASHING AND STEAM CLEANING
3. VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR
4. PROPER OUTDOOR LOADING/UNLOADING OF MATERIALS
5. PREVENT/REDUCE OUTDOOR STORAGE OF RAW MATERIALS, PRODUCTS, AND BY–PRODUCTS
6. SOLID WASTE MANAGEMENT
7. HAZARDOUS WASTE MANAGEMENT
8. CONCRETE WASTE MANAGEMENT
9. SANDBLASTING WASTE MANAGEMENT
10. STRUCTURE CONSTRUCTION AND PAINTING
11. SPILL PREVENTION AND CONTROL
12. CONTAMINATED SOIL MANAGEMENT
13. SANITARY/SEPTIC WASTE MANAGEMENT
14. SOIL EROSION CONTROL
15. STORM WATER TURBIDITY MANAGEMENT

ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

D. BEST MANAGEMENT PRACTICES (BMPS) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. CONTRACTOR MUST MAINTAIN ALL PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS ON SITE AT ALL TIMES.

F. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.

G. CONTRACTOR SHALL BEGIN CLEARING AND GRUBBING THOSE PORTIONS OF THE SITE NECESSARY TO IMPLEMENT PERIMETER CONTROL MEASURES. CLEARING AND GRUBBING FOR THE REMAINING PORTIONS OF THE PROPOSED SITE SHALL COMMENCE ONCE PERIMETER CONTROLS ARE IN PLACE. PERIMETER CONTROLS SHALL BE ACTIVELY MAINTAINED UNTIL SAID AREAS HAVE BEEN STABILIZED AND SHALL BE REMOVED ONCE FINAL STABILIZATION IS COMPLETE.

H. GENERAL EROSION CONTROL BMPS SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION AND POTENTIAL LAKE SLOPE CAVE–INS. WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED AS SOON AS POSSIBLE DURING CONSTRUCTION.

I. ON–SITE & OFF–SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

J. TOPSOIL CANNOT BE STOCKPILED INSIDE THE PROPERTY FOR REFUSE.

K. SURFACE WATER QUALITY SHALL BE MAINTAINED BY EMPLOYING THE FOLLOWING BMP'S IN THE CONSTRUCTION PLANNING AND CONSTRUCTION OF ALL IMPROVEMENTS.

STORM WATER EROSION CONTROL PRACTICES:

A. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

B. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

C. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION.

D. WHERE PRACTICAL, STORMWATER SHALL BE CONVEYED BY SWALES.

E. EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:

1. IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.

2. STORMWATER INLETS SHALL BE PROTECTED DURING CONSTRUCTION. PROTECTION MEASURES SHALL BE EMPLOYED AS SOON AS PRACTICAL DURING THE VARIOUS STAGES OF INLET CONSTRUCTION. SILT BARRIERS SHALL REMAIN IN PLACE UNTIL SODDING AROUND INLETS IS COMPLETE.

3. A TEMPORARY SEDIMENT TRAP SHOLD BE CONSTRUCTED TO DETAIN SEDIMENT–LADEN RUNOFF FROM DISTURBED AREAS.

F. SILT BARRIERS, ANY SILT WHICH ACCUMULATES BEHIND THE BARRIERS, AND ANY FILL USED TO ANCHOR THE BARRIERS SHALL BE REMOVED PROMPTLY AFTER THE END OF THE MAINTENANCE PERIOD SPECIFIED FOR THE BARRIERS.

G. SLOPES OF BANKS OF RETENTION/DETENTION PONDS SHALL BE CONSTRUCTED NOT STEEPER THAN 3H:1V FROM TOP OF BANK TO TWO FEET BELOW NORMAL WATER LEVEL, AS APPLICABLE.

H. SOD SHALL BE PLACED FOR A 2–FOOT WIDE STRIP ADJOINING ALL CURBING AND AROUND ALL INLETS. SOD SHALL BE PLACED BEFORE SILT BARRIERS ARE REMOVED.

I. WHERE REQUIRED TO PREVENT EROSION FROM SHEET FLOW ACROSS BARE GROUND FROM ENTERING A LAKE OR SWALE, A TEMPORARY SEDIMENT SUMP SHALL BE CONSTRUCTED.

J. FILTER FABRIC SHOULD BE USED FOR STORM DRAIN INLET PROTECTION BEFORE FINAL STABILIZATION.

WIND EROSION CONTROL PRACTICES:

A. WIND EROSION SHALL BE CONTROLLED BY EMPLOYING THE FOLLOWING METHODS AS NECESSARY AND APPROPRIATE:

1. BARE EARTH AREAS SHALL BE WATERED DURING CONSTRUCTION AS NECESSARY TO MINIMIZE THE TRANSPORT OF FUGITIVE DUST. IT MAY BE NECESSARY TO LIMIT CONSTRUCTION VEHICLE SPEED IF BARE EARTH HAS NOT BEEN EFFECTIVELY WATERED. IN NO CASE SHALL FUGITIVE DUST BE ALLOWED TO LEAVE THE SITE UNDER CONSTRUCTION.

2. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED (SEE PERMANENT STABALIZATION PRACTICES FOR DETAILS). THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN. CLEARED SITE DEVELOPMENT AREAS NOT CONTINUALLY SCHEDULED FOR CONSTRUCTION ACTIVITIES SHALL BE COVERED WITH HAY OR OVERSEEDED AND PERIODICALLY WATERED SUFFICIENTLY TO STABILIZE THE TEMPORARY GROUNDCOVER (SEE TEMPORARY STABALIZATION PRACTICES FOR DETAILS).

3. AT ANY TIME BOTH DURING AND AFTER SITE CONSTRUCTION THAT WATERING AND/OR VEGETATION ARE NOT EFFECTIVE IN CONTROLLING WIND EROSION AND/OR TRANSPORT OF FUGITIVE DUST, OTHER METHODS AS ARE NECESSARY FOR SUCH CONTROL SHALL BE EMPLOYED. THESE METHODS SHOULD INCLUDE ERECTION OF DUST CONTROL FENCES. A 6–FT GEOTEXTILE FILTER FIBER SHOULD BE HANGING AGAINST THE EXISTING CHAIN LINK FENCE AND GATE.

B. ALL DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

STABILIZATION PRACTICES:

A. TEMPORARY STABILIZATION – TOPSOIL STOCK PILES AND DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASE FOR AT LEAST 21 DAYS, SHALL BE STABILIZED WITH TEMPORARY SEED AND MULCH WITHIN 14 DAYS OF THE LAST CONSTRUCTION ACTIVITY IN THAT AREA. THE TEMPORARY SEED REQUIRED CAN BE FOUND IN TABLE 1.65 A OF THE FLORIDA DEVELOPMENT MANUAL. PRIOR TO SEEDING, WHERE SOILS ARE ACIDIC 2 TONS OF PULVERIZED AGRICULTURAL LIMESTONE SHOULD BE ADDED PER ACRE AND 450 POUNDS OF 10–20–20 FERTILIZER SHALL BE APPLIED TO EACH ACRE. AFTER SEEDING, EACH AREA SHALL BE IMMEDIATELY MULCHED WITH STRAW OR EQUIVALENT EQUAL. AREAS OF THE SITE WHICH ARE TO BE PAVED SHALL BE TEMPORARILY STABILIZED BY APPLYING GEOTEXTILE AND STONE SUB–BASE UNTIL BITUMINOUS PAVEMENT CAN BE APPLIED.

B. PERMANENT STABILIZATION – DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASES SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY. THE APPROPRIATE PERMANENT SEED MIX CAN BE FOUND IN TABLES 1.66A, 1.66B AND 1.66C OF THE FLORIDA DEVELOPMENT MANUAL. PRIOR TO SEEDING, 2 TONS/ACRE OF FINELY GROUND AGRICULTURAL LIMESTONE AND THE PROPER FERTILIZER BASED ON THE TYPE OF SEEDING SHALL BE APPLIED TO EACH ACRE TO PROVIDE PLANT NUTRIENTS. AFTER SEEDING, EACH AREA SHALL BE MULCHED IMMEDIATELY.

C. STABILIZATION WILL BE INITIATED ON ALL DISTURBED AREAS WITHIN 14 DAYS OF WORK CEASING, UNLESS CONSTRUCTION ACTIVITY WILL RESUME IN THAT AREA WITHIN 21 DAYS AFTER WORK STOPPAGE. THE TEMPORARY SEDIMENT SUMP SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED ON THE GROUND DRAINING TO THE SUMP.

D. CONTRACTOR TO ENSURE THAT EXISTING VEGETATION ON OR ADJACENT TO THE PROPOSED SITE IS PRESERVED AND DISTURBED PORTIONS OF THE SITE ARE STABILIZED. STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY CEASED.

E. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

F. SHALL BE IN ACCORDANCE WITH DEP DOCUMENT NO. 62–621.300(4)(a)

SPILL CONTROL PRACTICES:

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

A. SPILL CLEANUP INFORMATION SHALL BE POSTED ON SITE TO INFORM EMPLOYEES ABOUT CLEANUP PROCEDURES AND RESOURCES.

B. THE FOLLOWING CLEAN–UP EQUIPMENT MUST BE KEPT ON–SITE NEAR THE MATERIAL STORAGE AREA: GLOVES, MOPS, RAGS, BROOMS, DUST PANS, SAND, SAWDUST, LIQUID ABSORBER, GOGGLES, AND TRASH CONTAINERS.

C. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ONSITE AND READILY AVAILABLE TO CONTAIN AND CLEAN–UP FUEL OR CHEMICAL SPILLS AND LEAKS.

D. ALL SPILLS SHALL BE CLEANED UP AS SOON AS POSSIBLE.

E. WHEN CLEANING A SPILL, THE AREA SHOULD BE WELL VENTILATED AND THE EMPLOYEE SHALL WEAR PROPER PROTECTIVE COVERING TO PREVENT INJURY.

F. TOXIC SPILLS MUST BE REPORTED TO THE PROPER AUTHORITY REGARDLESS OF THE SIZE OF THE SPILL.

G. AFTER A SPILL, THE PREVENTION PLAN SHALL BE REVIEWED AND CHANGED TO PREVENT FURTHER SIMILAR SPILLS FROM OCCURRING. THE CAUSE OF THE SPILL, MEASURES TO PREVENT IT, AND HOW TO CLEAN THE SPILL UP SHALL BE RECORDED.

H. THE SUPERINTENDENT SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR AND IS RESPONSIBLE FOR THE DAY TO DAY SITE OPERATIONS. THE SUPERINTENDENT ALSO OVERSEES THE SPILL PREVENTION PLAN AND SHALL BE RESPONSIBLE FOR EDUCATING THE EMPLOYEES ABOUT SPILL PREVENTION AND CLEANUP PROCEDURES.

STRUCTURAL PRACTICES:

A. EARTH DIKE – IF REQUIRED, AN EARTH DIKE SHALL BE CONSTRUCTED ALONG THE SITE PERIMETER. A PORTION OF THE DIKE SHALL DIVERT RUN–ON AROUND THE CONSTRUCTION SITE. THE REMAINING PORTION OF THE DIKE SHALL COLLECT RUNOFF FROM THE DISTURBED AREA AND DIRECT THE RUNOFF TO THE SEDIMENT BASIN.

B. SEDIMENT BASIN – A SEDIMENT BASIN SHALL BE CONSTRUCTED IN THE COMMON DRAINAGE AREA FOR THE SITE. ALL SEDIMENT COLLECTED IN THE BASIN MUST BE REMOVED FROM THE BASIN UPON COMPLETION OF CONSTRUCTION. SEDIMENT FROM THE BASIN MAY BE USED AS FILL ON THE SITE IF IT IS SUITABLE SOIL.

C. SHALL BE IN ACCORDANCE WITH DEP DOCUMENT NO. 62–621.300(4)(a)

WASTE DISPOSAL:

A. WASTE MATERIALS – ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER WITH A SECURE LID IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITIES TO HAVE THE DUMPSTER EMPTIED AT LEAST TWICE A WEEK AND THE WASTE TAKEN TO AN APPROPRIATE LANDFILL. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE. THE SUPERINTENDENT SHALL ORGANIZE TRAINING FOR THE EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH WASTE MATERIALS. THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR POSTING AND ENFORCING WASTE MATERIAL PROCEDURES.

B. HAZARDOUS WASTE – HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS OR AS DIRECTED BY THE MANUFACTURER. THE SUPERINTENDENT SHALL ORGANIZE THE PROPER TRAINING FOR EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH HAZARDOUS WASTE MATERIALS. THESE PROCEDURES SHALL BE POSTED ON THE SITE. THE PERSON WHO MANAGES THE SITE SHALL BE RESPONSIBLE FOR ENFORCING THE PROCEDURES.

C. SANITARY WASTE – SANITARY WASTE SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITY FOR COLLECTION OF THE SANITARY WASTE AT LEAST THREE TIMES A WEEK TO PREVENT SPILLAGE ONTO THE SITE.

D. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

E. ANY CONSTRUCTION DEBRIS GENERATED AS A RESULT OF THIS PROJECT WILL BE DISPOSED OF OFF–SITE AN AT APPROPRIATE WASTE FACILITY.

F. CONCRETE WASHOUT LOCATIONS WILL BE PROVIDED IN AREAS WHERE THE DISPOSAL MATERIALS WILL BE CONTAINED TO PREVENT DISCHARGE OUTSIDE OF THE PROJECT LIMITS AND INTO THE WATERWAYS.

OFFSITE TRACKING:

A. STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED TO REDUCE SEDIMENT TRACKING OFFSITE. THE MAJOR ROAD CONNECTED TO THE PROJECT SHALL BE CLEANED ONCE A DAY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK RESULTING FROM CONSTRUCTION TRAFFIC. ALL TRUCKS HAULING MATERIALS OFFSITE SHALL BE COVERED WITH A TARPAULIN.

B. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATION PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES, HAY BALES OR SILT SCREENS AROUND, AND SEDIMENT SUMPS WITHIN, SUCH AREAS AS REQUIRED TO CONTAIN SPILLS OF OIL, GREASE OR LUBRICANTS. CONTRACTORS SHALL HAVE AVAILABLE, AND SHALL USE, ABSORBENT FILTER PADS TO CLEAN UP SPILLS AS SOON AS POSSIBLE AFTER OCCURRENCE.

C. ALL WASH WATER FROM CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC. SHALL BE DETAINED ON SITE AND SHALL BE PROPERLY TREATED OR DISPOSED.

D. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.

E. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

INSPECTION AND MAINTENANCE:

ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

A. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.

B. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.

C. THE SILT FENCE SHALL BE INSPECTED PERIODICALLY FOR HEIGHT OF SEDIMENT AND CONDITION OF FENCE. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE–THIRD THE HEIGHT OF THE SILT FENCE.

D. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.

E. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.

F. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. THE SEDIMENT BASINS/DITCHES SHALL BE CHECKED MONTHLY FOR DEPTH OF SEDIMENT. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 10% AND AFTER CONSTRUCTION IS COMPLETE.

G. ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN SEVEN CALENDAR DAYS FOLLOWING THE INSPECTION.

H. DIVERSION DIKES SHALL BE INSPECTED MONTHLY. ANY BREACHES SHALL BE PROMPTLY REPAIRED.

I. A MAINTENANCE REPORT SHALL BE COMPLETED DAILY AFTER EACH INSPECTION OF THE SEDIMENT AND EROSION CONTROL METHODS. THE REPORTS SHALL BE FILED IN AN ORGANIZED MANNER AND RETAINED ON–SITE DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETED, THE REPORTS SHALL BE SAVED FOR AT LEAST THREE YEARS. THE REPORTS SHALL BE AVAILABLE FOR ANY AGENCY THAT HAS JURISDICTION OVER EROSION CONTROL.

J. ALL REPAIRS MUST BE MADE WITHIN 24 HOURS OF REPORT.

K. THE SUPERINTENDENT SHALL ORGANIZE THE TRAINING FOR INSPECTION PROCEDURES AND PROPER EROSION CONTROL METHODS FOR EMPLOYEES THAT COMPLETE INSPECTIONS AND REPORTS.

SPILL PREVENTION AND CONTROL:

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

A. GOOD HOUSEKEEPING

1. SUPERINTENDENT SHALL INSPECT PROJECT AREA DAILY FOR PROPER STORAGE, USE, AND DISPOSAL OF CONSTRUCTION MATERIALS.
2. STORE ONLY ENOUGH MATERIAL ON SITE FOR PROJECT COMPLETION.
3. ALL SUBSTANCES SHOULD BE USED BEFORE DISPOSAL OF CONTAINER.
4. ALL CONSTRUCTION MATERIALS STORED SHALL BE ORGANIZED AND IN THE PROPER CONTAINER AND IF POSSIBLE, STORED UNDER A ROOF OR PROTECTIVE COVER.
5. PRODUCTS SHALL NOT BE MIXED UNLESS DIRECTED BY THE MANUFACTURER.
6. ALL PRODUCTS SHALL BE USED AND DISPOSED OF ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

B. HAZARDOUS PRODUCTS

1. MATERIALS SHOULD BE KEPT IN ORIGINAL CONTAINER WITH LABELS UNLESS THE ORIGINAL CONTAINERS CANNOT BE RESEALED. IF ORIGINAL CONTAINERS CANNOT BE USED, LABELS AND PRODUCT INFORMATION SHALL BE SAVED.
2. PROPER DISPOSAL PRACTICES SHALL ALWAYS BE FOLLOWED IN ACCORDANCE WITH MANUFACTURER AND LOCAL/STATE REGULATIONS.

C. PRODUCT SPECIFIC PRACTICES

1. PETROLEUM PRODUCTS MUST BE STORED IN PROPER CONTAINERS AND CLEARLY LABELED. VEHICLES CONTAINING PETROLEUM PRODUCTS SHALL BE PERIODICALLY INSPECTED FOR LEAKS. PRECAUTIONS SHALL BE TAKEN TO AVOID LEAKAGE OF PETROLEUM PRODUCTS ON SITE.
2. THE MINIMUM AMOUNT OF FERTILIZER SHALL BE USED AND MIXED INTO THE SOIL IN ORDER TO LIMIT EXPOSURE TO STORM WATER. FERTILIZERS SHALL BE STORED IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
3. PAINT CONTAINERS SHALL BE SEALED AND STORED WHEN NOT IN USE. EXCESS PAINT MUST BE DISPOSED OF IN AN APPROVED MANNER.
4. CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

PROJECT DESCRIPTION:

PROJECT LOCATION: 1325 74TH AVENUE SW, VERO BEACH, FL 32968

1. PROJECT LIMITS: TOTAL PROJECT AREA IS APPROXIMATELY 4.4 ACRES. THE TOTAL DISTURBED AREA IS APPROXIMATELY ACRES ONSITE.
2. CONSTRUCTION ACTIVITY: CONSTRUCTION OF RECYCLING FACILITY, PARKING AREA, SIDEWALKS, LANDSCAPING, UTILITIES, AND DRAINAGE SYSTEM.
3. MAJOR SOIL DISTURBING ACTIVITIES: CLEARING AND GRUBBING, INSTALLATION OF DRAINAGE SYSTEM, INSTALLATION OF UTILITIES
4. DEWATERING ACTIVITIES: DEWATERING IS ANTICIPATED FOR THIS SITE.
5. SOIL CHARACTERISTICS: THE SOIL TYPE WITHIN THE PROJECT'S LIMIT OF DISTURBANCE IS CLASSIFIED AS FILL IN.
6. RUNOFF COEFFICIENTS:

EXISTING:	0.65
DURING CONSTRUCTION:	0.65
PROPOSED:	0.85

SEQUENCE OF CONSTRUCTION:

SEQUENCE OF SOIL DISTURBING ACTIVITIES AND IMPLEMENTATION OF CONTROLS:

1. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING, INSTALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE EROSION CONTROL PLAN, STANDARD DETAILS, NPDES REQUIREMENTS, AND INDIAN RIVER COUNTY PUBLIC WORKS ENGINEERING STANDARD FOR DESIGN AND CONSTRUCTION MANUAL.
2. BEGIN CLEARING AND GRUBBING.
3. INSTALL DRAINAGE SYSTEM, INCLUDING: CONCRETE INLETS, DRAINAGE PIPES AND MANHOLES.
4. INSTALL INLET PROTECTION AND ROCK BAGS ON ALL INLETS AND MANHOLES IN THE LOCATIONS SHOWN ON THE PLANS AND PER THE STANDARD DETAILS PROVIDED AND INDIAN RIVER COUNTY PUBLIC WORKS ENGINEERING STANDARD FOR DESIGN AND CONSTRUCTION MANUAL.
5. PREPARE SUBBASE MATERIAL.
6. BEGIN ASPHALT AND CONCRETE INSTALLATION.
7. AFTER COMPLETION OF SITE WORK, BEGIN SITE STABILIZATION AND PERMANENT SEEDING.
8. ONCE SITE STABILIZATION IS COMPLETE, CONTRACTOR TO CLEAN ALL CONSTRUCTION DEBRIS FROM CONSTRUCTION SITE.
9. ONCE A UNIFORM 70% VEGETATIVE COVER OF PERENNIAL VEGETATION IS ACHIEVED ACROSS THE ENTIRE DISTURBED AREA THE REMOVAL OF TEMPORARY EROSION CONTROL MEASURES MAY BEGIN.

BARTON J. FYE
LICENSE
No 73898
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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Date: 11/17/2021

No.	REVISIONS	DATE	BY

Kimley»Horn
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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305–673–2025
WWW.KIMLEY–HORN.COM REGISTRY 696

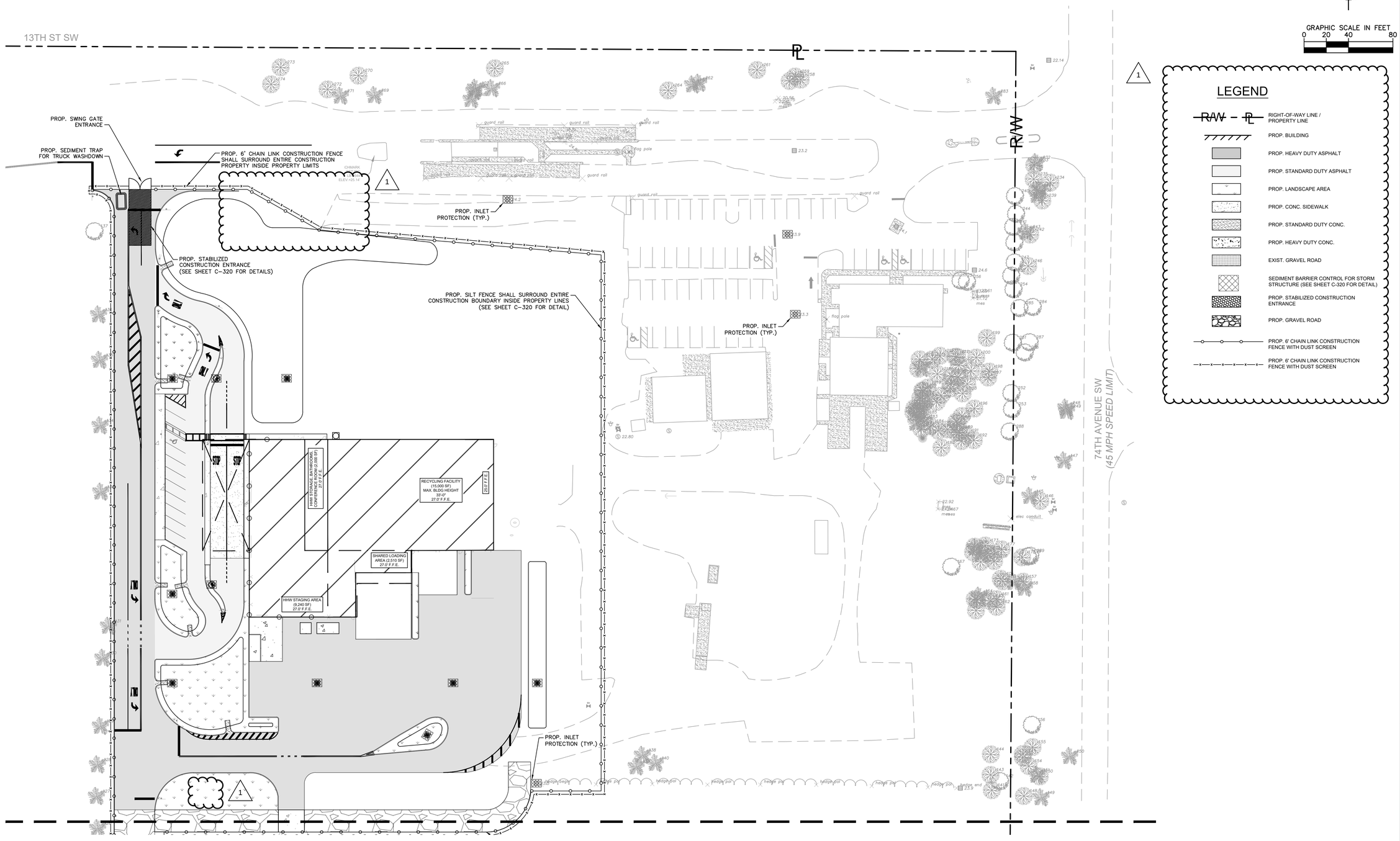
LICENSED PROFESSIONAL
DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

EROSION CONTROL NOTES

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-300



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. CONC. SIDEWALK
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- EXIST. GRAVEL ROAD
- SEDIMENT BARRIER CONTROL FOR STORM STRUCTURE (SEE SHEET C-320 FOR DETAIL)
- PROP. STABILIZED CONSTRUCTION ENTRANCE
- PROP. GRAVEL ROAD
- PROP. 6' CHAIN LINK CONSTRUCTION FENCE WITH DUST SCREEN
- PROP. 6' CHAIN LINK CONSTRUCTION FENCE WITH DUST SCREEN

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn
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PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

EROSION CONTROL PLAN I

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-310

BARTON J FYE
LICENSE
No 73898
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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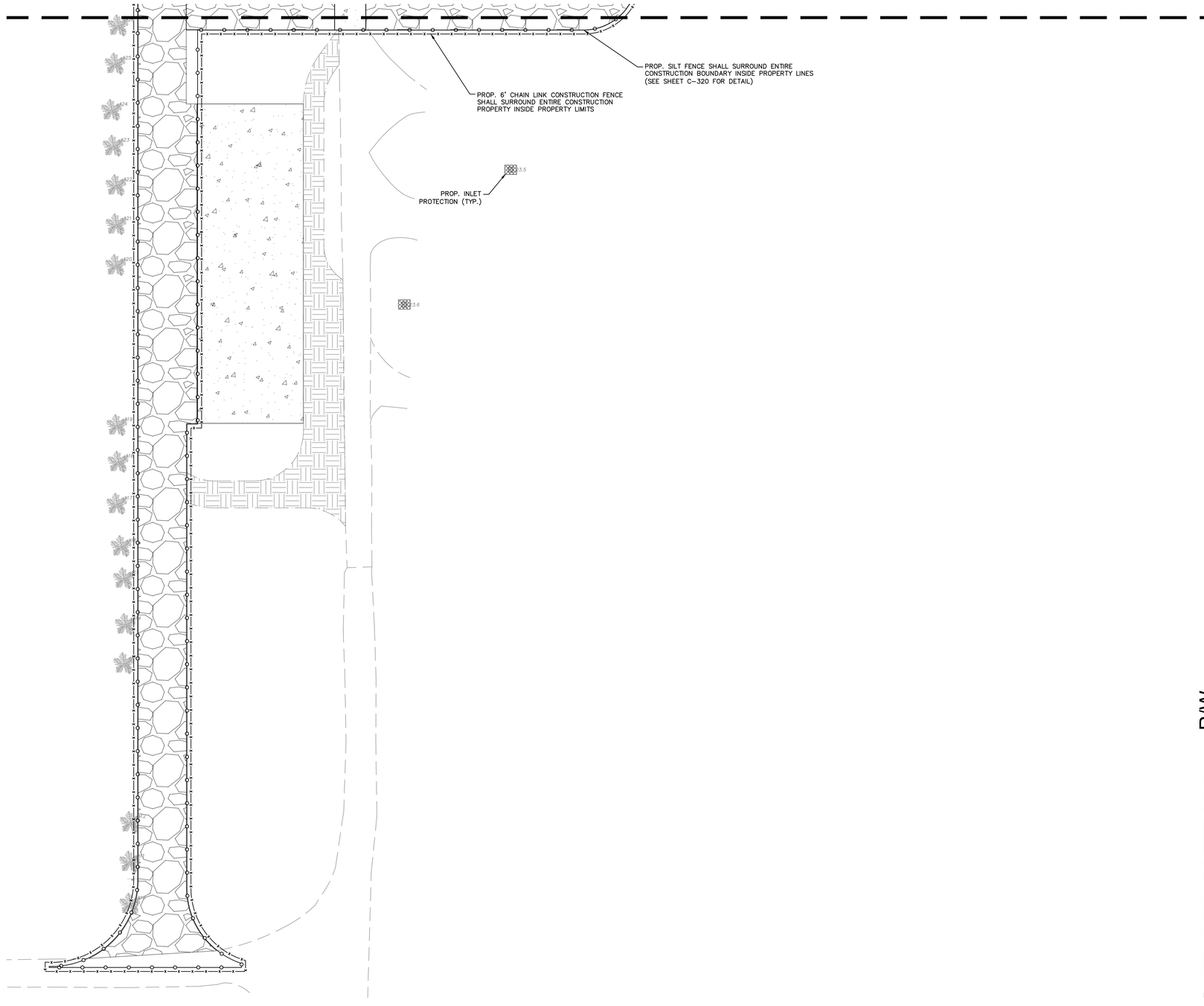
SEE SHEET C-310 FOR CONTINUATION



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

1

LEGEND

- RAW – PL — RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. CONC. SIDEWALK
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
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- PROP. STABILIZED CONSTRUCTION ENTRANCE
- PROP. GRAVEL ROAD
- PROP. 6' CHAIN LINK CONSTRUCTION FENCE WITH DUST SCREEN
- PROP. 6' CHAIN LINK CONSTRUCTION FENCE WITH DUST SCREEN

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

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Kimley»Horn

355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

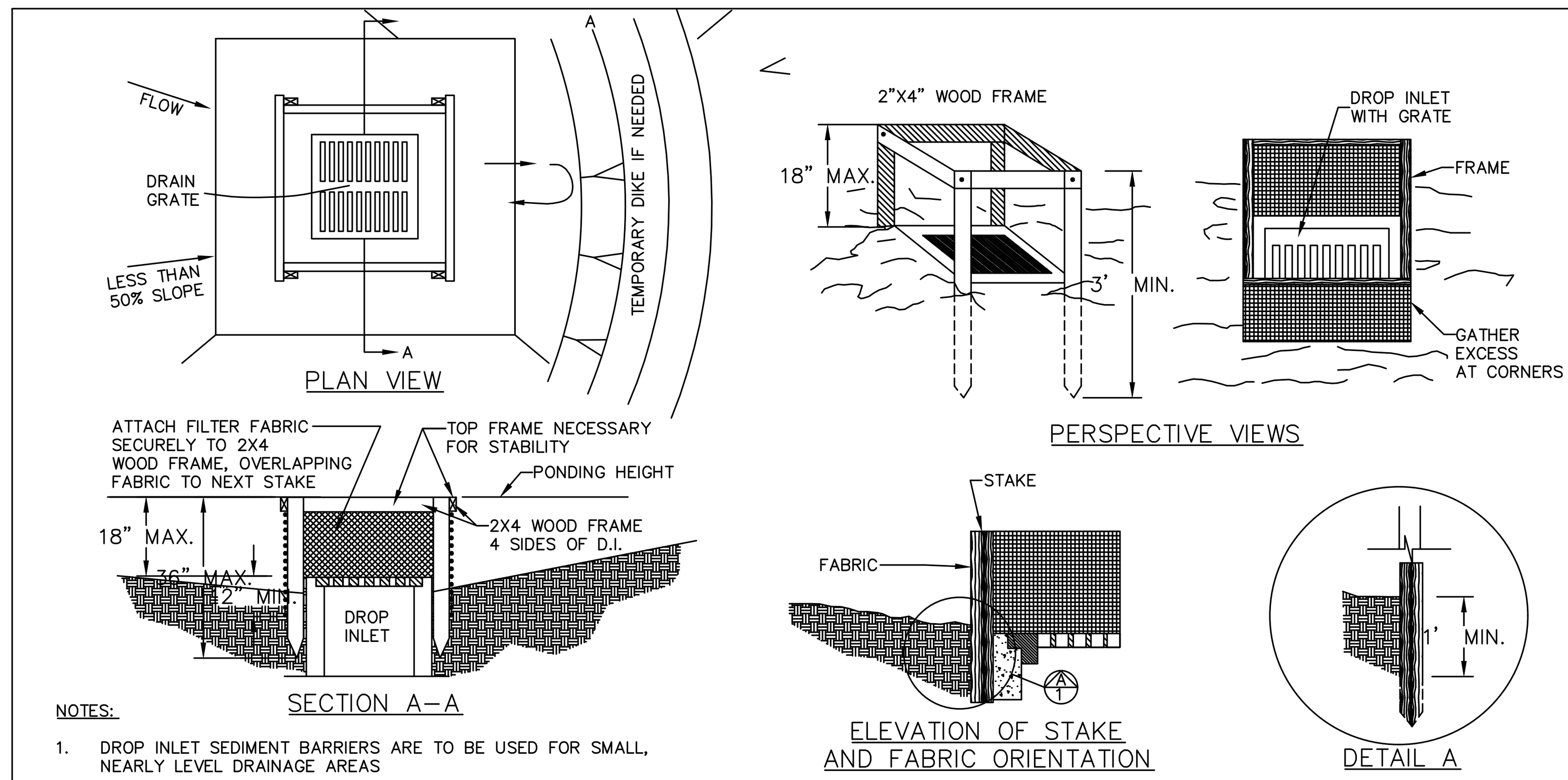
DATE:

EROSION CONTROL PLAN II

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-311



NOTES:

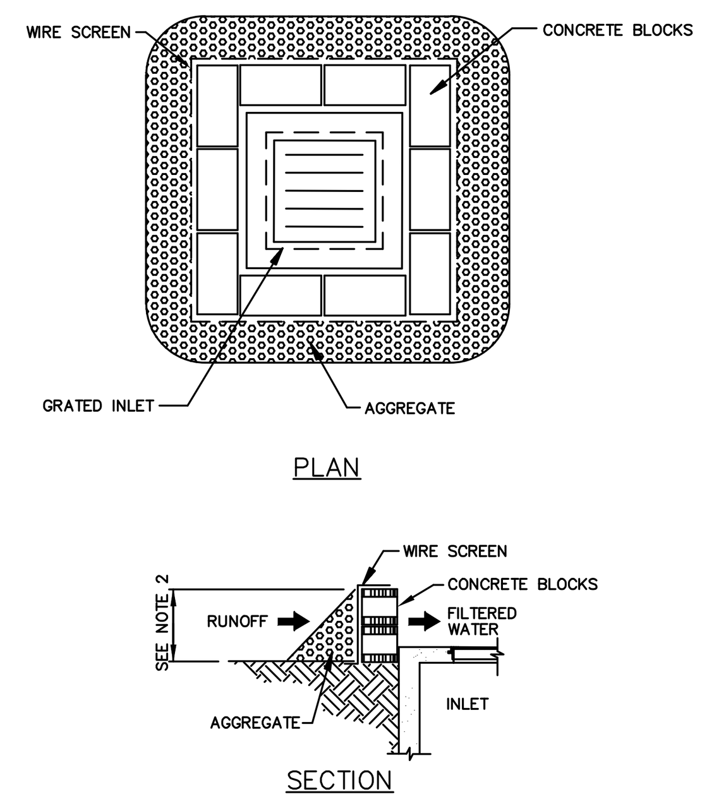
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS
2. USE 2X4 OR EQUIVALENT METAL STAKES, (3' MIN. LENGTH)
3. INSTALL 2X4 TOP WOOD FRAME TO INSURE STABILITY.
4. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY PASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

SPECIFIC APPLICATION:

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS IS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

FILTER FABRIC DROP INLET SEDIMENT BARRIER

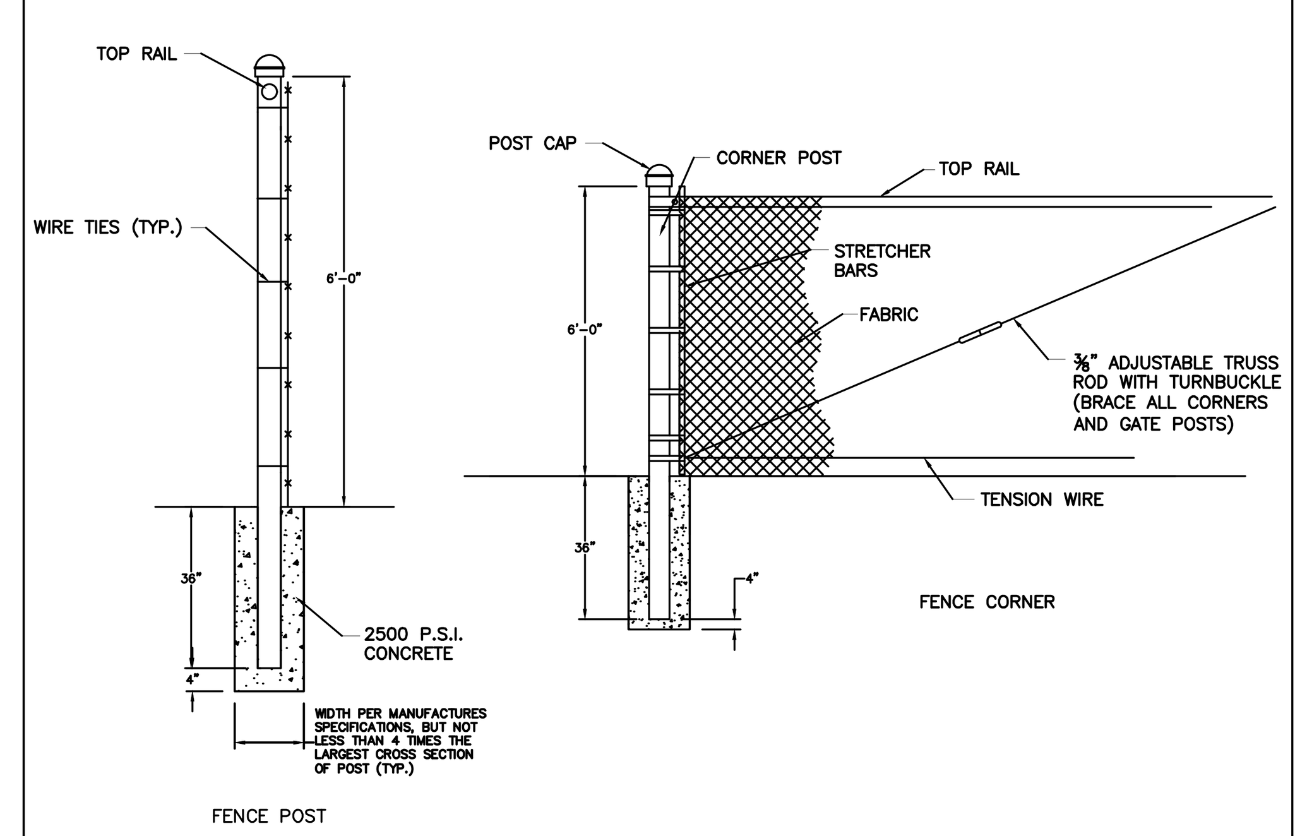
N.T.S.



1. PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4-INCH, 8-INCH, OR 12" BLOCKS. MIN. HEIGHT OF BARRIER 12" AND MAX. HEIGHT OF 24"
3. PLACE HARDWARE CLOTH/WIRE MESH W/ MAX. 1/2" OPENINGS OVER VERTICAL FACE OF CONCRETE BLOCKS.
4. THE AGGREGATE SHALL BE ANY NON-ERODIBLE MATERIAL SUCH AS LOOSE ROCK, BROKEN CONCRETE THAT WILL SLOW THE FLOW OF THE WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.

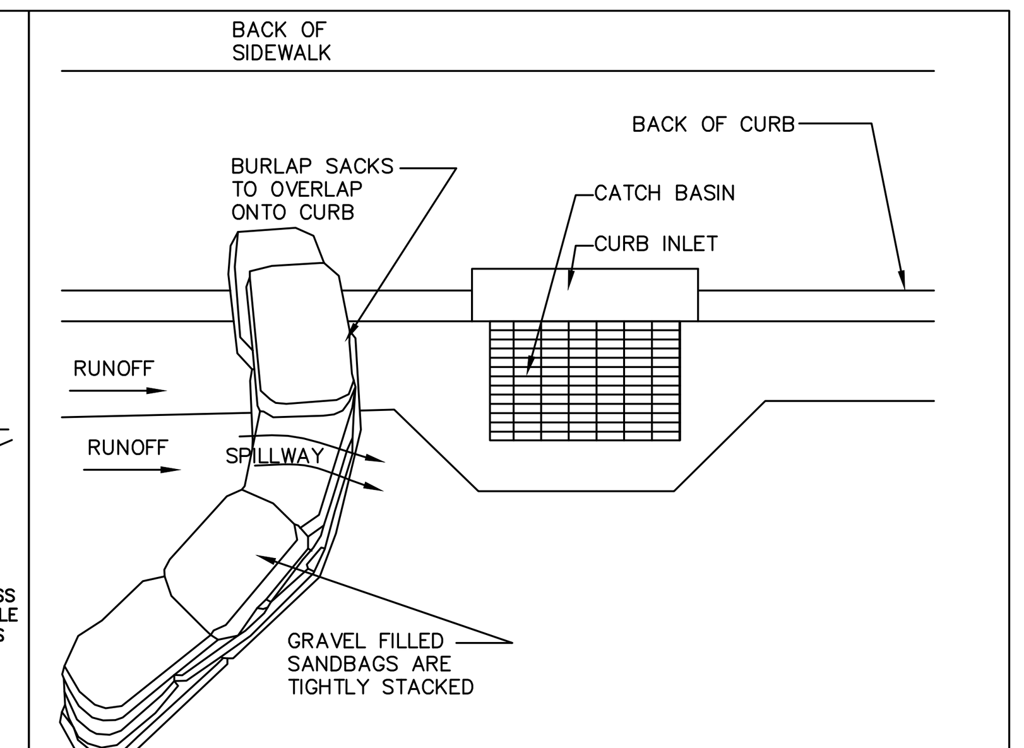
BLOCK AND AGGREGATE INLET SEDIMENT DEVICE

N.T.S.



TEMPORARY 6' CONSTRUCTION PRIVACY FENCE

N.T.S.

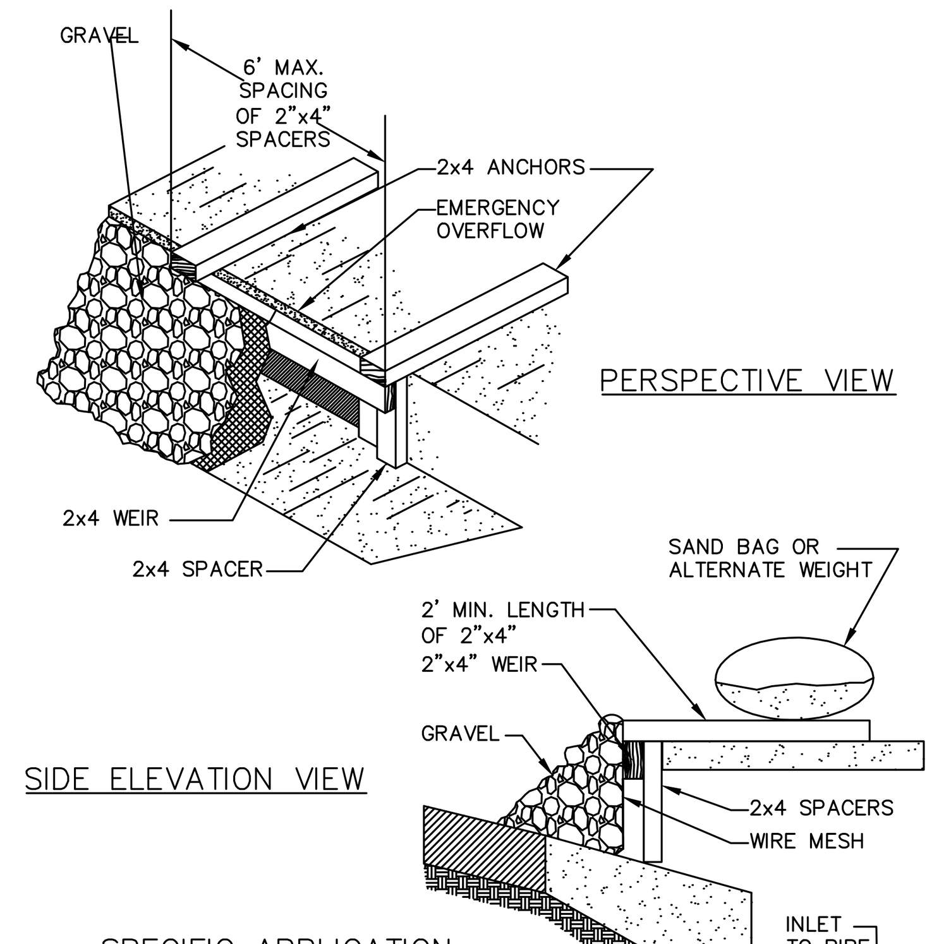


NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN 'GEOTEXTILE' FABRIC, ARE FILLED WITH GRAVEL LAYERED AND PACKED TIGHTLY.
3. LEAVE A ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB AND GUTTER SEDIMENT BARRIER

N.T.S.



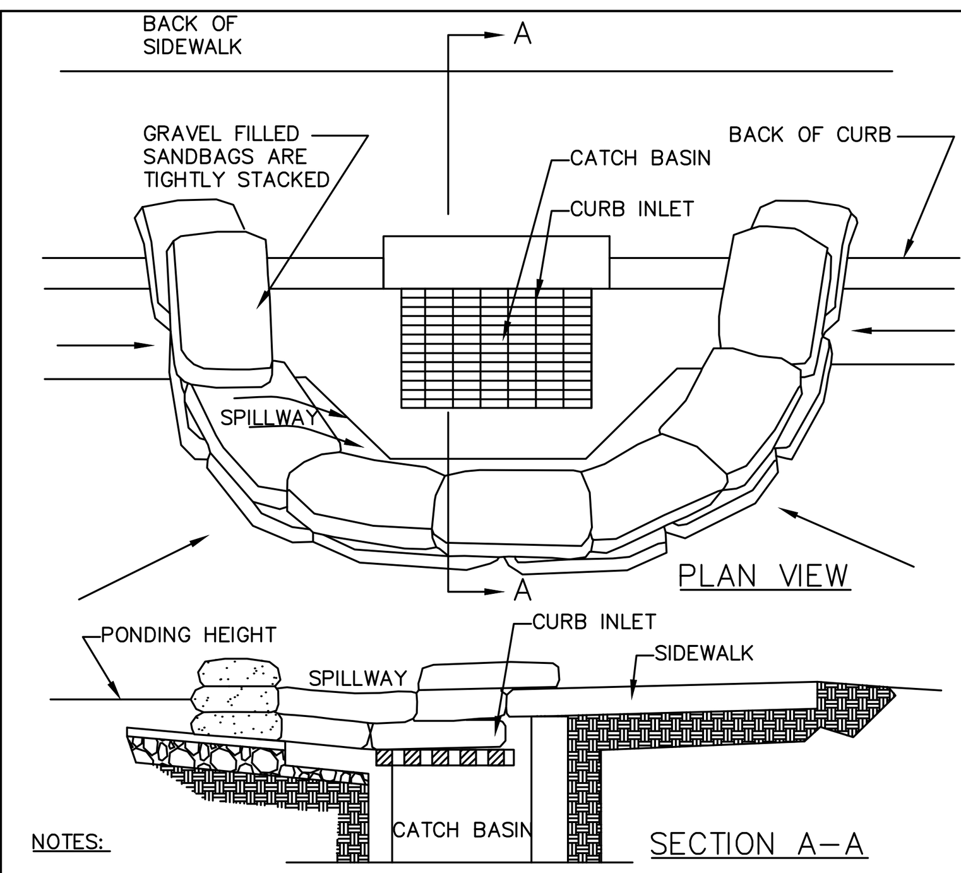
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION US APPLICABLE TO CURB INLETS WHERE A STURDY, COMPACT INSTALLATION IS DESIRED. EMERGENCY OVERFLOW CAPABILITIES ARE MINIMAL, SO EXPECT SIGNIFICANT PONDING WITH THIS MEASURE.

GRAVEL SHALL BE FDOT COARSE AGGREGATE #3, #357 OR #5

GRAVEL CURB INLET SEDIMENT FILTER WITH OVERFLOW METER

N.T.S.



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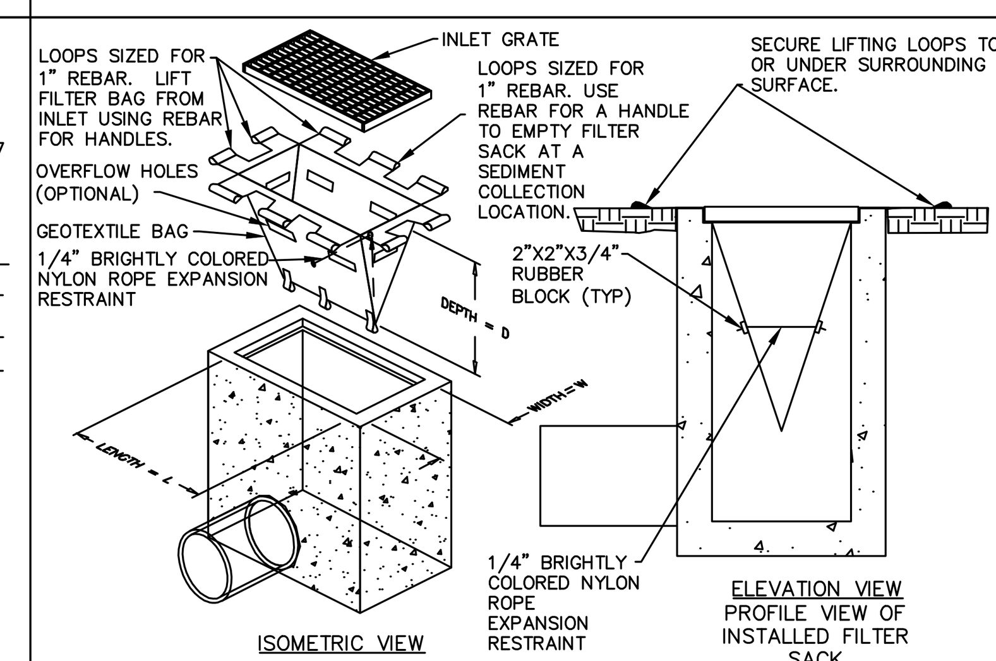
CURB INLET SEDIMENT BARRIER

N.T.S.



1. EMPTY FILTER SACK WHEN BRIGHTLY COLORED EXPANSION RESTRAINT CAN NO LONGER BE SEEN.
2. GEOTEXTILE WILL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
3. AN OIL ADSORBENT PAD OR PILLOW CAN BE PURCHASED WHEN OIL SPILLS ARE A CONCERN.
4. INSPECT PER REGULATORY REQUIREMENTS.
5. THE WIDTH, "W", OF THE FILTER SACK WILL MATCH THE INSIDE WIDTH OF THE GRATED INLET BOX.
6. THE DEPTH, "D", OF THE FILTER SACK WILL BE BETWEEN 18 INCHES AND 36 INCHES.
7. THE LENGTH, "L", OF THE FILTER SACK WILL MATCH THE INSIDE LENGTH OF THE GRATED INLET BOX.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

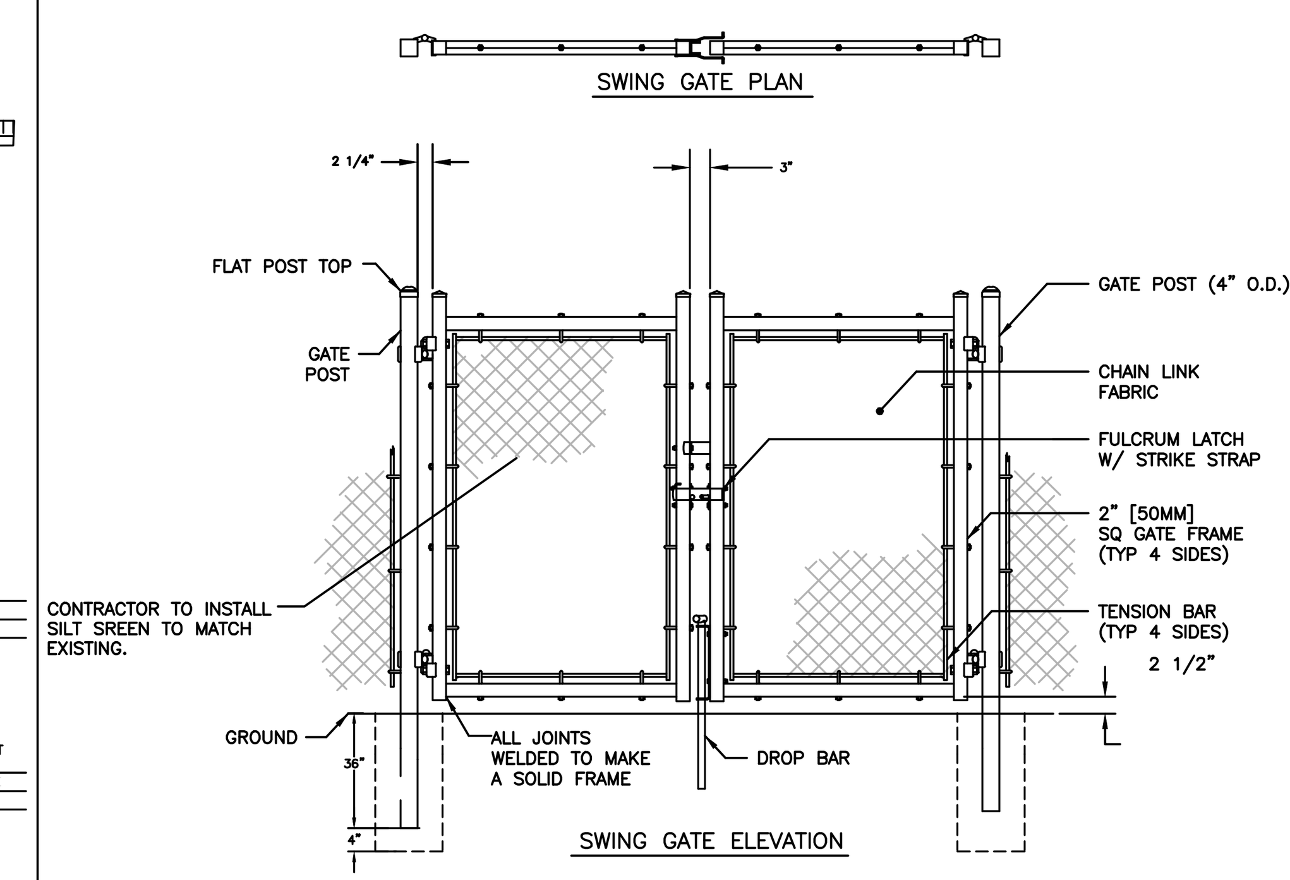
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

FILTER SACKS (GRATED INLETS)

DO NOT USE ON ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

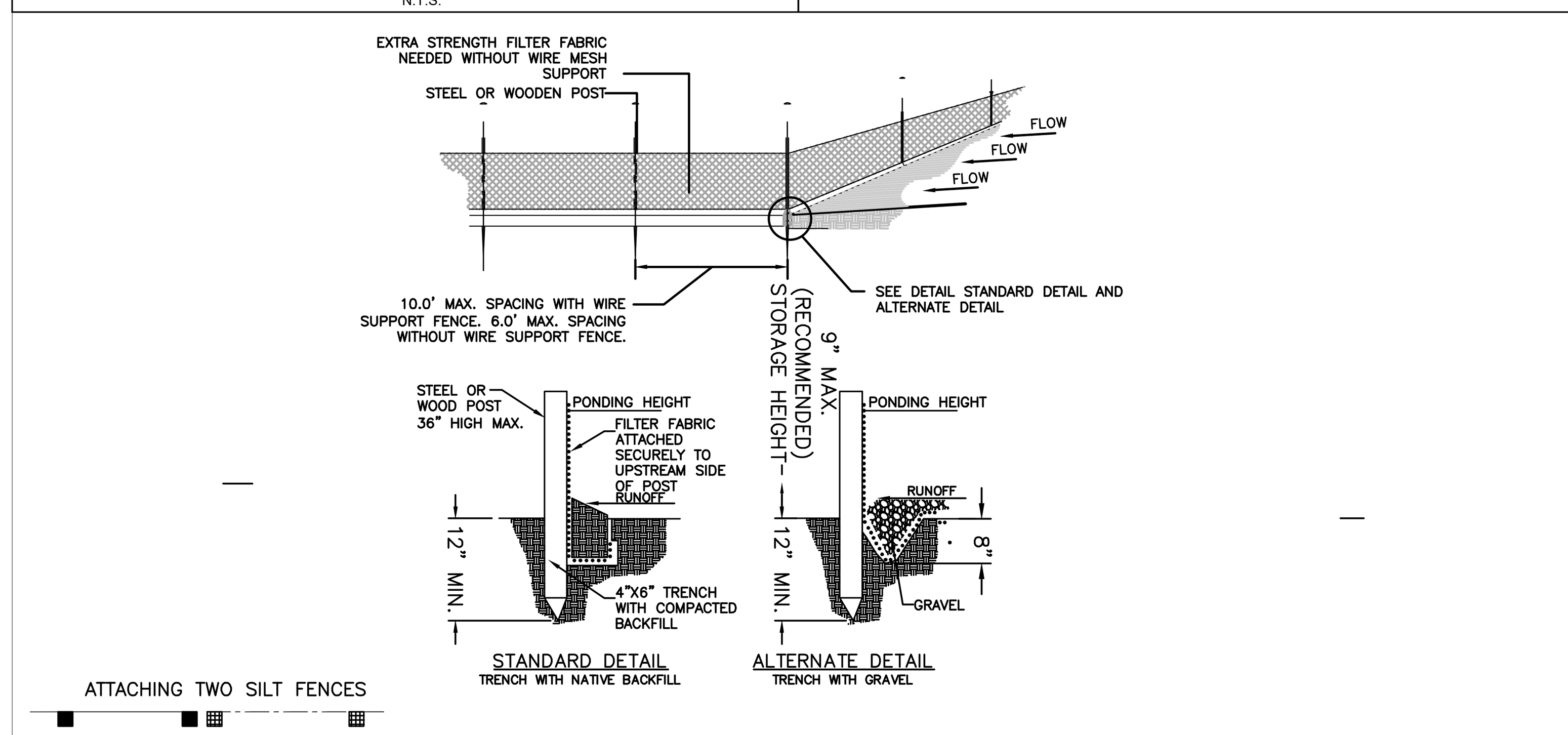
N.T.S.



GATE NOTES:

TEMPORARY 24' WIDE SWING GATES (FIRE DEPARTMENT ACCESSIBLE)

N.T.S.



ATTACHING TWO SILT FENCES

POST THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE

ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL

DIRECTION OF RUNOFF WATERS

DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY FLAP

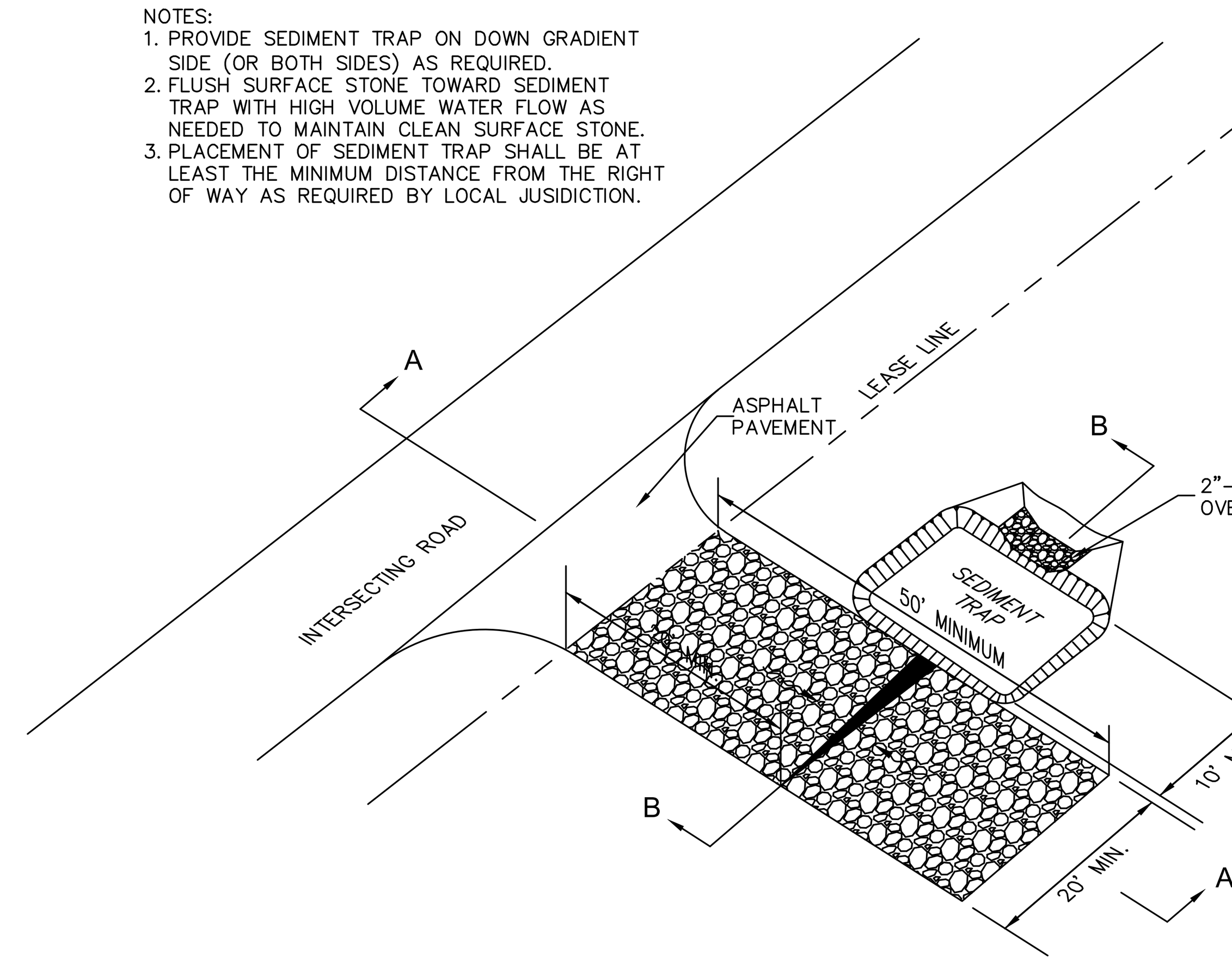
NOTES:

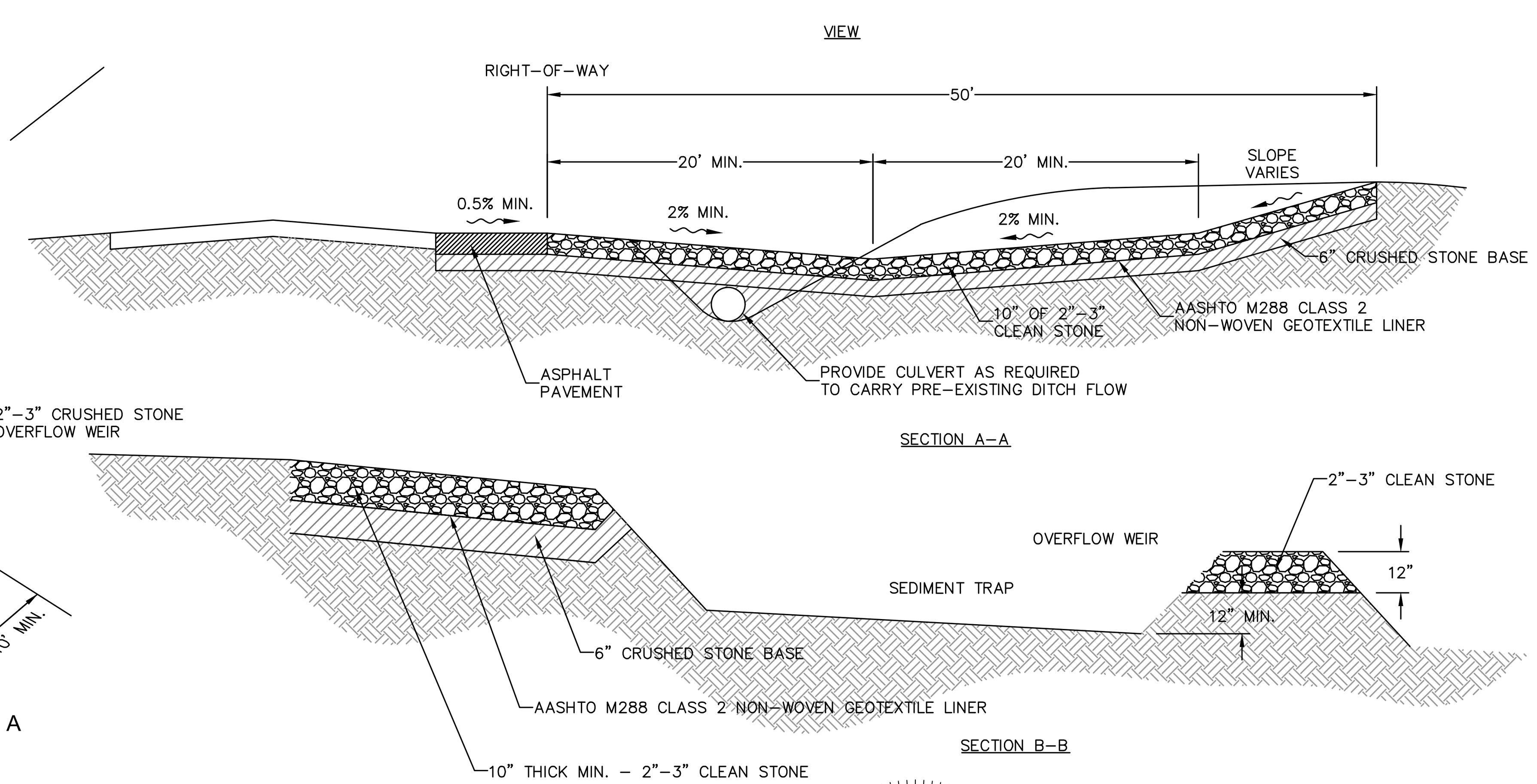
1. CONTRACTOR SHALL PERFORM DAILY INSPECTIONS OF GEO-TEXTILE FABRIC BARRIER AND AS NECESSARY REPLACE OR REPAIR AS REQUIRED. SPECIFICALLY AFTER STORM EVENTS AND LARGE RAINFALL EVENTS.
2. SEDIMENTATION AND DEBRIS THAT ARE REMOVED FROM BARRIERS SHALL BE LEGALLY DISPOSED OF AT AN AUTHORIZED OFF-SITE DISPOSAL FACILITY.

SEDIMENTATION/SILT FENCE

N.T.S.

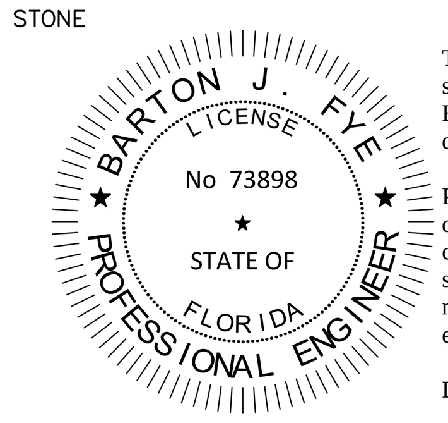
NOTES:
1. PROVIDE SEDIMENT TRAP ON DOWN GRADIENT SIDE (OR BOTH SIDES) AS REQUIRED.
2. FLUSH SURFACE STONE TOWARD SEDIMENT TRAP WITH HIGH VOLUME WATER FLOW AS NEEDED TO MAINTAIN CLEAN SURFACE STONE.
3. PLACEMENT OF SEDIMENT TRAP SHALL BE AT LEAST THE MINIMUM DISTANCE FROM THE RIGHT OF WAY AS REQUIRED BY LOCAL JUSIDICTION.





CONSTRUCTION ENTRANCE

N.T.S



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Date: 11/17/2021

No.	REVISIONS	DATE	BY

Kimley-Horn
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

EROSION CONTROL DETAILS

IRC LANDFILL

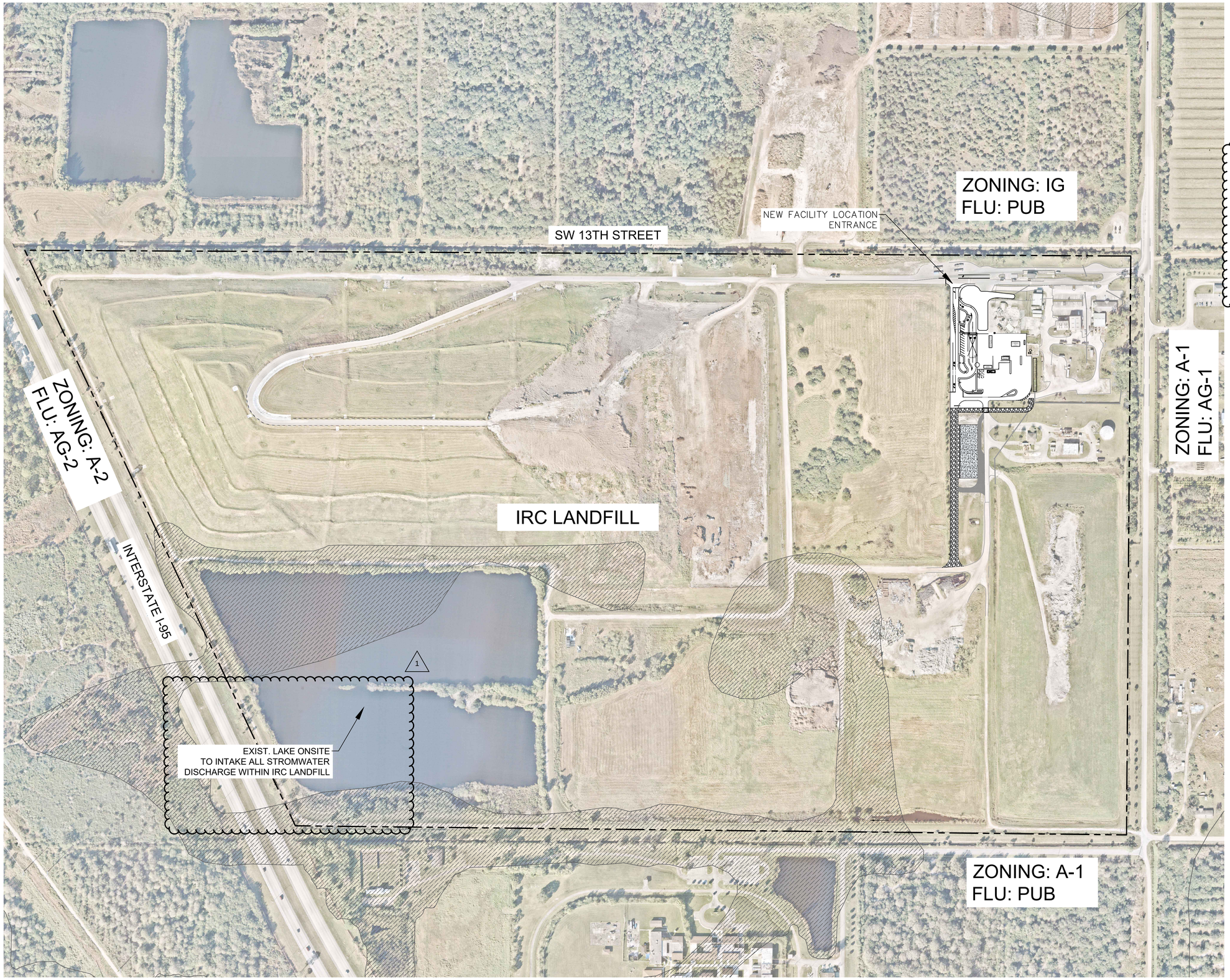
PREPARED FOR

INDIAN RIVER COUNTY

INDIAN RIVER COUNTY FL

SHEET NUMBER

C-320



1

LEGEND

RAW – PL RIGHT-OF-WAY LINE / PROPERTY LINE

FEMA HAZARDOUS FLOOD ZONE A
F.I.R.M. NO.: 12061C0355H

NOTES

1. 74TH AVE SW POSTED SPEED LIMIT = 45MPH
2. PROPOSED INTERCONNECTED DRAINAGE SYSTEM WILL CONNECT TO THE EXISTING STORM PIPE AS DESIGNATED ON PLAN SHEET.

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn
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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
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LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

OVERALL SITE PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-400

BARTON J. FYE
LICENSE
No 73898
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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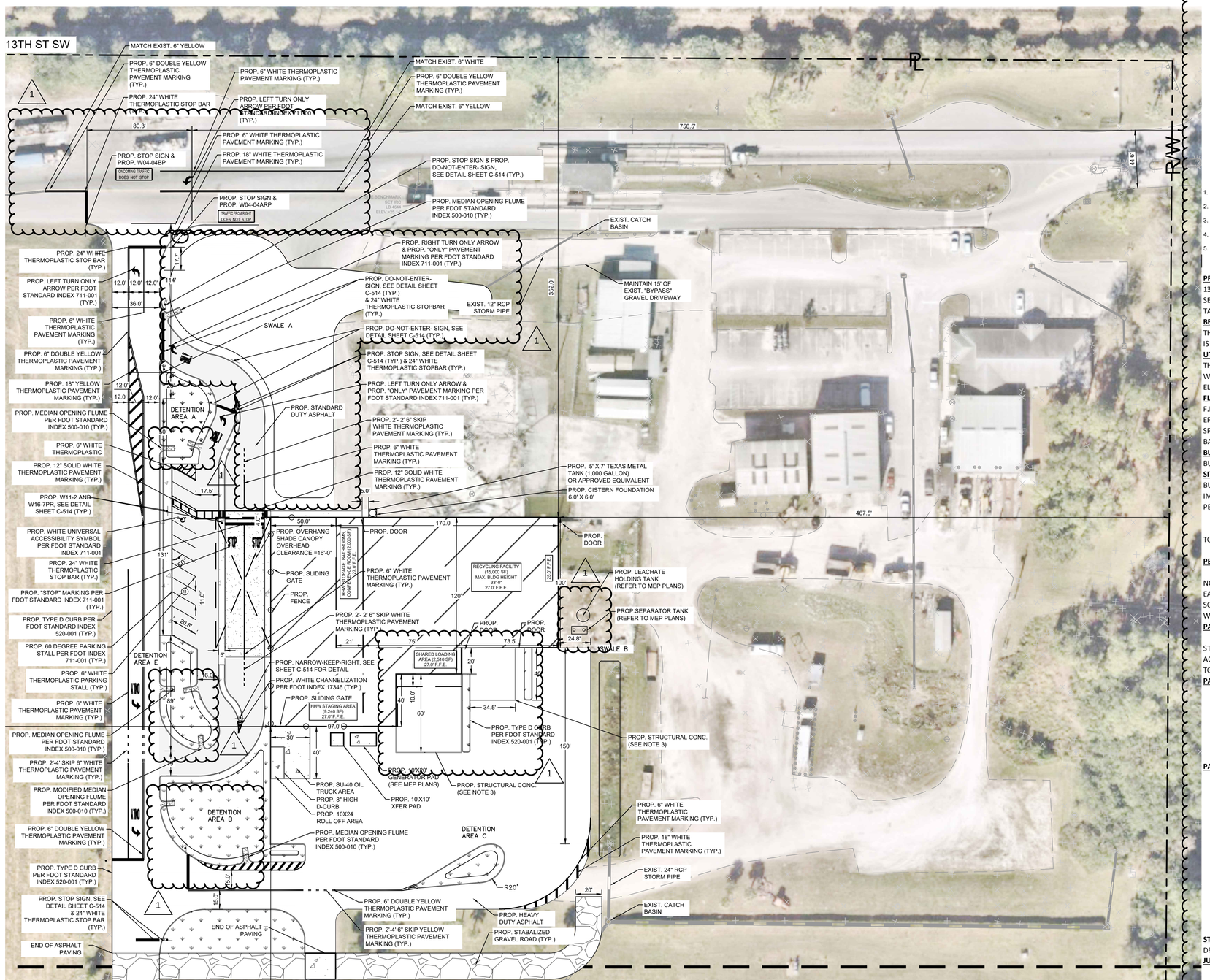

SEE SHEET C-411 FOR CONTINUATION

LEGEND

- RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- PROP. CONC. SIDEWALK
- EXIST. GRAVEL ROAD

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

NOTES:

1. STANDARD DUTY ASPHALT TO BE INSTALLED ONLY IN THE PEDESTRIAN PARKING LOT & DROP-OFF AREA.
2. HEAVY DUTY ASPHALT TO BE INSTALLED ONLY IN THE TRUCK COURT AND THE NORTHERN/SOUTHERN ACCESS ROAD.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CONCRETE PAVEMENT DETAIL.
4. ALL MEDIAN OPENING FLUMES TO BE CONSTRUCTED TO EXTEND DOWN TO THE BOTTOM OF ALL PONDS AND SWALES.
5. CONTRACTOR SHALL DIRECT ENTERING AND EXITING SEMI TRUCKS LOADED FOR DELIVERY AT THE EXISTING 80' X 240' CONCRETE PAD. SEMI TRUCKS LOADED AT THE EXISTING 80' X 240' CONCRETE PAD ARE ROUTED FOR DELIVERY TO ST. LUCIE COUNTY. A TEMPORARY TRAFFIC PLAN FOR THESE ACTIVITIES SHALL BE PROVIDED BY THE CONTRACTOR

PROJECT LOCATION
1325 74TH AVENUE SW, VERO BEACH, FL 32968
SECTION 25, TOWNSHIP 33, RANGE 38, INDIAN RIVER COUNTY, FL
TAX PARCEL ID: 33-28-25-00001-0090-00001.0

BENCHMARK NOTE:
THE PRIMARY BENCHMARK UTILIZED FOR THIS SURVEY
IS IRC BM267009, ELEVATION 20.50'

UTILITY PROVIDERS
THE PROJECT WILL BE SERVED BY:
WATER/SEWER INDIAN RIVER COUNTY
ELECTRIC FLORIDA POWER AND LIGHT

FLOOD ELEVATION
F.I.R.M NO.: 12061C0355H
EFFECTIVE DATE: 12/04/2012
SPECIAL FLOOD HAZARD AREA ZONE: ZONE X/ZONE A
BASE FLOOD ELEVATION: N/A

BUILDING HEIGHT
BUILDING HEIGHT: 33.0' (MAX. 35.0' ALLOWED)

SITE AREA

BUILDING COVERAGE AREA: 28,750 SQ FT	0.66 (AC)	8% (MAX. 20% ALLOWED)
IMPERVIOUS AREA: 100,277 SQ FT	2.86 (AC)	32%
PERVIOUS AREA: 230,965 SQ FT	5.34 (AC)	60%
GREEN OPEN SPACE: 220,618 SQ FT	5.10 (AC)	57%
GRAVEL ROAD: 10,348 SQ FT	0.24 (AC)	3%
TOTAL AREAS: 387,860 SQ FT	8.9 (AC)	100%

PERIMETER SETBACK

	REQUIRED	PROPOSED
NORTH (SIDE)	30 FT	352 FT
EAST (FRONT)	30 FT	467.5 FT
SOUTH (SIDE)	30 FT	2,085.5 FT
WEST (REAR)	30 FT	4,029 FT

PARKING SPACE SUMMARY

	REQUIRED	PROPOSED
STANDARD	N/A	10
ACCESSIBLE	N/A	1
TOTAL	N/A	11

PARKING SPACE NOTES
1 ALL PARKING SPACES WITH THE EXCEPTION OF HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE RETRO-REFLECTIVE PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, 2016, SECTION 710.
2 ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH THE FDOT STANDARD INDEX 17346, 2016 EDITION.
3 ALL COMPACT SPACES SHALL BE MARKED "COMPACT" ON THE STALL OR TIRE STOP.

PAVEMENT MARKINGS NOTES
1 SIGNS AND PAVEMENT MARKINGS ARE TO CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE INDIAN RIVER COUNTY TYPICAL DRAWINGS FOR ROADWAY SIGNING, STRIPING & GEOMETRICS.
2 FIRE LANES SHALL BE MARKED WITH FREE STANDING SIGNS, MARKED CURBS, OR SIDEWALKS HAVING THE WORDS "FIRE LANE - NO PARKING" PAINTED WITH A CONTRASTING COLOR AT A SIZE AND SPACING APPROVED BY THE FIRE DIVISION.
3 HANDICAP STALL PARKING SHALL MEET THE REQUIREMENTS OF FDOT STANDARD DESIGN INDEX 17346 'SPECIAL MARKING AREAS', LATEST EDITION.
4 ALL PARKING STALL WIDTHS SHALL BE DIMENSIONED FROM CENTERLINE TO CENTERLINE OF THE WHITE STRIPES.
5 MINIMUM SPACE BETWEEN STOP BAR AND CROSSWALKS SHALL BE 4'.
6 ALL PARKING SPACES WITH EXCEPTION OF THE HANDICAPPED PARKING SPACES SHALL BE STRIPED IN WHITE, RETRO-REFLECTIVE TRAFFIC PAINT AND BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITION, SECTION 710.

STORMWATER DETENTION
DRY DETENTION AREA: 203,32 SQ FT (0.47 AC)

JURISDICTIONAL AGENCY PERMITS

INDIAN RIVER COUNTY	- TYPE "B" STORMWATER PERMIT - TREE REMOVAL PERMIT -UTILITY CONSTRUCTION PERMIT(UCP) -IRC LAND CLEARING -IRC MAJOR SITE PLAN -WATER
FLORIDA DEP	-WASTEWATER

NET NEW TRIP GENERATION SUMMARY

DEVELOPMENT SCENARIO	AVERAGE WEEDAY DAILY GENERATION
EXISITNG DEVELOPMENT	56 VEHICLES TRIPS
PROPOSED REDEVELOPMENT	133 VEHICLE TRIPS
NET NEW REDEVELOPMENT	77 VEHICLE TRIPS

CONSTRUCTION TIMETABLE
CONSTRUCTION COMMENCEMENT SEPTEMBER 2021
CONSTRUCTION COMPLETION MARCH 2022

ZONING

EXISTING:	A-1 (AGRICULTURAL-1)
PROPOSED:	A-1 (AGRICULTURAL-1)
ADJACENT PROPERTIES:	
NORTH	IG (GENERAL INDUSTRIAL DISTRICT)
SOUTH	A-1 (AGRICULTURAL-1)
EAST	A-1 (AGRICULTURAL-1)
WEST	A-2 (AGRICULTURAL-2)

FUTURE LAND USE

EXISTING:	PUB (PUBLIC FACILITIES)
PROPOSED:	PUB (PUBLIC FACILITIES)
ADJACENT PROPERTIES:	
NORTH	C/I (COMMERCIAL/INDUSTRIAL)
SOUTH	PUB (PUBLIC FACILITIES)
EAST	AG-1 (AGRICULTURAL-1 (1 UNIT/5 ACRES)
WEST	AG-2 (AGRICULTURAL-2 (1 UNIT/10 ACRES)

BARTON J FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

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Date: 11/17/2021

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No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn
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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF DATE:

SITE PLAN I

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY FL
INDIAN RIVER COUNTY

SHEET NUMBER
C-410

SEE SHEET C-410 FOR CONTINUATION

1

NORTH

LEGEND

GRAPHIC SCALE IN FEET
0 20 40 80

- R/W – ℄ RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- PROP. CONC. SIDEWALK
- EXIST. GRAVEL ROAD

NO.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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LICENSED PROFESSIONAL

DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

SITE PLAN II

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-411

BARTON J. FYE LICENSE No 73898 STATE OF FLORIDA PROFESSIONAL ENGINEER

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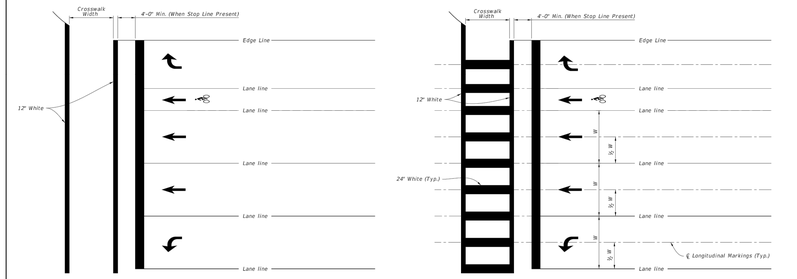


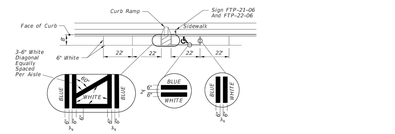
STANDARD CROSSWALK DETAILS

SPECIAL EMPHASIS CROSSWALK DETAILS

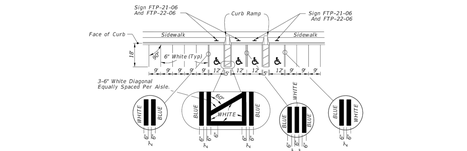
NOTES:

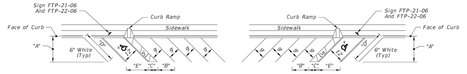
1. For crosswalk width, exceed width of the adjacent sidewalk, but do not make width less than 6' for intersection crosswalks and 10' for midblock crosswalks. Measure width from the inside of the transverse crosswalk markings.
2. When the Special Emphasis Crosswalk is not perpendicular to the lane lines, make the longitudinal markings parallel to the lane lines.
3. Refer to Index 522-002 when Curb Ramps are present.

LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
02/05/21	Added railroad pavement marking details.				711-001	10 of 14



TYPICAL





FORWARD-IN PARKING

REVERSE-IN PARKING

*FOR ACCESSIBLE MARKINGS - SEE ABOVE

DIMENSIONS						
∠ θ	"A"	"B"	"C"	"D"	"E"
45°	17'-0"	12'-9"	7'-0"	24'-0"	17'-0"

PAVEMENT MARKING FOR PARKING

(See Note 6)

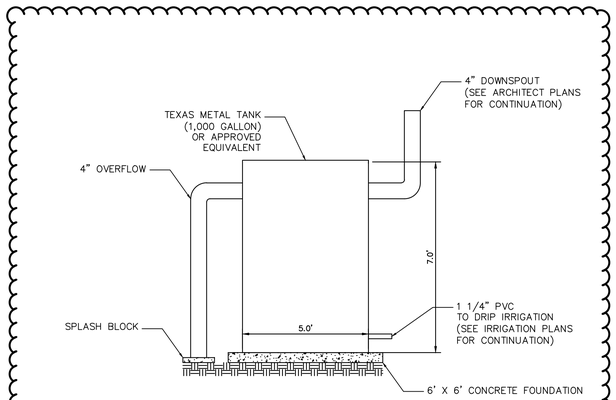
UNIVERSAL SYMBOL OF ACCESSIBILITY

NOTES:

1. Dimensions are to the centerline of markings.
2. An Access Aisle is required for each accessible space when angle parking is used.
3. Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
4. Tint blue pavement markings to match color 15180 of Federal Standards 595a.
5. Mount FTP-22-06 sign below the FTP-21-06 sign.
6. Use of the pavement symbol in accessible parking spaces is optional. When pavement symbol is used, the symbol is either 3'-0" or 5'-0" high and white in color.

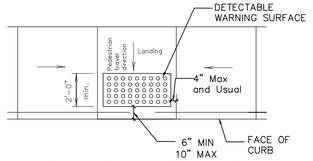
LAST REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
02/05/21	Added railroad pavement marking details.				711-001	12 of 14

1

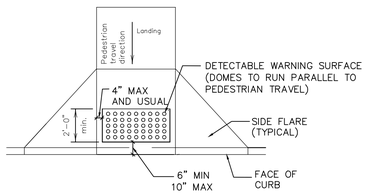


RAINWATER CISTERN

N.T.S.



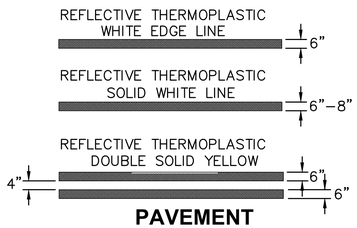
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

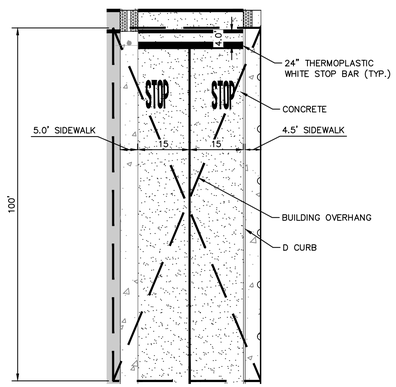
DETECTABLE WARNINGS

N.T.S.



PAVEMENT LINES

N.T.S.



DROP-OFF DRIVEWAY DETAIL

N.T.S.

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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PHONE: 305-673-2025
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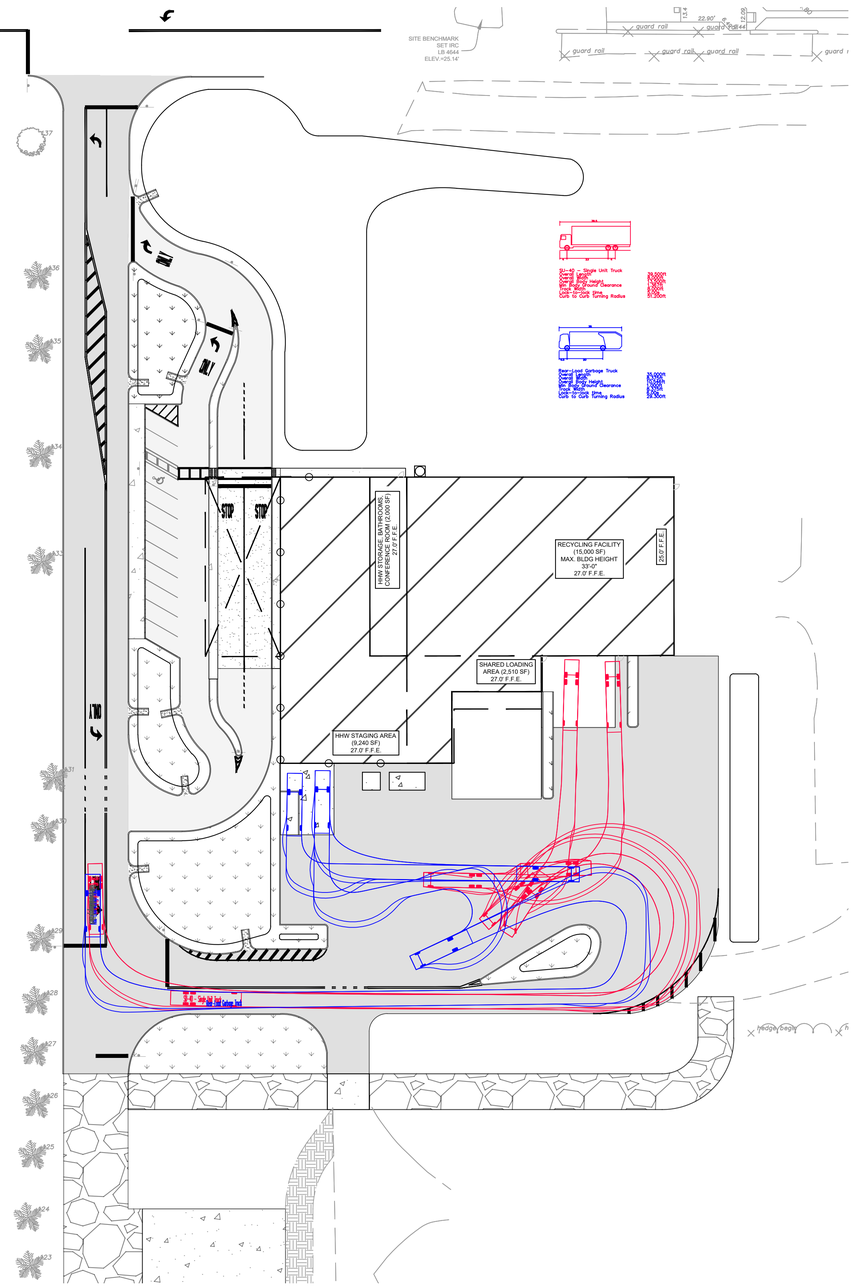
LICENSED PROFESSIONAL

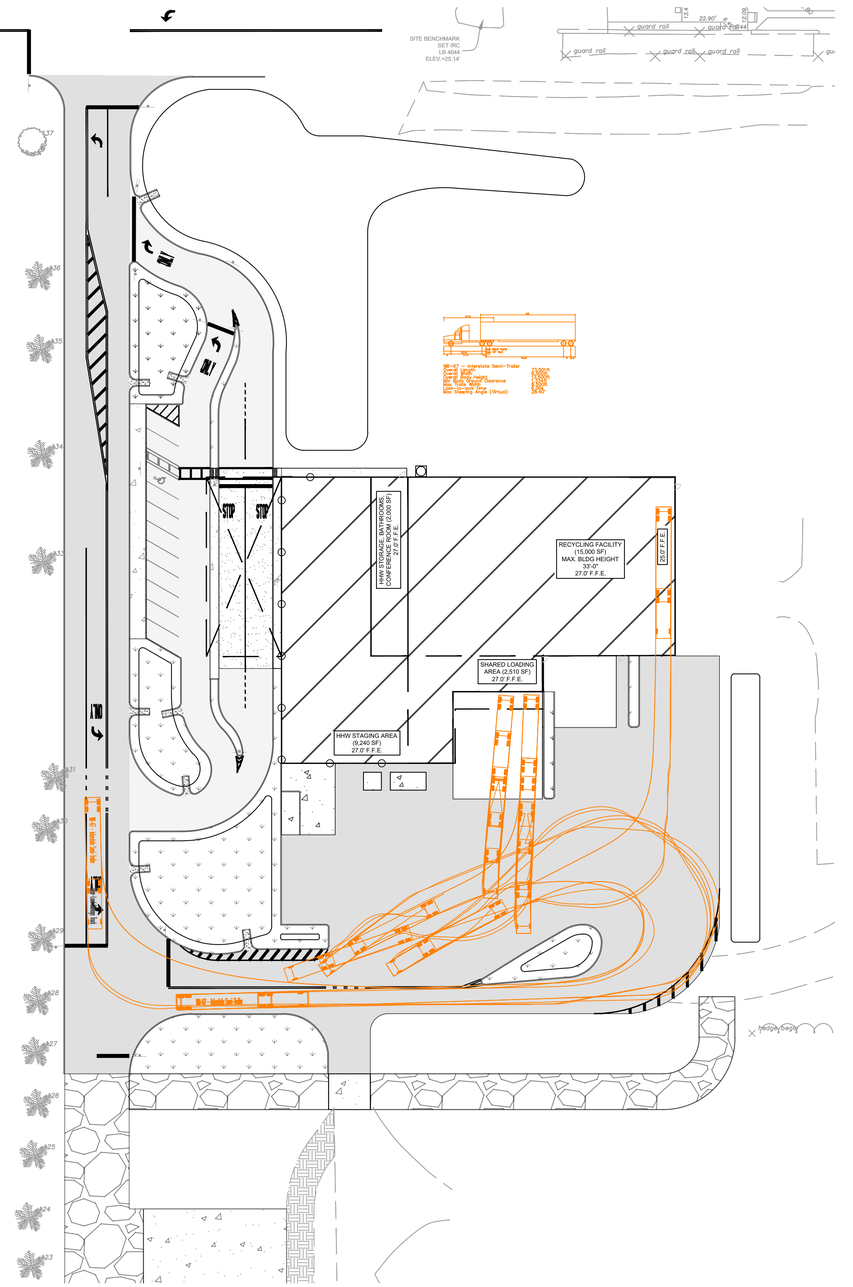
KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

SITE PLAN DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-412





GRAPHIC SCALE IN FEET
0 20 40 80

No.	REVISIONS	DATE	BY

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LICENSED PROFESSIONAL

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	MRG
CHECKED BY	BF
DATE:	

MANEUVERABILITY

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-420

BARTON J. FYE
LICENSE
No 73898
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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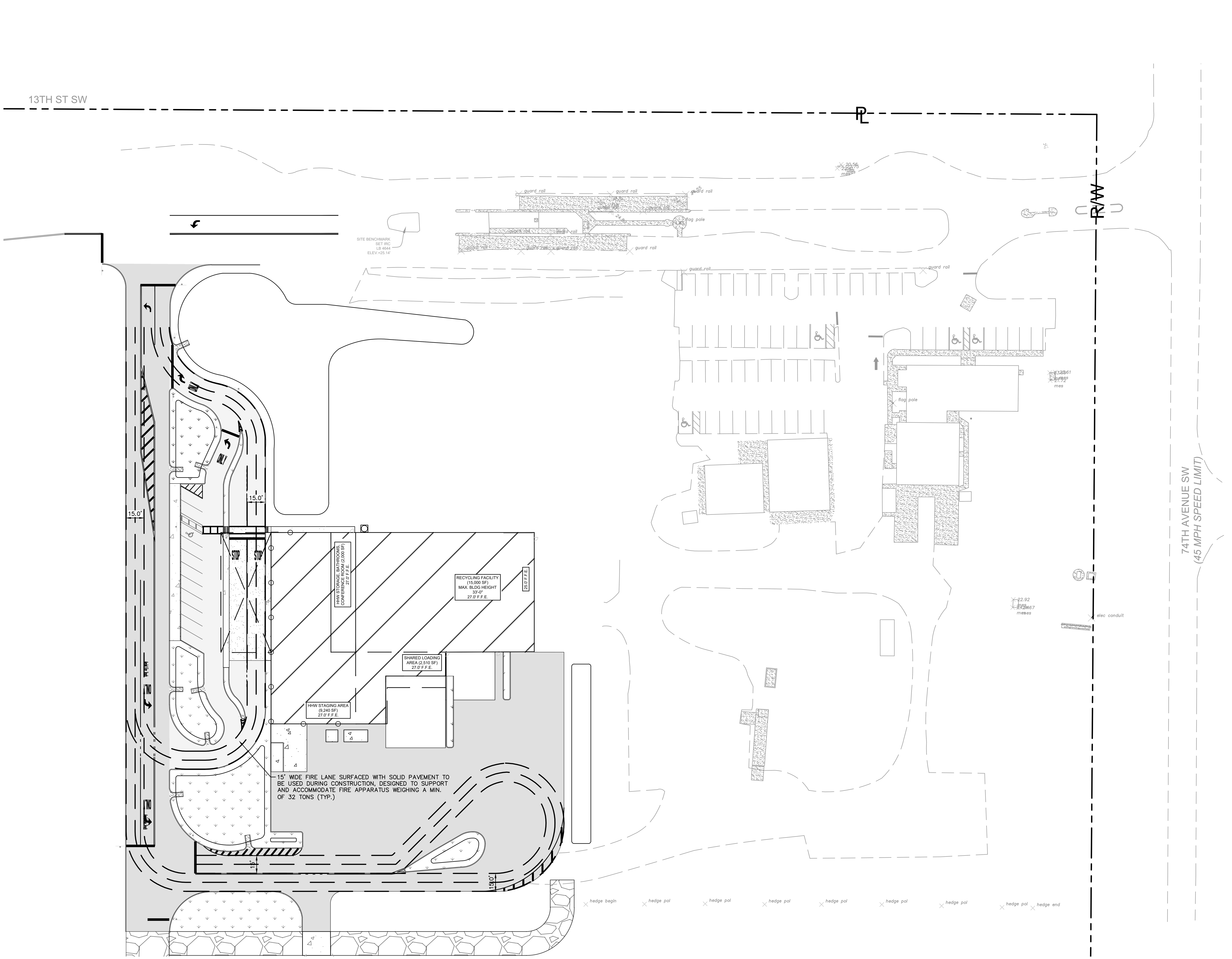

GRAPHIC SCALE IN FEET

0 20 40 80

LEGEND

- R/W — PL — RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- PROP. CONC. SIDEWALK

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn

355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

FIRE ACCESS PLAN

IRC LANDFILL

PREPARED FOR

INDIAN RIVER COUNTY

INDIAN RIVER COUNTY FL

SHEET NUMBER

C-450

BARTON J. FYE LICENSE No 73898 STATE OF FLORIDA PROFESSIONAL ENGINEER

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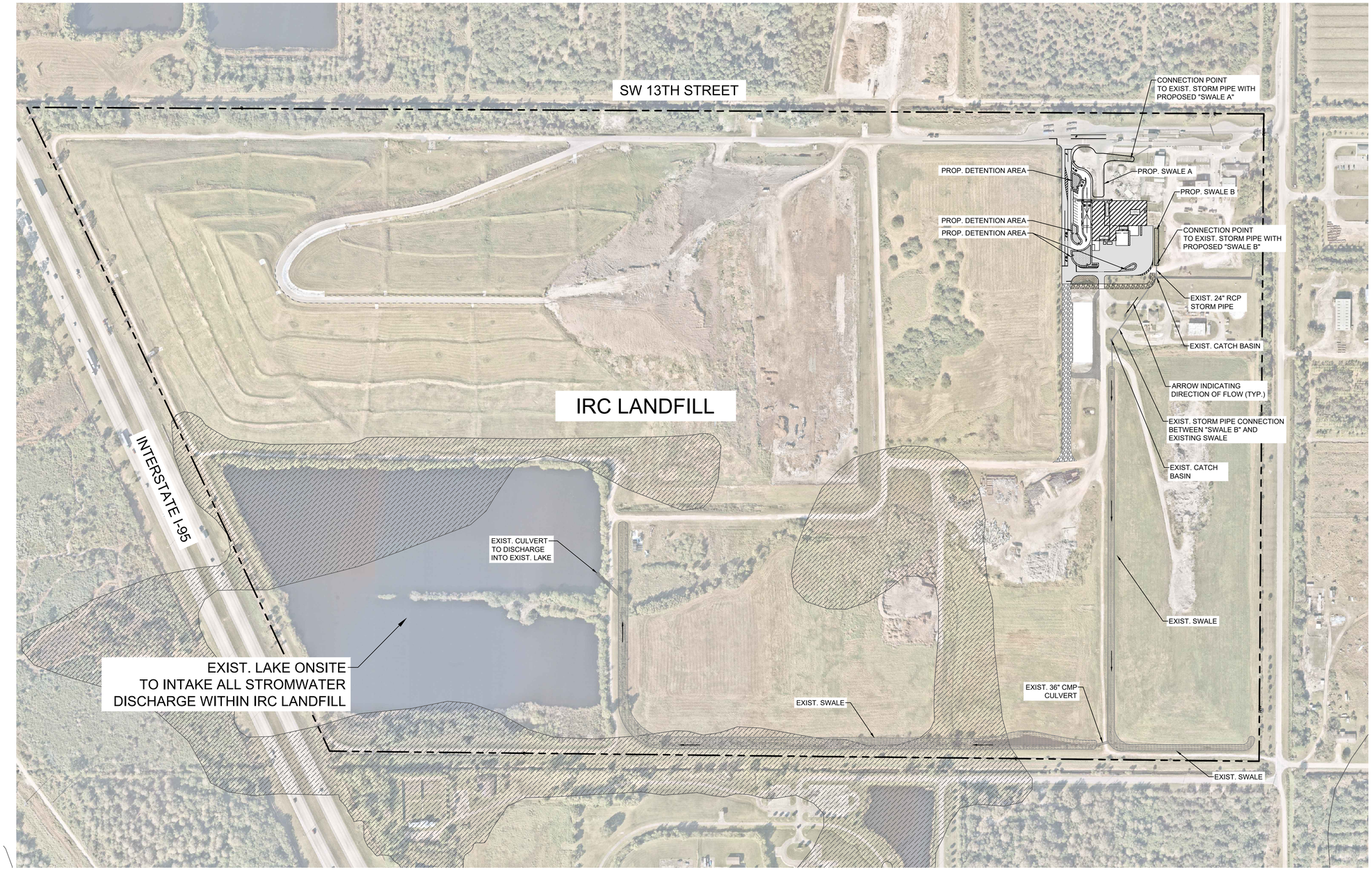

NORTH

GRAPHIC SCALE IN FEET
0 100 200 400

LEGEND

RAW – PL RIGHT-OF-WAY LINE / PROPERTY LINE

FEMA HAZARDOUS FLOOD ZONE A
F.I.R.M. NO.: 12061C0355H

NOTES

1. 74TH AVE SW POSTED SPEED LIMIT = 45MPH
2. PROPOSED INTERCONNECTED DRAINAGE SYSTEM WILL CONNECT TO THE EXISTING STORM PIPE AS DESIGNATED ON PLAN SHEET.

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

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No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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LICENSED PROFESSIONAL

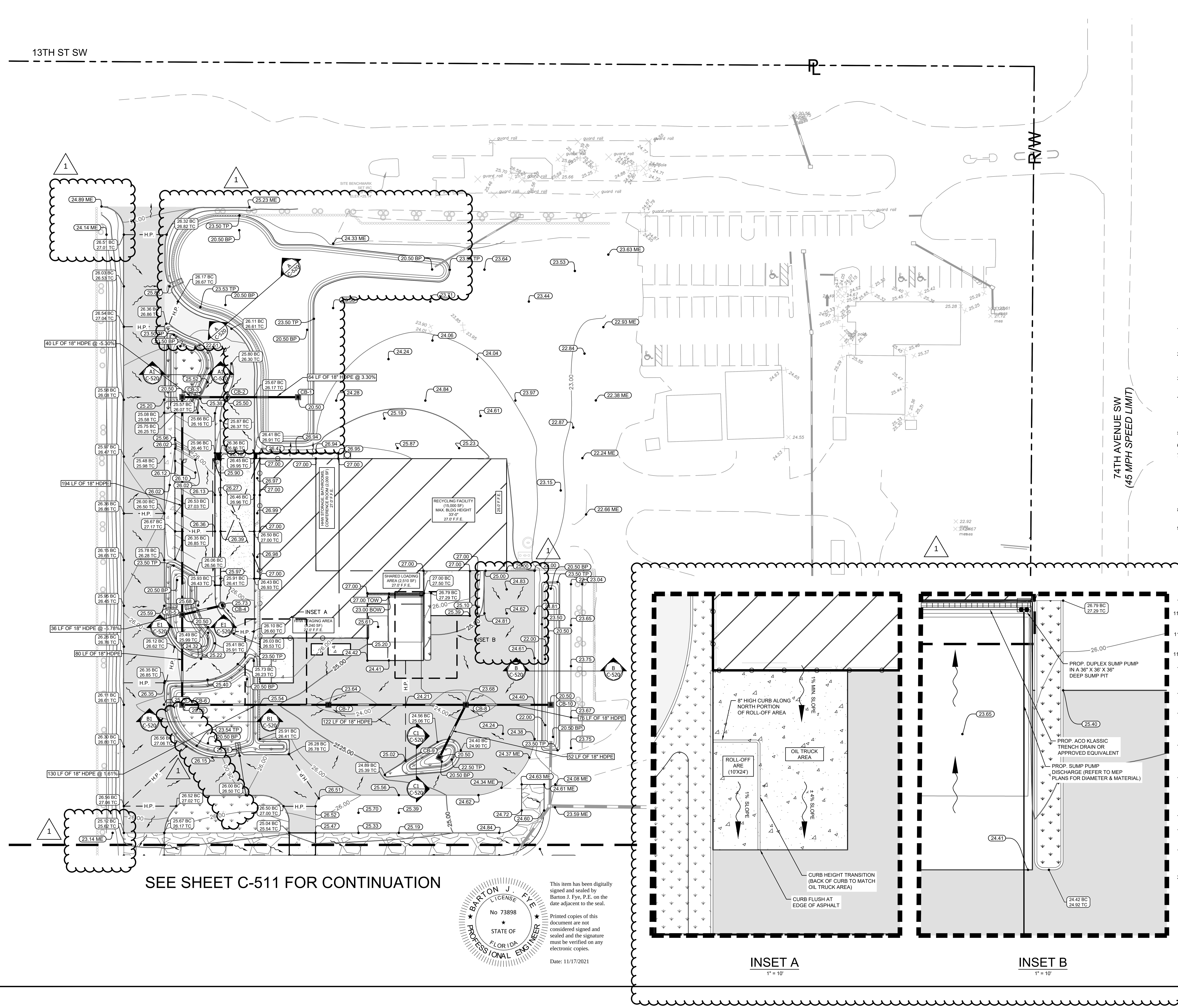
KHA PROJECT	143228000		
DATE	JULY 2021		
SCALE	AS SHOWN		
DESIGNED BY	MRG	DATE:	
DRAWN BY	RMR		
CHECKED BY	BF		

OVERALL DRAINAGE PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY FL

INDIAN RIVER COUNTY

SHEET NUMBER
C-500



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- R/W – PL — RIGHT-OF-WAY LINE / PROPERTY LINE
- – – H.P. – – — HIGH POINT (H.P.)
- FLOW ARROW
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- PROP. CONC. SIDEWALK
- 25.00 ME — PROP. MATCH EXISTING ELEVATION
- 25.00 — PROP. ELEVATION
- 25.00 TP — PROP. TOP OF POND ELEVATION
- 25.00 BP — PROP. BOTTOM OF POND ELEVATION

NOTES:

1. CONTRACTOR TO CONSTRUCT DRAINAGE STRUCTURES WITH USF GRATES, RIMS AND COVERS AS CALLED OUT OR APPROVED EQUAL.SHOP DRAWINGS ARE TO BE PROVIDED TO ENGINEER FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
2. CONTRACTOR TO REFER TO FDOT DESIGN STANDARD (AND NOT LIMITED TO) INDEX'S 200, 201, 210, 211, 214, 232 & 233 FOR MANHOLE, INLET AND GRATE SPECIFICATIONS.
3. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED WITH (4) SIDED BEARING HEAVY DUTY H-20 RATED TRAFFIC RIMS AND GRATES.
4. CONTRACTOR TO VERIFY ALL EXISTING UTILITY RINGS AND COVERS ON SITE ARE HEAVY DUTY TRAFFIC RATED. TO REPLACE DEFICIENT RINGS AND COVERS WITH HEAVY DUTY TRAFFIC RATED RINGS AND COVERS. CONTRACTOR TO ADJUST RIM ELEVATIONS TO MATCH PROPOSED FINISHED GRADE OF ANY EXISTING UTILITIES TO REMAIN THAT CHANGE IN ELEVATION DURING CONSTRUCTION.
5. ALL CLEANOUT COVERS SHOULD BE RATED FOR HEAVY DUTY TRAFFIC.
6. ALL EXISTING PAVEMENT AND CONCRETE TO BE JOINED SHALL BE SAWCUT.
7. SIDEWALKS AND CROSSWALKS SHALL NOT EXCEED 2% CROSS SLOPE NOR 5% LONGITUDINALLY. GRADES IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION. IN CASES OF SIDEWALK AT BUILDING ENTRANCES, GRADES SHALL NOT EXCEED 2% IN ANY DIRECTION. ACCESSIBLE CURB RAMPS SHALL NOT EXCEED 6' IN LENGTH, 6" RISE, AND 1:12 SLOPE. LANDINGS ASSOCIATED WITH RAMPS AND AT CHANGES IN DIRECTION SHALL BE MINIMUM 60"X60" AND SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION. MINIMUM GRADE ON SIDEWALKS IN THE FIRST TEN (10) FEET ADJACENT TO BUILDINGS SHALL BE 1.5% MINIMUM.
8. SPOT ELEVATIONS ARE AT FACE OF CURB AND EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
9. EXISTING GRADES AND DRAINAGE HAVE BEEN TAKEN FROM A SURVEY PREPARED BYMASTELLER, MOLER & TAYLOR,INC. DATED MARCH 5, 2020. THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988. THE PRIMARY BENCHMARK UTILIZED IS IRC BM267009, ELEV. = 20.50'. SITE BENCHMARKS ARE AS SHOWN.
10. HDPE STORM PIPE-CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE STORM DRAINAGE PIPE INSTALLATION MANUAL AND SPECIFICATIONS AND COMPLYING WITH ALL MANUFACTURER'S INSTALLATION PROCEDURES AND REQUIREMENTS. TESTING OF BACKFILL MATERIAL AND COMPACTION OF BACKFILL MATERIAL IS THE CONTRACTOR'S RESPONSIBILITY.
11. ROOF DRAIN CONNECTIONS TO DRAINAGE PIPE SHALL BE AS FOLLOWS:

11.A. FOR ADS N-12 CORRUGATED POLYETHYLENE DRAINAGE PIPE USE ADS DUAL WALL FABRICATED REDUCING SADDLE TEE4"-24" DIAMETER.

11.B. FOR RCP DRAINAGE PIPE MAKE CONNECTION PER FDOT INDEX280,CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE DETAIL

11.C. NOTIFY CONSULTANT FOR CONNECTION METHOD TO STEEL PIPE.

12. ALL DRAINAGE PIPE JOINTS SHALL BE FILTER FABRIC WRAPPED PER FDOT INDEX #280. ALL DRAINAGE PIPE JOINTS NEED TO BE FILTER FABRIC WRAPPED REGARDLESS OF MATERIAL.
13. EXISTING STORM INLETS AND PIPES ON PROPERTY TO BE JETTED AND CLEANED PRIOR TO ENGINEER'S ACCEPTANCE OF SYSTEM.
14. CONTRACTOR SHALL COORDINATE PAVING IMPROVEMENTS TO AVOID TIRE MARKS FROM CONSTRUCTION ACTIVITY. FINAL PAVING SHALL BE AS SMOOTH AS POSSIBLE AND FREE FROM ANY MARKS, SCRAPES, GOUGES, TIRE MARKS, ETC. CAUSED DURING CONSTRUCTION ACTIVITY.
15. CONTRACTOR TO ENSURE POSITIVE RUNOFF FROM THE BUILDING. PAVING SHALL BE FREE OF PONDING AND MAINTAIN POSITIVE OUTFALL TO THE DRAINAGE SYSTEM. CONTRACTOR SHALL FIELD VERIFY EXISTING DRAINAGE PATTERNS AND TIE-IN GRADES AND ALERT OWNER AND ENGINEER SHOULD ANY CONFLICTS ARISE.
16. DURING CONSTRUCTION AND AFTER FINAL GRADING, NO SURFACE WATER RUNOFF MAY BE DIRECTED TO ADJACENT PROPERTIES, AND ALL SURFACE WATER RUNOFF MUST BE ROUTED TO APPROVED DRAINAGE FACILITIES OR BE RETAINED ON SITE. ALL RUNOFF FROM THE SITE, BOTH DURING AND AFTER CONSTRUCTION, MUST BE FREE OF POLLUTANTS, INCLUDING SEDIMENT, PRIOR TO DISCHARGE.
17. ALL SLOPES STEEPER THAN 6:1 SHALL BE SODDED.
18. ALL SIDEWALKS BEHIND AND ADJACENT TO LANDSCAPE ISLANDS WILL BE SLOPED TO PREVENT STANDING WATER ALONG THE LANDSCAPE ISLAND.
19. ALL MEDIAN OPENING FLUMES TO BE CONSTRUCTED PER FDOT STANDARD INDEX 500-010 AND EXTEND DOWN TO THE BOTTOM OF ALL PONDS AND SWALES, UNLESS OTHERWISE NOTED.
20. EACH PUMP IN THE DUPLEX SUMP PUMP MUST HAVE A DISCHARGE RATE OF 80 GMP @ 5' TDH.

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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PHONE: 305-673-2025
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LICENSED PROFESSIONAL

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

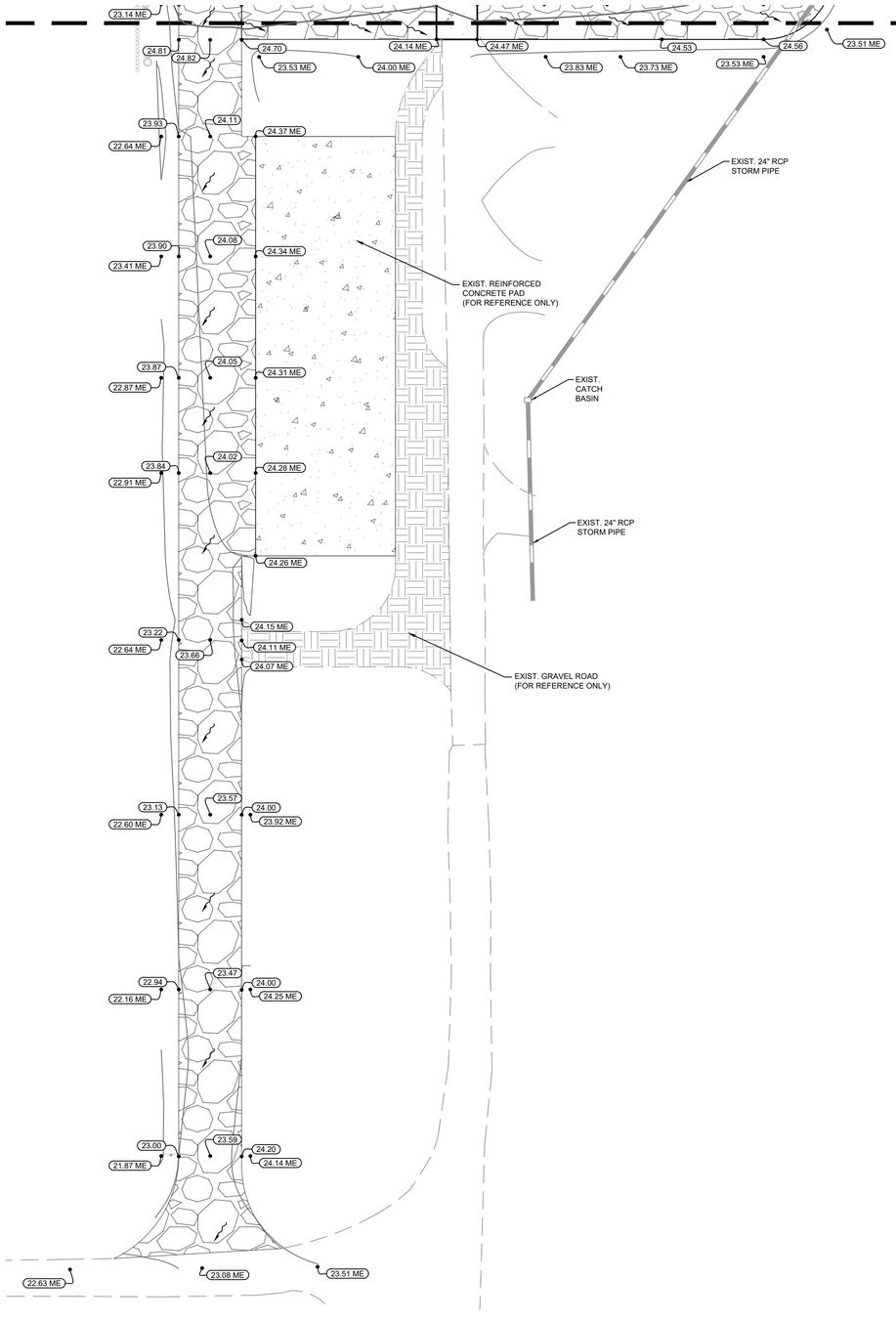
PAVING, GRADING AND DRAINAGE PLAN

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-510

SEE SHEET C-510 FOR CONTINUATION



74TH AVENUE SW
(45 MPH SPEED LIMIT)

R/W

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- R/W – P/L — RIGHT-OF-WAY LINE / PROPERTY LINE
- – – H.P. – – — HIGH POINT (H.P.)
- FLOW ARROW
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
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- 25.00 BP — PROP. BOTTOM OF POND ELEVATION

1

DRAINAGE STRUCTURE TABLE			
STRUCTURE NUMBER	STRUCTURE TYPE	RIM ELEVATION	INVERT ELEVATION
CB–1	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS	RIM = 20.50	(18") 17.00 (W)
CB–2	PROP. P9 CURB INLET PER FDOT	RIM = 25.50	(18") 19.10 (W) * (18") 19.10 (E) *
CB–3	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS	RIM = 20.50	(18") 17.00 (E) (18") 17.00 (S)
CB–4	PROP. P9 CURB INLET PER FDOT	RIM = 25.73	(18") 19.10 (W) *
CB–5	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS	RIM = 20.50	(18") 17.00 (N) (18") 17.00 (E) (18") 17.00 (S)
CB–6	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS WITH 60" TYPE J BOTTOM PER FDOT INDEX 425–010	RIM = 20.50	(18") 17.00 (E) (18") 17.00 (N)
CB–7	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS	RIM = 23.62	(18") 19.10 (E) (18") 19.10 (W)
CB–8	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS WITH 60" TYPE J BOTTOM PER FDOT INDEX 425–010	RIM = 23.68	(18") 17.00 (SW) * (18") 19.10 (W) (18") 17.00 (E) *
CB–9	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS	RIM = 20.50	(18") 17.00 (NE)
CB–10	PRECAST DITCH BOTTOM INLET – TYPE C 10 FT. OR LESS	RIM = 20.50	(18") 17.00 (W)

*POLLUTION PREVENTION BAFFLE REQUIRED

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

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Date: 11/17/2021

Sunshine811
Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

NO.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn

355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

PAVING, GRADING AND DRAINAGE PLAN II

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-511

1

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Date: 11/17/2021

BARTON J. FYE
LICENSE
No 73898
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn
© 2021 KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

PAVING, GRADING AND DRAINAGE DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY

INDIAN RIVER COUNTY FL

SHEET NUMBER
C-512

ROADWAY PAVING, GRADING, AND DRAINAGE

GENERAL

It is intended that the Florida Department of Transportation "Standard Specifications for Road and Bridge Construction" (latest edition) be used where applicable for various work, and that where such wording therein refers to the State of Florida and its Department of Transportation and personnel, such wording is intended to be replaced with that wording which would provide proper terminology, thereby making such "Standard Specifications for Road and Bridge Construction" as the Standard Specifications for this project.

If within that particular section another section, article or paragraph is referred to, it shall be part of the Standard Specifications also.

All work shall be performed in a workmanlike manner and shall conform with all applicable City, County, State and Federal Regulations and/or Codes. The Contractor shall also be responsible for obtaining all permits and licenses required to begin work.

The Contractor shall give the Engineer 24 hours notice prior to requesting required inspections and shall supply all equipment necessary to properly test and inspect the completed work.

The Contractor shall guarantee all work and materials for a period of one year from the date of project acceptance, during which time all faulty construction and/or materials shall be corrected at the Contractor's expense.

GENERAL NOTES

The Contractor shall be responsible for protecting all existing above–ground, underground, and on the surface structures and utilities against the construction operation that may cause damage to said facility. The Contractor shall be responsible consequential damages resulting from lack of protection.

The locations of existing underground utilities are shown in an approximate way only and have not been independently verified by the Owner or its representative. The Contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the Contractor's failure to exactly locate and preserve any and all underground utilities.

The Contractor shall give adequate notification to all affected utility owners for removal, relocation, and alteration of their existing facilities.

Where encountered, unsuitable material shall be removed to a depth and area determined by the Engineer and backfilled with clean granular sand or select material approved by the Engineer. Backfilling shall be in layers not greater than 8" thickness and compacted to 100 percent of the maximum density as determined by AASHTO T–99–C.

Contractor is responsible for checking actual site conditions before starting construction.

Street or highway restoration work is to be done as per local or state agency having jurisdiction.

The Contractor shall comply with all rules and regulations of the State, County and City authorities regarding closing or restricting the use of public streets or highways.

Traffic control on all county and state highway rights–of–way shall meet the requirements of the Manual of Uniform Traffic Control Devices (U.S. DOT/FHA) and the requirements of the state and any local agency having jurisdiction.

CLEARING AND GRUBBING

All trees, brush, stumps, roots, grass, weeds, rubbish, and other obstructions resting on or lying within 12" below finished grade or subgrade shall be completely removed for the full width of all pavement, swales, utility easements and drainage easements. All work shall be performed in accordance with Section 110 of the Standard Specifications.

DISTURBED AREAS

All areas disturbed within right–of–way by construction shall be sodded as specified below:

Sodding:

Within the limits delineated in the plans, the Contractor shall, after final grading and cleanup, establish a stand of grass by furnishing and placing sod in accordance with Section 575 of the Standard Specifications. The Contractor shall water the sodded area to maintain moisture levels for optimum growth to assure a healthy stand of grass. Sod shall be Bahia grass sod. Sod shall be rolled and top dressed as required by the engineer.

GRADING

Contractor shall perform all necessary grading to achieve the typical road sections as per plan. All workmanship shall be in accordance with the Standard Specifications.

STAKING

If construction staking is performed by the Owner, loss or disturbance of control points due to negligence by the Contractor will be replaced at the Contractor's expense.

STABILIZING

Stabilized subgrade shall be constructed to the Florida bearing value as per plan for the depth and limits shown on the plan, and in accordance with Section 160 of the Standard Specifications.

All stabilized areas shall be compacted to at least 98% of the maximum density as determined by AASHTO T–180.

ROCK BASE

Rock base shall be constructed of either limerock material in accordance with Section 911 or cemented coquina shell material in accordance with Section 915 of the Standard Specifications.

Limerock base shall be constructed in accordance with Section 200 and cemented coquina shell base shall be constructed in accordance with Section 230 of the Standard Specifications. Contractor shall provide rock pit certification for cemented coquina shell material.

Rock base shall be constructed to the depth and limits as shown on the plan. The rock base shall be compacted to at least 98% of the maximum density as determined by AASHTO T–180 and shall be primed.

PRIME AND TACK COAT

Prime and tack coats for the base course shall be in accordance with Section 954.10 of the Indian River County Land Development Regulations and Section 300 of the Standard Specifications.

ASPHALTIC CONCRETE SURFACE COURSE (ACSC)

Asphaltic Concrete Surface Cource (ACSC) shall be constructed for the depth and limits shown on Sheet C–301, and in accordance with Sections 320, 330, and 334 of the Standard Specifications unless otherwise specified.

SIGNING AND PAVEMENT MARKING

All parking spaces, with the exception of the handicapped parking spaces, shall be marked in white, retro–reflective traffic paint and be in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction (latest edition).

All handicapped parking spaces shall be properly signed and marked in accordance with FDOT Standard Index 17346 (latest edition).

TESTING

The Contractor shall retain the services of an Owner approved independent testing laboratory to conduct all required tests on subgrade, base and surface course materials. Test results must be submitted prior to any request for payment on the above items.

The schedule for testing the pavement shall be as follows:

1. Subgrade:
   a. Florida bearing value test shall be taken at intervals of not more than 200 feet, or closer as may be necessary in the event of variations in subsoil conditions.
   b. Density tests shall be taken at intervals of not more than 200 feet or closer as may be necessary.
2. Base:
   a. Density tests shall be taken at intervals of not more than 500 feet or closer as may be necessary.

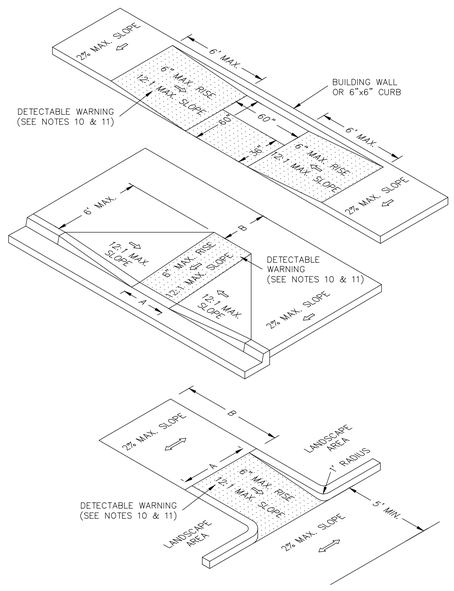
All testing shall be taken in a staggered sampling pattern from a point 12 inches inside the left edge, to the center, to a point 12 inches inside the right edge of the item tested.

If any test indicates that the work does not meet the specifications, the substandard item shall be reworked or corrected and retested, at the Contractor's expense, until the provisions of these specifications are met.

All passing tests shall be paid for by the Owner. All failing tests shall be paid for by the Contractor.

RAMP LOCATION	MINIMUM DIMENSION A	MINIMUM DIMENSION B
AT OUTSWING DOOR	44"	60"
AT INSWING/SLIDING DOOR	44"	48"
NO DOORWAY	36"	36"

NOTES:
1. ALL ACCESSIBLE COMPONENTS CONSTRUCTED AS PART OF THESE PLANS SHALL COMPLY WITH CHAPTER 11 OF THE FLORIDA BUILDING CODE.
2. ACCESSIBLE ROUTE TO ACCESSIBLE SPACES, BUILDING ENTRANCES, AND PUBLIC STREETS SHALL NOT EXCEED 5% RUNNING SLOPE AND 2% CROSS SLOPE.
3. CHANGE IN ELEVATION WITHIN THE ACCESSIBLE ROUTE IS NOT TO EXCEED ½" WITHOUT A CURB RAMP.
4. UNLESS OTHERWISE SHOWN ON THE PLANS, THE MINIMUM CLEAR ROUTE SHALL BE 36" WIDE WITH A 60"x60" PASSING SPACE EVERY 200 FEET.
5. ACCESSIBLE ROUTES THROUGH PLANTERS SHALL BE LEVEL WITH THE SURROUNDING PAVEMENT OR PROVIDE CURB RAMPS AT EACH END WITH A MINIMUM 48" LEVEL LANDING IN BETWEEN.
6. THE ACCESSIBLE ROUTE IN FRONT OF PULL–IN PARKING SHALL BE A MINIMUM OF 44" WIDE AND NOT REDUCED BY VEHICLE OVERHANGS, CURBING, SIGN POSTS, OR OTHER OBSTRUCTIONS.
7. ANY WALK THAT CROSSES OR ADJOINS A VEHICULAR WAY NOT SEPARATED BY CURBS, RAILINGS, OR OTHER ELEMENTS SHALL BE DEFINED BY A CONTINUOUS 36" WIDE DETECTABLE WARNING.
8. SPECIAL RAMP RULES APPLY FOR ANY RISE GREATER THAN 6" INCLUDING BUT NOT LIMITED TO RESTRICTION ON SLOPE, TOTAL RISE BETWEEN LANDINGS, AND USE OF HANDRAILS, PER F.B.C 11–4.8.
9. PUBLIC SIDEWALK CURB RAMPS CONSTRUCTED WITHIN A PUBLIC RIGHT–OF–WAY, IN ABSENCE OF LOCAL ROADWAY GUIDELINES, SHALL MEET THE REQUIREMENTS OF F.D.O.T INDEX 304.
10. CURB RAMPS SHALL HAVE A DETECTABLE WARNING EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP
11. DETECTABLE WARNINGS SHALL CONSIST OF EXPOSED AGGREGATE CONCRETE, CUSHIONED SURFACES MADE OF RUBBER OR PLASTIC, OR RAISED STRIPS. GROOVED SURFACES ON OUTDOOR CURB RAMPS ARE NOT PERMITTED. VERIFY LOCAL REQUIREMENTS WITH THE BUILDING DEPARTMENT.



ACCESSIBLE RAMPS
N.T.S

CLEAN–UP

The Contractor must provide clean–up of excess construction material upon completion of the project. The site must be left in a neat, clean, graded condition.

DRAINAGE SPECIFICATIONS

Storm inlets and manholes shall be constructed in general accordance with Section 425 of the Standard Specifications.

All reinforcing steel to be ASTM A 615 (latest revision) Grade 40 Fyp=40,000 PSI, and shall be handled and placed in accordance with ACI 318 (latest revision).

Precast concrete manholes and storm inlets to be used (only after the Engineer's review of the manufacturer's shop drawings).

Storm sewer construction shall in accordance with Section 430 and related sections of the Standard Specifications.

CONCRETE

Unless otherwise specified or indicated, all concrete shall have a minimum compressive strength at 28 days of 3000 psi. All work shall comply with the current edition of the American Concrete Institute (ACI) building code and the applicable building codes having jurisdiction in the area.

PRECAST INLETS

All storm inlets shall be precast reinforced concrete in accordance with the details shown herein the project details. Type II Portland Cement shall be used in the concrete mix. Concrete shall have a minimum compressive strength at 28 days of 4000 psi.

CULVERT PIPES

Reinforced Concrete Pipe (RCP) shall be in accordance with Section 449 of the Standard Specifications.

Corrugated Aluminum Pipe (CAP) shall be in accordance with Section 945 the Standard Specifications.

High density polyethylene pipe (HDPE) shall be in accordance with Section 948 of the Standard Specs.

CONSTRUCTION OBSERVATION

The Contractor shall notify the Engineer prior to periods of the following construction activities so that the Engineer can notify the County or State to be present for construction observations:

I. Drainage
   - A. Laying of Pipe (before backfill)
   - B. All drainage structures and pipe laying completed
   - C. Construction and stabilization of retention areas and swales
   - D. Seeding, mulch, and sodding in areas where erosion is evident or where plans so identify

II. Utilities (U–2 permits or development order)
   - A. Pipe laying within County or State rights–of–way
   - B. Jack and boring in County or State rights–of–way
   - C. Restoration of all rights–of–way

III. Concrete
   - A. Completion of forming for curbing, sidewalk, and retaining walls before placement of concrete

IV. Pavement
   - A. Line and grade (Certification)
   - B. Sub–base (prior to adding base material)
   - C. Base (prior to priming and sand seal)
   - D. Base (after priming, sand seal, and before placing asphalt)
   - E. Asphalt or concrete (while paving is in progress)
   - F. Turn out construction on to County or State road (above inspections apply)
   - G. Test results on sub–base
   - H. Final project observation

INSPECTION AND TESTING

Lamping of the completed sewer system will be performed after complete backfilling and the laying of the roadway base. The lamping will determine that the lines have been laid to accurate line and grade. At the time of lamping, the line shall be clean and dry. A final inspection will be held after roadway is completed to verify that the system has not been damaged. All line appurtenances not meeting specifications or reasonable standards shall be repaired or replaced.

The Engineer may require a color T.V. survey and may require an exfiltration/infiltration test prior to acceptance. The survey and testing shall be at the Contractor's expense.

INSPECTIONS:
The Contractor shall notify the engineer of record at least 48 hours prior to beginning construction and prior to the inspection of the following items:
1.) Storm Drainage
2.) Sanitary Sewer
3.) Water System
4.) Subgrade – Submit and have approved densities prior to placement of rock.
5.) Limerock Base – have approved densities and as–builts prior to the placement of asphalt.
6.) Asphaltic Concrete
7.) Final walk–through Inspection

RECORD DRAWINGS

The Contractor shall maintain Record Drawings on the project site at all times which shall be annotated by the Contractor depicting any changes made in the field which differ from the contract drawings. Record Drawings shall include, but not be limited to, culvert lengths, invert and top elevations of storm sewer, manholes, inlets, and control structures. The Contractor shall submit complete and final Record Drawings in AutoCAD to the Engineer upon completion of the project and prior to final inspection and final payment. Record Drawings shall be certified by the Contractors, Engineer, or Surveyor registered in the State of Florida

BARTON J. FYE ★ LICENSE No 73898 ★ STATE OF FLORIDA ★ PROFESSIONAL ENGINEER

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No.	REVISIONS	DATE	BY

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PHONE: 305–673–2025
WWW.KIMLEY–HORN.COM REGISTRY 696

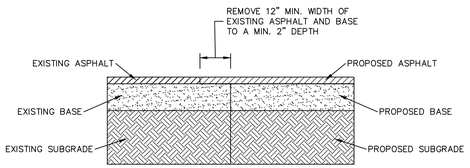
LICENSED PROFESSIONAL — DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

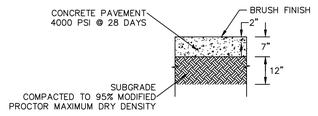
PAVING, GRADING AND DRAINAGE DETAILS II

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C–513

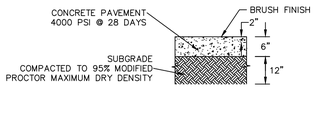


SAW-CUT
N.T.S



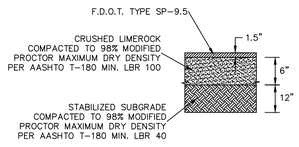
NOTE:
CONTROL JOINT SPACING – 14'x14' MAX.
MINIMUM SAW CUT DEPTH – 1.75 INCHES

HEAVY DUTY CONCRETE
N.T.S

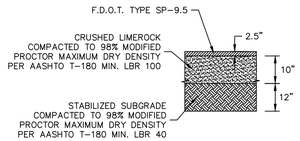


NOTE:
CONTROL JOINT SPACING – 10'x10' MAX.
MINIMUM SAW CUT DEPTH – 1.25 INCHES

STANDARD DUTY CONCRETE
N.T.S

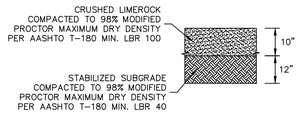


STANDARD DUTY ASPHALT
N.T.S

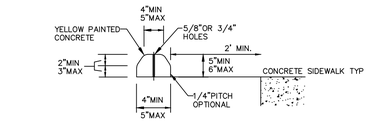


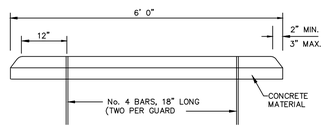
HEAVY DUTY ASPHALT
N.T.S

PAVEMENT NOTES:
1. CONTRACTOR TO REFER TO THE GEOTECHNICAL REPORT FOR SITE WORK SPECIFICATIONS.
2. CORE WEARING SURFACE OF ASPHALT PAVEMENT TO EVALUATE MATERIAL THICKNESS AND COMPOSITION AT A MINIMUM FREQUENCY OF 3,000 SF OR TWO LOCATIONS PER DAY'S PRODUCTION.
3. MATERIALS USED IN PAVEMENT CONSTRUCTION SHALL COMPLY WITH FDOT STANDARD SPECIFICAITONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
4. COMPACTION AND TESTING SHALL BE PER SECTION 13 OF THE GEOTECHNICAL REPORT.
5. ALL PARKING LOT SUBGRADE SOILS SHALL BE COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR – MAX DRY DENSITY (ASTM D 1557) TO A DEPTH AT LEAST 2' BELOW BOTTOM OF BASE, OR THE FULL DEPTH OF NEW FILL AND THE TOP 12 INCHES OF EXISTING SUBGRADE SOILS, WHICHEVER IS GREATER.



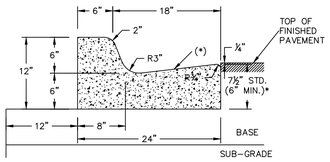
GRAVEL ROAD DETAIL
N.T.S





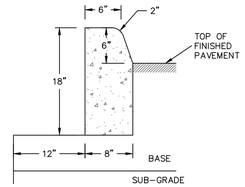
WHEEL STOPS SHALL BE DEPARTMENT OF TRANSPORTATION CLASS "I" CONCRETE, WITH A COMPRESSIVE STRENGTH OF 3,000 PSI.

CONCRETE WHEEL STOP
N.T.S

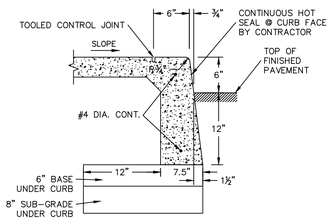


* WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6" UNLESS OTHERWISE SHOWN ON THE PLANS. ASPHALT SURFACE ON HIGH SIDE TO BE FLUSH WITH LIP OF CURB OR CURB & GUTTER.

TYPE "F" CURB AND GUTTER
N.T.S

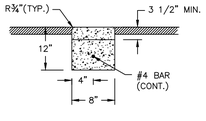


TYPE "D" CURB
N.T.S

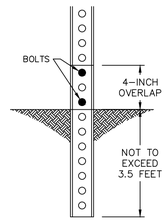


INTEGRAL CURB
N.T.S

NOTE: #4 BAR MAY BE OMITTED IN ALL SECTIONS OF HEADER CURB THAT DOES NOT CROSS A VEHICULAR TRAVEL LANE



FLUSH HEADER CURB
N.T.S

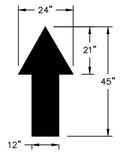


U-CHANNEL STEEL POST

CROSS SECTION

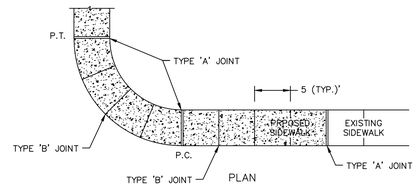
NOTE:
1. THE U-CHANNEL: ROLLED, MILD, CARBON STEEL POST WILL BEND, BREAK, OR PULL OUT OF THE GROUND WHEN IT IS HIT.
2. THE POST SHOULD BE DRIVEN INTO THE GROUND AND NOT ENCASED IN CONCRETE. DRIVE POSTS INTO THE GROUND NO MORE THAN 3.5 FEET TO MAKE IT EASIER TO PULL OUT DAMAGED POSTS.
3. SPLICES CAN BE PURCHASED COMMERCIALLY TO INSTALL AT GROUND LEVEL. THEY ALLOW THE POST TO BREAK OFF ON IMPACT. THESE DEVICES IMPROVE SAFETY WHEN THE POST IS HIT AND WILL MAKE REPAIR EASIER.

SIGN POST
N.T.S

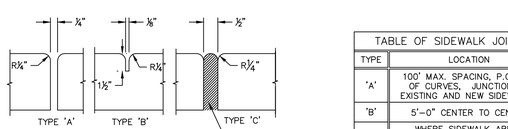


NOTE: ALL TRAFFIC FLOW ARROWS TO BE 90 MIL EXTRUDED THERMOPLASTIC.

ON-SITE TRAFFIC FLOW ARROW
N.T.S

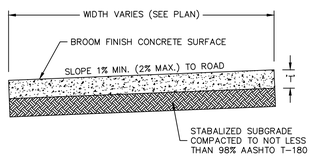


PLAN



SIDEWALK JOINTS

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'A'	100' MAX. SPACING, P.C./P.T. OF CURVES, JUNCTION OF EXISTING AND NEW SIDEWALKS.
'B'	5'-0" CENTER TO CENTER
'C'	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS AND SIMILAR STRUCTURES.

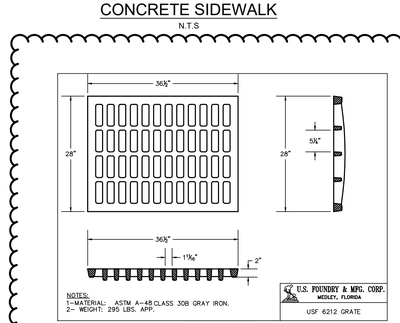


STANDARD CROSS SECTION

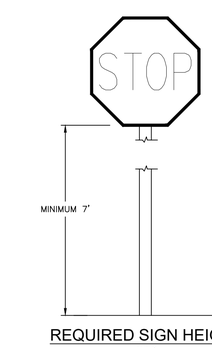
TABLE OF SIDEWALK THICKNESS	
LOCATION	'T'
PEDESTRIAN ONLY AREAS	4"
DRIVEWAYS AND OTHER TRAFFIC AREAS	6"

NOTE:
1. ALL SIDEWALK STREET CROSSINGS MUST MEET THE REQUIREMENTS OF THE AMERICAN DISABILITIES ACT (ADA) COMPLIANCE GUIDE. TRANSITIONS FROM RAMPS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
2. SIDEWALK CONCRETE CONTAIN FIBERGLASS REINFORCEMENT.

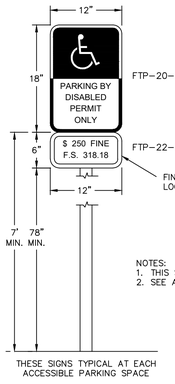
CONCRETE SIDEWALK
N.T.S



U.S.F. 6212 GRATE DETAIL (TYPE C INLET)
scale: N.T.S.



REQUIRED SIGN HEIGHT
N.T.S

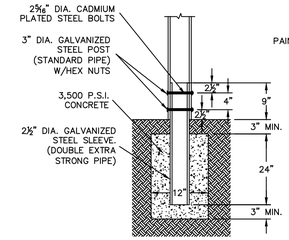


NOTES:
1. THIS SIGN MAY ALSO BE WALL MOUNTED
2. SEE ALSO SIGN BASE DETAILS

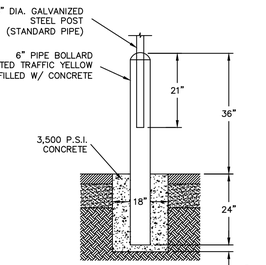
THESE SIGNS TYPICAL AT EACH ACCESSIBLE PARKING SPACE

ACCESSIBLE PARKING SIGN
N.T.S

NOTE:
SIGNS INSTALLED WITHIN SIDEWALKS SHALL BE SET DIRECTLY IN THE CONCRETE AND SHALL UTILIZE A 3" DIAMETER SIGN POST PER THE SPECIFICATIONS.



SIGN BASE WITHIN LANDSCAPED AREA



SIGN BASE WITHIN PAVED AREA

SIGN BASE
N.T.S

Street Signs
All internal street names signs shall be 8" in height with 6" letters. Street name signs at multi-lane roadway entrances, or adjacent to street with posted speed limit equal to or greater than 40MPH shall be 12" in height with 8" letters. (2003 edition MUTCD).

Sign Legend:

STOP	(R1-1)	TYPICAL 30" STOP SIGN
DO NOT ENTER	(R5-1)	DO NOT ENTER SIGN
	(W11-2)	PEDESTRIANS SIGN
	(W16-7P)	DOWNWARD ARROW
	(R04-070)	NARROW KEEP RIGHT SIGN

STREET SIGN DETAILS
N.T.S

BARTON J. FYE — LICENSE — No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

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Date: 11/17/2021

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No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

Kimley»Horn

355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

PAVING, GRADING AND DRAINAGE DETAILS III

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-514

1

PROFESSIONAL ENGINEER * BARTON J. C. GENEVE * STATE OF FLORIDA * No. 73898

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C-515 SHEET NUMBER

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

PAVING, GRADING AND DRAINAGE DETAILS IV

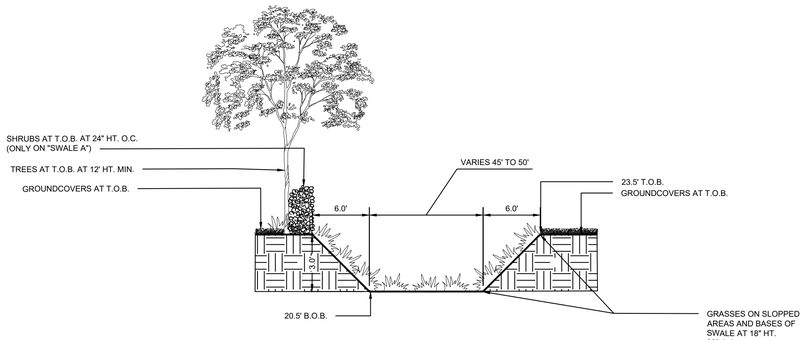
KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

LICENSED PROFESSIONAL
DATE:

Kimley»Horn

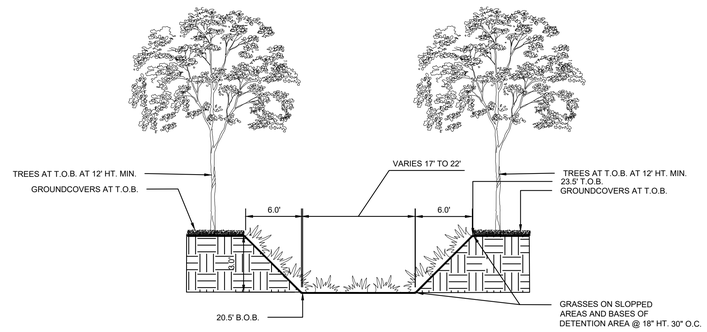
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF



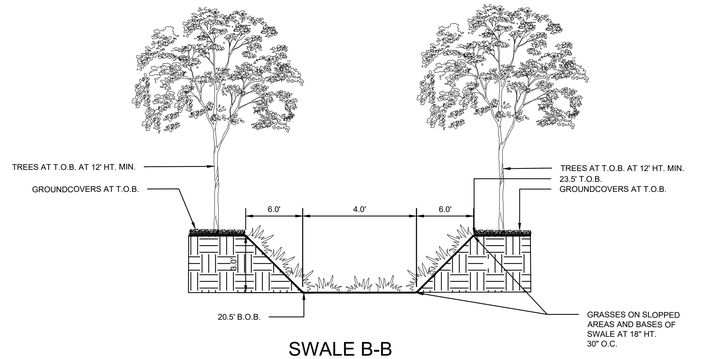
SWALE A-A

N.T.S



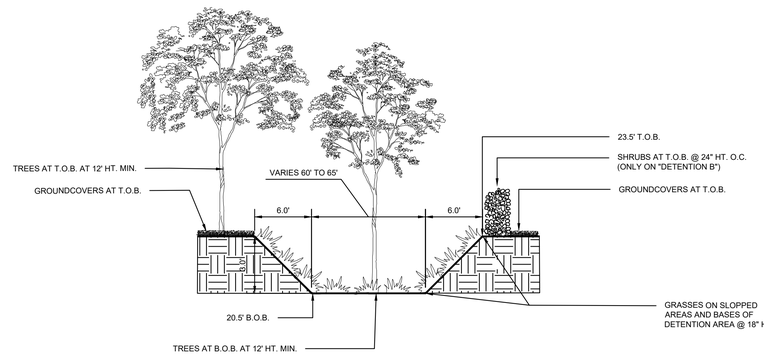
DETENTION AREA A1-A1

N.T.S



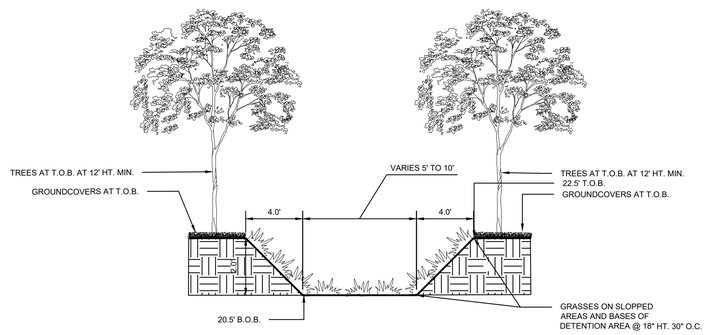
SWALE B-B

N.T.S



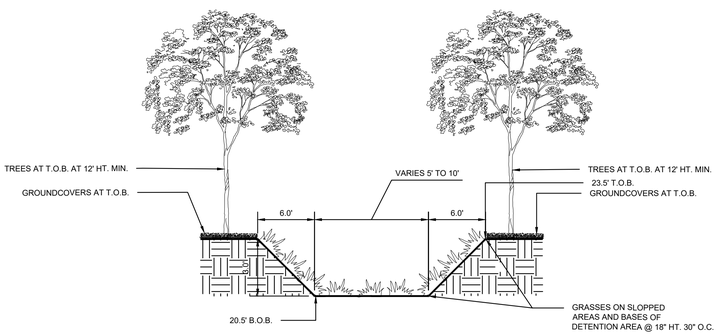
DETENTION AREA B1-B1

N.T.S



DETENTION AREA C1-C1

N.T.S



DETENTION AREA E1-E1

N.T.S

No.	REVISIONS	DATE	BY

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PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT
143228000

DATE
JULY 2021

SCALE AS SHOWN

DESIGNED BY MRG

DRAWN BY RMR

CHECKED BY BF

RETENTION AREAS CROSS SECTION

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
FL

INDIAN RIVER
COUNTY

SHEET NUMBER
C-520

BARTON J. FYE
LICENSE
No 73898
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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1

1

No.	REVISIONS	DATE	BY
1	OWNER CHANGES	11/16/2021	JF

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PHONE: 305-673-2025
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LICENSED PROFESSIONAL

DATE:

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

RETENTION AREAS CROSS SECTION

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY
FL

SHEET NUMBER
C-521

BARTON J FYE
LICENSE
No 73898
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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13TH ST SW

74TH AVENUE SW
(45 MPH SPEED LIMIT)

EXIST. 6" WATER MAIN
EXIST. SEWER FORCE MAIN
PROP. 2" IRRIGATION METER
PROP. 2" STAINLESS DOUBLE-STRAP SERVICE SADDLE
SITE BENCHMARK
SET IRC
LB 4644
ELEV.=25.14'
EXIST. MH-1
INV OUT: 19.90 8" RCP
EXIST. CATCH BASIN
EXIST. 8" SANITARY SEWER
EXIST. CATCH BASIN
EXIST. 4" FORCE MAIN
EXIST. STORM PIPE
EXIST. CATCH BASIN
EXIST. CATCH BASIN
EXIST. CATCH BASIN
EXIST. CATCH BASIN
EXIST. STORM PIPE
EXIST. WATER MAIN
EXIST. 8" SANITARY SEWER
EXIST. MH-2
RIM: 23.79
INV IN: 18.87 8" RCP
INV IN: 19.00 4" PVC
INV OUT: 18.80 8" PVC
EXIST. STORM PIPE
PROP. 2" PEXA WATER SERVICE WITH 2" METER AND 2" RPZ
PROP. 6" PVC WM AND DDCVA WITH BOLLARDS
PROP. 6" 90° BEND
PROP. 2" 90° BEND
PROP. 6" 90° BEND
PROP. 2" 90° BEND
PROP. 8"X6" WYE CONNECTION INV IN: 18.73
EXIST. 8" SANITARY SEWER
FOR CONTINUATION SEE MEP PLANS INV OUT: 20.05
6-IN SAN
6-IN SAN
PROP. 6" DIP CAP WITH FLUSH VALVE
EXIST. 8" SANITARY SEWER
PROP. 6" 45° BEND
PROP. 6" PVC @ 1.04%
PROP. 6" 45° BEND
RECYCLING FACILITY (15,000 SF) MAX. BLDG HEIGHT 35'-0" 27.0' F.F.E.
25.0' F.F.E.
HHW STORAGE BUILDING (1,000 SF) 27.0' F.F.E.
EXIST. 8" WATER MAIN
PROP. 6"X6" TEE TIED TO 6" GATE VALVE
PROP. FH
PROP. 6"X6" TEE TIED TO 6" GATE VALVE
PROP. 2" STAINLESS DOUBLE-STRAP SERVICE SADDLE
EXIST. FIRE HYDRANT
EXIST. 6" WATER MAIN
SHARED LOADING AREA (2,510 SF) 27.0' F.F.E.
PROP. ± 127 LF OF 6" SANITARY SEWER @ 1.04% MIN. SLOPE (DOMESTIC USE ONLY)
EXIST. 8" WATER MAIN
EXIST. UTILITY LINE
HHW STAGING AREA (9,240 SF) 27.0' F.F.E.
EXIST. FIBER OPTIC (TYP.)
EXIST. 4" FORCE MAIN
EXIST. 6" WATER MAIN
EXIST. SEWER FORCE MAIN
EXIST. CATCH BASIN
EXIST. STORM PIPE

SEE SHEET C-711 FOR CONTINUATION

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- PROP. CONC. SIDEWALK
- EXIST. GRAVEL ROAD
- EXIST. GATE VALVE
- PROP. IRRIGATION METER
- EXIST. WATER METER
- EXIST. WATER MAIN
- EXIST. SAN. SEWER MH
- EXIST. SAN. SEWER PIPE
- EXIST. STORM MH
- EXIST. STORM CB
- PROP. STORM PIPE
- EXIST. STORM PIPE
- X-IN WM — PROP. WATER MAIN
- PROP. REDUCED PRESSURE BACKFLOW PREVENTER (R.P.Z.B.P.)
- PROP. DOUBLE CHECK DETECTOR VALVE ASSEMBLY (D.D.C.V.)

No.	REVISIONS	DATE	BY

Kimley»Horn
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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

DATE:

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

WATER AND SEWER PLANS I

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-710

BARTON J. FYE
LICENSE
No 73898
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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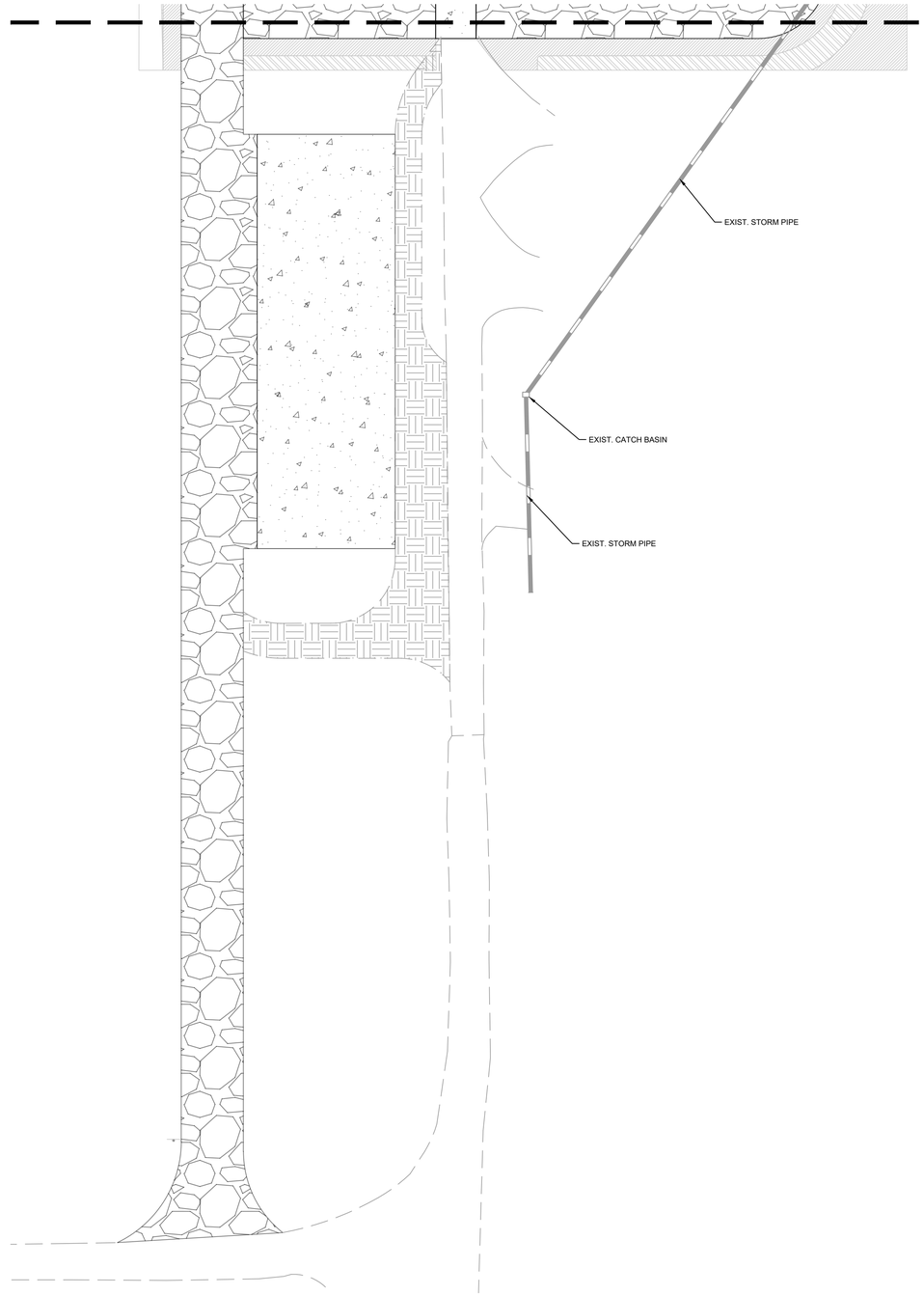
SEE SHEET C-710 FOR CONTINUATION



74TH AVENUE SW
(45 MPH SPEED LIMIT)

R/W

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- R/W – P – RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING
- PROP. GRAVEL ROAD
- PROP. HEAVY DUTY ASPHALT
- PROP. STANDARD DUTY ASPHALT
- PROP. LANDSCAPE AREA
- PROP. STANDARD DUTY CONC.
- PROP. HEAVY DUTY CONC.
- PROP. CONC. SIDEWALK
- EXIST. GRAVEL ROAD
- EXIST. GATE VALVE
- PROP. IRRIGATION METER
- EXIST. WATER METER
- EXIST. WATER MAIN
- EXIST. SAN. SEWER MH
- EXIST. SAN. SEWER PIPE
- EXIST. STORM MH
- EXIST. STORM CB
- PROP. STORM PIPE
- EXIST. STORM PIPE
- X-IN WM – PROP. WATER MAIN
- PROP. REDUCED PRESSURE BACKFLOW PREVENTER (R.P.Z.B.P.)
- PROP. DOUBLE CHECK DETECTOR VALVE ASSEMBLY (D.D.C.V.)

BARTON J. FYE
LICENSE
No 73898
STATE OF FLORIDA
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LICENSED PROFESSIONAL

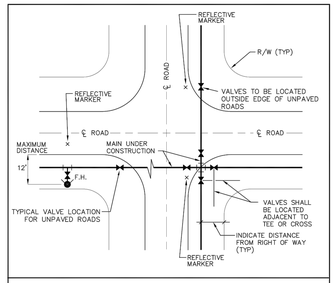
KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF
DATE:	

WATER AND SEWER PLANS II

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

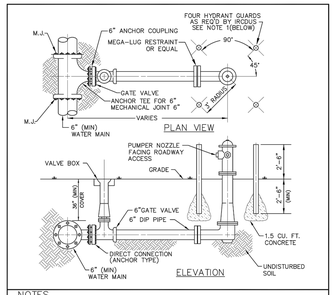
SHEET NUMBER
C-711



NOTES

1. VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1000' MAXIMUM.
2. A MINIMUM COVER OF 36" IS REQUIRED ABOVE BELL OF D.I.P. AND P.V.C. PIPE.
3. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF BLUE REFLECTIVE MARKERS (RAISED PENDANT MONUMENTS) INDICATING A FIRE HYDRANT AND SHALL BE LOCATED IN THE CENTERLINE OF THE LANE CLOSEST TO THE HYDRANT.
4. DEAD END LINES, VALVES, AND HYDRANTS SHALL BE RESTRAINED.
5. ALL LINES SHALL BE A MINIMUM 10' OFFSET FROM BUILDINGS.
6. ALL MAINS LESS THAN 10' IN LENGTH AND LOCATED BETWEEN FITTINGS SHALL BE D.I.P.
7. REFLECTIVE MARKERS FOR: FIRE HYDRANT – BLUE
   WATER MAIN VALVE – WHITE
   FORCE MAIN VALVE – GREEN
   REUSE MAIN VALVE – PURPLE

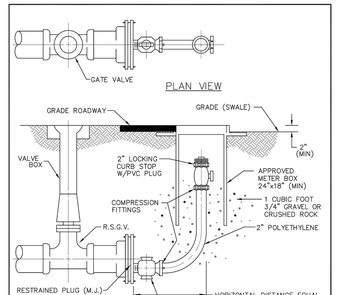
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | LOCATION DETAIL (VALVE AND FIRE HYDRANT) | DRAWING NO. W-1 | SEPTEMBER 2021



NOTES

1. HYDRANT GUARDS TO BE 4" DIAMETER GALVANIZED STEEL OR DUCTILE IRON PIPE FILLED w/ CONCRETE. GUARDS SHALL BE PAINTED SAME AS HYDRANT.
2. ℄ OF THE PUMPER CONNECTION SHALL BE 18" MIN. ABOVE THE ℄ OF THE NEAREST ROADWAY FINISH GRADE.
3. ALL HYDRANTS SHALL BE TRAFFIC BREAKAWAY TYPE.
4. COMPLETE ANCHORED TYPE JOINT ASSEMBLY MAY BE UTILIZED IN LIEU OF ABOVE.
5. FIRE HYDRANT SHOULD BE LOCATED WITHIN 12' FROM EDGE OF PAVEMENT WHERE POSSIBLE.
6. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.
7. TRACE WIRE TO BE INSTALLED AS PER DETAIL M-14.
8. ALL BOLTS FOR FIRE HYDRANT FITTINGS AND VALVES SHALL BE STAINLESS STEEL. ALL NUTS SHALL BE STAINLESS STEEL.
9. MAINTAIN 6' RADIUS OF HYDRANT PERPENDICULAR TO ROADWAY OR CURB FACE (EXAMPLE MUST BE CLEAR OF SIGNS, TREES, SHRUBS, TRANSFORMERS, UTILITY POLES, ETC.)
10. HYDRANTS AND PROTECTION DEVICES SHALL HAVE CLEARANCES OF 7'-6" IN FRONT AND TO THE SIDES OF THE FIRE HYDRANT, WITH A 4' CLEARANCE TO THE REAR OF THE HYDRANT PURSUANT TO FIRE PREVENTION CODE 3-5.6.1

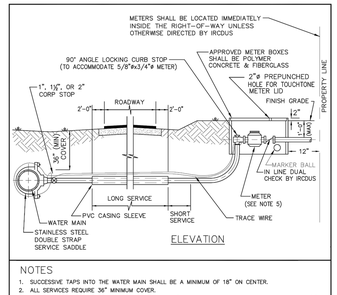
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | FIRE HYDRANT DETAILS | DRAWING NO. W-2 | SEPTEMBER 2021



NOTES

1. BLOW-OFF TO BE LOCATED AT ALL DEAD END LINES, AS REQUIRED BY IRCDUS.
2. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.
3. METHODS OF RESTRAINT AS APPROVED BY IRCDUS.
4. TRACE WIRE TO BE INSTALLED AS PER DETAIL M-14.
5. LOCATE MARKER BALLS ARE TO BE LOCATED ADJACENT TO ALL VALVE BOXES AND PLACED IN ALL METER BOXES WITHIN 24" FROM SURFACE.

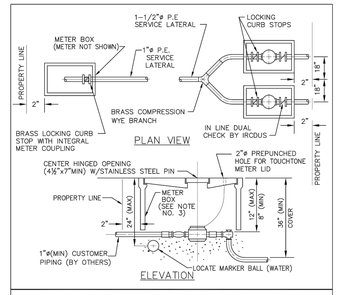
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | 2" BLOW-OFF | DRAWING NO. W-3 | SEPTEMBER 2021



NOTES

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE A MINIMUM OF 18" ON CENTER.
2. ALL SERVICES REQUIRE 36" MINIMUM COVER.
3. MINIMUM SERVICE SIZE SHALL NOT BE LESS THAN 1"ø. DUAL SERVICES SHALL BE A MINIMUM 1-1/2"ø, TRIPLE SERVICES SHALL BE A MINIMUM 2"ø AND QUADRUPLE SERVICES SHALL BE APPROVED BY IRCDUS.
4. 1"ø & 1-1/2"ø LONG SERVICES REQUIRE A 2" MINIMUM I.D. CASING PIPE. 2"ø LONG SERVICES REQUIRE A 3" MINIMUM I.D. CASING PIPE. CASING PIPE SHALL BE SCHEDULE 40 P.V.C.
5. ALL METERS 2"ø OR SMALLER SHALL BE INSTALLED BY IRCDUS. REFER TO APPROVED MANUFACTURERS' PRODUCT LIST FOR METERS GREATER THAN 2"ø.
6. PIN LOCKS SHALL BE PURCHASED BY THE DEVELOPER AND/OR CONTRACTOR AND SHALL BE INSTALLED ON ALL LOCKING CURB STOPS, SAMPLING POINTS, AND WATER SERVICE CONNECTIONS AT THE TIME OF ACTIVATING ALL WATER MAINS OR AT SUCH TIME AS DIRECTED BY IRCDUS.
7. CURB STOPS SHALL BE THE SAME SIZE AS THE METERS THAT ARE INSTALLED.
8. TRACE WIRE TO BE INSTALLED AS PER DETAIL M-14.
9. LOCATE MARKER BALLS ARE TO BE PLACED IN ALL METER BOXES WITHIN 24" FROM SURFACE.
10. (2) TWO PREPUNCHED HOLES REQUIRED FOR 2"ø METERS.

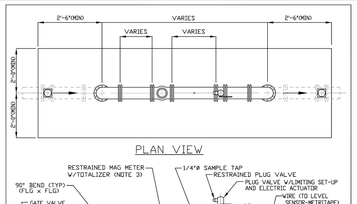
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | WATER SERVICE | DRAWING NO. W-4 | JULY 2024



NOTES

1. METERS OVER 2"ø MUST BE APPROVED BY IRCDUS AND INSTALLED BY CONTRACTOR.
2. ALL METERS 2"ø AND SMALLER WILL BE SUPPLIED AND INSTALLED BY IRCDUS.
3. MINIMUM SIZE OF METER BOXES: 1"ø SERVICE (12" X 18"); 1-1/2"ø AND 2"ø SERVICE (17" X 28").
4. METERS GREATER THAN 2"ø SHALL BE COMPOUND METERS. REFER TO IRCDUS APPROVED MANUFACTURERS PRODUCT LIST.
5. TRACE WIRE TO BE INSTALLED AS PER DETAIL M-14.
6. LOCATE MARKER BALLS ARE TO BE LOCATED ADJACENT TO ALL INLINE VALVE BOXES AND PLACED IN ALL METER BOXES WITHIN 24" FROM SURFACE.

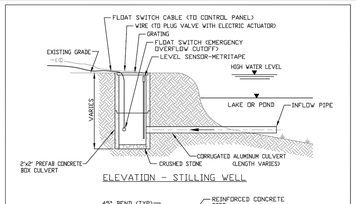
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | METER BOX | DRAWING NO. W-5 | JULY 2024



NOTES

1. TEMPORARY SAMPLING POINT MAY BE CONSTRUCTED OF ALTERNATE MATERIALS AS APPROVED BY IRCDUS.

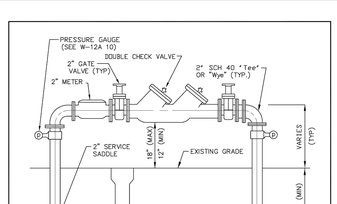
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | TEMPORARY SAMPLING POINT (BACTERIOLOGICAL) | DRAWING NO. W-6 | JUNE 2024



NOTES

1. A FULL LINE FLUSH IS THE ONLY FLUSHING METHOD APPROVED FOR MAINS. ALL FIRE HYDRANTS AND DETECTOR CHECK VALVES SHALL BE INSPECTED AND TESTED TO ENSURE THAT NO FOREIGN OBJECTS IMPEDE THE FLOW OF WATER.
2. A PRESSURE GAUGE SHALL BE INSTALLED UPSTREAM OF THE FLUSHING POINT. THE PRESSURE UPSTREAM SHALL NOT FALL BELOW 35 P.S.I.
3. PROVIDE ALL NECESSARY THRUST BLOCKS AND/OR OTHER RESTRAINTS.
4. INDIAN RIVER COUNTY UTILITY PERSONNEL, AFTER A MINIMUM OF A 48 HOUR NOTICE BY THE CONTRACTOR, SHALL BE PRESENT FOR ALL FLUSHING ACTIVITIES AND SHALL OPERATE ALL EXISTING VALVES.

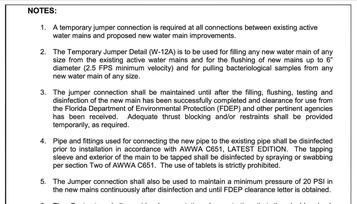
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | FLUSHING CONNECTION | DRAWING NO. W-7 | JUNE 2024



NOTES

1. ALL COMMERCIAL BUILDINGS AND INSTITUTIONS WITH BUILDING SPRINKLERS MUST HAVE AN IRCDUS APPROVED DETECTOR CHECK VALVE AND METER TO BE INSTALLED ON THEIR OWN PROPERTY. DETECTOR CHECKS SHALL BE INSTALLED IN ACCORDANCE WITH THE STATE FIRE MARSHALL CODE AND THE IRCDUS AND SHALL BE MOUNTED ABOVE GROUND.
2. DETAIL SHOWN CAN BE MODIFIED AND APPROVED BY IRCDUS FOR EACH INDIVIDUAL PROJECT.
3. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

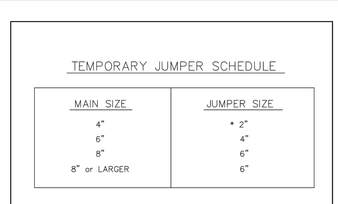
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | DOUBLE-DETECTOR CHECK VALVE ASSEMBLY | DRAWING NO. W-8 | SEPTEMBER 2021



NOTES

1. ALL HOSPITALS, SCHOOLS, COMMERCIAL, INDUSTRIAL, AND OTHER INSTITUTIONS ARE REQUIRED TO INSTALL DOUBLE CHECK BACKFLOW PREVENTER WITH REDUCED PRESSURE ZONE FEATURE AS DETERMINED BY UTILITY.
2. ALL MULTI-STORY, MULTI-FAMILY SERVICES ARE REQUIRED TO INSTALL RPZ BACKFLOW PREVENTORS.
3. APPROVED EQUALS HAVING FULL UL, USC, AND AWWA CERTIFICATIONS MAY BE INSTALLED ONLY AFTER SPECIFIC APPROVAL BY IRCDUS.
4. SUPPORT BACKFLOW PREVENTER FROM WALL OR APPROVED PIPE SUPPORT SYSTEM. PIPE SUPPORT SYSTEM SHALL BE BRASS, COPPER OR D.I.P., AS APPROVED BY IRCDUS.
5. BELOW GROUND INSTALLATION IN A VAULT MAY BE CONSIDERED FOR APPROVAL IF FINISHED GRADE OF BOTTOM OF VAULT IS AT LEAST 1'-0" ABOVE THE HIGH WATER LEVEL.
6. PIPING 2-1/2" OR GREATER SHALL BE FLANGED DUCTILE IRON PIPE.
7. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.
8. ALL FASTENERS SHALL BE 316 STAINLESS STEEL (OR APPROVED EQUAL).
9. ALL RPZ BACK FLOW PREVENTERS SHALL BE CERTIFIED BY APPROVED TESTER AND APPROPRIATE CERTIFIED FORM SUBMITTED TO IRCDUS.

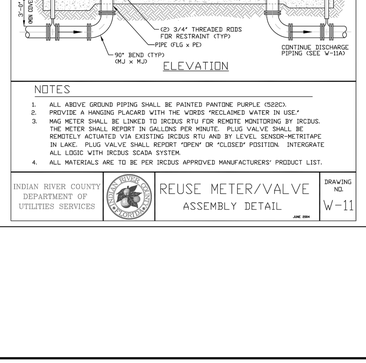
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | BACKFLOW PREVENTER | DRAWING NO. W-9 | JUNE 2024



NOTES

1. ALL ABOVE GROUND PIPING SHALL BE FLANGED DUCTILE IRON.
2. FIELD FABRICATED FLANGES ARE UNACCEPTABLE.
3. DEVICE TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
4. ASSEMBLY TO BE PRIMED WITH RUST INHIBITIVE PRIMER AND FINISHED PAINTED AFTER INSTALLATION. (SEE APPROVED MANUFACTURERS' PRODUCT LIST)
5. BY-PASS PIPE DIAMETER SHALL BE SAME SIZE AS MAIN PIPE.

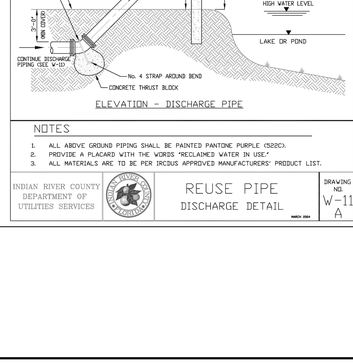
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MASTER METER COMBINATION ASSEMBLY | DRAWING NO. W-10 | JULY 2024



NOTES

1. ALL ABOVE GROUND PIPING SHALL BE PAINTED PANTONE PURPLE (522C).
2. PROVIDE A HANGING PLACARD WITH THE WORDS "RECLAIMED WATER IN USE."
3. MAG METER SHALL BE LINKED TO IRCDUS RTU FOR REMOTE MONITORING BY IRCDUS. THE METER SHALL REPORT IN GALLONS PER MINUTE. PLUG VALVE SHALL BE REMOTELY ACTUATED VIA EXISTING IRCDUS RTU AND BY LEVEL SENSOR-METRITAPE IN LAKE. PLUG VALVE SHALL REPORT "OPEN" OR "CLOSED" POSITION. INTERGRATE ALL LOGIC WITH IRCDUS SCADA SYSTEM.
4. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

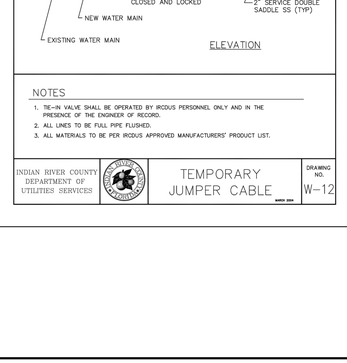
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | REUSE METER/VALVE ASSEMBLY DETAIL | DRAWING NO. W-11 | JUNE 2024



NOTES

1. ALL ABOVE GROUND PIPING SHALL BE PAINTED PANTONE PURPLE (522C).
2. PROVIDE A PLACARD WITH THE WORDS "RECLAIMED WATER IN USE."
3. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | REUSE PIPE DISCHARGE DETAIL | DRAWING NO. W-11 A | MARCH 2024



NOTES

1. TIE-IN VALVE SHALL BE OPERATED BY IRCDUS PERSONNEL ONLY AND IN THE PRESENCE OF THE ENGINEER OF RECORD.
2. ALL LINES TO BE FULL PIPE FLUSHED.
3. ALL MATERIALS TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | TEMPORARY JUMPER CABLE | DRAWING NO. W-12 | MARCH 2024

NOTES:

1. A temporary jumper connection is required at all connections between existing active water mains and proposed new water main improvements.
2. The Temporary Jumper Detail (W-12A) is to be used for filling any new water main of any size from the existing active water mains and for the flushing of new mains up to 6" diameter (2.5 FPS minimum velocity) and for pulling bacteriological samples from any new water main of any size.
3. The jumper connection shall be maintained until after the filling, flushing, testing and disinfection of the new main has been successfully completed and clearance for use from the Florida Department of Environmental Protection (FDEP) and other pertinent agencies has been received. Adequate thrust blocking and/or restraints shall be provided temporarily, as required.
4. Pipe and fittings used for connecting the new pipe to the existing pipe shall be disinfected prior to installation in accordance with AWWA C651, LATEST EDITION. The tapping sleeve and exterior of the main to be tapped shall be disinfected by spraying or swabbing per section Two of AWWA C651. The use of tablets is strictly prohibited.
5. The Jumper connection shall also be used to maintain a minimum pressure of 20 PSI in the new mains continuously after disinfection and until FDEP clearance letter is obtained.
6. The Contractor shall provide documentation demonstrating that the double check backflow prevention device is in good working order at the time of installation, and provide documentation that the double check backflow prevention device has been tested in the last 12 months, and is in good working order one year from installation by a qualified backflow technician as approved by IRCDUS.
7. Except as required to flush lines greater than 6" diameter, the tie-in valve shall remain closed and shall be locked in the closed position by the utility company. The tie-in valve shall remain locked closed until the new system has been cleared for use by the FDEP and all other pertinent agencies.
8. Upon receipt of clearance for use by FDEP and all other pertinent agencies, the Contractor shall remove the temporary jumper connection. The corporation stops are to be closed and plugged with 2" brass or PVC stops.
9. All installation and maintenance of the temporary jumper connection and associated backflow prevention device, fittings, valves, etc., shall be the responsibility of the Contractor.
10. If the water main to be flushed is greater than 6" diameter or such length that a full pipe flush at the 2.5 FPS velocity cannot be accomplished, the following procedure shall be utilized.
    a) Install pressure gauges as indicated on Temporary Jumper Detail (W-11).
    b) Open all downstream valves in the new system prior to flush.
    c) Flush new water main thru tie-in valve maintaining a 10+/- PSI pressure differential between gauges during flush.
    d) IRCDUS personnel, in the presence of the Engineer of Record shall operate tie-in valve to insure that the required pressure differential is maintained.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | TEMPORARY JUMPER DETAIL NOTES | DRAWING NO. W-12 (A) | MARCH 2024

TEMPORARY JUMPER SCHEDULE

MAIN SIZE	JUMPER SIZE
4"	* 2"
6"	4"
8"	6"
8" or LARGER	6"

NOTES

1.* WITH THE USE OF A 2" JUMPER, A CORPSTOP WITH SERVICE SADDLE MAY BE UTILIZED IN LIEU OF A CROSS AND VALVE AT MAIN CONNECTION.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | TEMPORARY JUMPER SCHEDULE | DRAWING NO. W-12 (B) | MARCH 2024

This item has been digitally signed and sealed by Barron J. Fye, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
Date: 11/17/2021

BARRON J. FYE — PROFESSIONAL ENGINEER — No. 73898 — STATE OF FLORIDA — LICENSE

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LICENSED PROFESSIONAL

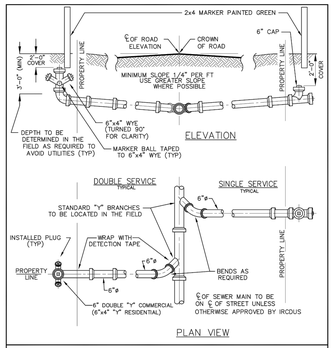
No.	REVISIONS	DATE	BY

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY, FL

INDIAN RIVER COUNTY WATER DETAILS

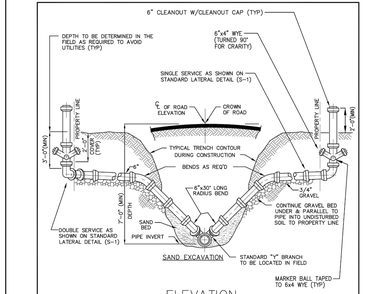
SHEET NUMBER C-712



NOTE

1. SANITARY SEWER LATERALS SHALL BE A MINIMUM OF 6" IN DIAMETER.
2. MAGNETIC DETECTION TAPE SHALL BE INSTALLED OVER ALL SERVICE LATERALS.
3. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.
4. MARKER BALLS TO BE TAPED TO 6"x4" WYE 24" BELOW FINISHED GRADE.

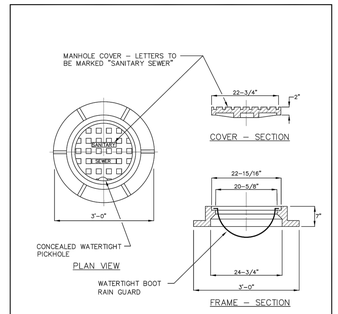
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | STANDARD LATERAL (SHALLOW SEWER) | DRAWING NO. S-1



NOTES

1. 3/4" GRAVEL BEDDING SHALL BE USED FOR EXCAVATION IN ROCK. SAND BEDDING SHALL BE USED FOR EXCAVATION IN SAND.
2. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.
3. MARKER BALLS TO BE TAPED TO 6"x4" 24" BELOW FINISHED GRADE.
4. HOUSE BUILDER WILL BE RESPONSIBLE FOR CUTTING SEWER CLEANOUT TO GRADE PRIOR TO CONNECTION.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MODIFIED RISER LATERAL (DEEP SEWER) | DRAWING NO. S-2



NOTES

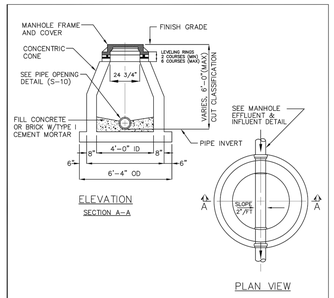
1. A WATERTIGHT BOOT RAIN GUARD SHALL BE PROVIDED FOR ALL MANHOLE FRAME/COVERS AND APPROVED BY INDIAN RIVER COUNTY.
2. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | STANDARD MANHOLE CASTING | DRAWING NO. S-3

MANHOLE NOTES

1. REINFORCING AREA OF 0.20 SQ. IN./FT. FOR WALL SECTION, MINIMUM TO MEET OR EXCEED A.S.T.M. A 185.
2. ALL CEMENT TO BE TYPE I.
3. ALL CONCRETE FOR PRECAST MANHOLES TO BE MINIMUM 3,000 P.S.I. TO MEET OR EXCEED A.S.T.M. C 478.
4. BOTTOMS AND CHANNELS OF ALL MANHOLES TO BE OF 2,500 P.S.I. FILL CONCRETE FINISHED SMOOTH WITH STEEL TROWEL.
5. CONCRETE MANHOLES TO HAVE A MIN. WALL THICKNESS OF 8".
6. INSIDE OF MANHOLE SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY AND TWO COATS OUTSIDE. (KOPPERS 300 OR EQUAL).
7. CHANNELS TO BE FORMED IN ALL MANHOLES TO ACCEPT T.V. CAMERA.
8. ORIENT ECCENTRIC CONE AS REQUIRED BY ENGINEER IN FIELD.
9. BOTTOM SECTION TO BE MONOLITHIC POUR EXCEPT WHERE DROP CONNECTION REQUIRED.
10. CONNECTIONS TO EXISTING MANHOLE AND LIFT STATION WET WELL STRUCTURES SHALL BE BY MEANS OF BORING A PENETRATION IN THE STRUCTURE, RATHER THAN PUNCHING. THE CONTRACTOR SHALL TAKE POSITIVE MEASURES TO PREVENT ANY CONCRETE OR CONSTRUCTION DEBRIS FROM ENTERING THE WASTEWATER SYSTEM.
11. BUOYANCY CALCULATIONS SHALL BE REQUIRED FOR MANHOLES IN FLOOD ZONES.
12. NO. 4# BARS 9" O.C. EACH WAY IN SLAB (TOP AND BOTTOM).
13. SLOPES ON CHANNEL BOTTOMS TO EQUAL SLOPES OF LINES ENTERING AND EXITING MANHOLES.
14. 2 COURSES BRICK MINIMUM, 6 COURSES BRICK MAXIMUM BETWEEN ALL PRECAST MANHOLE TOPS AND CASTINGS.
15. 3/4" CRUSHED STONE FOUNDATIONS FOR A MINIMUM DEPTH OF 12" SHALL BE PROVIDED AS REQUIRED BY IRCDUS.
16. MANHOLE LID SHALL BE TRAFFIC BEARING (H-20 LOADING).
17. SEWER PIPE INVERTS AT BOTTOM OF MANHOLES SHALL HAVE AN INVERT ELEVATION DIFFERENTIAL OF 0.1 FEET FOR A CHANGE IN DIRECTION AND 0.05 FEET FOR A STRAIGHT RUN.
18. A WATERTIGHT RAIN GUARD BOOT, TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST, SHALL BE PROVIDED FOR ALL MANHOLE FRAME/COVERS.
19. MATERIALS FOR LINING MANHOLES, WHERE REQUIRED, TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST. FIBERGLASS LINERS SHALL BE INSTALLED ON ALL MANHOLES RECEIVING PUMPED SEWAGE.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE NOTES | DRAWING NO. S-4

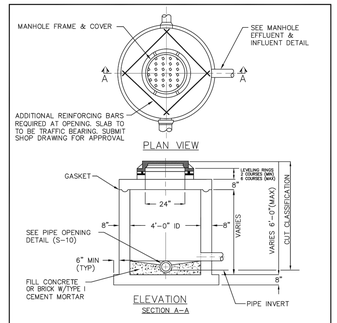


TO BE USED WHEN CUT CLASSIFICATION IS 6'–0" OR LESS

NOTES

1. SEE MANHOLE NOTES ON DRAWING NO. S-4
2. SEE STANDARD MANHOLE CASTING DRAWING NO. S-3
3. SEE PIPE OPENING DETAIL DRAWING NO. S-10
4. SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE STANDARD SHALLOW | DRAWING NO. S-5

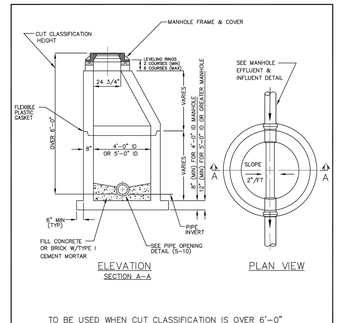


TO BE USED WHEN CUT CLASSIFICATION IS 6'–0" OR LESS

NOTES

1. SEE MANHOLE NOTES ON DRAWING NO. S-4.
2. SEE STANDARD MANHOLE CASTING DRAWING NO. S-3.
3. SEE PIPE OPENING DETAIL DRAWING NO. S-10.
4. SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE SLAB TOP | DRAWING NO. S-6

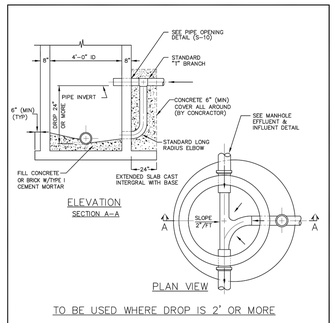


TO BE USED WHEN CUT CLASSIFICATION IS OVER 6'–0"

NOTES

1. SEE MANHOLE NOTES ON DRAWING NO. S-4.
2. SEE STANDARD MANHOLE CASTING DRAWING NO. S-3.
3. SEE PIPE OPENING DETAIL DRAWING NO. S-10.
4. SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.
5. USE 5'–0" I.D. MANHOLE AS DIRECTED BY THE IRCDUS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE STANDARD DEEP | DRAWING NO. S-7

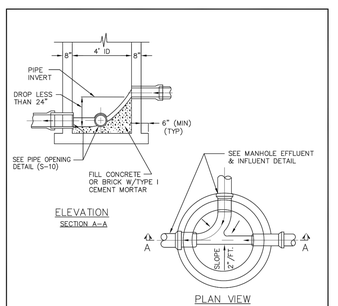


TO BE USED WHERE DROP IS 2' OR MORE

NOTES

1. SEE MANHOLE NOTES ON DRAWING NO. S-4.
2. SEE PIPE OPENING DETAIL DRAWING NO. S-10.
3. SEE MANHOLE EFFLUENT & INFLUENT DETAIL; DRAWING NO. S-11.
4. SOLVENT JOINTS SHALL NOT BE USED FOR DROP PIPE.
5. SEWER LATERALS SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE TYPE "A" DROP | DRAWING NO. S-8

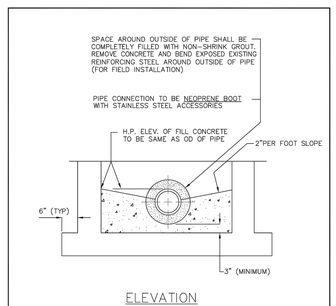


TO BE USED WHERE DROP IS LESS THAN 2'

NOTES

1. SEE MANHOLE NOTES ON DRAWING NO. S-4.
2. SEE PIPE OPENING DETAIL DRAWING NO. S-10.
3. SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.

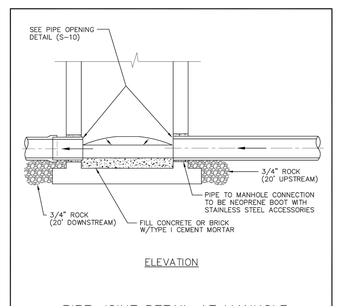
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE TYPE "B" DROP | DRAWING NO. S-9



NOTES

1. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | PIPE OPENING DETAIL | DRAWING NO. S-10

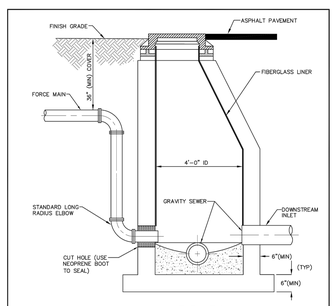


PIPE JOINT DETAIL AT MANHOLE

NOTE

1. PIPE JOINT DETAIL IS TYPICAL FOR ALL PIPE TO MANHOLE CONNECTIONS
2. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.
3. 3/4" ROCK TO BE USED AS BEDDING FOR 20' UPSTREAM & DOWNSTREAM OF MANHOLE.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | MANHOLE EFFLUENT & INFLUENT | DRAWING NO. S-11



NOTES

1. SEE MANHOLE NOTES ON DRAWING NO. S-4.
2. SEE PIPE OPENING DETAIL DRAWING NO. S-10.
3. SEE MANHOLE EFFLUENT & INFLUENT DETAIL DRAWING NO. S-11.
4. NO INSIDE DROP WILL BE ACCEPTED.
5. MATERIALS FOR LINING MANHOLES SHALL BE EQUAL TO THAT MANUFACTURED BY ASSOCIATED FIBERGLASS ENGINEERS OR APPROVED EQUAL AND SHALL BE ENGINEERED TO A STANDARD OF 16,000-POUND VERTICAL DYNAMIC WHEEL LOAD (AASTHO H-20). FIBERGLASS LINERS SHALL BE INSTALLED ON ALL MANHOLES RECEIVING PUMPED SEWAGE.
6. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | FORCE MAIN TIE-IN | DRAWING NO. S-12

BARTON J. FYE — LICENSE — No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: 11/17/2021

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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

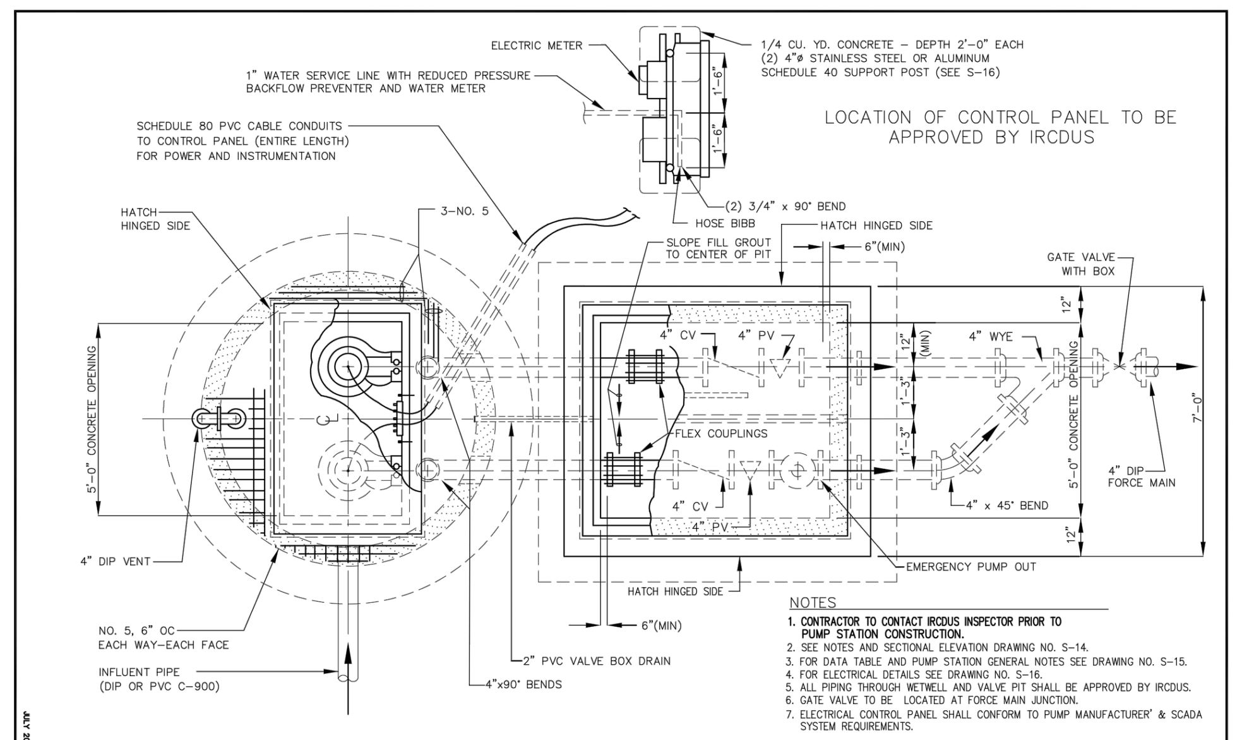
KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

INDIAN RIVER COUNTY SEWER DETAILS

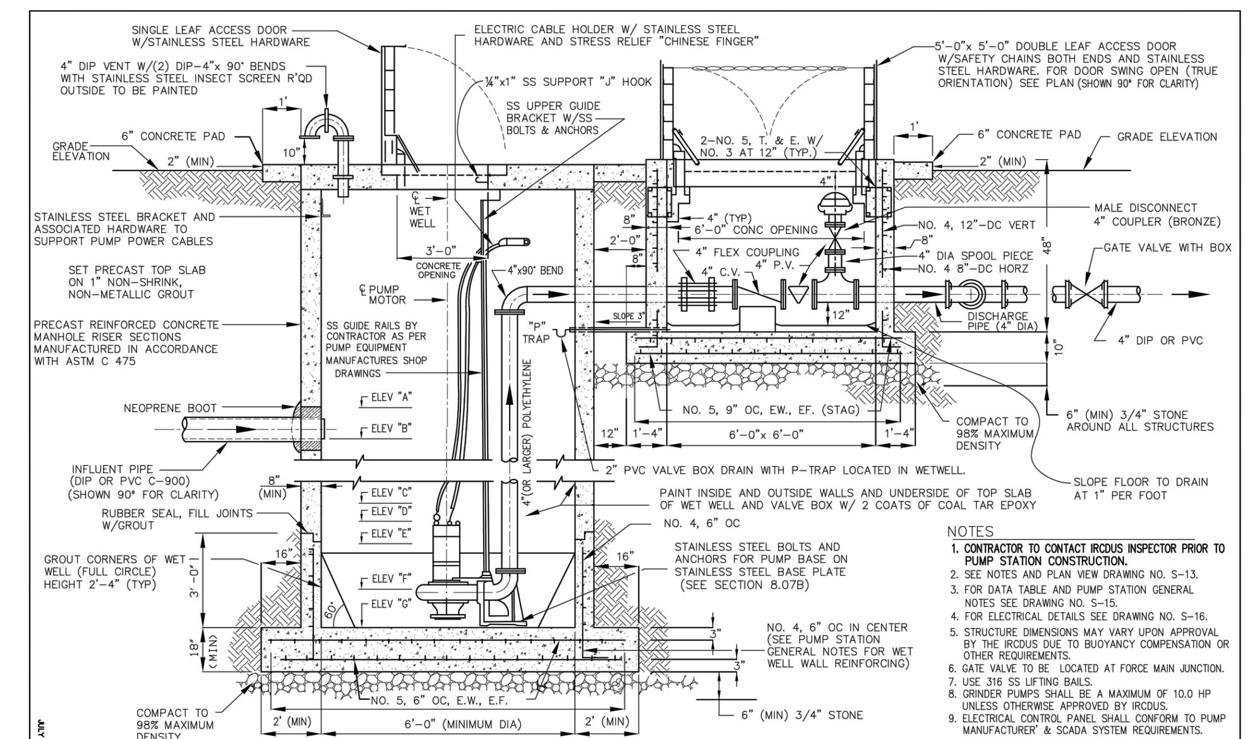
IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-713



TYPICAL PUMPING STATION (PLAN) — DRAWING NO. S-13



TYPICAL PUMPING STATION (ELEVATION) — DRAWING NO. S-14

PUMP STATION GENERAL NOTES

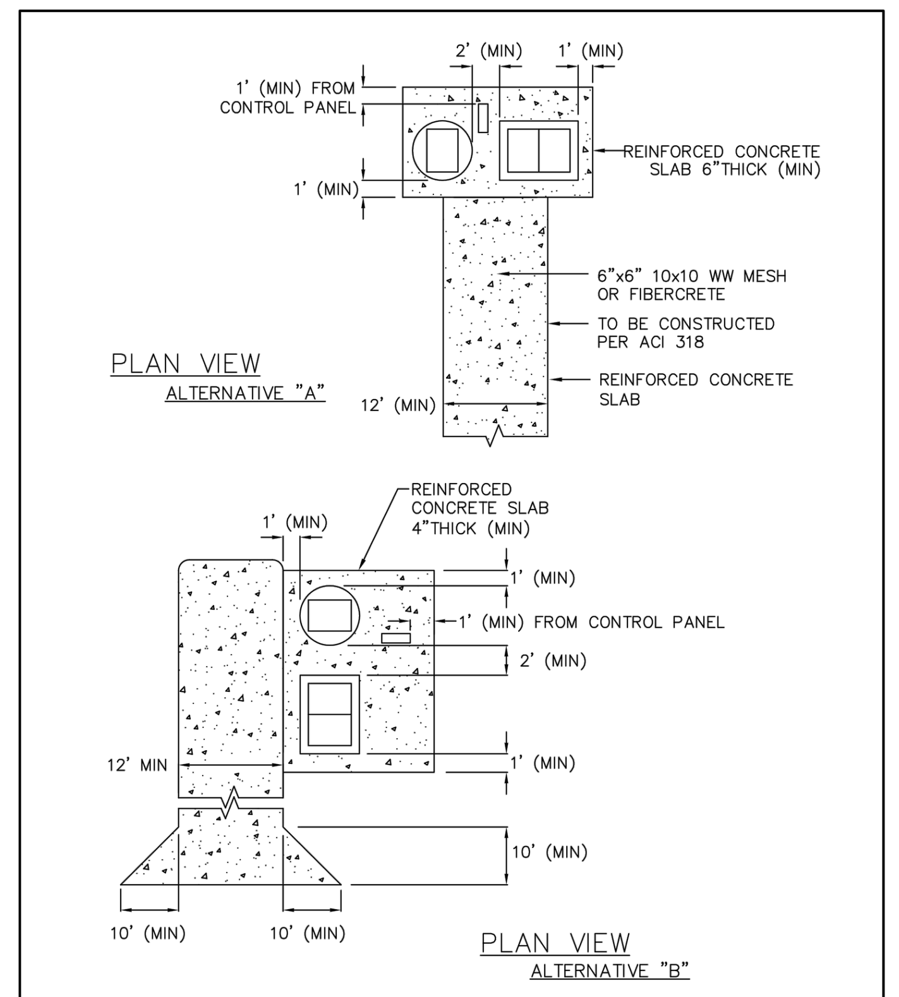
1. Contractor shall take necessary precautions against floatation of wet well until all back fill is in place.
2. All concrete shall be class A-A (4,000 PSI for precast and 3,000 PSI for cast-in-place) unless otherwise specified.
3. Reinforcing steel shall be grade 60 fabricated and placed in accordance with ACI code splices and shall be six (6) times the bar diameter number size or 18" minimum unless otherwise noted (STAG. SPL., TYP).
4. All backfill around the pump station site shall be compacted @ 98% density, per T-180.
5. Chamfer exposed concrete edges ¾" (TYP).
6. Wet well wall shall contain a minimum of .022 sq in/linear foot reinforcement, each way top to bottom.
7. All piping at the pump station site shall be restrained.
8. All Pumps and Pumping Equipment – See IRCDUS approved manufacturers' product list.
9. Stainless steel cable holder shall be located on opposite side of wet well from the influent pipe.
10. Bouyancy calculations shall be required for all pump stations along with the required pump station cal
11. No uni-flange pipe connections allowed.
12. Maintain minimum of 6" between any piping, fittings etc. and precast concrete.
13. Fiberglass liners shall be installed on all manholes receiving pumped sewage.
14. Pump station control panel shall be provided with appropriate lightning arrestor. Verify all driven grounds per N.E.C.
15. An access drive shall be provided to all IRCDUS maintained lift stations. All access drives shall be a minimum of 12' wide. If fence is installed, gate shall have a 12' opening.
16. All proposed private station owners are to sign an agreement acknowledging station is to remain private unless subject station is constructed to IRCDUS standards.
17. Pumps shall be designed to provide a minimum pump run time equal to half the cycle time.
18. Pumps shall be designed to provide a maximum clearance of ten feet outside of lift station wet well for future maintenance.
19. All re-pump stations shall have bio-cube odor control systems as required by manufacturer, and approved by IRCDUS.

FLOAT CONTROL SYSTEM

PUMPING STATION DATA TABLE			
LIFT STATION NUMBER			
PRIMARY CONDITION	PUMPING CAPACITY	G.P.M.	00
	TOTAL HEAD (±)	FEET	00
	EFFICIENCY	%	00%
INTER-MEDIATE CONDITION	PUMPING CAPACITY	G.P.M.	--
	TOTAL HEAD	FEET	--
	EFFICIENCY	%	--
SECONDARY CONDITION	PUMPING CAPACITY	G.P.M.	--
	TOTAL HEAD (*)	FEET	--
	EFFICIENCY	%	--
MIN. SOLIDS PASS. IMPELLER		INCHES	0"
PUMP MODEL NUMBER		NO.	0000-0-0"
PUMP IMPELLER		INCHES	XX-00
PUMP SPEED (DESIGN)		R.P.M.	0000
MOTOR NAMEPLATE H.P.		H.P.	0
MAX. PUMP BRAKE H.P.		H.P.	± 0.0
MAX. NPSHR @ SECONDARY		FEET	--
MAX. MOTOR SPEED		R.P.M.	0000
INITIAL INFLUENT FLOW RATE PEAK		G.P.M.	00
MIN. PUMP CYCLE TIME		MINS.	00
ALARM SIGNAL ON ELEV.		ELEV."A"	0.00
INFLUENT PIPE INV. ELEV.		ELEV."B"	0.00
LAG PUMP ON ELEV.		ELEV."C"	0.00
LEAD PUMP ON ELEV. (+)		ELEV."D"	0.00
PUMPS OFF ELEVATION		ELEV."E"	0.00
ALARM SIGNAL ON ELEV.		ELEV."F"	--
BOTTOM OF WET WELL		ELEV."G"	(-)0.00
PUMP MANUFACTURER			XX0

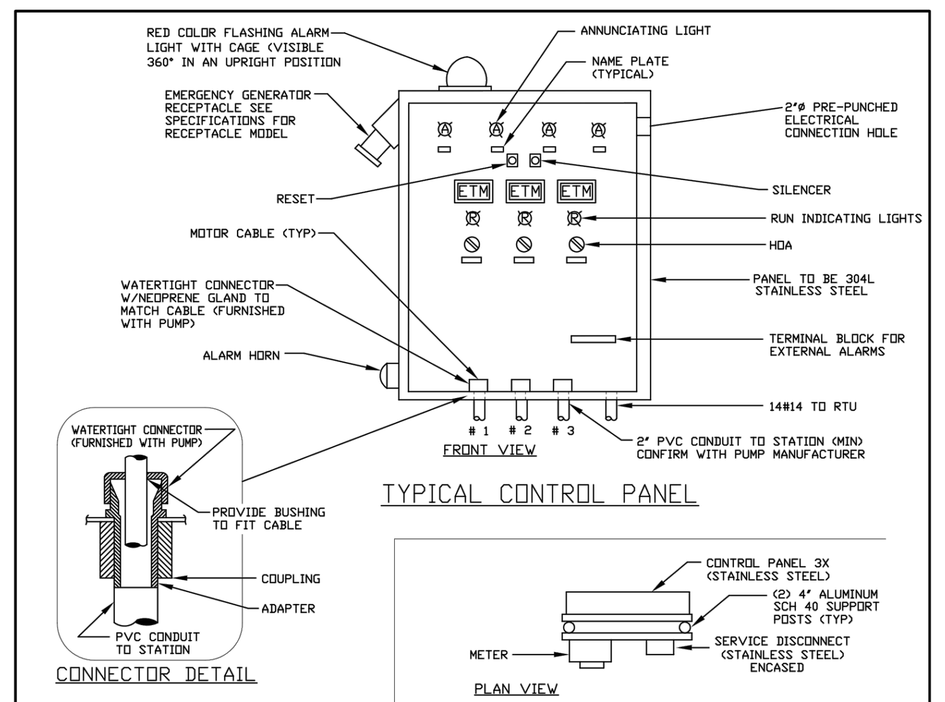
(*) PUMP WILL OPERATE BETWEEN PRIMARY AND SECONDARY POINTS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — TYPICAL PUMPING STATION (DATA TABLE & NOTES) — DRAWING NO. S-15



NOTE
1. LOCATION OF CONTROL PANEL PER IRCDUS INSPECTOR.

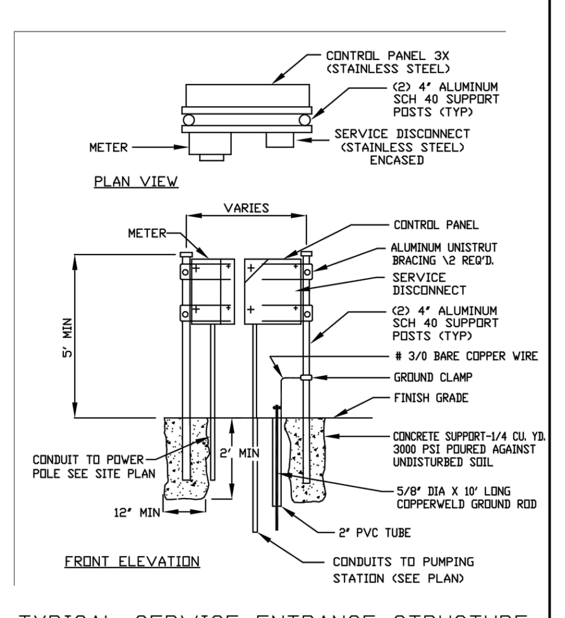
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — TYPICAL PUMPING STATION (DETAIL SHEET) — SEPTEMBER 2003 — DRAWING NO. S-15 (A)



TYPICAL CONTROL PANEL

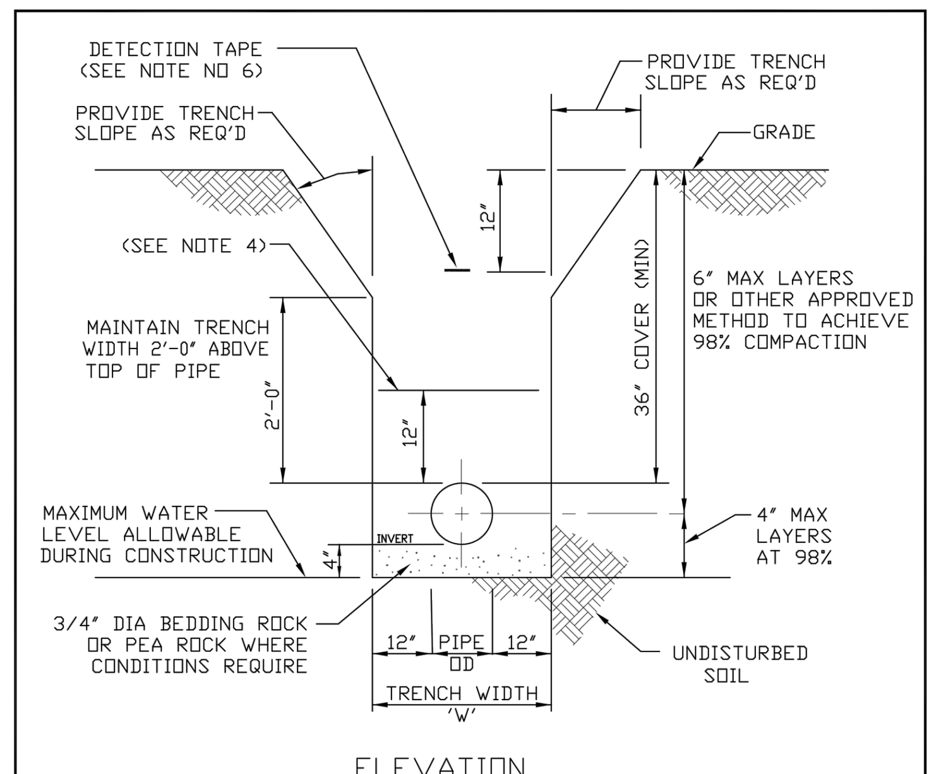
CONNECTOR DETAIL

NOTES
1. ELECTRIC SERVICE SHALL BE 3 PHASE.
2. ALARM HORN SHALL BE SEALED TO PREVENT LEAKAGE.
3. CONTROL PANEL TO BE APPROVED BY IRCDUS BEFORE INSTALLATION.
4. REFER TO SECTION 8 FOR PUMPING STATION SPECIFICATIONS.
5. BOTTOM OF PANEL TO BE 28" TO 34" ABOVE GROUND.
6. DISCONNECT BETWEEN METER AND PANEL TO BE STAINLESS STEEL NON FUSABLE.
7. ALL HARDWARE AND FASTENERS TO BE STAINLESS STEEL.
8. SPARE PARTS (SEE SECTION 8.05).
9. CONTROL PANEL SHALL MEET THE REQUIREMENTS OF SERVICE ENTRANCE BY PROPERLY BONDING OR SHALL BE UL SERVICE ENTRANCE RATED.



TYPICAL SERVICE ENTRANCE STRUCTURE

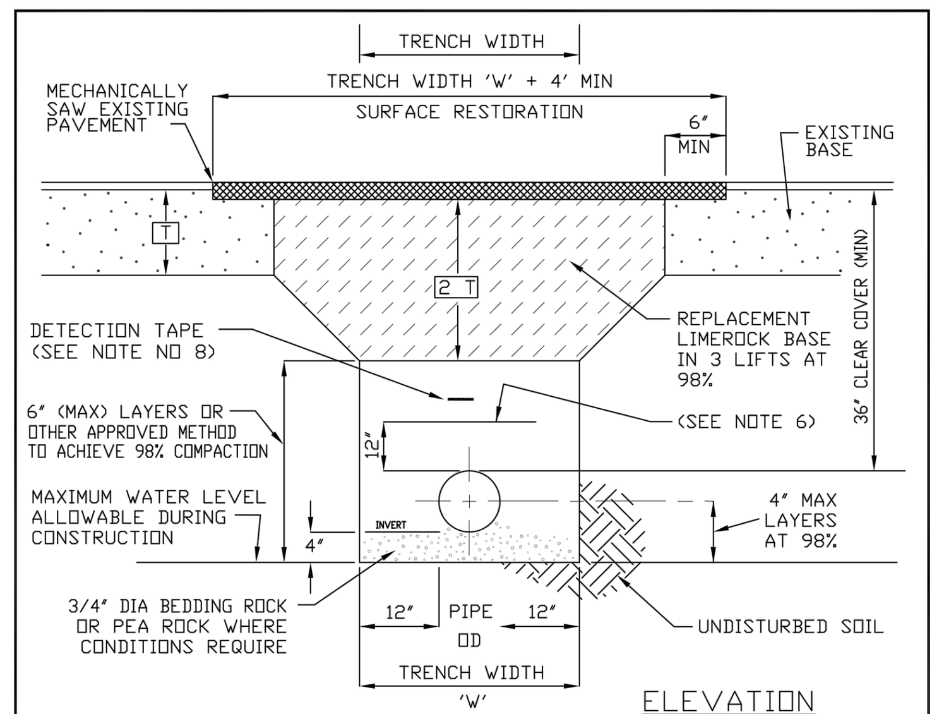
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — TYPICAL PUMPING STATION (ELECTRICAL DETAILS) — DRAWING NO. S-16



ELEVATION

NOTES
1. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
5. TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0".
6. 2" WIDE DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED OVER MAIN 1' BELOW SURFACE. TAPE TO BE MARKED-"CAUTION: WATER LINE BELOW", CAUTION: FORCE MAIN BELOW", OR "CAUTION: REUSE WATER MAIN BELOW". TRACE WIRE SHALL ALSO BE USED CONTINUOSLY ON ALL PIPE. (SEE DETAIL M-14).
7. ALL RESTORATION IN EASEMENTS OR RIGHTS OF WAY OR WHEN REQUIRED BY OTHER JURISDICTIONAL AGENCIES SHALL CONFORM TO IRCDUS SPECIFICATIONS OR THE OTHER JURISDICTIONAL AGENCY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — TRENCH DETAIL (UNPAVED EASMENTS) — JUNE 2004 — DRAWING NO. M-1



ELEVATION

NOTES
1. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING MATERIALS AND SHALL HAVE LAPPED AND FEATHERED JOINTS. (1-1/2" MIN. THK.)
4. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
5. ALL ROADWAY RESTORATION SHALL COMPLY WITH INDIAN RIVER COUNTY PUBLIC WORKS/FDOT STANDARDS.
6. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
7. TRENCH WIDTH "W" = PIPE O.D. PLUS 2'-0".
8. 2" WIDE DETECTION TAPE WITH METALLIC BACKING TO BE INSTALLED OVER MAIN 1' BELOW SURFACE. TAPE TO BE MARKED-"CAUTION: WATER LINE BELOW", CAUTION: FORCE MAIN BELOW", OR "CAUTION: REUSE WATER MAIN BELOW". TRACE WIRE SHALL BE USED CONTINUOSLY ON ALL PIPE. (SEE DETAIL M-14).
9. 98% COMPACTION IN SHOULDER OF RIGHT OF WAY.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — TRENCH DETAIL (PAVED AREAS & SHOULDERS) — JUNE 2004 — DRAWING NO. M-2

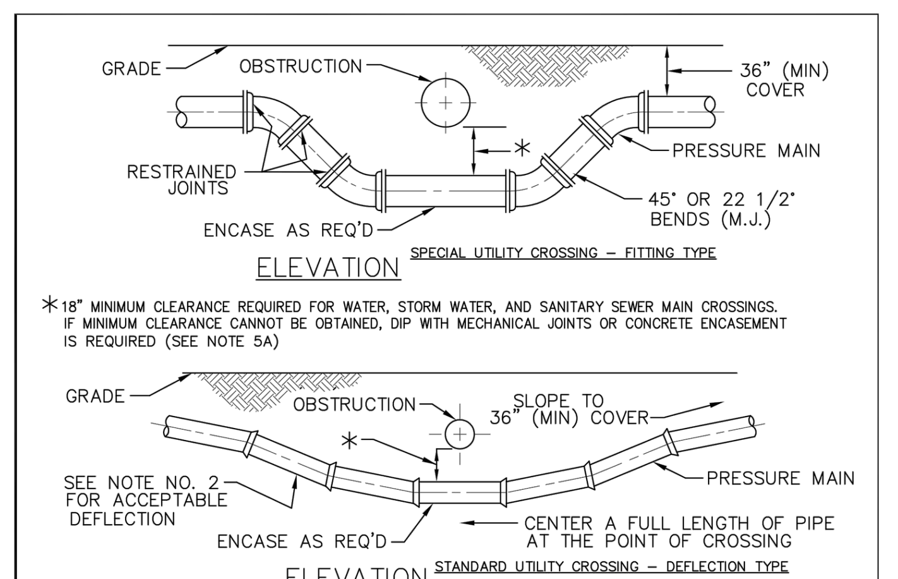
RESTRAINED LENGTH IN FEET EACH SIDE OF								
PIPE DIAMETER (INCHES)	D. I. P. 90°	D. I. P. 45°	D. I. P. 22 ½°	D. I. P. 11 ¼°	P. V. C. 90°	P. V. C. 45°	P. V. C. 22 ½°	P. V. C. 11 ¼°
3"	30'	15'	10'	5'	40'	20'	10'	5'
4"	35'	15'	10'	5'	55'	25'	15'	10'
6"	55'	25'	10'	5'	80'	35'	20'	10'
8"	65'	30'	15'	10'	90'	40'	20'	10'
10"	80'	35'	20'	10'	110'	50'	25'	15'
12"	95'	40'	20'	10'	130'	55'	30'	15'
16"	120'	50'	25'	15'	165'	70'	35'	20'
20"	150'	65'	30'	15'	200'	85'	40'	20'
24"	180'	70'	35'	20'	210'	90'	45'	25'
30"	190'	80'	40'	20'	250'	105'	50'	25'
36"	220'	95'	45'	25'	0	0	0	0
42"	245'	105'	50'	25'	0	0	0	0
48"	260'	120'	60'	30'	0	0	0	0

RESTRAINED LENGTHS FOR DEAD ENDS AND BRANCHES FROM TEES SHALL BE THE SAME AS FOR 90° BENDS

RESTRAINED LENGTH IN FEET FOR REDUCER										
PIPE DIAMETER (INCHES)	3"	4"	6"	8"	10"	12"	16"	20"	24"	30"
3"	0	0	0	0	0	0	0	0	0	0
4"	40'	0	0	0	0	0	0	0	0	0
6"	50'	45'	0	0	0	0	0	0	0	0
8"	75'	70'	40'	0	0	0	0	0	0	0
10"	95'	90'	70'	40'	0	0	0	0	0	0
12"	120'	115'	100'	75'	40'	0	0	0	0	0
16"	160'	155'	140'	125'	100'	70'	0	0	0	0
20"	200'	195'	185'	170'	150'	130'	75'	0	0	0
24"	160'	155'	150'	140'	135'	120'	90'	50'	0	0
30"	195'	190'	185'	180'	170'	160'	120'	105'	70'	0
36"	225'	220'	215'	210'	205'	195'	180'	150'	125'	70'
42"	245'	240'	235'	230'	225'	220'	205'	180'	155'	105'
48"	255'	250'	245'	240'	235'	230'	215'	195'	175'	125'

LENGTH OF RESTRAINED JOINT FOR LARGER DIAMETER PIPE

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — RESTRAINING SCHEDULE AND NOTES — SEPTEMBER 2003 — DRAWING NO. M-3



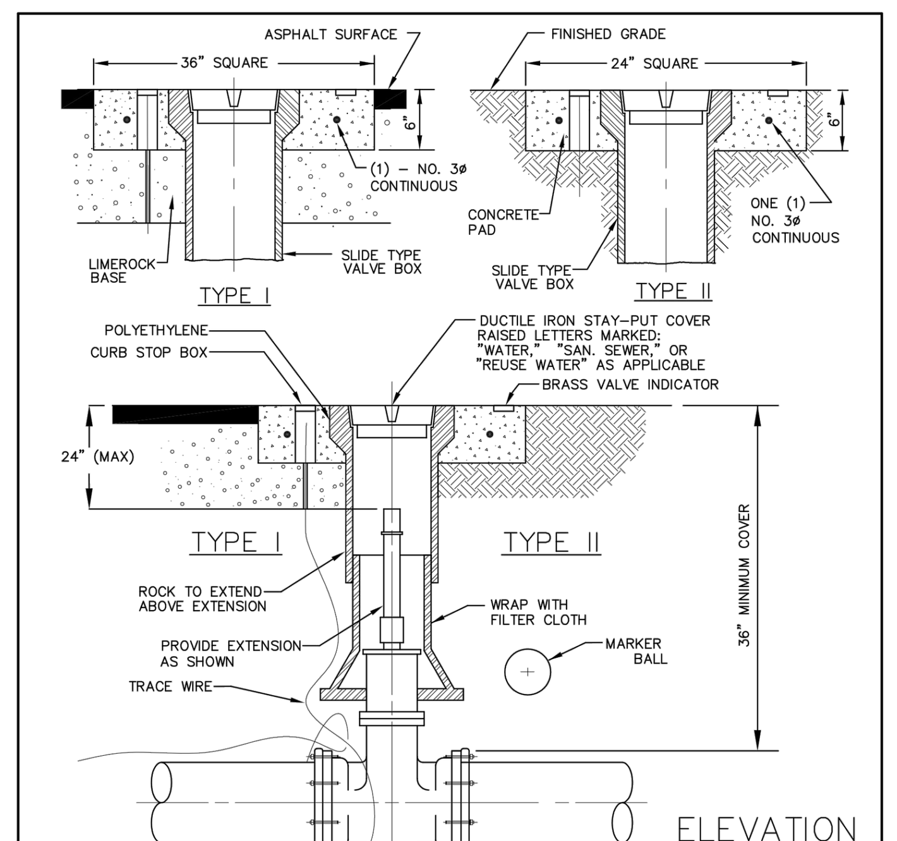
ELEVATION — SPECIAL UTILITY CROSSING – FITTING TYPE

* 18" MINIMUM CLEARANCE REQUIRED FOR WATER, STORM WATER, AND SANITARY SEWER MAIN CROSSINGS. IF MINIMUM CLEARANCE CANNOT BE OBTAINED, DIP WITH MECHANICAL JOINTS OR CONCRETE ENCASEMENT IS REQUIRED (SEE NOTE 5A)

ELEVATION — STANDARD UTILITY CROSSING – DEFLECTION TYPE

NOTES
1. THE DEFLECTION TYPE CROSSING SHALL BE USED WHEREVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER AND APPROVED BY IRCDUS SHALL THE FITTING TYPE CROSSING BE ALLOWED.
2. CONSTRUCT STANDARD CROSSING NOT TO EXCEED 75% OF THE MANUFACTURERS' MAXIMUM JOINT DEFLECTION.
3. IF USED, TIE RODS ARE TO BE COATED WITH A COAL TAR ENAMEL AFTER ASSEMBLY. (2 COATS MINIMUM)
4. OTHER METHODS OF RESTRAINT MAY BE USED AS APPROVED BY IRCDUS.
*5A. USE DIP FOR GRAVITY SEWER WHERE VERTICAL CLEARANCE BETWEEN WATER MAIN AND SEWER IS LESS THAN 18 INCHES. DIP SHALL BE USED FOR GRAVITY SEWER AT WATER LINE CROSSING WITH A LENGTH OF PIPE. THE PIPE SHALL BE CENTERED AT THE POINT OF CROSSING, SO AS TO LOCATE JOINTS AT A POINT OF CROSSING, AND TO LOCATE THE JOINTS AT A MAXIMUM DISTANCE FROM THE WATER LINE.
5B. ONLY UNDER EXTREME CIRCUMSTANCES MAY MINIMUM AND HORIZONTAL SEPARATION REQUIREMENTS BE WAIVED AND ENCASEMENT BE UTILIZED BETWEEN WATER MAINS AND FORCE MAINS.
6. SEE TRACER WIRE DETAIL. M-14.
7. ALL WATER AND SEWER UTILITIES SHALL BE LOCATED A MINIMUM HORIZONTAL SEPARATION EQUAL TO THE DEPTH OF THE PIPE PLUS THE DIAMETER OF THE PIPE FROM ANY PERMANENT ABOVE GROUND STRUCTURES (I.E. WALLS, TREES, TRANSFORMER PADS, ETC.) AND A MINIMUM HORIZONTAL SEPARATION EQUAL TO FOUR (4) FEET FROM ANY UNDERGROUND UTILITIES (I.E. GAS MAINS, TELEPHONE LINES, CABLE LINES, IRRIGATION MAINS, ETC.)
8. ALL WATER AND SEWER UTILITIES SHALL BE LOCATED A MINIMUM HORIZONTAL SEPARATION EQUAL TO TWO TIMES THE DEPTH OF THE PIPE PLUS THE DIAMETER OF THE PIPE FROM THE TOP OF THE BANKS OF ANY BODIES OF WATER (I.E. STORMWATER PONDS, CANALS, ETC.)
9. ALL WATER AND SEWER UTILITIES SHALL BE LOCATED SUCH THAT A MINIMUM HORIZONTAL SEPARATION OF 10' EXISTS AS MEASURED FROM THE OUTSIDE WALL OF EACH MAIN.

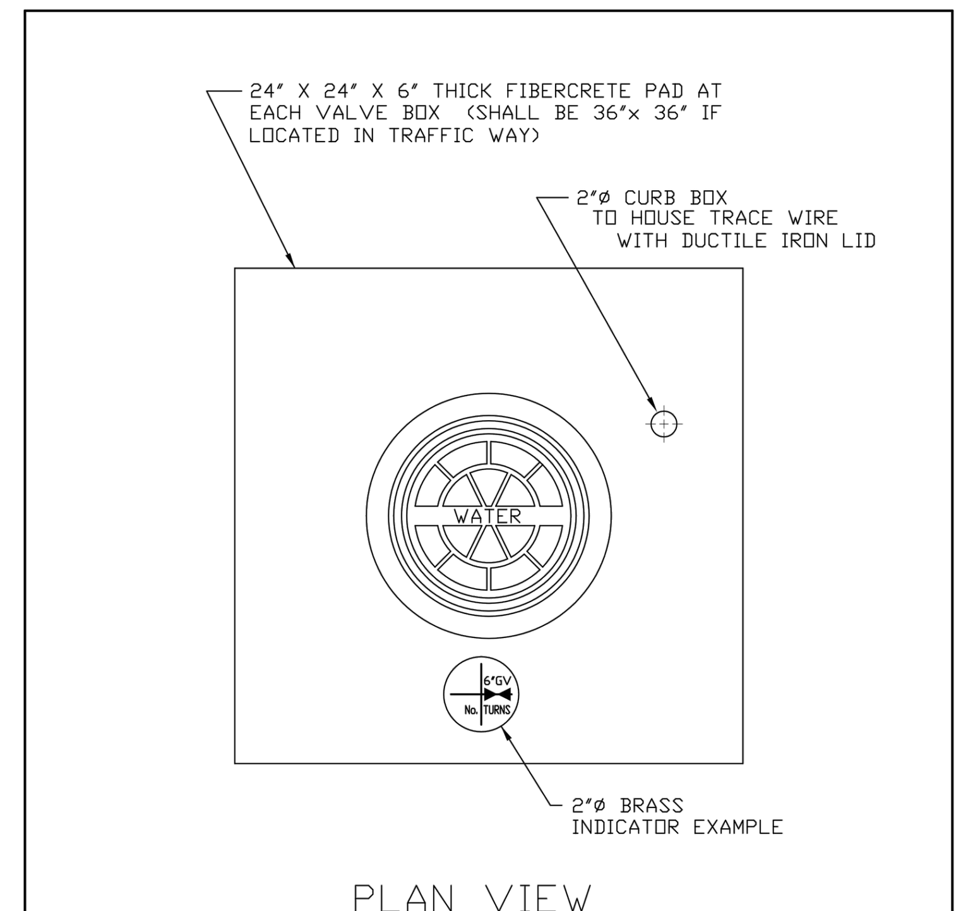
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — UTILITY CROSSINGS — JUNE 2004 — DRAWING NO. M-4



ELEVATION

NOTES
1. ALL VALVE BOLTS SHALL BE STAINLESS STEEL WITH BRASS NUTS
2. PERMANENT LAND MARKERS ARE TO BE USED OVER ALL F.M. VALVES (SEE M-11)
3. LOCATE MARKER BALLS ARE TO BE PLACED ADJACENT TO ALL VALVE BOXES
4. SEE TRACER WIRE DETAIL. M-14
5. RPMS ARE TO BE LOCATED IN ROADWAY FOR ALL WATER VALVES. (SEE W-1)
5. REFLECTIVE MARKERS FOR: FIRE HYDRANT – BLUE
   WATER MAIN VALVE – WHITE
   FORCE MAIN VALVE – GREEN
   REUESE MAIN VALVE – PURPLE

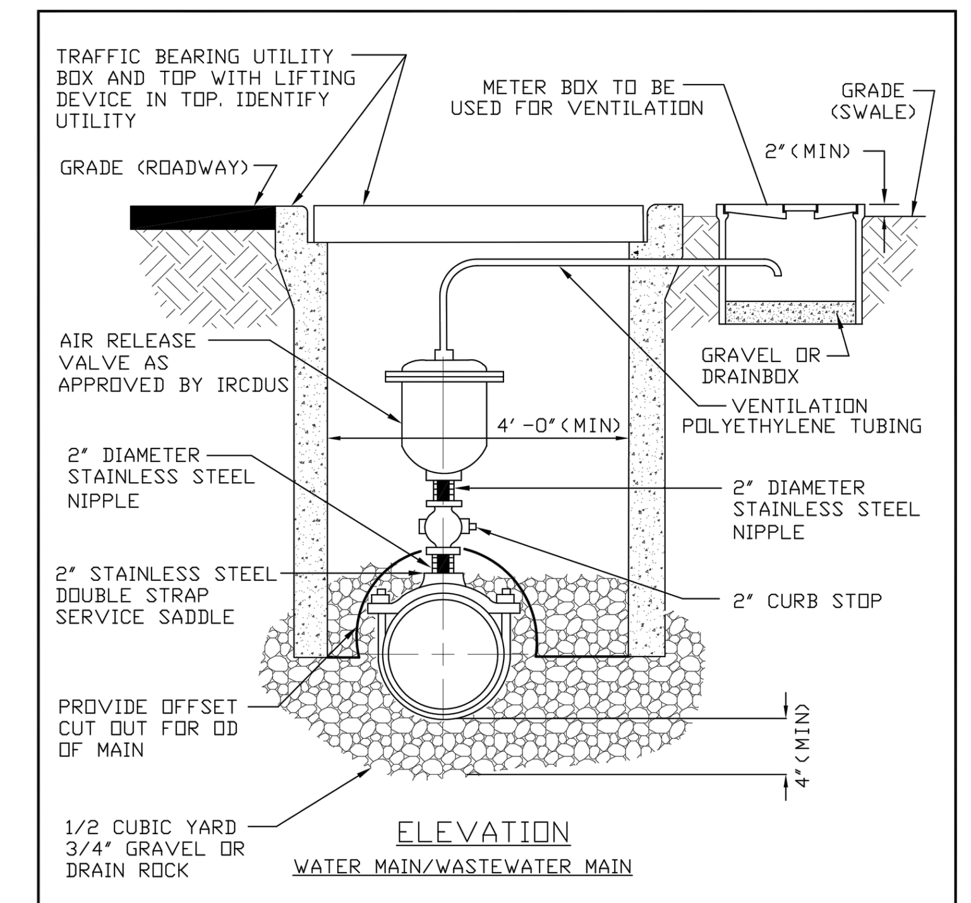
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — VALVE AND BOX — JULY 2004 — DRAWING NO. M-5



PLAN VIEW

NOTES
1. VALVE BOX LID SHALL BE PAINTED: BLUE FOR WATER
   GREEN FOR FORCE MAINS
   PURPLE FOR REUSE WATER
2. BRASS VALVE INDICATOR TO BE PROVIDED WITH ENGRAVED DIAGRAM OF VALVE LOCATION AND DESCRIPTION. (SEE EXAMPLE)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — VALVE BOX PAD — JULY 2004 — DRAWING NO. M-6



ELEVATION — WATER MAIN/WASTEWATER MAIN

NOTES
1. AUTOMATIC AIR RELEASE VALVE TO BE LOCATED ONLY WHERE CONDITIONS MAKE IT INACCESSABLE OR AS REQUIRED BY THE IRCDUS.
2. AIR RELEASE RISERS TO BE IN A VERTICAL POSITION AND PLACED AT SUMMITS IN THE SYSTEM. FOR DIRECTIONAL DRILLS, AIR RELEASE VALVES TO BE PLACED ON EITHER SIDE OF THE CROSSING.
3. SEE TRACER WIRE DETAIL. (M-14)

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES — BELOW GROUND AIR RELEASE VALVE DETAIL (AUTOMATIC - WATER/WASTEWATER) — JUNE 2004 — DRAWING NO. M-7

BARTON J. FYE — LICENSE No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: 11/17/2021

Kimley»Horn
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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

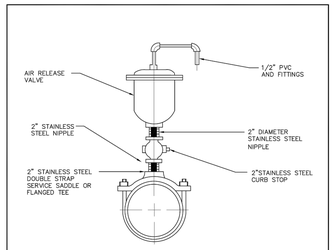
KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MRG
DRAWN BY	RMR
CHECKED BY	BF

LICENSED PROFESSIONAL

INDIAN RIVER COUNTY SEWER DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY, FL

SHEET NUMBER
C-714



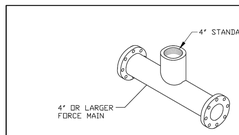
ELEVATION

WATER MAIN/WASTEWATER MAIN

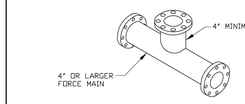
NOTES

1. AUTOMATIC AIR RELEASE VALVE TO BE LOCATED ONLY WHERE CONDITIONS MAKE IT INACCESSABLE OR AS REQUIRED BY THE IRCDUS.
2. AIR RELEASE RISERS TO BE IN A VERTICAL POSITION AND PLACED AT SUMMITS IN THE SYSTEM. FOR DIRECTIONAL DRILLS, AIR RELEASE VALVES TO BE PLACED ON EITHER SIDE OF THE CROSSING.
3. SEE TRACER WIRE DETAIL. M-14.
4. IF FORCE MAIN IS 6" OR LARGER A 4" TAP AND AIR RELEASE VALVE SHALL BE USED.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | AIR RELEASE VALVE DETAIL 4" ABOVE GROUND (AUTOMATIC – WATER/WASTEWATER) | DRAWING NO. M-8



FLANGED TEE WITH THREADS FOR CONNECTION TO AIR RELEASE VALVE



FLANGED TEE WITH FLANGE FOR CONNECTION TO AIR RELEASE VALVE

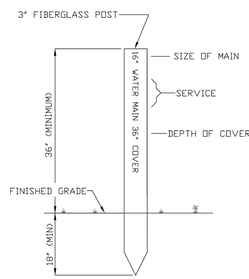
ISOMETRIC VIEW

WATER MAIN/WASTEWATER MAIN

NOTES

1. IF FORCE MAIN IS 6" OR LARGER A 4" TAP AND AIR RELEASE VALVE SHALL BE USED.
2. SEE M-8 FOR AIR RELEASE VALVE DETAIL.
3. SEE TRACER WIRE DETAIL. M-14.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | FLANGED TEE FOR ABOVE GROUND AIR RELEASE VALVES | DRAWING NO. M-8 (A)

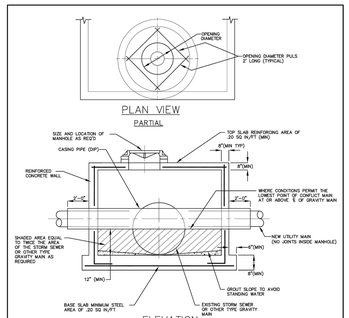


PLACE OVER PIPE IN VALVE LOCATION

NOTES

1. MARKER TO BE PLACED DIRECTLY OVER PIPE.
2. MARKER TO BE USED AT ALL CANAL CROSSING AND AS DIRECTED BY IRCDUS.
3. MARKER TO BE USED OVER WATER MAIN VALVES, FORCE MAIN VALVES AND RE-USE MAIN VALVES.
4. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCTS LIST.

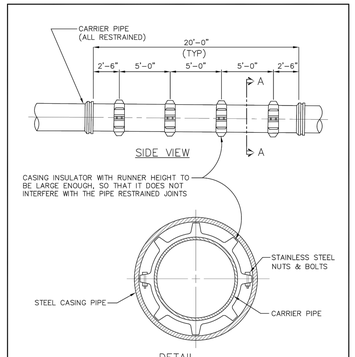
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | PERMANENT LAND MARKER | DRAWING NO. M-9



NOTES

1. CONFLICT MANHOLES WILL BE ALLOWED WHERE DESIGN PROBLEMS AND ECONOMICS PROVE THEM TO BE THE ONLY VIABLE SOLUTION AS APPROVED BY IRCDUS.
2. CONFLICT MANHOLES WILL NOT BE ALLOWED FOR WATER MAINS CROSSING GRAVITY WASTEWATER SYSTEMS.
3. REFER TO M-12 FOR CASING SIZE.

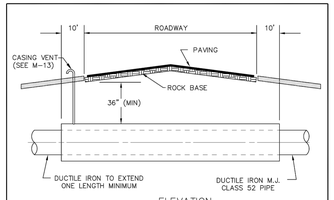
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | CONFLICT MANHOLE | DRAWING NO. M-10



NOTES

1. NUMBER OF INSULATORS AS PER MANUFACTURERS' SPECIFICATIONS.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | JACK AND BORE (BLOCKING DETAIL) | DRAWING NO. M-11

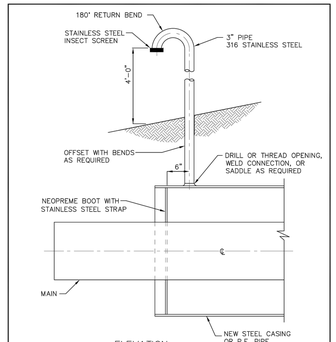


CARRIER PIPE SIZE	STEEL CASING	MINIMUM WALL THICKNESS
4"	12"	.188
6"	14"	.250
8"	16"	.250
10"	20"	.250
12"	24"	.250
16"	32"	.375
20"	40"	.375
24"	48"	.500
30"	60"	.625
36"	72"	.625
42"	84"	.625
48"	96"	.625

NOTE

1. IF RETAINER GLANDS ARE REQUIRED, THE CASING SIZE SHALL BE ADJUSTED ACCORDINGLY.

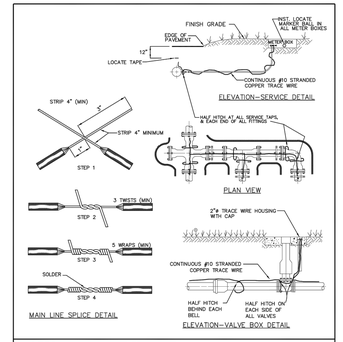
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | CASING INSTALLATION DETAILS | DRAWING NO. M-12



NOTE

1. LOCATION OF CASING VENTS TO BE DETERMINED BY THE ENGINEER IN THE FIELD. CONTRACTOR TO PROVIDE FITTINGS AS REQUIRED.

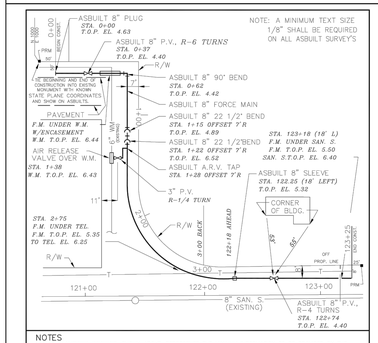
INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | JACK AND BORE (CASING VENT) | DRAWING NO. M-13



NOTES

1. TRACE WIRE IS REQUIRED ON ALL PIPES.
2. INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.
3. CONTRACTOR RESPONSIBLE FOR CONTINUITY THROUGHOUT ENTIRE PROJECT OF ALL TRACE WIRE.
4. ALL SPLICE CONNECTIONS ARE TO BE HOT SOLDERED (50/50 RESIN CORE). WRAP W/3 ALTERNATING LAYERS TAPE, COVER WITH WATERPROOFING COMPOUND AND HEAT SHRINK WRAP.
5. ALL SOLDER JOINTS WILL BE WATERPROOFED WITH HEAT SHRINK WRAP.
6. ALL MATERIALS ARE TO BE PER IRCDUS APPROVED MANUFACTURERS' PRODUCT LIST.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | TRACE WIRE DETAILS | DRAWING NO. M-14



NOTES

1. *ITALICIZED PRINTING*, SHOWN ABOVE, REPRESENTS THE MINIMUM INFORMATION TO BE PROVIDED BY THE ENGINEER OF RECORD TO IRCDUS ON REPRODUCIBLE (MYLAR) ASBUILT SURVEY DRAWINGS. ORIGINAL ASBUILT SURVEY'S TO BE SIGNED, SEALED AND DATED. AN ELECTRONIC COPY OF SURVEY DRAWINGS SHALL ALSO BE PROVIDED ON A CD IN AUTOCAD 2000 FORMAT OR LATEST VERSION.
2. BASELINE OF CONSTRUCTION & STATIONING OF ITEMS TO BE ON THE CENTERLINE OF THE ROADWAY.
3. TOP OF PIPE ELEVATIONS & STATIONING TO BE TYPED, LISTED, SEALED & SUBMITTED FOR THE ENGINEER TO LOCATE THE AIR RELEASE VALVES AS CONSTRUCTION PROCEEDS.
4. CONTRACTOR TO INDICATE THE SIZE, TYPE, DIRECTION AND NUMBER OF TURNS TO CLOSE EACH VALVE.
5. CONTRACTOR TO PROVIDE NAME OF BUSINESS OR RESIDENCE, STREET ADDRESS AND TAX I.D. NUMBER FOR ALL PROPERTIES ADJACENT TO LINE EXTENSIONS.
6. ASBUILT UTILITY LINES SHALL BE SHOWN WITH A WIDER SOLID LINE. EXISTING UTILITY LINES SHALL BE SHOWN WITH A THIN DASHED LINE.
7. ALL COMMERCIAL AND SINGLE FAMILY RESIDENCE PROJECTS MUST HAVE PARCEL ID # INDICATED IN PLAN.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | AS-BUILT DRAWING (EXAMPLE) | DRAWING NO. M-15

INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
AS-BUILT REQUIREMENTS

1. All as-built drawings (24"x36") shall state in 1" lettering "AS-BUILT" located in the bottom right hand side of the drawing original and/or copies, along with the as-built date.
2. All state plane coordinates shall be based on the Florida State Plane Horizontal data (East Zone); or Florida High Precision Geodetic Network (superstation) and NAD 83/1990 – final adjustment.
3. All elevations shown shall be based on 1929 NGVD.
4. All incoming as-built drawings (24"x36") shall be received on a CD, as an electronic copy, AutoCad 2000 format, with a tie to a minimum of two (2) state plane coordinates. (NOTE: Prior to submitting the electronic copy, one (1) copy of each as-built shall be submitted for review and approval. After all approvals, a (24"x36") Mylar reproducible along with **five (5)** signed and sealed copies of each as-built shall be submitted.)
5. All engineering or surveying as-built drawings shall be tied to a minimum of one (1) permanent reference monument (P.R.M.) that shall be tied to a minimum of one (1) section corner or one-quarter (1/4) section corner whichever is closest to the project. State plane coordinates shall be physically shown on the drawing next to the P.R.M. used.
6. All utility as-built construction located within the rights-of-way, easements and alike shall be tied to the respective rights-of way, easements, etc., every 1,000 feet and change of direction.
7. All utility as-built construction plans that are located within a distance of one (1) mile from any Indian River County Global Positioning System (G.P.S.) control project monuments shall be tied into the project from one (1) on-site Permanent Reference Monument (P.R.M.) subdivision Corner, or site plan project corner.
8. All as-builts shall clearly depict as-built utility lines that were constructed along with their respective easement (if required). As-builts will not be accepted unless the verbiage "Proposed" and/or "To Be constructed" have been revised to read "AS-Built". As-built Construction drawings with, to be constructed terminology, will not be accepted.
9. All as-builts shall be certified by the project engineer or contracting surveyor.
10. All projects, which utilize lift stations, shall specify on plans as to whether or not subject lift stations are to remain private or are to be dedicated to the county.
11. All fire hydrants and valves shall be located with state plane coordinates and shall be identified on the as-built.
12. All as-builts shall be complete and approved before commencement of field test.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | AS-BUILT REQUIREMENTS | DRAWING NO. M-16

INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
SURVEY REQUIREMENTS

1. All Construction and/or Route surveys shall meet the minimum requirements of the Chapter 61G67, Florida Administration Code Pursuant to section 472 of the Florida Statutes.
2. All state plane coordinates shall be based on the Florida State Plane Horizontal data (East Zone); or Florida High Precision Geodetic Network (superstation) and NAD 83/1990 – final adjustment.
3. All elevations shown shall be based on 1929 NGVD.
4. All incoming route construction survey drawings shall be received on a CD, as an electronic copy, AutoCad 2000 format, with a tie to a minimum of two (2) state plane coordinates. (NOTE: Prior to submitting the electronic copy, one (1) copy of each as-built (24"x36") shall be submitted for review and approval. After all approvals, a (24"x36") Mylar reproducible along with **five (5)** signed and sealed copies of each as-built shall be submitted.
5. All construction surveys shall be tied to a minimum of one (1) permanent reference monument (P.R.M.) at the end of each project. One P.R.M. shall be tied to a minimum of one (1) section corner or one-quarter (1/4) section corner whichever is closest to the project. State plane coordinates shall be physically shown on the drawing next to the P.R.M. used.
6. All surveys that are required for the use of engineering design, and are located within a distance of one (1) mile from any Indian River County Global Positioning System (G.P.S.) control project monuments, shall be tied into the GPS monument from one (1) permanent reference point or the subdivision corner that is along the survey route and shall then be tied to the survey base line.
7. Horizontal Control Monumentation for utility lines shall be a minimum of two (2) points at a maximum of 1,400 feet between existing construction or established benchmarks.
8. Vertical Control (when required) for linear utility lines, such as sewer, shall have a maximum of 1,100 feet between existing construction or established benchmarks.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | CONSTRUCTION/ROUTE SURVEY REQUIREMENTS | DRAWING NO. M-16 (A)

GENERAL INFORMATION TO BE SHOWN
ON AS-BUILT AND SURVEY DRAWINGS

1. Existing right-of-way limits and/or easements within the limits of construction.
2. Survey baseline stationing every 100', control points set every 500', and at angle change of direction.
3. Show cross section elevations at grade every 100' for gravity sewer line construction and 500' for water line and force main construction. Elevations that reflect any significant change in grade between the previously stated footage shall be shown on plans.
4. Existing parcels, tracts, and lot corner locations shown with front footage dimensions per plat when platted. If construction project is along back of lots, then show back lot dimensions.
5. EXISTING ROADWAY EDGE OF PAVEMENT OR EDGE OF DIRT ROAD.
6. Existing utilities as located in field (water, sewer, telephone, electric, cable TV, etc.) (NOTE: Sunshine One to be contacted by surveying firm prior to survey locate; with the intent of county excavation.)
7. Existing utilities as associated with number 5 above (example: valves, meters, manholes, etc.)
8. Existing curbs, driveway widths and types.
9. Existing drainage pipe crossings and driveway culverts (type, sizes and invert elevations.)
10. Existing swales and/or ditches and elevations every 100' at top and bottom if within area of construction.
11. Existing fences.
12. Existing trees and/or shrubbery.
13. All other non-movable items such as mailboxes, flag poles, etc.
14. All street names.

INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES SERVICES | AS-BUILT/SURVEY REQUIREMENTS | DRAWING NO. M-16 (B)

BARTON J. FYE LICENSE No 73898 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Frye, P.E. on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Date: 11/17/2021

Sunshine811

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

Kimley»Horn

355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF
DATE:

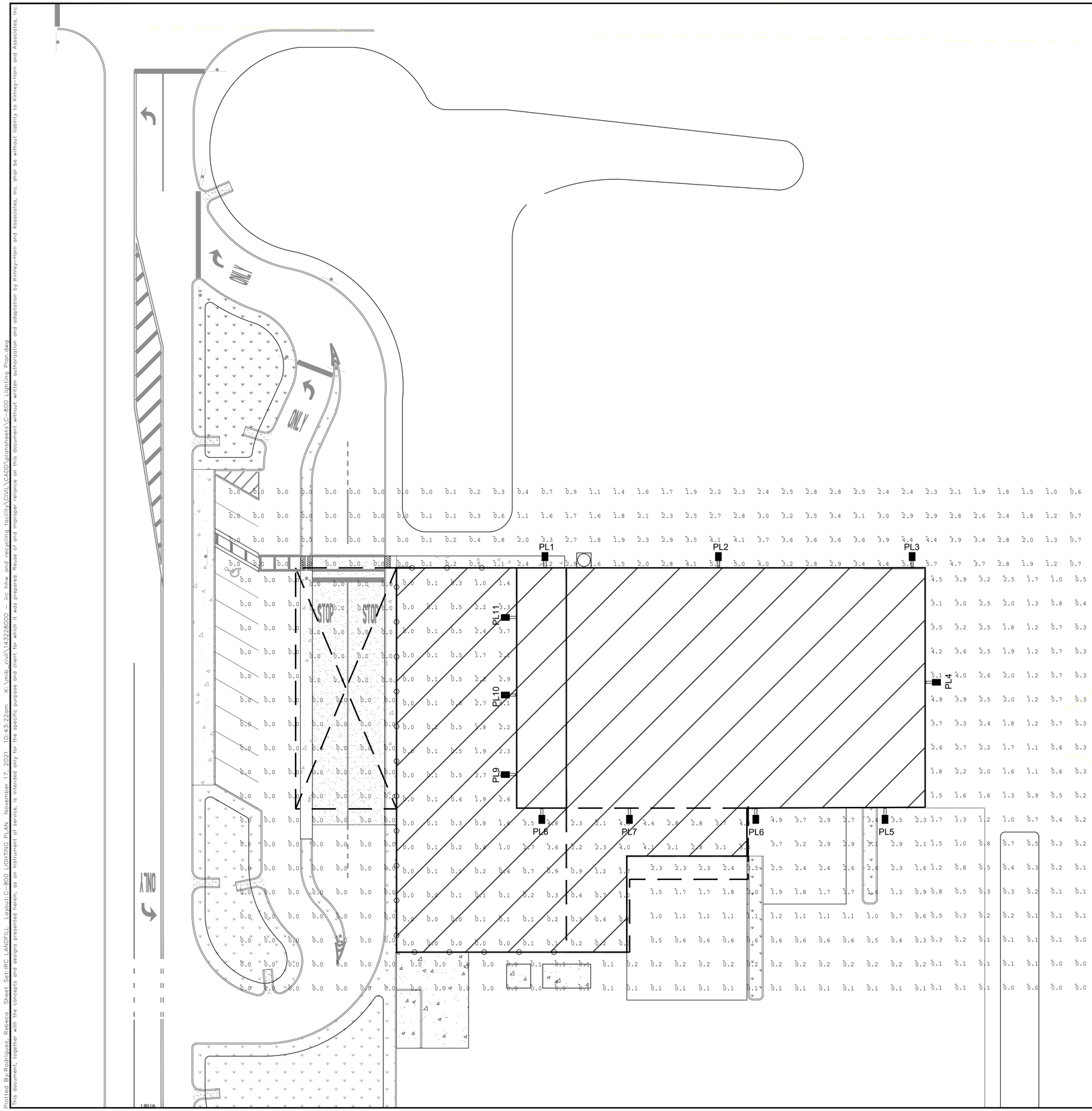
INDIAN RIVER COUNTY SEWER DETAILS

IRC LANDFILL

PREPARED FOR

INDIAN RIVER COUNTY FL

SHEET NUMBER C-715



NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

LEGEND:

- R/W — P/L — R/W OR PROPERTY LINE
- — — ℄ — — — CENTERLINE
- SANITARY SEWER
- +X.X FOOTCANDLES
- PROP. STANDARD DUTY CONC.
- PROP. CONC. SIDEWALK

NOTES:

1. ALL MOUNTING HEIGHTS REFERENCED ARE TO TOP OF BRACKET/FIXTURE.

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
North Building Face	Illuminance	Fc	1.79	5.70	0.00	N/A	N/A
South Building Face	Illuminance	Fc	1.09	4.90	0.00	N/A	N/A
West Building Face	Illuminance	Fc	0.00	0.00	0.00	N/A	N/A
East Building Face	Illuminance	Fc	1.2	5.10	0.00	N/A	N/A

Luminaire Schedule				
Symbol	Qty	Catalog Number	Total Lamp Lumens	LLF
	4	WDGE4_LED_P4_70CRI_R3_50K	20,163.10	0.85
	7	WDGE2_LED_P3_50K_80CRI_VW	3,206.30	0.85

Lighting Fixture Schedule					
Type	Manufacturer	Catalog No.	Mounting	Lamp	Remarks
PL1	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 17-0'	5000K	SINGLE WALL SCONCE LIGHT
PL2	LITHONIA LIGHTING	WDGE4_LED_P4_70CRI_R3_50K	WALL MOUNTED 25-0'	5000K	SINGLE WALL SCONCE LIGHT
PL3	LITHONIA LIGHTING	WDGE4_LED_P4_70CRI_R3_50K	WALL MOUNTED 25-0'	5000K	SINGLE WALL SCONCE LIGHT
PL4	LITHONIA LIGHTING	WDGE4_LED_P4_70CRI_R3_50K	WALL MOUNTED 25-0'	5000K	SINGLE WALL SCONCE LIGHT
PL5	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 20-0'	5000K	SINGLE WALL SCONCE LIGHT
PL6	LITHONIA LIGHTING	WDGE4_LED_P4_70CRI_R3_50K	WALL MOUNTED 25-0'	5000K	SINGLE WALL SCONCE LIGHT
PL7	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 15-0'	5000K	SINGLE WALL SCONCE LIGHT
PL8	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 14-0'	5000K	SINGLE WALL SCONCE LIGHT
PL9	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 14-0'	5000K	SINGLE WALL SCONCE LIGHT
PL10	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 14-0'	5000K	SINGLE WALL SCONCE LIGHT
PL11	LITHONIA LIGHTING	WDGE2_LED_P3_50K_80CRI_VW	WALL MOUNTED 14-0'	5000K	SINGLE WALL SCONCE LIGHT

BARTON J. FYE — LICENSE — No 73898 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Barton J. Fye, P.E. on the date adjacent to the seal.

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Sunshine811

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No.	REVISIONS	DATE	BY

Kimley»Horn
© 2021 KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

LICENSED PROFESSIONAL

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY AJL
DRAWN BY MTG
CHECKED BY AJL
DATE:

LIGHTING PLAN

IRC LANDFILL

PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
C-800

GENERAL ELECTRICAL NOTES

1. CONTRACTOR SHALL VERIFY JOB SITE CONDITIONS DURING THE BIDDING PERIOD TO OBTAIN THE SCOPE OF ELECTRICAL WORK INVOLVED. THE SCOPE OF WORK SHALL INCLUDE MATERIALS, AND LABOR.

2. CONTRACTOR MAY COMBINE WIRES IN ONE CONDUIT FOR CONVENIENCE OF INSTALLATION, PROVIDED ALL THE REQUIREMENTS OF THE N.E.C. ARE OBSERVED.

4. ALL ELECTRICAL EQUIPMENT IS SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD AVOIDING INTERFERENCES.

5. THE INSTALLATION SHALL COMPLY WITH SPECIFICATIONS AND ALL REQUIREMENTS OF THE LATEST EDITION OF THE N.E.C., OSHA, STATE AND LOCAL CODES.

- FLORIDA BUILDING CODE 2020, 7TH EDITION
- FLORIDA FIRE PREVENTION CODE 2020, 7TH EDITION
- NFPA 70 NATIONAL ELECTRIC CODE 2017
- NFPA 72 NATIONAL FIRE ALARM CODE 2016
- NFPA 101 LIFE SAFETY CODE 2018

6. ALL WIRE SHALL BE COPPER. ALL WIRE, CONDUIT AND BREAKERS SHALL BE #12 COPPER WIRE (THHN OR THWN), 1/2" CONDUIT AND 20 AMP SINGLE POLE BREAKERS UNLESS OTHERWISE NOTED. (TYPICAL)

7. WHEN BRANCH CIRCUIT LENGTH EXCEEDS 75 FEET FROM PANEL, WIRING SHALL BE INCREASED TO #10 AWG WITH #10 AWG GROUND. WHEN BRANCH CIRCUIT LENGTH EXCEEDS 150 FEET FROM PANEL, BRANCH WIRING SHALL BE INCREASED TO #8 AWG WITH #8 AWG GROUND.

8. PROVIDE GROUND CONDUCTOR IN ALL RACEWAYS.

9. CONTRACTOR SHALL CREATE PANEL DIRECTORY AS PER WIRING IN FIELD.

10. ALL CIRCUIT BREAKERS FOR MECHANICAL EQUIPMENT SHALL BE HACR RATED.

11. VOLTAGE DROP HAS BEEN CALCULATED IN COMPLIANCE WITH FBC ENERGY CONSERVATION C405.7.3 AND NEC 210.19(A)(1)FPN#4. VOLTAGE DROP IN FEEDER CONDUCTORS TO BE MAXIMUM OF 2% AT DESIGN LOAD. VOLTAGE DROP IN BRACH CIRCUITS TO BE MAXIMUM OF 3% AT DESIGN LOAD.

12. BREAKERS FOR ALL MULTIPLE CIRCUIT HOMERUNS WHICH SHARE A COMMON NEUTRAL SHALL BE CONNECTED WITH BREAKER TIES.

13. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH SECTION AND CHAPTER 633, FLORIDA STATUTES. FBC 110.8.4.4 2017.

14. NEW OUTLETS ON OPPOSITE SIDE OF WALL SHALL BE STAGGERED BY A MINIMUM OF ONE STUD FOR SOUND ATTENUATION.

15. MC CABLE IS ACCEPTABLE FOR 20A AND 30A CIRCUITS IN WALLS AND ABOVE CEILING. THE INSTALLATION SHALL COMPLY WITH ALL OF THE REQUIREMENTS IN NEC ARTICLE 330

16. THE INSTALLATION OF WIRING, RACEWAY AND DEVICES FOR THE FIRE ALARM SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY CODES, NFPA CODES AND UNIFORM RULE 4A-48, RULES AND REGULATIONS OF THE STATE FIRE MARSHAL'S OFFICE F.S. 633.01 AND 633.701.

17. THE FIRE ALARM CONTRACTOR SHALL PERFORM A SITE VISIT PRIOR TO BID.

18. FIRE ALARM PERMIT DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE FIRE ALARM SYSTEM CONTRACTOR.

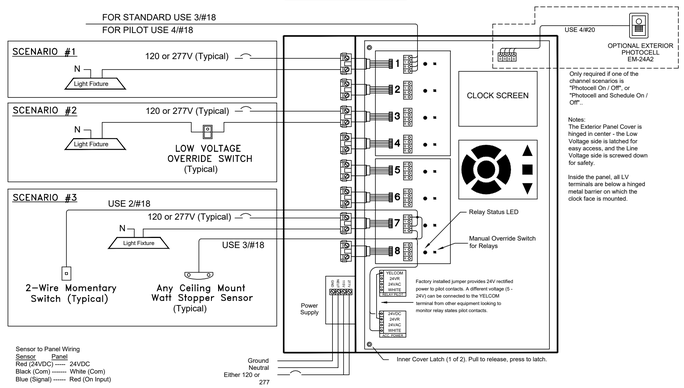
19. ANY NEW FIRE ALARM VISUAL DEVICES SHALL HAVE A CANDELA RATING OF 75 UNLESS NOTED OTHERWISE. ANY NEW FIRE ALARM AUDIO DEVICE SHALL HAVE A MINIMUM 85 DECIBEL OUTPUT.

ELECTRICAL SYMBOLS LEGEND

SYMBOLS	LEGEND	SYMBOLS	LEGEND
	LIGHTING FIXTURE	T	TRANSFORMER - AS NOTED
	WALLWASHER LIGHT FIXTURE		WALL COMMUNICATION OUTLET. PROVIDE MIN. 1" CONDUIT WITH PULL WIRES TO ABOVE CEILING.(TELE/DATA/CABLE TV)
	FLUORESCENT LIGHTING FIXTURE		
	FLUORESCENT STRIP LIGHTING FIXTURE		FLOOR TELE/DATA BOX
	EXIT SIGN FIXTURE - ARROWS AS INDICATED	F	FIREMANS PHONE JACK
	FIXTURES ON EMERGENCY CIRCUIT OR FURNISHED W/ BATTERY PACK	CR	CARD READER
			PLUGMOLD
	REMOTE EMERGENCY LIGHT W/BATTERY PACK	M	MAGNETIC DOOR HOLDER (REF. HARDWARE SPEC'S)
	S.P.S.T. TOGGLE SWITCH	D	FIRE ALARM SMOKE DETECTOR - CEILING/WALL MOUNTED
	THREE-WAY TOGGLE SWITCH / FOUR-WAY TOGGLE SWITCH	H	FIRE ALARM HEAT DETECTOR
	SWITCH WITH PILOT LIGHT	F	FIRE ALARM SIGNAL LIGHT, MTD. 82"A.F.F.
	DIMMER SWITCH	F	FIRE ALARM SPRINKLER FLOW SWITCH
	DUPLEX RECEPTACLE OUTLET	V	FIRE ALARM SPRINKLER VALVE TAMPER SWITCH
	DUPLEX RECEPTACLE OUTLET - MTD. ABOVE COUNTER	D	FIRE ALARM SMOKE DETECTOR - DUCT MOUNTED
	QUADRAPLEX RECEPTACLE OUTLET	B	FIRE ALARM SPEAKER, CLG. MTD.
	SINGLE RECEPTACLE OUTLET MTD. AS NOTED	R	FIRE ALARM COMBINATION AUDIO/VISUAL DEVICE WALL MTD. 82"A.F.F.
	FLOOR OUTLET WITH RECEPTACLE	(OR S)	"F" INDICATES HORN. "S" INDICATES SPEAKER
D	DEDICATED DUPLEX OUTLET	F	MANUAL STATION 48"A.F.F.
	SPECIAL PURPOSE OUTLET - AS NOTED	R	RELAY
J	JUNCTION BOX - CEILING MOUNTED		"DO NOT USE ELEVATOR" WARNING LIGHT(F.B. F.A. CONTRACTOR)
J	JUNCTION BOX - WALL MOUNTED		MOTORIZED DAMPER
J	FLOOR JUNCTION BOX	SD	SMOKE DAMPER
FR	FURNITURE SYSTEM POWER POLE	A	ABANDONED
	FURNITURE SYSTEM WALL POWER FEED	AFF	ABOVE FINISHED FLOOR OR GRADE
	FURNITURE SYSTEM WALL TELE/DATA	CLG	CEILING
	DISCONNECT SWITCH - 30A/3/NF U.O.N.	E	EXISTING
F	FUSED DISCONNECT SWITCH	EDF	ELECTRIC DRINKING FOUNTAIN
B	ENCLOSED CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTING
	277/480 VOLT PANELBOARD	IG	ISOLATED GROUND
	120/208 VOLT PANELBOARD	LTG	LIGHTING
	MOTOR	NF	NON-FUSED
	CONDUIT CONCEALED IN WALL OR OVERHEAD	OC	ON CENTER
	CONDUIT CONCEALED IN FLOOR OR UNDERGROUND	R	RELOCATED
	CONDUIT RUN EXPOSED	REC	RECEPTACLE
	CONDUIT WHIP UNDER RAISED FLOOR	SPR	SPARE
	TICK MARKS INDICATE #12 CONDUCTORS OR AS NOTED	UON	UNLESS OTHERWISE NOTED
	GROUND CONNECTION AS NOTED	WP	INDICATES WEATHERPROOF DEVICE OR PLATE
	CONDUIT STUB-UP LOCATION	FACP	FIRE ALARM CONTROL PANEL
	CONDUIT STUB-DOWN LOCATION	FARA	FIRE ALARM ANNUNCIATOR PANEL
	SPECIAL PURPOSE CONDUIT SEE PLANS FOR NOTES	SLC	SIGNALING LINE CIRCUIT
S_M	MOTOR STARTER - MANUAL	NAC	NOTIFICATION APPLIANCE CIRCUIT
⊠	MOTOR STARTER - MAGNETIC	(K)	FIRE ALARM KNOX BOX

NOTE: NOT ALL SYMBOLS ARE USED.

8-RELAY CAPACITY
LP-8 RELAY PANEL



Wattstopper LP-8 Relay Panel

NOTE: (8) RELAYS SHOWN. SEE DRAWINGS FOR TOTAL RELAY REQUIREMENT.

Specifications:
Provide a single relay panel with up to 8 relays. Each relay to be individually scheduled through an easy to use integral clock with a backlit 8-line LCD display. Relays are to be SPST 20 Amp rated, mechanically held contactors capable of switching either 120 or 277VAC loads. Mounted next to each relay should be a LED to annunciate status and a pushbutton to toggle the relay's state. Panel shall have a multitap transfromer and accept either 120V or 277V for power.

Panel enclosure to be NEMA 1, rated for environments from 32 - 139°F, 5 - 95% RH non-condensing. Panel to come with a split cover hinged in the center such that the high voltage side must be unscrewed to access the relays, but the low voltage side can be opened via a locking latch. Surface or flush covers shall be available.

Each relay can be controlled remotely by external switches or motion detectors. Switches can be 2- or 3-wire, momentary or maintained low voltage devices. Motion detectors must provide a 24VDC pilot signal to control the relays. Panel must be able to interlock time based schedules with the occupancy sensor input, so that lights scheduled on during the day are not affected by the motion detector, but after hours the occupancy sensor has control or the relay. Panel shall be capable of blink warning before "OFF" and true after hours time delay.

All programming to be entered via a simple keypad. Each relay can be programmed independently, or relays can be grouped together in firmware to follow the same channel schedule. On a daily 7-day repeating basis, relays can be assigned to follow any of the following scenarios:

(1) Manual On / Sched Off
(2) Scheduled On/Off
(3) Manual ON / AS Switch Off (for use with AS-100 switches)
(4) Photocell On/Off
(5) Photo & Sched On/Off
(6) Astronomic On/Off
(7) Astro and Sched On/Off

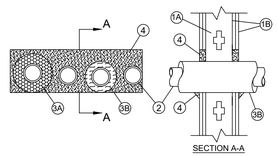
The LCD screen should normally show the current time and date, as well as sunrise and sunset times for that day. Relay channels can also be monitored from the display to see their status - either ON, OFF, or MIXED. Additionally the relay groups can be overriden from the screen. Context sensitive help shall be available for each screen.

Panel to be The Watt Stopper's (800-852-2778) LP8 panel and must be UL Listed 916, meet local energy codes (California CEC), and have a 1 year warranty.

RATED THRU WALL PIPE PENETRATION

NTS

System No.W-L-8010
May 19, 2005
F Ratings - 1 & 2 Hr (See Item 1)
T Ratings - 1/4, 3/4, 1, 1-1/2 and 1-3/4 Hr (See Items 2 & 3)



SECTION A-A

1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. by 4 in. (51 mm to max 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.
B. Gypsum Board* - Nom 5/8 in. (16 mm) thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max area of opening is 65-1/4 sq in. (421 cm2) with max dimension of 14-1/2 in. (368 mm).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly.

2. Through Penetrants - A max of four pipes, conduits or tubing to be installed within the opening. The space between pipes, conduits or tubing shall be min 1/2 in to max 1-5/16 in. (13 mm to max 33 mm). The space between pipes, conduits or tubing and periphery of opening shall be min 1-3/16 in. (30 mm) for uninsulated copper tubes and copper pipes (Items 2C and 2D) and 0 in. (point contact) for insulated copper tubes and copper pipes and uninsulated steel pipes and conduit (Item 2B). The space between pipes, conduits or tubing and periphery of opening shall be max 1-5/16 in. (33 mm). Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe - Nom 2 in. (51 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
B. Conduit - Nom 2 in. (51 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.
C. Copper Tubing - Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
D. Copper Pipe - Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.

When uninsulated steel pipe or conduit is used,T Rating is 3/4 hr and 1-1/2 hr for 1 and 2 hr rated assemblies, respectively.
When uninsulated copper tubing or pipe is used,T Rating is 1/4 hr for both 1 and 2 hr rated assemblies.

3A. Pipe Covering* (Optional) - Nom 1 in. (25 mm) hollow cylindrical heavy density glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

See **Pipe and Equipment Covering - Materials*** (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

When pipe covering is used on all through penetrants,T Rating is 1 hr and 1-3/4 hr for 1 and 2 hr rated assemblies, respectively.

3B. Tube Insulation - Plastics# (Optional) - Nom 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing.

See **Plastics** (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL94 Flammability Classification of 94-5VA may be used.

When tube insulation is used on all through penetrants, T Rating is 3/4 hr and 1-1/2 hr for 1 and 2 hr rated assemblies, respectively.

4. Fill,Void or Cavity Material* - Caulk or Sealant - Min 5/8 in. or 1-1/4 in. (16 mm or 32 mm) thickness of fill material, for 1 or 2 hr walls, respectively, applied within the annulus, flush with both surfaces of wall. At point contact locations, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the wall/pipe and wall/pipe insulation interface on both surfaces of wall.

3M COMPANY- CP 25WB+, IC 15WB+ caulk or FB-3000 WT sealant

5. Fill,Void or Cavity Materials* - Wrap Strip (Not Shown) - Min one layer of 2 in. (51 mm) wide, nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with aluminum foil, required only when tube insulation (Item 3B) is used in 2 hr rated assemblies. Wrap strip tightly wrapped around tube insulation (foil side exposed) within the opening on both sides of the wall, flush with both surfaces of the wall assembly.

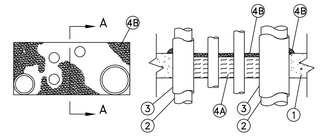
3M COMPANY - FS-195+

#Bearing the UL Recognized Component Mark
*Bearing the UL Classification Marking

RATED FLOOR PIPE PENETRATION

NTS

System No. C-AJ-8072
September 07, 2004
F Rating - 2 Hr
T Ratings - 0, 1/4, 1/2, & 1 Hr (See Item 2)



SECTION A-A

1. Floor or Wall Assembly - Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf)concrete floor or min 5 in. thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified **Concrete Blocks***. Max area of opening 84 square in. with max dimension of 14 in.

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants - Multiple metallic pipes, conduits, tubings or cables to be installed within the firestop system. Min 1/2 in. clearance between penetrants. Min clearance between uninsulated penetrants or cables and wall of through opening 0 in. (point contact). Penetrants rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits, tubings or cables may be used:

A. **Steel Pipe** - Nom 2 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
B. **Iron Pipe** - Nom 2 in. diam (or smaller) cast or ductile iron pipe.
C. **Conduit** - Nom 2 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
D. **Copper Tubing** - Nom 2 in. diam (or smaller) Type L (or heavier) copper tube.
E. **Copper Pipe** - Nom 2 in. diam (or smaller) Regular (or heavier) copper pipe.
F. **Cable** - Max 7/C No. 12 AWG (or smaller) copper conductor cable with PVC insulation and jacket.
The hourly T Rating is 1/4 hr when penetrants A, B and C are used, 0 hr when penetrants D and E are used and 1/2 hr when penetrant F is used.
The hourly T Rating is 1 hr when penetrants A, B, C, D and E are used with pipe insulation (Item 3).

3. Pipe Insulation (Optional) - The following types of pipe insulation may be used:

A. **Pipe Covering*** - Nom 1-1/2 in. thick (or thinner) hollow cylindrical heavy density glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. The annular space between the insulated pipe and the edge of the through opening shall be min 0 in. (point contact). See Pipe and Equipment Covering - Materials* (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
B. **Tube Insulation - Plastics++** - Nom 3/4 in. thick (or thinner) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The annular space between the insulated pipe and the edge of the through opening shall be min 0 in. (point contact).

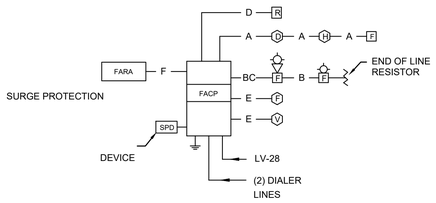
See **Plastics** (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

4. Firestop System - The details of the firestop system shall be as follows:

A. **Packing Material** - Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
B. **Fill,Void or Cavity Materials* - Caulk or Sealant** - Min 1/2 in. thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. Min 1/2 in. diam bead of caulk or sealant applied to the concrete/penetrant interface at the point contact location on the top surface of floor or both surfaces of wall.

3M COMPANY - CP-25WB+ caulk or FB-3000 WT sealant.

*Bearing the UL Classification Marking
++Bearing the UL Recognized Component Marking



FIRE ALARM RISER

NTS

FIRE ALARM GENERAL NOTES:

1. FIRE ALARM SYSTEM EQUIPMENT SHALL BE AN ANALOG ADDRESSABLE SYSTEM WITH THE CAPABILITY OF EXPANSION.

2. FIRE ALARM PERMIT DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE FIRE ALARM SYSTEM CONTRACTOR.

3. ELECTRICAL CONTRACTOR SHALL PLACE FIRESTOPPING MATERIALS AROUND ALL CONDUIT PENETRATIONS THRU ANY FIRE RATED WALLS AND FLOORS.

4. FIRE ALARM CONTRACTOR TO WIRE AND MAKE FINAL CONNECTIONS TO ALL DEVICES.

5. PROVIDE SURGE SUPPRESSION ON ALL FIRE ALARM SIGNAL CIRCUITS AND INLINE LIGHTNING/SURGE SUPPRESSOR ON FIRE ALARM CABLE ENTERING BUILDING.

6. VERIFY DEVICE QUANTITY ON FLOOR PLANS.

7. FIRE ALARM SYSTEM SHALL BE POWER LIMITED.

8. SECOND POWER SUPPLY CAPACITY SHALL BE 24 HOURS STANDBY WITH 15 MINUTES ALARM.

FIRE ALARM SYSTEM - WIRING SCHEDULE		
	CONDUCTORS	DESCRIPTION
A	2C #18 SHIELDED TWISTED PAIR	ADDRESSABLE INITIATION DEVICES
B	(2) #14 AWG THHN	SIGNAL DEVICES
C	(2) #14 AWG THHN	AUDIO DEVICES
D	(2) #14 AWG THHN	AHU & FAN SHUTDOWN RELAY
E	2C #18 SHIELDED TWISTED PAIR	FLOW & TAMPER ZONES
F	2C #16 SHIELDED TWISTED PAIR (2) #16 AWG THHN	FIRE ALARM REMOTE ANNUNCIATOR & ANSUL SYSTEM

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INDIAN RIVER COUNTY LANDFILL
HOUSEHOLD HAZARDOUS WASTE AND RECYCLING FACILITY
Indian River County, Florida

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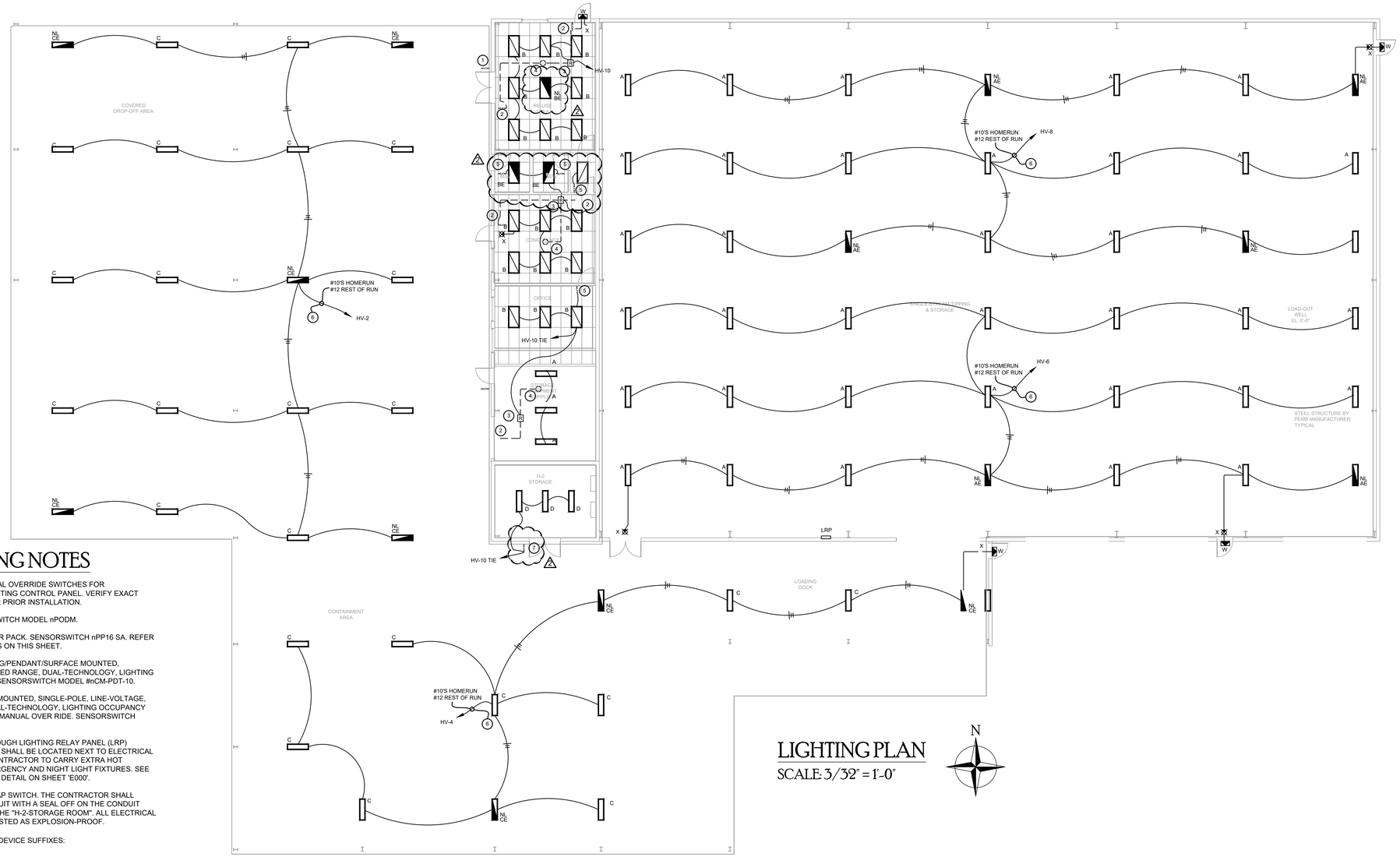
SHEET TITLE
ELECTRICAL NOTES & DETAILS
SHEET NO.
E000



LIGHTING PLAN

SCALE: 3/32" = 1'-0"

N

LIGHTING NOTES

1. LOW VOLTAGE MANUAL OVERRIDE SWITCHES FOR WATTSTOPER LP-8 LIGHTING CONTROL PANEL. VERIFY EXACT LOCATION WITH OWNER PRIOR INSTALLATION.

2. ON/OFF OVERRIDE SWITCH MODEL nPODM.

3. LOW VOLTAGE POWER PACK. SENSORSWITCH nPP16 SA. REFER TO CONTROL DIAGRAMS ON THIS SHEET.

4. PROVIDE NEW CEILING/PENDANT/SURFACE MOUNTED, LOW-VOLTAGE, EXTENDED RANGE, DUAL-TECHNOLOGY, LIGHTING OCCUPANCY SENSOR. SENSORSWITCH MODEL #nCM-PDT-10.

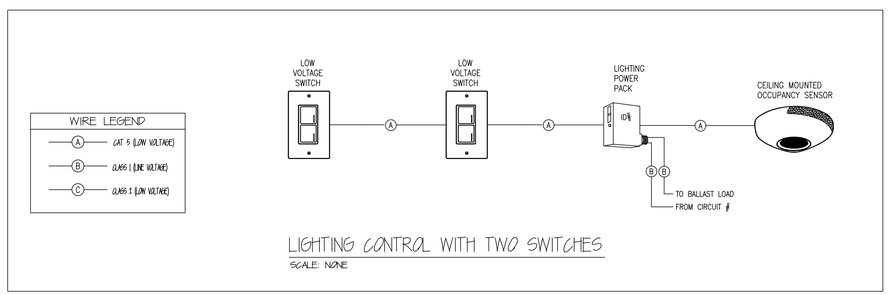
5. PROVIDE NEW WALL MOUNTED, SINGLE-POLE, LINE-VOLTAGE, STANDARD RANGE, DUAL-TECHNOLOGY, LIGHTING OCCUPANCY SENSOR WITH BUILT-IN MANUAL OVER RIDE. SENSORSWITCH MODEL #WSX-PDT.

6. ROUTE CIRCUIT THROUGH LIGHTING RELAY PANEL (LRP) LIGHTING RELAY PANEL SHALL BE LOCATED NEXT TO ELECTRICAL PANELS AS SHOWN. CONTRACTOR TO CARRY EXTRA HOT CONDUCTOR FOR EMERGENCY AND NIGHT LIGHT FIXTURES. SEE LIGHTING RELAY PANEL DETAIL ON SHEET 'E000'.

7. PROVIDE 120V/1P SNAP SWITCH. THE CONTRACTOR SHALL PROVIDE A RIGID CONDUIT WITH A SEAL OFF ON THE CONDUIT THAT IS DUCTED INTO THE "H-2-STORAGE ROOM". ALL ELECTRICAL EQUIPMENT MUST BE LISTED AS EXPLOSION-PROOF.

FIXTURE, SWITCHING & DEVICE SUFFIXES:
E = EXISTING
R = RELOCATED
RE= RELOCATE EXISTING
N = NEW
3 = 3-WAY SWITCHES
D = DIMMER. PROVIDE FIXTURE COMPATIBLE DIMMER SWITCH.
a,b...etc.= LOWER CASE LETTERS INDICATE CONTROL GROUPS.
NL- NIGHT LIGHT

NOTES: ALL DEVICES ARE NEW UNLESS INDICATED OTHERWISE.



LIGHTING CONTROL WITH TWO SWITCHES

SCALE: NONE

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	MOUNTING	VOLT	LAMP	REMARKS	SELECTION
A	COLUMBIA LIGHTING	CHB2-40MH-FA-EDU	SUSPENDED AT 16' AFF	277	LED 170W 4000K	COLUMBIA LED HIGHBAY LIGHT FIXTURE	
AE						SAME AS 'A' FIXTURE. PROVIDE NEW 90-MIN BATTERY BACKUP IN FIXTURE.	
B	COLUMBIA LIGHTING	CBT24-LS40-4400L	LAY-IN GRID	277	LED 50W 4000K	2X4 LED LIGHT FIXTURE	
BE						SAME AS 'B' FIXTURE. PROVIDE NEW 90-MIN BATTERY BACKUP IN FIXTURE.	
C	COLUMBIA LIGHTING	CHB2-40MH-FA-EDU-DAMP LISTED	SUSPENDED AT 16' AFF	277	LED 170W 4000K	COLUMBIA LED HIGHBAY LIGHT FIXTURE (DAMP LISTED)	
CE						SAME AS 'C' FIXTURE. PROVIDE NEW 90-MIN BATTERY BACKUP IN FIXTURE.	
D	SOLAS RAY LIGHTING	HJIL41-060-40-U-4JSPM	SUSPENDED AT 16' AFF	277	LED 60W 4000K	EXPLOSION PROOF LIGHT FIXTURE	
W	MCGRAW-EDISON	TO BE SELECTED BY OWNER	SURFACE	120	67W MAX	LARGE EXTERIOR WALL PACK FIXTURE WITH BUILT IN 90-MIN BATTERY BACKUP AND PHOTOCELL CONTROL.	
X			SURFACE CEILING	277	11W LED	EXIT SIGN WITH 90-MIN BATTERY BACKUP IN FIXTURE.	

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HOUSEHOLD HAZARDOUS WASTE
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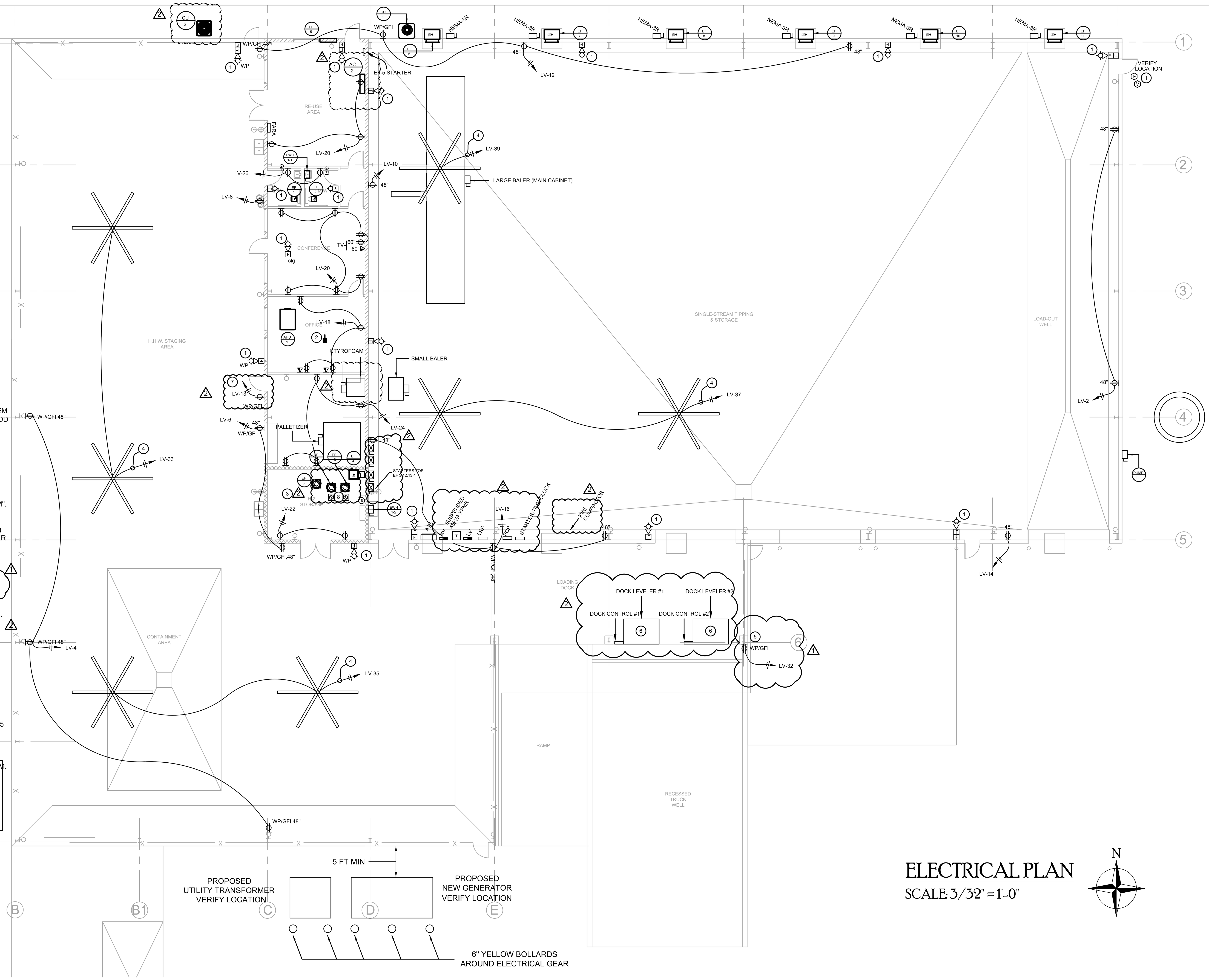
SHEET TITLE
LIGHTING PLAN

SHEET NO.
E101



ELECTRICAL PLAN

SCALE: 3/32" = 1'-0"

ELECTRICAL NOTES

1. NEW FIRE ALARM SYSTEM. CONTRACTOR SHALL VERIFY NEW SYSTEM HAS THE CAPACITY TO ADD ADDITIONAL DEVICES AS SHOWN OR TO ADD ADDITIONAL SIGNAL AND ZONE EXPANDERS TO PROVIDE A PROPERLY FUNCTIONING FIRE ALARM SYSTEM. VERIFY EXACT LOCATION OF FIRE ALARM DEVICES WITH OWNER PRIOR INSTALLATION.

2. MOTORIZED DAMPER. PROVIDED AND INSTALLED BY MECHANICAL. CONNECTED BY ELECTRICAL. PROVIDE 120V POWER FROM NEAREST RECEPTACLE CIRCUIT.

3. THE CONTRACTOR SHALL PROVIDE A RIGID CONDUIT WITH A SEAL OFF ON THE CONDUIT THAT IS DUCTED INTO THE "H-2-STORAGE ROOM". ALL ELECTRICAL EQUIPMENT MUST BE LISTED AS EXPLOSION-PROOF.

4. BIG ASS FANS. PROVIDE 120V POWER AS SHOWN AND WIRE WITH (2) #10, #12 EG IN 1/2"C. VERIFY EXACT LOCATION WITH ARCHITECT/OWNER PRIOR INSTALLATION. PROVIDE CAT5 CONDUCTOR FROM FAN TO DESIGNATED LOCATION FOR CONTROLLER. VERIFY CONTROLLER LOCATION WITH OWNER/ARCHITECT PRIOR INSTALLATION.

5. PROVIDE POWER FOR SUMP PUMP. COORDINATE EXACT LOCATION WITH CIVIL.

6. COORDINATE DISCONNECT LOCATION WITH EQUIPMENT SUPPLIER. REFER TO MANUFACTURER'S DETAILS FOR ROUGH-IN REQUIREMENTS.

7. VERIFY LOCATION WITH GENERAL CONTRACTOR

8. CONTRACTOR TO FURNISH AND INSTALL TWO EXPLOSION PROOF ON/OFF SELECTOR SWITCHES. ONE FOR EACH EF-12 & 13.PROVIDE ENGRAVED LABEL FOR EACH FAN. ALL WIRING IN ROOM TO BE EXPLOSION PROOF.

GENERAL NOTES:

1. FOR 120V CIRCUITS WHEN BRANCH CIRCUIT LENGTH EXCEEDS 75 FEET FROM PANEL, WIRING SHALL BE INCREASED TO #10 AWG. WHEN BRANCH CIRCUIT LENGTH EXCEEDS 150 FEET FROM PANEL, BRANCH WIRING SHALL BE INCREASED TO #8 AWG WITH #10 AWG GROUND.

2. ADDITIONAL POWER MAY BE REQUIRED FOR FIRE ALARM SYSTEM.

SPECIAL ELECTRICAL NOTE:

ELECTRICAL DEVICE SUFFIXES:
E = EXISTING
R = RELOCATED
N = NEW

UPON PROJECT COMPLETION, CONTRACTOR SHALL VERIFY FIRE DEPARTMENT RADIO SIGNAL STRENGTH, PROVIDE A BI-DIRECTIONAL ANTENNA SYSTEM IF REQUIRED DUE TO LOW RF SIGNAL.

SPECIAL ELECTRICAL NOTE:

SEE SHEET E300 FOR MECHANICAL SCHEDULE.

EQUIPMENT SCHEDULE

DESCRIPTION	ELECTRICAL CHARACTERISTICS VOLTS	PHASE	KW	HP	MCA	CIRCUIT DESIGNATION	BREAKER AMPS	POLES	FEEDER	EQUIP. GROUND	CONDUIT	DISCONNECT SWITCH	REMARKS
LARGE BALER	460	3		83	132.9	HV-1,3,5	200	3	(3) #1/0	#6	2"	DIRECT CONNECTION	SEE NOTE 1,2
SMALL BALER	480	3		10	17.5	HV-7,9,11	25	3	(3) #12	#12	1/2"	DIRECT CONNECTION	SEE NOTE 1,2
STYROFOAM MACHINE	208	3			48.0	LV-1,3,5	50	3	(3) #6	#10	3/4"	60A/2P/NF/NEMA-1	SEE NOTE 1
PALLETIZER	120	1			15.0	LV-7	20	1	(2) #12	#12	1/2"C	30A/2P/NF/NEMA-1	SEE NOTE 1
DOCK LEVELER #1	120	1			15.0	LV-9	20	1	(2) #12	#12	1/2"	20A/1P/NF/NEMA-1	SEE NOTE 1
DOCK LEVELER #2	120	1			15.0	LV-11	20	1	(2) #12	#12	1/2"	20A/1P/NF/NEMA-1	SEE NOTE 1
STRETCH WRAP	120	1			15.0	LV-13	20	1	(2) #12	#12	1/2"	30A/2P/NF/NEMA-1	SEE NOTE 1
RUNI COMPACTOR	460	3		10	21.0	HV-31,33,35	40	3	(3) #8	#10	3/4"	30A/3P/NF/NEMA-1	SEE NOTE 1

NOTES:

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WG

SHEET TITLE
ELECTRICAL PLAN

SHEET NO.
E201

MECHANICAL EQUIPMENT SCHEDULE

DESCRIPTION	ELECTRICAL CHARACTERISTICS					CIRCUIT DESIGNATION	BREAKER		FEEDER	EQUIP. GROUND	CONDUIT	DISCONNECT SWITCH	REMARKS
	VOLTS	PHASE	KW	HP	MCA		AMPS	POLES					
AHU-1	480	3	10		19.3	HV-25,27,29	20	3	(3) #12	#12	1/2"	30A/3P/NF/NEMA-1	SEE NOTE 1
CU-1	480	3			21.5	HV-13,15,17	30	3	(3) #10	#12	1/2"	30A/3P/NF/NEMA-3R	SEE NOTE 1,3
EF-3, EF-4,EF-12, EF-13	480	3			4.0	HV-19,21,23	15	3	(3) #12	#12	1/2"	PROVIDED BY MECH	SEE NOTE 1,2,3,5,6
EF-6 & EF-7 & EF-8	480	3		1	2.6	HV-37,39,41	15	3	(3) #12	#12	1/2"	30A/3P/NF/NEMA-3R	SEE NOTE 1,4
EF-9 & EF-10 & EF-11	480	3		1	2.6	HV-32,34,36	15	3	(3) #12	#12	1/2"	30A/3P/NF/NEMA-3R	SEE NOTE 1,4
PUMP 1-1	208	1		1	8.0	LV-29,31	20	2	(2) #12	#12	1/2"	30A/2P/NF/NEMA-3R	
EWH 1-1	208	1	3.6		17.3	LV-25,27	20	2	(2) #12	#12	1/2"	30A/2P/NF/NEMA-1	
EWH 1-2	277	1	8		28.8	HV-12	30	1	(2) #10	#10	3/4"	30A/2P/NF/NEMA-1	
AC-2	208	1			18.0	LV-15,17	30	2	(2)#10	#10	3/4"	30A/2P/NF/NEMA-3R	
EF-5	480	3			0.5	HV-38,40,42	15	3	(3) #12	#12	1/2"	30A/3P/NF/NEMA-3R	SEE NOTE 1,5

NOTES:

1. SEE MECHANICAL PLANS FOR CONTROL INFORMATION.
2. MECHANICAL CONTRACTOR TO FURNISH EXPLOSION PROOF DISCONNECTS FOR EF-3, EF-4,EF-12,EF-13. INSTALLED BY ELECTRICAL CONTRACTOR.
3. PROVIDE WP/GFI 120V, 20A GENERAL MAINTENANCE RECEPTACLE WITH-IN 25' OF UNIT AS REQUIRED. PROVIDE POWER FROM NEAREST GENERAL RECEPTACLE CIRCUIT. CONTRACTOR TO VERIFY BRANCH CIRCUIT CONTAINS NO MORE THAN (8) RECEPTACLES.
4. CONTRACTOR TO FURNISH AND INSTALL A SIZE "O" STARTER WITH OVERLOADS, 120V COIL, HOA SWITCH IN COVER, IN A NEMA 1 ENCLOSURE. CONTRACTOR TO FURNISH AND INSTALL A 24 HOUR TIME CLOCK TO CONTROL ALL FANS. TIME CLOCK TO CONTOL ALL FOUR FANS TOGETHER
5. FOR EF-3 & EF-4 CONTRACTOR TO FURNISH AND INSTALL A SIZE "0" COMBINATION NON FUSED STARTER WITH OVERLOADS, 480V COIL, IN A NEMA 1 ENCLOSURE. STARTER TO BE IN ON AT ALL TIMES.
6. FOR EF-12 & EF-13. CONTRACTOR TO FURNISH AND INSTALL A SIZE "0" COMBINATION NON FUSED STARTER WITH OVERLOADS, 120V COIL, IN A NEMA-1 ENCLOSURE. SEE NOTES ON PLANS FOR CONTROLS.

NEW
PANEL LV VOLTAGE 120 / 208 V SIZE 225A MCB CABINET SURFACE NEMA-1
SQD OR EQUAL PHASE 3 PH 225A BUS RATING 10,000 AIC RATED
4 W

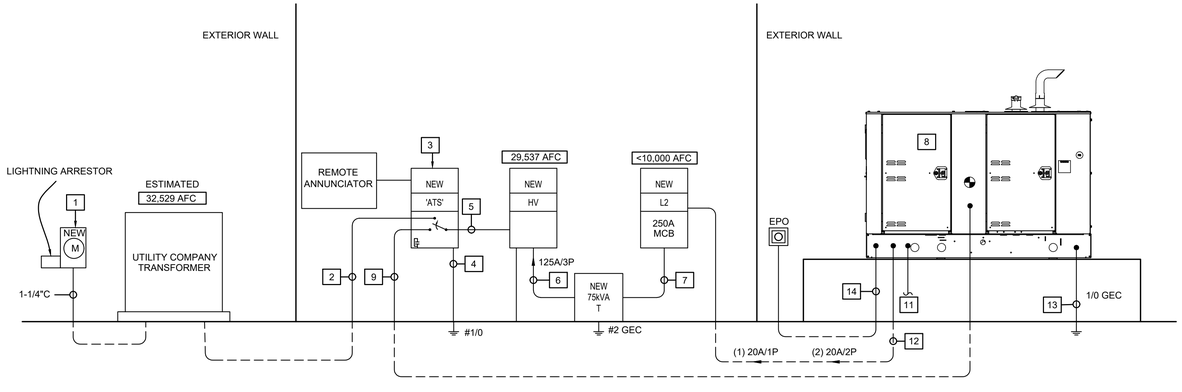
NOTES	REMARKS	CKT.BKR. AMPS	P	VA PHASE LOAD A	B	C	CKT #	BUS A	B	C	CKT #	VA PHASE LOAD A	B	C	CKT.BKR. AMPS	P	REMARKS	NOTES
	STYROFOAM MACHINE	50	3	4621			1	X			2	360			20	1	GENERAL REC	
					4621		3		X		4		1080		20	1	GENERAL REC	
						4621	5			X	6			1080	20	1	GENERAL REC	
	PALLETIZER	20	1	1800			7	X			8	360			20	1	DRINKING FTN	
	DOCK LEVELER #1	20	1		1800		9		X		10		1080		20	1	GENERAL REC	
	DOCK LEVELER #2	20	1			1800	11			X	12			1080	20	1	GENERAL REC	
	STRETCH WRAP	20	1	1800			13	X			14	1080			20	1	GENERAL REC	
	AC-1	30	2		1500		15				16		1080		20	1	GENERAL REC	
						1500	17			X	18			1080	20	1	CONF RM REC	
	SPARE	20	1				19	X			20	1080			20	1	OFFICE RM REC	
	SPARE	20	1				21		X		22		360		20	1	H-2 STORAGE REC	
	SPARE	20	1				23			X	24			1080	20	1	STORAGE REC	
	EWH 1-1	20	2	1800			25	X			26	360			20	1	RESTROOM REC	
					1800		27		X		28		1080		20	1	FACP	
	PUMP 1-1	20	2			832	29			X	30			1080	20	1	EF TC/STARTERS	
				832			31	X			32	1200			20	1	SUMP PUMP	
	BIG ASS FANS	20	1		1500		33		X		34				20	1	SPARE	
	BIG ASS FANS	20	1			1500	35			X	36				20	1	SPARE	
	BIG ASS FANS	20	1	1500			37	X			38				20	1	SPARE	
	BIG ASS FANS	20	1		750		39		X		40				20	1	SPARE	
	SPARE	20	1				41			X	42				20	1	SPARE	
	TOTAL			12353	11971	10253						4440	4680	5400	TOTAL			

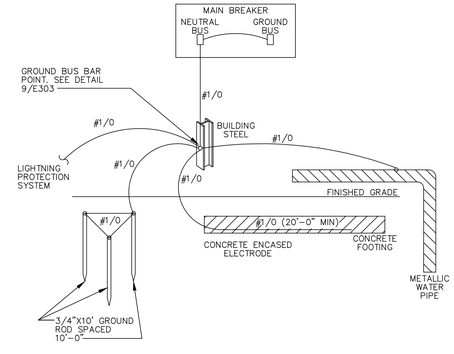
TABULATION	TOTAL LOAD	DEMAND FACTOR	DEMAND LOAD
MEASURED			
LIGHTING			
COOLING			
HEATING			
RECEPTACLE	13320	0.88	11660
MISCELLANEOUS	35776	1.00	35776
KITCHEN EQUIP			
LARGEST MOTOR			
TOTAL DEMAND LOAD		47436 VA	
TOTAL DEMAND AMPS		131.7 A	

NOTE:
CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.

GENERATOR FUEL TANK CALCULATION:

GENERATOR SIZE: 250kW/313kVA
FUEL CONSUMPTION AT 100% LOAD: 18.5 GAL/HR
18.5 GAL/HR X 8HR = 148 GAL.
TANK SIZE = 372 GAL.





SERVICE GROUNDING DIAGRAM

SCALE: NONE

REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

NEW
PANEL HV VOLTAGE 277 / 480 V SIZE 400A MLO CABINET SURFACE NEMA-1
SQD OR EQUAL PHASE 3 PH 400A BUS RATING 33,000 AIC RATED
4 W

NOTES	REMARKS	CKT.BKR. AMPS	P	VA PHASE LOAD A	B	C	CKT #	BUS A	B	C	CKT #	VA PHASE LOAD A	B	C	CKT.BKR. AMPS	P	REMARKS	NOTES
	LARGE BALER	200	3	28910			1	X			2	3000			20	1	LIGHTS	
					28910		3		X		4		3000		20	1	LIGHTS	
						28910	5			X	6			3000	20	1	LIGHTS	
	SMALL BALER	25	3	3324			7	X			8	3000			20	1	LIGHTS	
					3324		9		X		10		1500		20	1	LIGHTS	
						3324	11			X	12			8000	20	1	EWH 1-2	
	CU-1	30	3	4764			13	X			14	1385						
					4764		15		X		16		1385		20	3	HOOD	
						4764	17			X	18			1385				
	EF-3, EF-4, EF-12, EF-13	15	3	831			19	X			20	1200			20	1	GEN BLCK HEAT	
					831		21		X		22		1200		20	1	GEN BATT CHR	
						831	23			X	24				20	1	SPARE	
	AHU-1	20	3	3333			25	X			26				20	1	SPARE	
					3333		27		X		28				20	1	SPARE	
						3333	29			X	30				20	1	SPARE	
	RUNI. COMPAC	40	3	3740			31	X			32	1385						
					3740		33		X		34		1385		20	3	EF-9 & EF-10 & EF-11	
						3740	35			X	36			1385				
	EF-6 & EF-7 & EF-8	20	3	1385			37	X			38							
					1385		39		X		40				15	3	EF-5	
						1385	41			X	42							
							1	SUB FEED BRKR			2	16793	16651	15653	125	3	PANEL 'LV' VIA 75kVA XFMR	
	TOTAL			46287	46287	46287						9970	8470	13770	TOTAL			

TABULATION	TOTAL LOAD	DEMAND FACTOR	DEMAND LOAD
MEASURED			
LIGHTING	13500	1.25	16875
COOLING	24292	1.00	24292
HEATING			
RECEPTACLE	2400	1.00	2400
MISCELLANEOUS	130880	1.00	130880
KITCHEN EQUIP			
LARGEST MOTOR			
TOTAL DEMAND LOAD		174447 VA	
TOTAL DEMAND AMPS		209.8 A	

NOTE:
CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.

SPECIAL ELECTRICAL NOTE:

UPON PROJECT COMPLETION, CONTRACTOR SHALL VERIFY FIRE DEPARTMENT RADIO SIGNAL STRENGTH, PROVIDE A BI-DIRECTIONAL ANTENNA SYSTEM IF REQUIRED DUE TO LOW RF SIGNAL.

RISER NOTES

1. NEW 277/480/3Ø CT METER. COORDINATE WITH LOCAL UTILITY. PROVIDE LIGHTING ARRESTOR AND GROUND PER LOCAL UTILITY REQUIREMENTS. CT METER ENCLOSURE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR. MOUNT CT METER ENCLOSURE ON A 4X4 CONCRETE PEDESTAL ADJACENT TO THE ENCLOSURE.
2. PROVIDE (4) #500 MCM IN 3" CONDUIT.
3. PROVIDE NEW 400A, 277/480V/3Ø SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH WITH A 400A MAIN CIRCUIT BREAKER ON UTILITY SOURCE. SWITCH SHALL BE 3-POLE, IN NEMA-3R ENCLOSURE. ATS SHALL SERVE AS THE NEW MAIN DISCONNECT FOR THE BUILDING. BOND NEUTRAL AND GROUND AT ATS.
4. PROVIDE #1/0 GROUNDING ELECTRODE CONDUCTOR TO 5/8" X 10' COPPER CLAD GROUND RODS. BOND NEUTRAL AND GROUND IN ATS. SEE DETAIL THIS SHEET.
5. PROVIDE (4) #500 MCM, #3 EG IN 3-1/2" CONDUIT.
6. PROVIDE (3) #1, #6 EG IN 1-1/2"C.
7. PROVIDE (4) #250, #2 GEC IN 2-1/2"C.
8. 277/480V/3Ø, 250kW DIESEL GENERATOR WITH NEMA-3R SOUND ENCLOSURE AND SUB-BASE FUEL TANK AND 400A 80% RATED OUTPUT BREAKER. COORDINATE EXACT LOCATION WITH OWNER. GENERATOR SHALL COMPLY WITH NEC ARTICLE 702 (OPTIONAL STANDBY SYSTEMS). CONTRACTOR SHALL PROVIDE GENERATOR PAD. PROVIDE 48 HOUR FUEL TANK. 2
9. PROVIDE (4) #500 MCM, #3 EG IN 3-1/2" CONDUIT. 2
10. NOT USED.
11. PROVIDE 1"C FOR NEW GENERATOR START CIRCUIT. USE (2) #12, #12 EG WITH TWO STRANDED TWISTED PAIRS FOR GENERATOR ANNUNCIATION AND GENERATOR EPO, SIZE AS REQUIRED PER MANUFACTURER. ANNUNCIATOR AND EPO SHALL BE LOCATED BY OWNER IN A LOCATION EASILY MONITORED. VERIFY EXACT LOCATIONS WITH TENANT.
12. PROVIDE A 120V, 20A/1P CIRCUIT FOR BATTERY CHARGER, PROVIDE A 208V, 20A/2P CIRCUIT FOR BLOCK HEATER. WIRE EACH WITH (2) #12, #12 EG IN 3/4"C.
13. (2) 5/8"X10' COPPER CLAD GROUND RODS. BOND GENERATOR ENCLOSURE TO GROUND RODS. GENERATOR IS NOT A SEPARATELY DERIVED SOURCE.
14. PROVIDE 3/4" CONDUIT FOR GENERATOR EPO BUTTON. SIZE PER MANUFACTURER REQUIREMENTS. EPO BUTTON SHALL BE LOCATED WITHIN GENERATOR REACH. VERIFY LOCATION WITH OWNER PRIOR TO INSTALLATION.

C.O.A. #26759
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STE. 506 TAMPA, FL 33607
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INDIAN RIVER COUNTY LANDFILL
HOUSEHOLD HAZARDOUS WASTE
AND RECYCLING FACILITY
Indian River County, Florida

NO.	REVISIONS	DATE
1	FIELD COORDINATION	05.15.2021
2	FIELD COORDINATION	11.05.2021

JOB NO.
2016
ISSUE DATE:
07/07/2021
DRAWN BY:
WG

SHEET TITLE
RISER DIAGRAM & PANEL SCHEDULES

SHEET NO.
E300

FIRE PROTECTION GENERAL NOTES

1. THESE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS PROVIDE THE ENGINEERING REQUIREMENTS TO BE USED IN THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS AND INDICATE THE OVER ALL NATURE OF THE PROJECT SCOPE OF WORK.
2. THE PROPOSED TYPE II 33,487 SQUARE FEET BUILDING SHALL BE PROTECTED BY AN WET AUTOMATIC SPRINKLER SYSTEM THROUGHOUT. THE PROPOSED CONSTRUCTION AREAS SHALL BE INSTALLED IN ACCORDANCE WITH THE 2016 EDITION OF NFPA 13, 2020 SEVENTH EDITION OF THE FLORIDA FIRE PREVENTION CODE, 2020 FLORIDA BUILDING CODE, CHAPTER 9 AND APPLICABLE LOCAL AND STATE REQUIREMENTS ADOPTED AT TIME OF PERMITTING.
3. THE OCCUPANCY CLASSIFICATION OF THIS FACILITY PER NFPA 13, 2016 EDITION SHALL BE:

   OFFICES, RESTROOMS AND LIKE AREAS SHALL BE DESIGNED PER LIGHT HAZARD OCCUPANCY, WITH A MINIMUM DENSITY OF 0.10 GPM OVER THE HYDRAULICALLY MOST DEMANDING OPERATING AREA PER NFPA 13 2016 11.2.3. TEMPERATURE RATING OF THE SPRINKLERS SHALL BE 155° OR AS INDICATED ON DRAWINGS. SPACING BETWEEN SPRINKLERS SHALL BE A MINIMUM OF 6' AND A MAXIMUM OF 15'. AREA OF COVERAGE PER SPRINKLER SHALL BE 225 SQUARE FEET MAXIMUM FOR STANDARD SPACING AND MANUFACTURERS LISTING REQUIREMENTS FOR EXTENDED COVERAGE SPACING.

   ELECTRICAL/MECHANICAL EQUIPMENT ROOMS AND LIKE AREAS AREAS SHALL BE DESIGNED PER ORDINARY HAZARD GROUP I OCCUPANCY, WITH A MINIMUM DENSITY OF 0.15 GPM OVER THE HYDRAULICALLY MOST DEMANDING OPERATING AREA PER NFPA 13 2016 11.2.3. TEMPERATURE RATING OF THE SPRINKLERS SHALL BE 155° OR AS INDICATED ON DRAWINGS. SPACING BETWEEN SPRINKLERS SHALL BE A MINIMUM OF 6' AND A MAXIMUM OF 15'. AREA OF COVERAGE PER SPRINKLER SHALL BE 130 SQUARE FEET MAXIMUM FOR STANDARD SPACING AND MANUFACTURERS LISTING REQUIREMENTS FOR EXTENDED COVERAGE SPACING.

   TIPPING, DROP OFF, STORAGE AND LIKE AREAS SHALL BE DESIGNED PER ORDINARY HAZARD GROUP II OCCUPANCY, WITH A MINIMUM DENSITY OF 0.20 GPM OVER THE HYDRAULICALLY MOST DEMANDING OPERATING AREA PER NFPA 13 2016 11.2.3. TEMPERATURE RATING OF THE SPRINKLERS SHALL BE 155° OR AS INDICATED ON DRAWINGS. SPACING BETWEEN SPRINKLERS SHALL BE A MINIMUM OF 6" AND A MAXIMUM OF 15', AREA OF COVERAGE PER SPRINKLER SHALL BE 130 SQUARE FEET MAXIMUM FOR STANDARD SPACING AND MANUFACTURERS LISTING REQUIREMENTS FOR EXTENDED COVERAGE SPACING. THESE AREAS SHALL NOT EXCEED 12 FEET HEIGHT OF MODERATE COMBUSTIBILITY CONTENTS PER NFPA 13 2016 5.3.2.1.

   H-2 STORAGE SHALL BE DESIGNED PER EXTRA HAZARD GROUP II OCCUPANCY, WITH A MINIMUM DENSITY OF 0.40 GPM OVER THE ENTIRE AREA AS THE OPERATING AREA PER NFPA 13 2016 11.2.3. TEMPERATURE RATING OF THE SPRINKLERS SHALL BE 175° STANDARD RESPONSE TYPE AS INDICATED ON DRAWINGS. SPACING BETWEEN SPRINKLERS SHALL BE A MINIMUM OF 6" AND A MAXIMUM OF 12', AREA OF COVERAGE PER SPRINKLER SHALL BE 120 SQUARE FEET MAXIMUM FOR STANDARD SPACING AND MANUFACTURERS LISTING REQUIREMENTS FOR EXTENDED COVERAGE SPACING. WALLS SURROUNDING H-2 STORAGE AREA SHALL EXTEND TO THE DECK.

4. THE SUPPORT SYSTEMS OF THE BUILDING HAVE ADEQUATE LOAD CARRYING CAPACITY FOR A 5 PSF DEAD LOAD WHICH WILL BE CONTRIBUTED BY THE FIRE SPRINKLER, MECHANICAL & ELECTRICAL SYSTEMS. THERE ARE NO SIGNIFICANT STRUCTURAL OPENINGS THAT WILL BE REQUIRED BY THE FIRE SPRINKLER SYSTEM. REFER TO STRUCTURAL DRAWINGS.
5. THE NEW FLOW SWITCH, LOCATED ON THE RISER CONTROL VALVE ASSEMBLY, SHALL BE CONNECTED TO THE EXTERIOR ELECTRIC BELL AND TO THE BUILDING FIRE ALARM SYSTEM. THE NEW TAMPER SWITCH, LOCATED ON THE RISER CONTROL VALVE ASSEMBLY, SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.
6. THIS PROPOSED BUILDING IS TO BE PROTECTED BY A WET PIPE AUTOMATIC SPRINKLER SYSTEM. THE FIRE PROTECTION CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS, AND THE INSTALLATION OF ALL NECESSARY COMPONENTS, SYSTEMS, MATERIALS, ASSEMBLIES, EQUIPMENT AND SUPPORT SYSTEMS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
7. THE ACCEPTANCE TESTING OF ALL FIRE PROTECTION SYSTEMS AND COMPONENTS SHALL BE IN ACCORDANCE WITH NFPA 13, 2016 EDITION FOR THE INSIDE (ABOVE GROUND) FIRE SPRINKLER SYSTEM AND NFPA 24, 2016 EDITION FOR THE OUTSIDE (UNDERGROUND) FIRE SPRINKLER SYSTEM.
8. THE FIRE SPRINKLER POINT OF SERVICE FOR THIS NEW PROJECT SHALL BE PER F.S. 633.021(18) AT THE DISCHARGE SIDE OF THE PROPOSED BACKFLOW PREVENTOR.
9. FIRE FLOW TEST:
   PROVIDED BY: INDIAN RIVER COUNTY DEPARTMENT OF UTILITIES
   DATE: 04/29/21
   STATIC: 55 PSI
   RESIDUAL: 42 PSI
   FLOWING: 993 GPM
   THE AWARDED CONTRACTOR SHALL OBTAIN AN AHJ PURVEYOR APPROVED HYDRANT FLOW TEST PER NFPA 13 2016 23.2.1.1. HYDRAULIC CALCULATIONS, LAYOUT DRAWINGS AND MATERIAL SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND FIRE MARSHALL AND SHALL BE APPROVED PRIOR TO ANY FABRICATION OR INSTALLATION INVOLVED WITH THIS PROJECT
10. THERE ARE NO KNOWN CONDITIONS THAT WOULD INDICATE MICROBIAL INDUCED CORROSION IS PRESENT IN THE WATER SYSTEMS OF THIS JURISDICTION AS UNUSUAL PIPE FAILURES HAVE NOT BEEN KNOWN TO OCCUR.
11. THE QUALITY AND PERFORMANCE SPECIFICATIONS OF THE INTERIOR FIRE PROTECTION COMPONENTS SHALL BE GROOVED SCHEDULE 10 PIPE WITH GROOVED FITTINGS. AND OR SCHEDULE 40 WITH THREADED CAST IRON FITTINGS OR GROOVED SCHEDULE 10 PIPE WITH GROOVED FITTINGS.
12. ALL FIRE PROTECTION SYSTEM COMPONENTS SHALL BE UL LISTED FOR INTENDED USE.
13. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 61G15-32 OF THE FLORIDA ADMINISTRATIVE CODE.
14. ALL FIRE PROTECTION WORK SHALL BE IN STRICT ACCORDANCE WITH ALL RELATED NFPA STANDARDS, THE OWNER'S INSURANCE UNDERWRITER, UNDERWRITERS LABORATORY, THE FLORIDA STATE FIRE PREVENTION CODE 2020 AND ALL LOCAL CODES AND AMENDMENTS.
15. FINAL INSPECTION AND APPROVAL OF AUTOMATIC SPRINKLER SYSTEM SHALL BE BY THE LOCAL FIRE MARSHAL (AHJ) AND ARCHITECT/ENGINEER
16. THE CONTRACTOR SHALL FOLLOW THE DRAWINGS, NOTES AND SPECIFICATIONS AS CLOSE AS POSSIBLE. HOWEVER, THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION(S) OF SPRINKLERS, PIPING, VALVES, ETC. TO ACCOMMODATE EXISTING CONDITIONS WHICH MAY ARISE DURING THE SYSTEM INSTALLATION WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR FOR SUCH CHANGES, PROVIDED SUCH CHANGES ARE REQUESTED PRIOR TO THE INSTALLATION OF THE CONTRACTOR'S WORK. COORDINATE WITH ALL OTHER TRADES.
17. THE BIDDER IS REQUIRED, BEFORE SUBMITTING HIS PROPOSAL, TO VISIT THE SITE OF THE PROPOSED WORK AND FAMILIARIZE HIMSELF WITH THE NATURE AND EXTENT OF THE WORK AND ANY EXISTING CONDITIONS THAT MAY IN ANY MANNER AFFECT THE WORK TO BE DONE AND THE EQUIPMENT, MATERIALS AND LABOR REQUIRED. THE BIDDER IS ALSO REQUIRED TO EXAMINE CAREFULLY THE PLANS AND SPECIFICATIONS AND TO INFORM HIMSELF THOROUGHLY REGARDING ANY AND ALL CONDITIONS AND REQUIREMENTS THAT MAY IN ANY MANNER AFFECT THE WORK TO BE PERFORMED UNDER THIS CONTRACT.
18. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING DESCRIPTIONS AND HEIGHTS.
19. SPRINKLERS SHALL BE COORDINATED WITH ALL DIFFUSERS, SPEAKERS, LIGHTING FIXTURES, FIRE ALARM DEVICES, AND CEILING SYSTEMS. SPACING OF SPRINKLERS SHALL BE IN ACCORDANCE WITH NFPA 13 AND THE LISTING OF THE SPRINKLER.
20. SPRINKLERS SHALL BE CENTERED IN THE CEILING TILE AS INDICATED ON THE DRAWINGS. PROVIDE RETURN BENDS OR SWING JOINTS AS REQUIRED.
21. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH UL LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL TO OR EXCEED THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
22. PROVIDE A PERMANENTLY ATTACHED NAME TAG ATTACHED TO THE RISER STATING THE REQUIRED OR MODIFIED DESIGN CRITERIA FOR EACH HYDRAULICALLY DESIGNED SYSTEM.
23. PROVIDE SPRINKLERS CAGES ON ALL SPRINKLERS IN ELECTRIC ROOMS, TELEPHONE ROOMS, MECHANICAL ROOMS, GYMNASIUMS, AND ON ANY SPRINKLER LESS THAN 7'-0" ABOVE FLOOR.
24. COORDINATE SPRINKLER PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY SPRINKLER PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY SPRINKLER PIPING RUN OVER NEW PROPOSED ELECTRICAL PANELS/EQUIPMENT SHALL BE REROUTED AT ADDITIONAL COST AS APPROVED IN RFI PROCESS THROUGH GC TO ARCHITECT.
25. THE CONTRACTOR SHALL INFORM THE OWNER (A MINIMUM OF ONE WEEK IN ADVANCE) OF ANY DISRUPTION OF SERVICES TO THE BUILDING AND SHALL NOT PROCEED TO WORK WITHOUT WRITTEN APPROVAL FROM THE OWNER. THE CONTRACTOR SHALL MAKE REPAIRS TO ANY SERVICES (ABOVE OR BELOW GROUND) DAMAGED BY WORK PERFORMED BY HIM. IF FOR ANY REASON OVERNIGHT SHUTDOWN IS REQUIRED, A "FIRE WATCH" CONDITION SHALL BE REQUEST AND APPROVED IN RFI PROCESS THROUGH GC TO ARCHITECT.

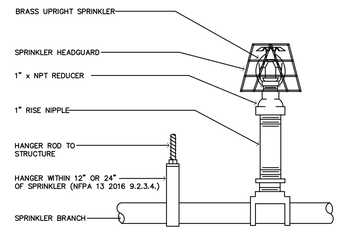
FIRE PROTECTION CODE CRITERIA

THE FOLLOWING IS A LIST OF ALL CODES AND STANDARDS ADOPTED DECEMBER 31, 2020 BY THE STATE FIRE MARSHAL'S RULE 69A3.012 F.A.C.:

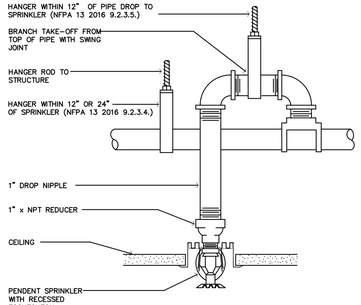
FLORIDA BUILDING CODE, SEVENTH EDITION (2020) – ALL SECTIONS
FLORIDA FIRE PREVENTION CODE, SEVENTH EDITION (2020)
FLORIDA BUILDING CODE (FBC), SEVENTH EDITION (2020) ENERGY CONSERVATION SOFTWARE: ENERGY GAUGE SUMMIT VERSION 6.10
FLORIDA BUILDING CODE (FBC), SEVENTH EDITION (2020) ACCESSIBILITY – 2012 FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION

(1) EXCEPT AS SPECIFICALLY MODIFIED BY STATUTE OR BY THE STATE FIRE MARSHAL'S RULES, THE "FLORIDA FIRE PREVENTION CODE, 7TH EDITION (2020)," WHICH IS COMPRISED OF THE FLORIDA SPECIFIC EDITION OF NFPA 101, THE LIFE SAFETY CODE (2018 EDITION) AND THE FLORIDA SPECIFIC EDITION OF NFPA 1, THE FIRE CODE (2018 EDITION), ARE HEREBY ADOPTED AND INCORPORATED BY REFERENCE AND ARE APPLICABLE TO THOSE BUILDINGS AND STRUCTURES SPECIFIED IN PARAGRAPHS (A) AND (B), OF SUBSECTION (1), OF SECTION 633.206, F.S. IN ADDITION, THE FOLLOWING STANDARDS, EXCEPT AS SPECIFICALLY MODIFIED IN THE RULE CHAPTERS IN RULE TITLE 69A, ARE HEREBY ADOPTED AND INCORPORATED BY REFERENCE AND SHALL TAKE EFFECT ON THE EFFECTIVE DATE OF THIS RULE, AS A PART OF THE UNIFORM FIRE SAFETY STANDARDS ADOPTED BY RULE BY THE STATE FIRE MARSHAL AND ARE APPLICABLE TO THOSE BUILDINGS AND STRUCTURES SPECIFIED IN SECTIONS 633.206(1)(A) AND (B), F.S.:

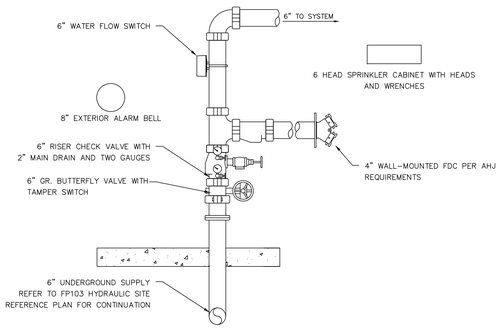
NFPA 13–2016	STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
NFPA 24–2016	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
NFPA 25–2017	STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS, EXCEPT THAT QUARTERLY FLOW TESTS SHALL BE REQUIRED FOR THOSE SYSTEMS SUPPLIED BY A MUNICIPAL WATER SUPPLY.
NFPA 70–2017,	NATIONAL ELECTRIC CODE
NFPA 72–2016,	NATIONAL FIRE ALARM CODE
NFPA 241–2013,	STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION AND DEMOLITION OPERATIONS



TYPICAL UPRIGHT SPRINKLER HEAD

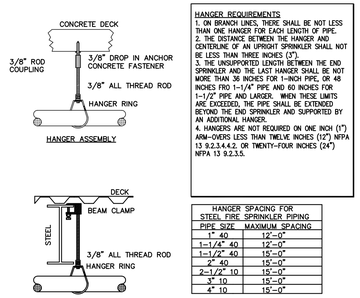


TYPICAL RECESSED PENDENT SPRINKLER HEAD



INTERIOR ISOLATION RISER ASSEMBLY

NO SCALE



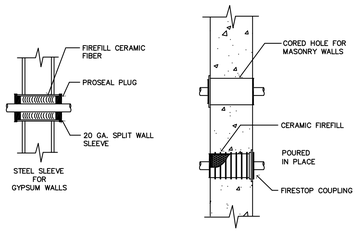
* CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER SHALL NOT EXCEED 24 INCHES FOR STEEL PIPE PER NFPA 13 9.2.3.5. 2016 EDITION

HANGER REQUIREMENTS
1. ON BRANCH LINES, THERE SHALL BE NOT LESS THAN ONE HANGER FOR EACH LENGTH OF PIPE.
2. THE DISTANCE BETWEEN THE HANGER AND CENTERLINE OF AN UPRIGHT SPRINKLER SHALL NOT BE LESS THAN THREE INCHES (3").
3. THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER SHALL BE NOT MORE THAN 36 INCHES FOR 1-INCH PIPE, OR 48 INCHES FRO 1-1/4" PIPE AND 60 INCHES FOR 1-1/2" PIPE AND LARGER. WHEN THESE LIMITS ARE EXCEEDED, THE PIPE SHALL BE EXTENDED BEYOND THE END SPRINKLER AND SUPPORTED BY AN ADDITIONAL HANGER.
4. HANGERS ARE NOT REQUIRED ON ONE INCH (1") ARM-OVERS LESS THAN TWELVE INCHES (12") NFPA 13 9.2.3.4.4.2. OR TWENTY-FOUR INCHES (24") NFPA 13 9.2.3.5.

HANGER SPACING FOR STEEL FIRE SPRINKLER PIPING	
PIPE SIZE	MAXIMUM SPACING
1" 40	12'-0"
1-1/4" 40	12'-0"
1-1/2" 40	15'-0"
2" 40	15'-0"
2-1/2" 10	15'-0"
3" 10	15'-0"
4" 10	15'-0"

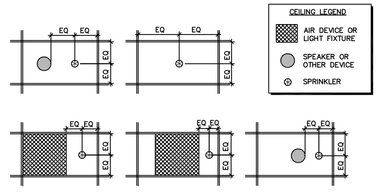
* INFORMATION PER : NFPA 13 2016 – CHAPTER 9 PIPE HANGER EQUAL TO ANVIL MFG. NO. 69 TYPE SWIVEL LOOP RING

TYPICAL NEW HANGER ASSEMBLY FOR SYSTEM



SLEEVES & FIRESTOPPING
USE PROSET "FIRESTOP PENETRATORS." U.L. CLASSIFIED IN THE BUILDING MATERIALS DIRECTORY, TESTED BY ASTM E814. USE ALL APPLICABLE PIPE PENETRATIONS THROUGH FIRE RATED WALLS OR FLOOR CEILING ASSEMBLIES IN ACCORDANCE WITH THE MANU-FACTURERS INSTRUCTIONS.

FIRE RATED WALL SLEEVING SYSTEM



SPRINKLERS IN GRID CEILING SYSTEMS SHALL BE LOCATED AT THE MIDPOINT OR QUARTERPOINT OF THE FOUR FOOT (4') DIMENSION AND THE MIDPOINT OF THE TWO FOOT (2') DIMENSION. WHERE A CONFLICT OCCURS SYMMETRY ABOUT THE AXIS SHALL BE MAINTAINED.

TYPICAL SPRINKLER MOUNTING IN ACT

DRAWING INDEX

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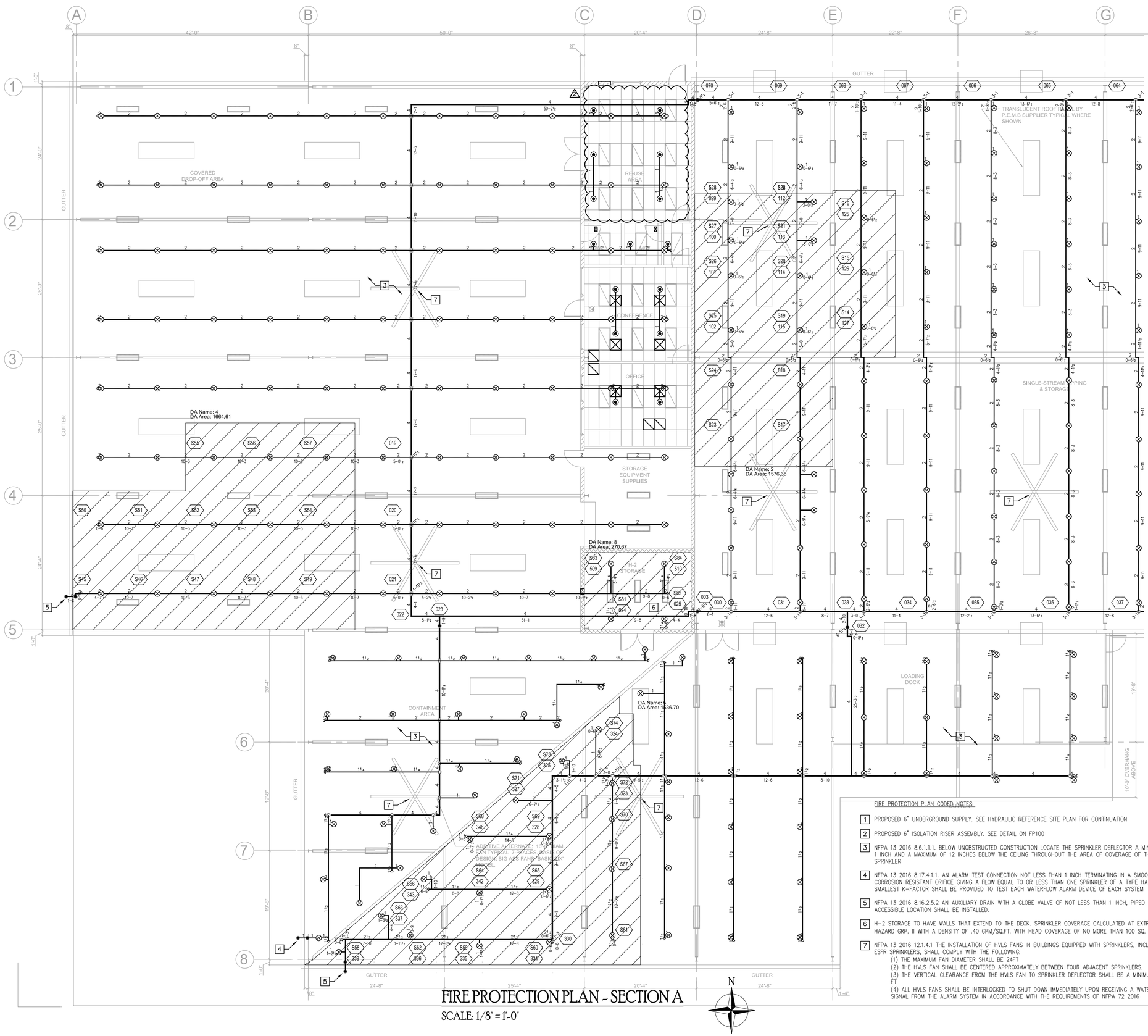
INDIAN RIVER COUNTY LANDFILL
HOUSEHOLD HAZARDOUS WASTE
AND RECYCLING FACILITY
Indian River County, Florida

NO.	REVISIONS	DATE
1	FIELD COORDINATION	05.15.2021
2	FIELD COORDINATION	11.05.2021

JOB NO. 2016
ISSUE DATE: 07/07/2021
DRAWN BY: WG

SHEET TITLE: DETAILS & NOTES
SHEET NO.: FP100



FIRE PROTECTION PLAN - SECTION A

SCALE: 1/8" = 1'-0"

N

FIRE PROTECTION PLAN CODED NOTES:

1. PROPOSED 6" UNDERGROUND SUPPLY. SEE HYDRAULIC REFERENCE SITE PLAN FOR CONTINUATION
2. PROPOSED 6" ISOLATION RISER ASSEMBLY. SEE DETAIL ON FP100
3. NFPA 13 2016 8.6.1.1.1. BELOW UNOBSTRUCTED CONSTRUCTION LOCATE THE SPRINKLER DEFLECTOR A MINIMUM OF 1 INCH AND A MAXIMUM OF 12 INCHES BELOW THE CEILING THROUGHOUT THE AREA OF COVERAGE OF THE SPRINKLER
4. NFPA 13 2016 8.17.4.1.1. AN ALARM TEST CONNECTION NOT LESS THAN 1 INCH TERMINATING IN A SMOOTH BORE CORROSION RESISTANT ORIFICE GIVING A FLOW EQUAL TO OR LESS THAN ONE SPRINKLER OF A TYPE HAVING THE SMALLEST K-FACTOR SHALL BE PROVIDED TO TEST EACH WATERFLOW ALARM DEVICE OF EACH SYSTEM
5. NFPA 13 2016 8.16.2.5.2 AN AUXILIARY DRAIN WITH A GLOBE VALVE OF NOT LESS THAN 1 INCH, PIPED TO AN ACCESSIBLE LOCATION SHALL BE INSTALLED.
6. H-2 STORAGE TO HAVE WALLS THAT EXTEND TO THE DECK. SPRINKLER COVERAGE CALCULATED AT EXTRA HAZARD GRP. II WITH A DENSITY OF .40 GPM/SQ.FT. WITH HEAD COVERAGE OF NO MORE THAN 100 SQ. FT.
7. NFPA 13 2016 12.1.4.1 THE INSTALLATION OF HVLS FANS IN BUILDINGS EQUIPPED WITH SPRINKLERS, INCLUDING ESFR SPRINKLERS, SHALL COMPLY WITH THE FOLLOWING:
   (1) THE MAXIMUM FAN DIAMETER SHALL BE 24FT
   (2) THE HVLS FAN SHALL BE CENTERED APPROXIMATELY BETWEEN FOUR ADJACENT SPRINKLERS.
   (3) THE VERTICAL CLEARANCE FROM THE HVLS FAN TO SPRINKLER DEFLECTOR SHALL BE A MINIMUM OF 3 FT
   (4) ALL HVLS FANS SHALL BE INTERLOCKED TO SHUT DOWN IMMEDIATELY UPON RECEIVING A WATERFLOW SIGNAL FROM THE ALARM SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 72 2016

BASE BUILDING CALCULATION - TIPPING STORAGE

CALC AREA - RMA 2
OCCUPANCY CLASSIFICATION - OH-2
DENSITY- 0.20 GPM/SQ FT
AREA OF APPLICATION - 1576.35 SQ FT
CALCULATED SPRINKLER COVERAGE - 130 SQ FT
NFPA 13 2013 11.2.3.2.3. NO QR REDUCTION
20'0" MAXIMUM CEILING HEIGHT EXCEEDED
NUMBER OF SPRINKLERS CALCULATED - (13)
HOSE STREAM ALLOWANCE - 250
SYSTEM DEMAND @ SOURCE
659.1 GPM @ 36.0 PSI
SAFETY MARGIN 12.9 PSI OF SUPPLY

BASE BUILDING CALCULATION - DROP OFF AREA

CALC AREA - RMA 4
OCCUPANCY CLASSIFICATION - OH-2
DENSITY- 0.20 GPM/SQ FT
AREA OF APPLICATION - 1500.0 SQ FT
CALCULATED SPRINKLER COVERAGE - 130 SQ FT
NFPA 13 2013 11.2.3.2.3. NO QR REDUCTION
20'0" MAXIMUM CEILING HEIGHT EXCEEDED
NUMBER OF SPRINKLERS CALCULATED - (13)
HOSE STREAM ALLOWANCE - 250
SYSTEM DEMAND @ SOURCE
604.3 GPM @ 33.1 PSI
SAFETY MARGIN 16.8 PSI OF SUPPLY

BASE BUILDING CALCULATION - CONTAINMENT AREA

CALC AREA - RMA 5
OCCUPANCY CLASSIFICATION - OH-2
DENSITY- 0.20 GPM/SQ FT
AREA OF APPLICATION - 1536.7 SQ FT
CALCULATED SPRINKLER COVERAGE - 130 SQ FT
NFPA 13 2013 11.2.3.2.3. NO QR REDUCTION
20'0" MAXIMUM CEILING HEIGHT EXCEEDED
NUMBER OF SPRINKLERS CALCULATED - (16)
HOSE STREAM ALLOWANCE - 250
SYSTEM DEMAND @ SOURCE
715.0 GPM @ 43.1 PSI
SAFETY MARGIN 4.8 PSI OF SUPPLY

BASE BUILDING CALCULATION - H-2 STORAGE

CALC AREA - RMA 8
OCCUPANCY CLASSIFICATION - EH-2
DENSITY- 0.40 GPM/SQ FT
AREA OF APPLICATION - 400.0 SQ FT
CALCULATED SPRINKLER COVERAGE - 100 SQ FT
NFPA 13 2013 11.2.3.2.3. NO QR REDUCTION
20'0" MAXIMUM CEILING HEIGHT EXCEEDED
NUMBER OF SPRINKLERS CALCULATED - (4)
HOSE STREAM ALLOWANCE - 500
SYSTEM DEMAND @ SOURCE
667.50 GPM @ 44.4 PSI
SAFETY MARGIN 4.3 PSI OF SUPPLY

SYM	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#
◉	PEND	WHITE	155	5.60	1/2"	TY3231	TYCO	TY-FRB
⊗	UPR	BRASS	200	8.00	3/4"	TY4131	TYCO	TY-FRB

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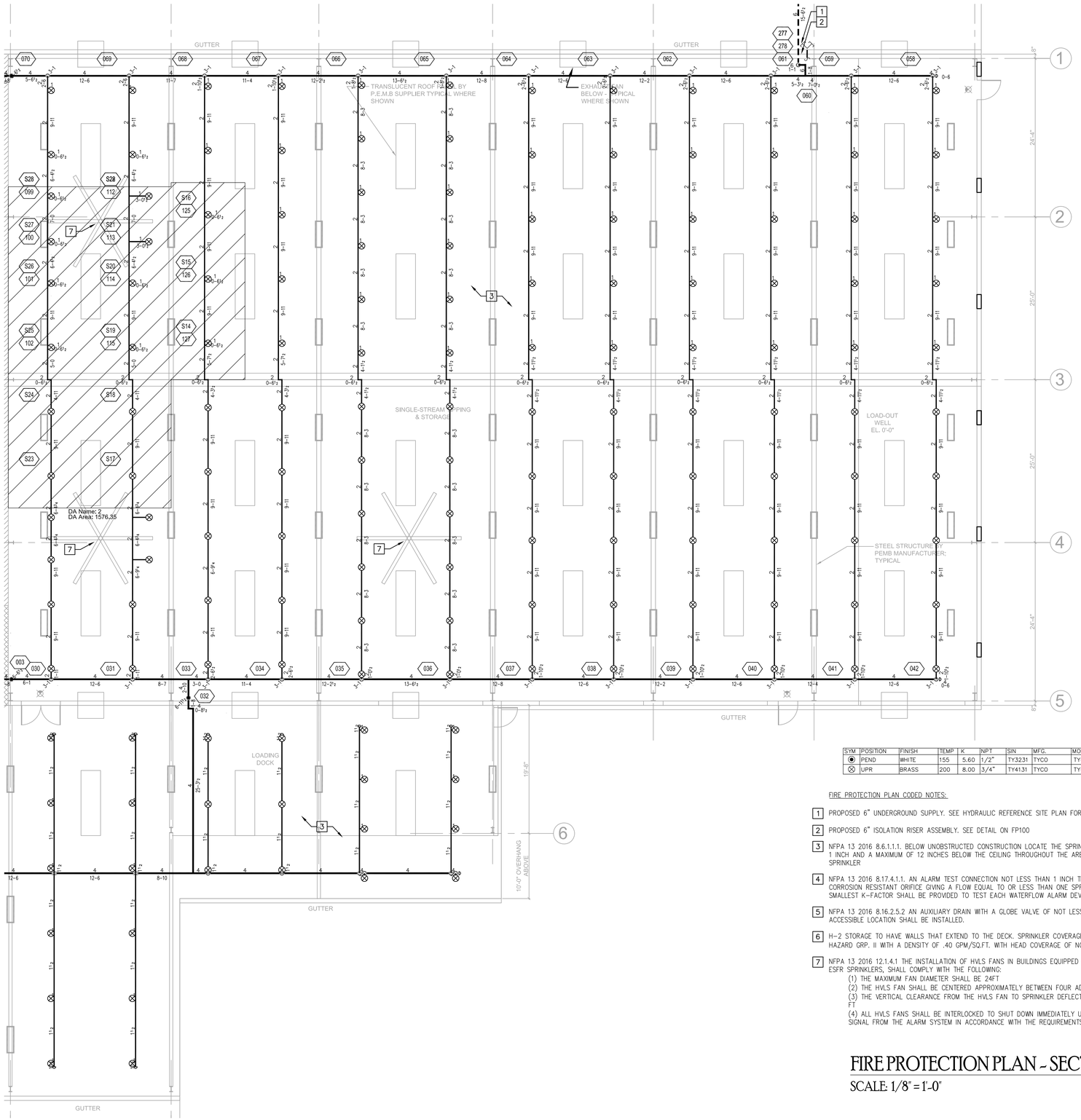
ISSUE DATE: 07/07/2021

DRAWN BY: WG

SHEET TITLE
FIRE PROTECTION PLAN - SECTION A

SHEET NO.
FP101

PERMIT SET



SYM	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#
◉	PEND	WHITE	155	5.60	1/2"	TY3231	TYCO	TY-FRB
⊗	UPR	BRASS	200	8.00	3/4"	TY4131	TYCO	TY-FRB

FIRE PROTECTION PLAN CODED NOTES:

1. PROPOSED 6" UNDERGROUND SUPPLY. SEE HYDRAULIC REFERENCE SITE PLAN FOR CONTINUATION
2. PROPOSED 6" ISOLATION RISER ASSEMBLY. SEE DETAIL ON FP100
3. NFPA 13 2016 8.6.1.1.1. BELOW UNOBSTRUCTED CONSTRUCTION LOCATE THE SPRINKLER DEFLECTOR A MINIMUM OF 1 INCH AND A MAXIMUM OF 12 INCHES BELOW THE CEILING THROUGHOUT THE AREA OF COVERAGE OF THE SPRINKLER
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FIRE PROTECTION PLAN - SECTION B

SCALE: 1/8" = 1'-0"

N

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2016

ISSUE DATE:
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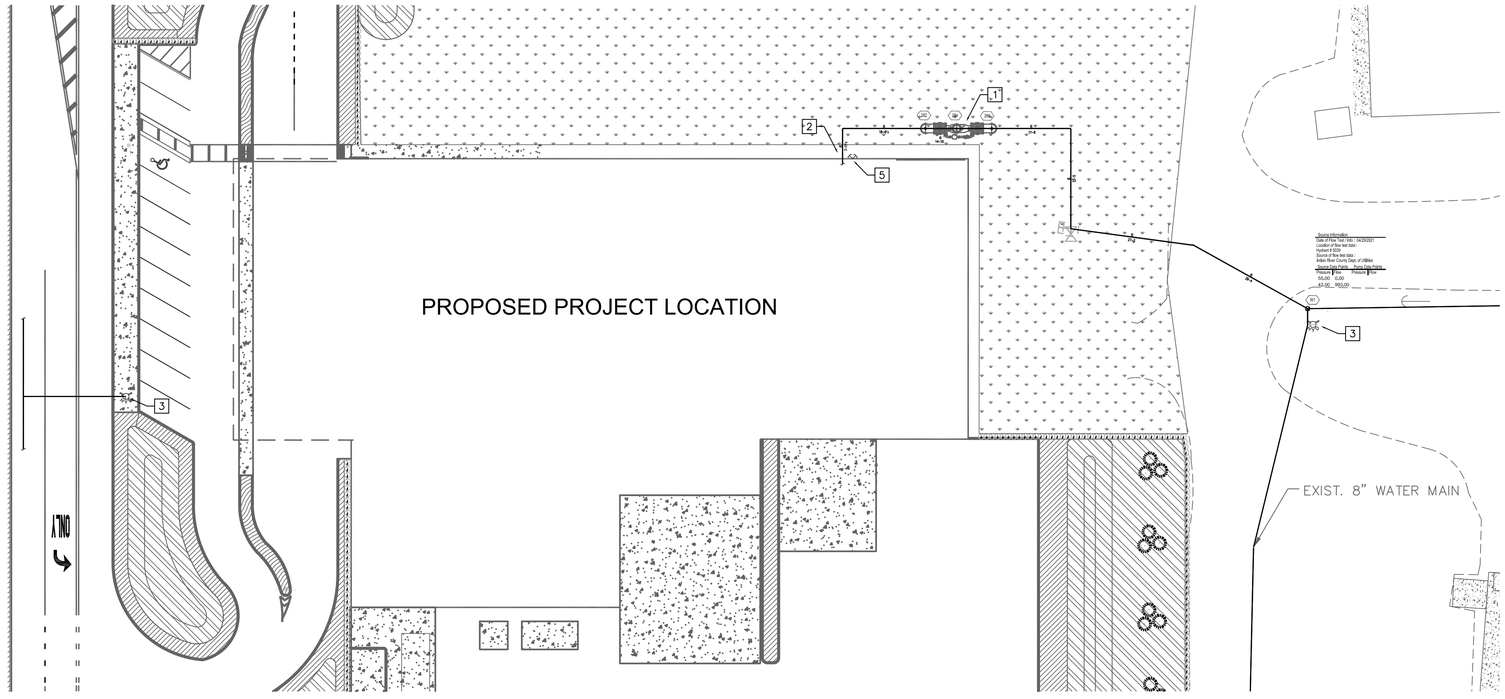
DRAWN BY:
WG

SHEET TITLE
FIRE PROTECTION PLAN - SECTION B

SHEET NO.
FP102



FIRE PROTECTION PLAN CODED NOTES:

1. PROPOSED 6" DDCVA WITH BOLLARDS. SEE CIVIL ENGINEERING DRAWINGS FOR DETAILS
2. FOR CONTINUATION OF SYSTEM PIPE INTO BUILDING, SEE FP101–FP102
3. EXISTING FIRE HYDRANT. SEE CIVIL ENGINEERING DRAWINGS FOR DETAILS
4. PROPOSED FIRE HYDRANT. SEE CIVIL ENGINEERING DRAWINGS FOR DETAILS
4. WALL–MOUNTED FDC. SEE RISER DETAIL ON FP100

DRAWING NOTE:
THE UNDERGROUND SITE WATER PIPING IS SHOWN IN ACCORDANCE WITH FAC 61G15–32 TO REFERENCE THE FIRE PROTECTION SYSTEM IN ITS ENTIRETY, INCLUDING HYDRAULIC NOTE POINT LOCATIONS. IT IS THE RESPONSIBILITY OF THE CIVIL ENGINEER OF RECORD TO DESIGN THE UNDERGROUND SITE WATER PIPING AND TO LOCATE WITH DETAIL ALL UNDERGROUND APPURTENANCES PER LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS.

HYDRAULIC SITE REFERENCE PLAN

SCALE: 1/16" = 1'-0"

N

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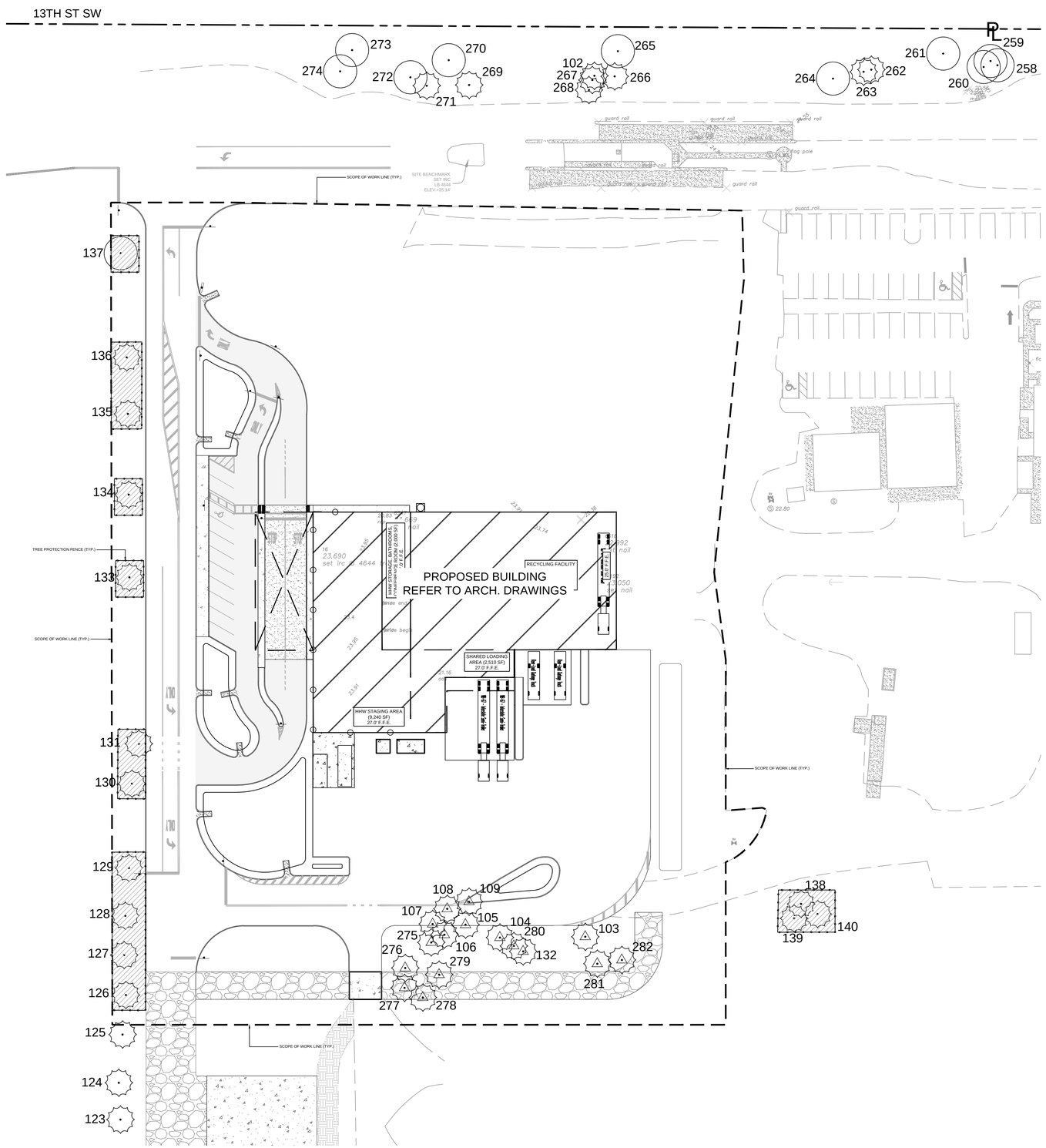
DRAWN BY:
WG

SHEET TITLE
HYDRAULIC SITE REFERENCE PLAN

SHEET NO.
FP103



TREE LIST

SURVEY TREE #	COMMON NAME	HEIGHT (FT)	DBH (IN)	CANOPY (FT)	CONDITION	DISPOSITION
102	Palm	10	21	11	GOOD	REMAIN
103	Palm	14	18.5	10	GOOD	RELOCATE
104	Palm	14	19	11	GOOD	RELOCATE
105	Palm	16	22	11	GOOD	RELOCATE
106	Palm	14	17	9	GOOD	RELOCATE
107	Palm	14	21	10	GOOD	RELOCATE
108	Palm	14	21	10	GOOD	RELOCATE
109	Palm	14	20	10	GOOD	RELOCATE
110	Palm	8	25	9	GOOD	REMAIN
111	Palm	10	24	10	GOOD	REMAIN
112	Palm	10	18	13	MODERATE	REMAIN
113	Palm	8	20	11	GOOD	REMAIN
114	Palm	6	16	9	MODERATE	REMAIN
115	Palm	12	20	13	GOOD	REMAIN
116	Palm	6	17	9	GOOD	REMAIN
117	Palm	8	21	12	GOOD	REMAIN
118	Palm	10	20	13	GOOD	REMAIN
119	Palm	10	26	16	GOOD	REMAIN
120	Palm	8	19	10	GOOD	REMAIN
121	Palm	12	19	13	GOOD	REMAIN
122	Palm	10	27	18	GOOD	REMAIN
123	Palm	14	19	13	GOOD	REMAIN
124	Palm	12	20	13	GOOD	REMAIN
125	Palm	10	21	11	GOOD	REMAIN
126	Palm	8	17	11	GOOD	REMAIN
127	Palm	10	18	9	GOOD	REMAIN
128	Palm	10	16	8	GOOD	REMAIN
129	Palm	10	18	7	GOOD	REMAIN
130	Palm	8	24	14	GOOD	REMAIN
131	Palm	10	10	18	GOOD	REMAIN
132	Palm	10	18	8	MODERATE	RELOCATE
133	Palm	8	22	20	GOOD	REMAIN
134	Palm	8	18	8	GOOD	REMAIN
135	Palm	8	22	17	GOOD	REMAIN
136	Palm	8	17	10	GOOD	REMAIN
137	Oak Tree	10	21	16	GOOD	REMAIN
138	Palm	12	16.5	8	GOOD	REMAIN
139	Palm	10	16.5	8	GOOD	REMAIN
140	Palm	16	16.5	10	GOOD	REMAIN
258	Pine Tree	10	45	9	GOOD	REMAIN
259	Pine Tree	10	30	12	GOOD	REMAIN
260	Pine Tree	14	54	22	GOOD	REMAIN
261	Pine Tree	18	53	28	GOOD	REMAIN
262	Palm	12	19	8	GOOD	REMAIN
263	Palm	12	18	8	GOOD	REMAIN
264	Pine Tree	20	49	33	GOOD	REMAIN
265	Pine Tree	20	44	26	GOOD	REMAIN
266	Palm	14	26	10	GOOD	REMAIN
267	Palm	10	18	8	GOOD	REMAIN
268	Palm	10	17	8	GOOD	REMAIN
269	Palm	15	21	9	GOOD	REMAIN
270	Pine Tree	18	43	25	GOOD	REMAIN
271	Palm	12	23	11	GOOD	REMAIN
272	Pine Tree	12	45	12	GOOD	REMAIN
273	Pine Tree	15	43	12	POOR	REMAIN
274	Pine Tree	12	47	18	MODERATE	REMAIN
275	Palm	12	20	10	GOOD	RELOCATE
276	Palm	12	21	10	GOOD	RELOCATE
277	Palm	12	21	11	GOOD	RELOCATE
278	Palm	12	19.5	10	GOOD	RELOCATE
279	Palm	12	18	10	GOOD	RELOCATE
280	Palm	12	27	12	GOOD	RELOCATE
281	Palm	12	19	10	GOOD	RELOCATE
282	Palm	12	25	12	GOOD	RELOCATE

NOTE:

INFORMATION UTILIZED IN PREPARATION OF THE TREE LIST ASCERTAINED FROM AND RELIANT UPON THE 1325 74th AVENUE SW, VERO BEACH, FL. BOUNDARY SURVEY PREPARED BY MASTELLER, MOLER & TAYLOR INC. DATED 05/18/20.

TREE DISPOSITION GRAPHIC LEGEND

SYMBOL	DESCRIPTION
TREE #	EXISTING TREE TO REMAIN
PALM #	EXISTING PALM TO REMAIN
PALM #	EXISTING PALM TO RELOCATE
	TREE PROTECTION FENCE

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

LEGEND

- RAW — PL — RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING OUTLINE
- PROP. ASPHALT
- PROP. CONC.
- PROP. GRAVEL ROAD
- SCOPE OF WORK LINE

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2021 KIMLEY-HORN AND ASSOCIATES, INC.
355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
WWW.KIMLEY-HORN.COM REGISTRY 696

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MATTHEW WEWIOR LA6667406 ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MATTHEW WEWIOR, LA6667406 ON DATE ADJACENT TO SEAL.

REGISTERED LANDSCAPE ARCHITECT MATTHEW WEWIOR No. LA6667406 STATE OF FLORIDA

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MW
DRAWN BY	CF
CHECKED BY	MW

TREE DISPOSITION PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-100

Sunshine811
Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

TREE REMOVAL/TRANSPLANT SPECIFICATIONS

PART 1 - EXPLANATION OF NATURAL RESOURCE PRESERVATION PROCEDURES

The sequence of operation is critical to the protection of the trees.

A. Tree canopy pruning is to compensate for root loss and damage.
B. Fertilization is to stimulate root systems to heal quickly and grow back in root-pruned areas. It also produces faster availability of food to a root system that is less efficient due to the damage incurred.
C. Root pruning is to remove the roots with a trenching procedure that is less damaging to the roots than regular construction.
D. Mulching is to increase moisture-holding capacity and keep the temperature of the soil more constant.

PART 2 - DEFINITIONS

A. Combo Fence - Combination silt and natural resource protection fence (see detail).
B. Critical Root Zone - The mass of roots surrounding a tree that is required by the tree to live. The critical root zone is often much larger than the canopy. Shown on the plans as dashed circles.
C. DBH - Diameter Breast High - Indicates the location on the trunk, approximately 4.5' above ground, to measure the diameter of a tree.
D. Grade - Refers specifically to grade on the Significant Tree or Transplant Schedule. The grade of a tree refers to the overall health and appearance of the tree. The grades range from "A" being excellent to "D" being hazardous.
E. Preserve Trees - Trees that are to be saved in place.
F. Project Urban Forester - A representative, hired and paid for by the owner, that supervises the construction of the procedures shown on the natural resource plans.
G. Protection Zones/Areas - Any area enclosed partially or completely by a fence shown on the natural resource plans.
H. Spade Transplant - A tree transplanted using a tree spade machine.
I. Transplanted Trees - Trees that are to be moved by hand, spade, crane or gantry to another location.

PART 3 - PRODUCTS FOR TREE TREATMENT

Every effort shall be made to utilize chemicals of an organic or biodegradable nature in order to offer the least impact to the natural environment. Contractor is responsible for mixing, applying, and disposal of all chemicals in accordance with strict adherence to manufacturer's directions, unless otherwise directed in these drawings.

A. Chemical Treatments.
  1. Recommended Fertilizer:
    a. "XL Injecto Feed", product of Doggett Corp., Lebanon, New Jersey (908) 236-6335. Apply a 12/24/24 ratio with a dilution rate 1/3 more water than specified on bag.
  2. Recommended Wetting Agent:
    a. "APSA-80", product of Amway Corp. (800) 253-7088.
  3. Mycorrhizal Treatment:
    a. Plant Health Care, Inc. (800) 421-9051.
       Products of the same type from other sources shall not be excluded, provided they possess like physical and functional characteristics and are approved by the Project Landscape Architect.

B. Insecticide Treatments.
  1. "Astro", a product of FMC Corporation. (800) 321-1362.

C. Fencing Materials.
  1. Woven wire fence (Minimum 14.5 gauge maximum 6" mesh spacing).
  2. Artic Vinyl Flagging, Color: International Orange. Forestry Suppliers Catalog (800) 647-5368. Artic Vinyl Flagging is required due to strength and longevity. No substitution without approval of Project Urban Forester.
  3. 6' T-Bar Post.
  4. T-Bar Post Caps.
    a. Rebar Caps. Brilliant Orange mushroom type as manufactured by Mutual Industries North (800) 523-0888 or equal.
    b. R-4 T-Bar Post Caps as manufactured by RammFence (800) 434-8455 or equal.

PART 4 - EXECUTION

A. Tree Canopy Pruning Operation
  1. Trees to be pruned shall include only trees affected by construction or as designated on Significant Tree or Transplant Schedule. This item is to be coordinated by the Project Urban Forester.
  2. All pruning shall be done in accordance with ANSI A300 (Part 1) Pruning.
  3. Certified Arborist shall perform all pruning.
  4. Pruning shall consist of the following methods:
    a. Cleaning, see Sect. 5.6.1.
    b. Interfering branch removal.
    c. Raising, see Sect. 5.6.4. Height to be 6' (min.) in parking lot areas only.

B. Fertilization Operation
  1. Only trees affected by construction or as shown on the Tree Removal Plan shall be treated
  2. Trees specified to receive fertilizer shall be treated in the fall of 2008. Preserve Tree Injectable Fertilizer Treatment. See detail sheet.
    a. Mix fertilizer with a dilution rate 1/3 more water than label instructions into a tank with agitation capability (15lbs. = 133 Gallons).
    b. Mix Wetting Agent at a rate of 5 oz. Per 100 gallons of fertilizer solution into same tank with fertilizer. Agitate mix.
    c. Inject the mixture with a hydraulic injection system set at 100 to 150 p.s.i. for sandy soils, 200 p.s.i. for silt/clay soils, into the upper 6-12 inches of soil with a soil probe. Inject at the rate of one third (1/3) gallon at each injection site.
    d. Critical Root Zone areas shall be injected, where possible, in the Critical Root Zone area plus 2' beyond Critical Root Zone, but not beyond Root Prunes. See detail.
    e. Fertilizer shall be installed prior to installation of any aeration systems.
       AT THE REQUEST OF THE SPECIFIER, EMPTY PRODUCT BAGS TO BE RETURNED TO THE SPECIFIER FOR PROOF OF USE.
  3. Transplant Injectable Fertilizer Treatment.
    a. Mix fertilizer with a dilution rate 1/3 more water than label instructions into a tank with agitation capability (15lbs. = 133 Gallons).
    b. Mix Wetting Agent at a rate of 5 oz. Per 100 gallons of fertilizer solution into same tank with fertilizer. Agitate mix.
    c. Inject the mixture with a hydraulic injection system set at 100 to 150 p.s.i. for sandy soils, 200 p.s.i. for silt/clay soils, into the upper 6-12 inches of soil with a soil probe. Inject at the rate of one third (1/3) gallon at each injection site.
    d. See transplant details on this sheet for injection locations.
       EMPTY PRODUCT BAGS TO BE STOCKPILED FOR INSPECTION BY PROJECT LANDSCAPE ARCHITECT PRIOR TO DISPOSAL.
  4. Transplant Inoculant & Biostimulant. See Detail Sheet.
    a. Use one 3 oz. Packet of MycorTree Tree Saver Transplant Mycorrhizal Transplant Inoculant for every 1-foot diameter of root ball. Mix inoculant in 10" wide topsoil ring around the root ball.
    b. Mix one 4 oz. Bag of MycorTree Tree Saver Injectable Mycorrhizal Inoculant and 4 packs (to equal 1 pound) PHC BioPack per 100 gallons of water.
    c. Agitate for 10 minutes.
    d. Inject the mixture with a hydraulic injection system set at 100 to 150 p.s.i. for sandy soils, 200 p.s.i. for silt/clay soils, into the upper 6-12 inches of soil with a soil probe. Inject at the rate of one third (1/3) gallon at each injection site. See transplant details on this sheet for injection locations.
       EMPTY PRODUCT BAGS TO BE STOCKPILED FOR INSPECTION BY PROJECT LANDSCAPE ARCHITECT PRIOR TO DISPOSAL.
  5. Transplant Maintenance
    a. Approximately one year after planting, the Tree Relocation Contractor shall refertilize all transplants utilizing the same procedure.

C. Insecticide Operation
  1. Apply "Astro" as a topical solution if recommended by Project Landscape Architect or by these plans. Notify Project Landscape Architect if an infestation is noticed. Apply around base of trunk to soil line, trunk and any limb 1/3 the size of the trunk to 25'-30' high. Insure complete coverage. Reapply "Astro" 2-3 months after initial application utilizing same procedure.
  2. Follow all manufacturers' recommendations concerning application when applying "Astro". Read all warning labels. Any pets, as well as, the pets food and water bowls should be removed from the area and any swimming pools should be covered. Coordinate with Project Urban Forester for further instruction.

D. Root Pruning Trenching Operation
  1. Trenching locations shall be approved in the field by the Project Landscape Architect.
  2. Trenching equipment that will turn at high RPM's is preferred. Trenching equipment is to be used to perform all root pruning operations.
     A minimum depth of three feet is required. Clean cut roots in trench on tree side with loppers or chain saw after trenching is complete.
  3. The trench shall be backfilled and compacted immediately.

E. Natural Resource Protection (or Tree Protection) Fencing
  1. See details for types and locations.
  2. Fencing is to be located accurately per plan by General Contractors Surveyor.

F. Tree Removals
  1. Natural Resource Contractor shall remove and discard all trees shown on the tree removal plan to be removed, see Existing Tree Schedule. All trees shown to be removed shall be felled with a chain saw and stump ground 6" below surface. Any tree shown to be removed and is in an area where compaction is critical the tree shall be felled with a chain saw and stump removed by Clearing Contractor. Care must be taken not to damage trees marked for
  2. Clearing Contractor is to clear all remaining trees after the Natural Resource Fencing is installed. If fence is damaged, repair is to be performed immediately. See Fence Penalties. Care must be taken not to damage trees marked for preservation.
  3. All wood from removals shall be hauled from the site the same day, except for tops. All tops are to be mulched and stockpiled or hauled directly to mulched areas, if scheduling permits. (See landscape plans for mulching). All excess wood chips should be hauled off site after landscaping is complete.
  4. Clearing Contractor is to haul off all stumps.
  5. All burn pits if applicable must be approved by the Project Urban Forester and owner.

G. Topsoil
  1. All clean backfill/clean topsoil necessary for transplant operations shall fall within the limits of the planting specifications, located elsewhere in the contract documents.

H. Machine Dug Transplant Operation
  1. Dig transplant-receiving hole.
  2. Set spade dug root ball into receiving hole 4"-6" above existing grade.
  3. Wash sand or topsoil into air pockets between root ball and receiving hole.
  4. Install topsoil ring, 4" high, 10" wide, around perimeter of root ball. Mix MycorrTree Tree Saver Mycorrhizal Transplant Inoculant into topsoil ring. See Part 4 Section B for procedure.
  5. Install 4"-6" mulch from perimeter of root ball to within 6" of tree trunk.
  6. Cover topsoil ring with 1" of mulch and extend mulch 4"-6" deep, 6" away from perimeter of root ball.
  7. Water transplant.

I. Holding Area for Transplants
  1. Coordinate with Owner's Representative for location. Coordinate construction and scheduling with Owner's Representative.
  2. Install protection fencing surrounding holding area after all transplants have been moved unless otherwise instructed by Owner's Represenative.
  3. Transplants shall be placed into the soil at the holding area unless the soil is deemed unacceptable by Project Landscape Architect. If unacceptable soil is encountered, the holding area shall be relocated to a new location or excavated to a depth determined by Project Landscape Architect and new approved topsoil installed. Transplants shall be backfilled with approved topsoil.
  4. Install three (3) 12" tensiometers. One on opposite corners and one in the middle of the holding area. Project Landscape Architect shall adjust locations of tensiometers per observations in the field.
  5. General Contractor shall supply temporary irrigation to the holding area. Temporary irrigation shall consist of above the ground PVC or Polyethylene pipe, spray or rotor heads (with head to head coverage) and a controller. Set schedule per Part 7.

PART 5 - PENALTIES

A. Repair of Damaged Trees
  1. If any damage to trees or other natural resources should occur by accident or negligence during the construction period, the Project Urban Forester shall appraise the damage and make recommendations to the owner for repair by the General Contractor.
  2. If any tree that is designated to be saved is deemed substantially damaged or dead due to construction damage, at the sole discretion of Project Landscape Architect, the following penalties will apply:
    a. Trees 1" - 12" of trunk diameter, measured at 1' from the ground will be valued at $300.00 per diameter inch.
    b. Trees 13" and above of trunk diameter measured at 4.5' from the ground will be valued at $400.00 per diameter inch.
    c. If any tree designated to be saved is removed from the site without permission of the owner's representative, the penalty will be $600.00 per inch.

B. Repair of Damaged Natural Resource Fences
  1. If any damage to Natural Resource Fences should occur by accident or negligence, the General Contractor will be responsible for immediate repairs of the initial damage. Fines will be imposed as follows:
    a. First time offense, a fine of $200.00 will be imposed.
    b. In the event the fence is not repaired within 24 hours to the Owner's Representative's satisfaction, an additional fine of $100.00 per day will be imposed, until the fence is satisfactorily repaired.
    c. In the event a natural resource is damaged due to fence being down, a fine of $200.00 plus the cost of repair or replacement of the natural resource as appraised by the Project Landscape Architect will be imposed.

PART 6 - NATURAL RESOURCE PROTECTION SEQUENCE

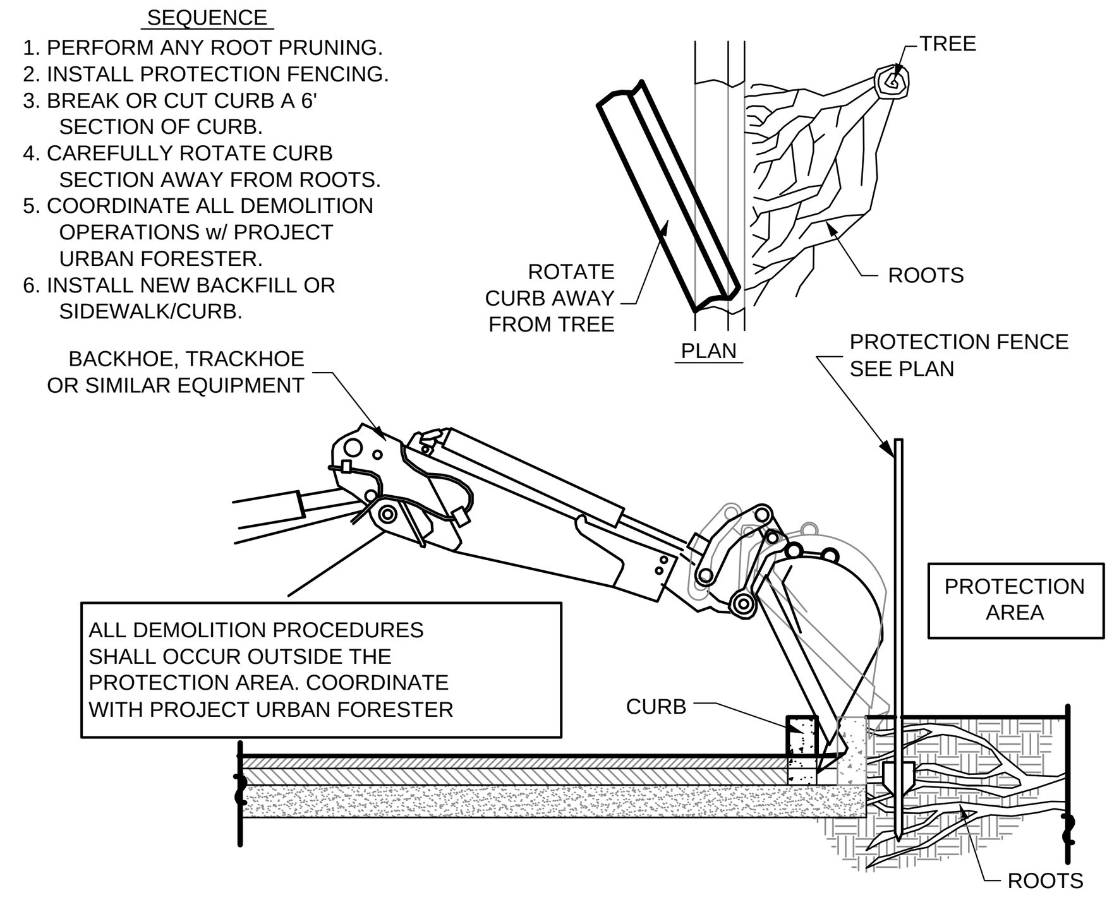
A. The sequence of tree treatment and preservation measures shall be:
  1. Root Pruning and Root Barriers.
  2. Natural Resource Fencing.
  3. Clearing and Grading.
  4. Tree Pruning.
  5. Fertilization.
  6. Insecticide
     General Contractor's Surveyor shall stake all site improvements in order to facilitate accurate location of trenching and fencing operations.
B. Maintain and repair Natural Resource fencing during site construction operations.
C. General Contractor's access to Fenced protection areas will be permitted only with approval of owner's representative.
D. Perform any excavation or grading required within the fenced root zone areas by hand. This operation is to be supervised by the Project Landscape Architect or Owner's Representative.
E. Limit required grading to 3" cut or fill within the fenced tree root zone areas. All grading to be supervised by the Owner's Representative.
F. Clear by hand designated trees, shrubs, vines and groundcover from protected root zone areas.
G. Do not install conduit, sprinklers, or any utility line in any critical root zone area without the approval of the Project Landscape Architect.

PART 7 - IRRIGATION

Every effort shall be made to water the transplants as shown below. The Landscape Architect and/or Owner's Representative shall inspect all irrigation zones during the initial irrigation months and adjust settings accordingly to insure proper watering. Water in all transplants immediately after planting. Tree Relocation Contractor shall water by hand or by temporary irrigation, all transplants after planting as required by Landscape Architect or Owner's Representative until permanent irrigation is installed and operating. Irrigation Contractor shall install systems and set controllers as shown below.

A. Transplant Irrigation Zones & Holding Area Zones
   Use the following watering schedule for all transplants:
  1. Set the controller to water for the following limits:
     First 90 days = 15 minutes, 4 times a week. (0.5" per application = 2" per week)
     90 days - 270 days = 2 times a week.(1" per application = 2" per week)
     270 days on = 2 times a week.(0.5" per application = 1" per week)
     Irrigation within current watering restrictions, as applicable.

SEQUENCE
1. PERFORM ANY ROOT PRUNING.
2. INSTALL PROTECTION FENCING.
3. BREAK OR CUT CURB A 6' SECTION OF CURB.
4. CAREFULLY ROTATE CURB SECTION AWAY FROM ROOTS.
5. COORDINATE ALL DEMOLITION OPERATIONS w/ PROJECT URBAN FORESTER.
6. INSTALL NEW BACKFILL OR SIDEWALK/CURB.

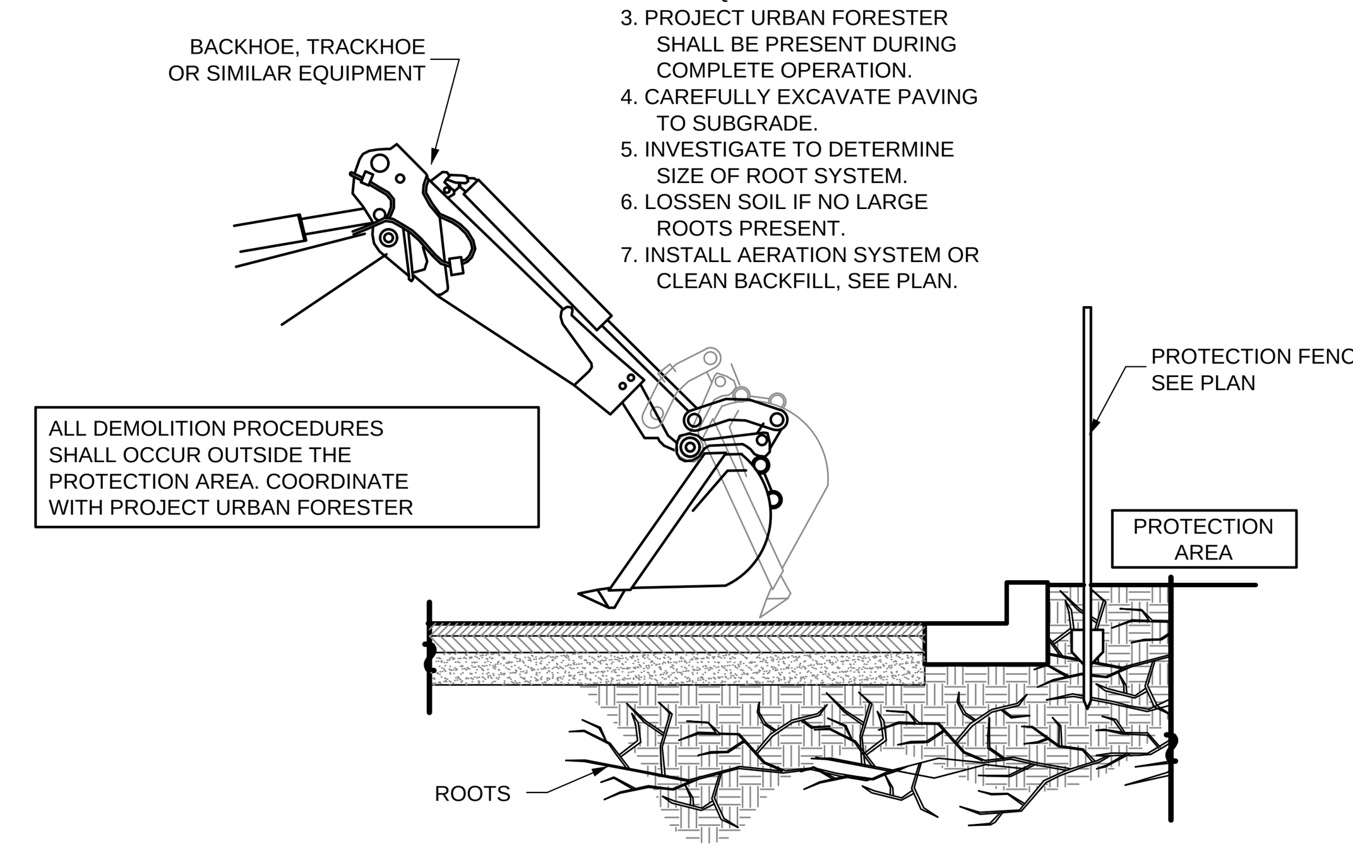


A

DEMOLITION PROCEDURE - CURB

NTS

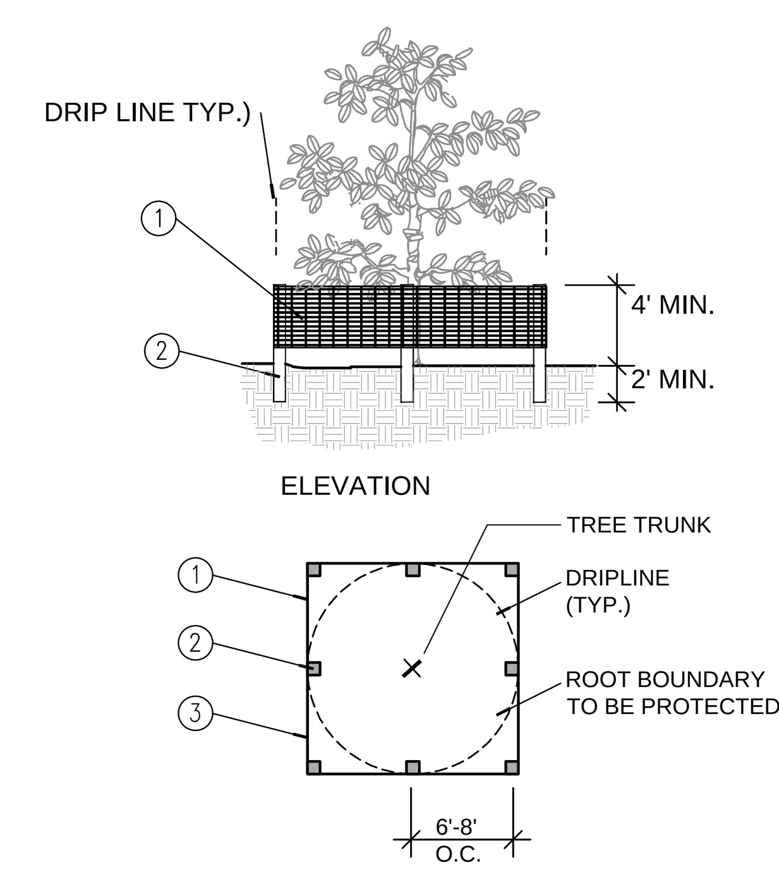
SEQUENCE
1. PERFORM ANY ROOT PRUNING.
2. INSTALL PROTECTION FENCING, IF REQUIRED.
3. PROJECT URBAN FORESTER SHALL BE PRESENT DURING COMPLETE OPERATION.
4. CAREFULLY EXCAVATE PAVING TO SUBGRADE.
5. INVESTIGATE TO DETERMINE SIZE OF ROOT SYSTEM.
6. LOSSEN SOIL IF NO LARGE ROOTS PRESENT.
7. INSTALL AERATION SYSTEM OR CLEAN BACKFILL, SEE PLAN.



B

DEMOLITION PROCEDURE - PAVEMENT

NTS



① 6" X 6" X 6" WIRE MESH ATTACHED TO EACH 4" X 4" POST

② 4" X 4" PRESSURE TREATED PINE POSTS

③ 2" X 6" PRESSURE TREATED PINE FRAMING STUDS OR 6" X 6" X 6" NAILED TO POSTS

INSTALLATION NOTES:

A. POST SELECTION SHOULD BE BASED ON EXPECTED STRENGTH NEEDS AND THE LENGTH OF TIME FENCE WILL BE IN PLACE.
B. DRIP LINE REFERS TO THE AREA DEFINED BY THE OUTERMOST CIRCUMFERENCE OF A TREE CANOPY WHERE WATER DRIPS FROM AN ONTO THE GROUND. REFER TO ARBORIST REPORT FOR DIAMETER OF CANOPY.
C. COORDINATE ALL IMPROVEMENTS WITHIN THE TREE PROTECTION WITH CERTIFIED ARBORIST.
D. NO CONSTRUCTION MATERIALS OR ACTIVITIES ALLOWED IN THE TREE PROTECTION ZONE AREA UNLESS SUPERVISED / COORDINATED WITH CERTIFIED ARBORIST. REFER TO ARBORIST REPORT FOR CRITICAL ROOT ZONE (CRZ).
E. TREE PROTECTION ZONE SHALL BE KEPT CLEAR OF DEBRIS.
F. ALL EXCAVATION AND REMOVAL OF HARDSCAPE WITHIN THE TREE PROTECTION ZONE SHALL BE DONE EITHER MANUALLY OR THROUGH THE USE OF AN AIR SPADE.
G. THE MINIMUM DISTANCE BETWEEN AN OPEN TRENCH AND ANY TREE SHALL BE BETWEEN 6" - 1'-0" FOR EVERY INCH OF TRUNK DIAMETER (REFER TO DBH IN ARBORIST REPORT AND TREE DISPOSITION PLAN). MINIMUM CLEARANCE SHALL BE 10'-0".
H. BARRIER TO FORM CONTINUOUS CIRCLE AROUND THE TREE OR GROUP OF TREES.

C

TREE PROTECTION FENCE/BARRIER DETAIL

NTS

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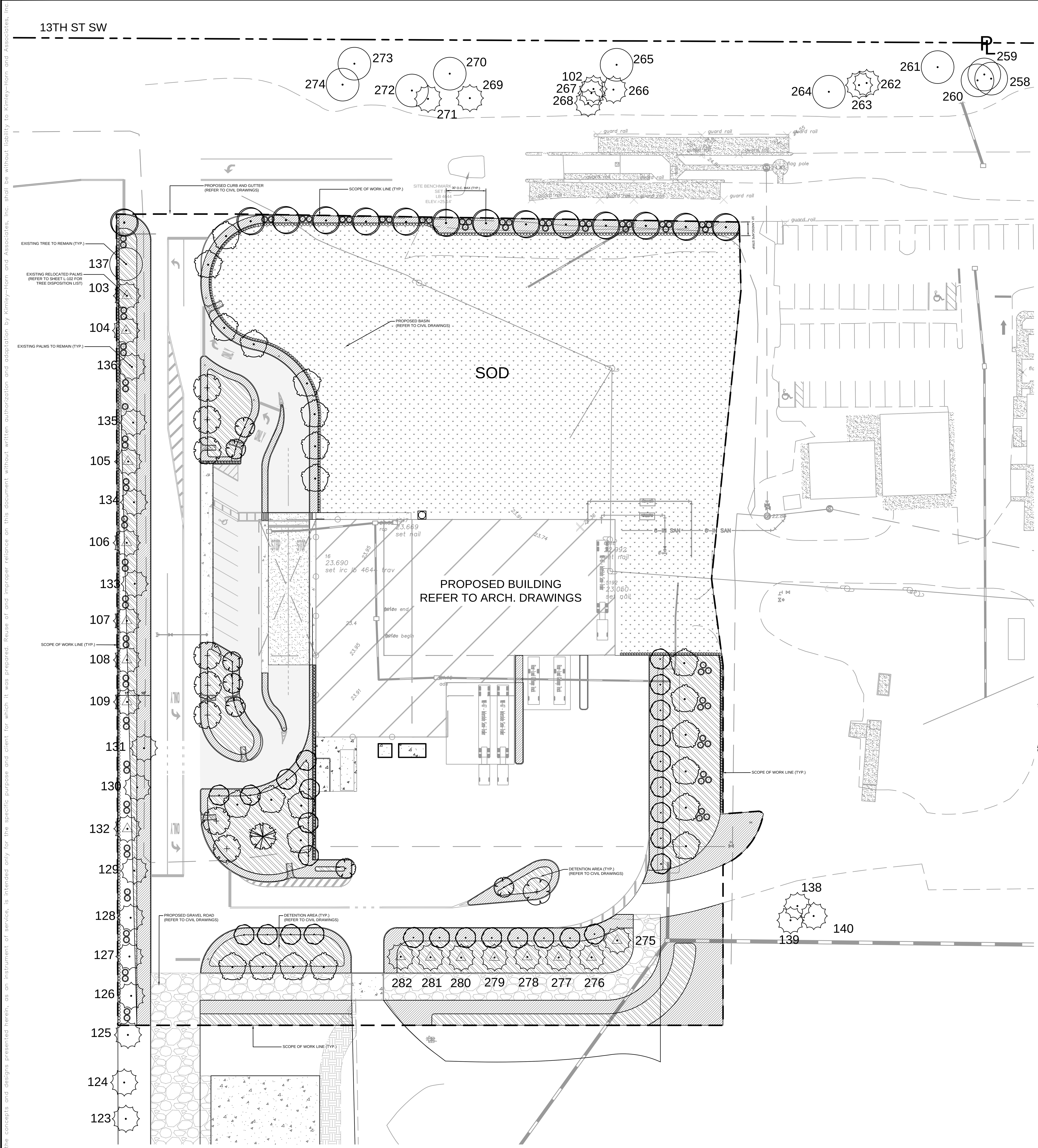
REGISTERED LANDSCAPE ARCHITECT
Matthew Vincent Wisniewski
No LA6667406
11/17/2021
STATE OF FLORIDA

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MW
DRAWN BY CF
CHECKED BY MW

TREE DISPOSITION NOTES & DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
FL
INDIAN RIVER COUNTY

SHEET NUMBER
L-150



NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

INDIAN RIVER COUNTY LANDSCAPE CALCULATIONS

Zoning District: A-1 — Net Lot Area: 6.2 Acres or 266,535 SF*

	REQUIRED	PROVIDED
OPEN SPACE		
A. Square feet of open space required by Section 911.06:		
Open space area = 266,535 x 60%	159,921 SF*	139,209 SF***
LAWN AREA CALCULATION		
A. Total square feet of landscape open space required by Section 911.06 =	159,921 SF	
B. Maximum lawn area permitted = 50% x required landscape open space =	79,961 SF	69,579 SF
NON- VEHICULAR AREA LANDSCAPING		
A. The number of canopy trees required per Section 926.10 (1 tree/ 3000 SF of non-vehicular open space) = 46.40 site trees per net lot area		
less the existing number of trees that meet minimum requirements 0 existing trees		
required trees per Section 926.10 = 47 trees - existing trees	47 trees	47 trees
B. 30 % palm trees allowed (three palms = one tree) =	15 "trees"	n/a "trees"
C. Percentage of native trees required = the number of trees provided x 50% =	24 trees	47 trees
Percentage of low maintenance and drought tolerant trees = provided trees x 50% =	24 trees	47 trees
PARKING AREA INTERIOR LANDSCAPING		
A. Total square footage of paved areasper Section 926.09 (driving isles, driveways, parking spaces, loading areas) =	75,122 SF	
B. Minimum interior landscaping in parking areas = 12% x total paved areas =	12,766 SF	12,919 SF
PLANTING ALONG ROADWAYS - NORTH		
A. Trees along Exclusive Driveways per Section 926.09 (3.3 Canopy Trees, 6.6 Understory Trees per 100 LF):		
422 linear feet along north driveway/100 x 3.3 Canopy Trees=	14 trees	14 trees
422 linear feet along north driveway/100 x 6.6 Understory Trees =	28 trees	31 trees
B. Total number of shrubs along the exclusive dirveways		
422 linear feet along north driveway/100 x 40 Shrubs =	169 shrubs	175 shrubs
C. The number of shrubs required x 50% = the number of native shrubs required	84 shrubs	175 shrubs
PLANTING ALONG ROADWAYS - WEST		
A. Trees along Exclusive Driveways per Section 926.09 (3.3 Canopy Trees, 6.6 Understory Trees per 100 LF):		
597 linear feet along north driveway/100 x 3.3 Canopy Trees= 19.701		
less the existing number of trees that meet minimum requirements 11 existing trees		
existing trees to be relocated = 8 relocated		
required trees per Section 926.10 = 1 trees	1 trees	1 trees
597 linear feet along north driveway/100 x 6.6 Understory Trees =	39 trees	39 trees
B. Total number of shrubs along the exclusive dirveways		
597 linear feet along north driveway/100 x 40 Shrubs =	239 shrubs	252 shrubs
C. The number of shrubs required x 50% = the number of native shrubs required	119 shrubs	252 shrubs
BUILDING PLANTING		
A. Total number of required buidling planitng area (760 LF of Fascade x 0.4 = 304 LF of Foundation planting)		
304LF x 10FT Avg. Depth Min. = 3040 SF of Planting required		
B. Canopy Trees (1 tree/150 SF of Required Planting Area) =	20 trees	20 tress
C. Understory Trees (1 tree/ 300 SF of Required Planting Area) =	10 trees	15 trees
D. Shrubs (1.5 Shrubs/ 10SF of required planting area) =	304 shrubs	389 shrubs
E. The number of shrubs required x 50% = the number of native shrubs required	152 shrubs	389 shrubs

* Portion of Larger Property (Refer to Civil Engineer Drawings)
*** Refer to Civil Engineering Drawings for additional open space associated with drainage improvements, which will increase the total square footage currently shown in the provided colum

TREE DISPOSITION GRAPHIC LEGEND

SYMBOL	DESCRIPTION
TREE #	EXISTING TREE TO REMAIN
PALM #	EXISTING PALM TO REMAIN
PALM #	EXISTING PALM TO RELOCATE
	TREE PROTECTION FENCE

LEGEND

R/W — PL	RIGHT-OF-WAY LINE / PROPERTY LINE
	PROP. BUILDING OUTLINE
	PROP. ASPHALT
	PROP. CONC.
	PROP. GRAVEL ROAD
	SCOPE OF WORK LINE

PLANT SCHEDULE

CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL / DBH	HT	SPRD	NATIVE
	BS	22	BURSERA SIMARUBA	GUMBO LIMBO	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES
	CS	7	CONOCARPUS ERECTUS SERICEUS	SILVER BUTTONWOOD	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES
	CU	1	COCCOLOBA UVIFERA	SEA GRAPE	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES
	QV	8	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES
	TD	1	TAXODIUM DISTICHUM	BALD CYPRESS	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES

NARROW CANOPY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL / DBH	HT	SPRD	NATIVE
	MF	28	MYRCIANTHES FRAGRANS	SIMPSON`S STOPPER	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES

STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL / DBH	HT	SPRD	NATIVE
	QV2	14	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	FG	2" DBH	12` HT. MIN. / 5` C.T. MIN.	4.5` MIN	YES

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE	NATIVE	DROUGHT TOLERANT
	CR	308	CHRYSOBALANUS ICACO `RED TIP`	RED TIP COCOPLUM	CONT.	24" O.C.	24" HT MIN	YES	YES

ROADWAY SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE	NATIVE	DROUGHT TOLERANT
	MF2	427	MYRCIANTHES FRAGRANS	SIMPSON`S STOPPER	CONT.	24" OC	24" HT MIN	YES	YES

UNDERSTORY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE	NATIVE	DROUGHT TOLERANT
	SR	85	SERENOA REPENS	SAW PALMETTO	CONT.	36" OC	36" HT MIN	YES	YES

SHRUB AREAS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE	NATIVE	DROUGHT TOLERANT	SPACING
	CN	81	CLUSIA ROSEA `NANA`	DWARF PITCH APPLE	CONT.	30" OC	18" HT MIN	YES	YES	30" o.c.
	TF	4,673	TRIPSACUM DACTYLOIDES	FAKAHATCHEE GRASS	CONT.	30" OC	18" HT.	YES	YES	30" o.c.

GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	SIZE	NATIVE	DROUGHT TOLERANT
	AG	28,391 SF	ARACHIS GLABRATA	PERENNIAL PEANUT	SOD	SOD	SOD	NO	YES
	PN	76,418 SF	PASPALUM NOTATUM	BAHIA GRASS	PALLET	SOD	SOD	NO	

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REGISTERED LANDSCAPE ARCHITECT
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KHA PROJECT 143228000
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SCALE AS SHOWN
DESIGNED BY MW
DRAWN BY CF
CHECKED BY MW

LANDSCAPE PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-200

LANDSCAPING POINTS REQUIREMENTS

SEC.926.11

LANDSCAPE POINT SYSTEM. NOTWITHSTANDING THE OTHER PROVISIONS OF THIS CHAPTER, EACH LANDSCAPE PLAN MUST SATISFY A MINIMUM OF THIRTY (30) POINTS FROM THE FOLLOWING LIST OF OPTIONS:

DESIGN OPTIONS	AVAILABLE POINTS	PROVIDED POINTS
IRRIGATION SYSTEM: 1. MOISTURE SENSING CONTROLLER	5	
2. PLAN SUBMITTED WITH LOW, MODERATE AND HIGH WATER USAGE ZONES INDICATED	5	
SHRUBS: 1. FIFTY (50) TO SEVENTY-FIVE (75) PERCENT OF TOTAL QUANTITY OF PLANTS RATED "VERY DROUGHT TOLERANT"	5	
2. SEVENTY-SIX (76) TO ONE HUNDRED (100) PERCENT OF TOTAL QUANTITY OF PLANTS RATED "VERY DROUGHT TOLERANT"	10	10
TREES: 1. FIFTY (50) TO SEVENTY-FIVE (75) PERCENT OF TOTAL QUANTITY OF TREES RATED "VERY DROUGHT TOLERANT"	5	
2. SEVENTY-SIX (76) TO ONE HUNDRED (100) PERCENT OF TOTAL QUANTITY OF TREES RATED "VERY DROUGHT TOLERANT"	10	10
EXTRA SHADE/CANOPY TREES IN VEHICULAR USE AREAS: 1. TWENTY (20) TO FORTY (40) PERCENT MORE THAN REQUIRED	5	
2. MORE THAN FORTY (40) PERCENT MORE THAN REQUIRED	10	
SOD/GRASS AREAS: 1. THIRTY-ONE (31) TO FIFTY (50) PERCENT OF LANDSCAPE AREA	5	5
2. LESS THAN THIRTY (30) PERCENT OF LANDSCAPE AREA	10	
FLORIDA NATIVE LANDSCAPE: 1. ONE HUNDRED (100) PERCENT OF LANDSCAPE AREA IS PRESERVED OR RE-ESTABLISHED FLORIDA NATIVE VEGETATION, OR NEW NATIVE PLANTINGS OF SPECIES LISTED IN APPENDIX A AND APPENDIX C. PLAN MUST INCLUDE TREES, UNDERSTORY, AND GROUNDCOVER WITH A MAXIMUM OF FIFTY (50) PERCENT OF SITE SODDED/GRASSED	30	30
2. SEVENTY-FIVE (75) TO NINETY-NINE (99) PERCENT OF LANDSCAPE AREA IS PRESERVED OR RE-ESTABLISHED FLORIDA NATIVE VEGETATION, OR NEW NATIVE PLANTINGS OF SPECIES LISTED IN APPENDIX A AND APPENDIX C. PLAN MUST INCLUDE TREES, UNDERSTORY, AND GROUNDCOVER WITH A MAXIMUM OF FIFTY (50) PERCENT OF SITE SODDED/GRASSED	15	
	TOTAL	55

* THE LIST OF DROUGHT TOLERANT NATURAL GRASS, SHRUBS, AND TREE SPECIES IS CONTAINED IN WATERWISE, THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT PLANT AND LANDSCAPE PRACTICES GUIDE, AS MAY BE AMENDED. THESE SPECIES SHOULD HOWEVER, NOT INCLUDE INVASIVE SPECIES.

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Check positive response codes before you dig!

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REGISTERED LANDSCAPE ARCHITECT No LA6667405 STATE OF FLORIDA 11/17/2021

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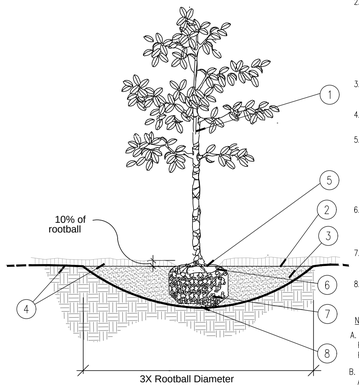
KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MRG
DRAWN BY RMR
CHECKED BY BF

LANDSCAPE REQUIREMENTS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-201



1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW/ WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE – LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. B & B OR CONTAINER (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
7. REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL.
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

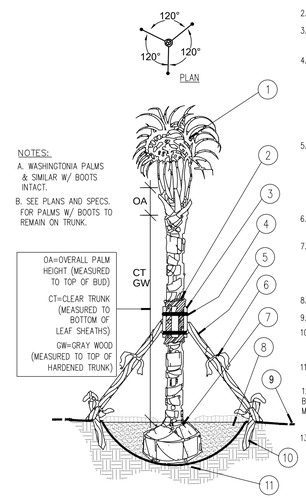
B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER AFTER REVIEWED BY LANDSCAPE ARCHITECT.

C. CONTRACTOR SHALL PAINT ALL STAKES BENJAMIN MOORE, EXTERIOR GRADE PAINT FLAT MATTE BLACK, 2 COATS.

D. SEE ALTERNATE STAKING METHODS, THIS SHEET.

* ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

A Tree Planting
SECTION NTS



NOTES:

A. WASHINGTONIA PALMS & SIMILAR W/ BOOTS INTACT.

B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.

OA=OVERALL PALM HEIGHT (MEASURED TO TOP OF BUD)

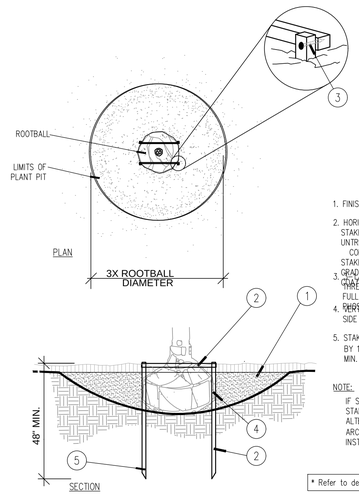
CT=CLEAR TRUNK (MEASURED TO BOTTOM OF LEAF SHEATHS)

GW=GRAY WOOD (MEASURED TO TOP OF HARDENED TRUNK)

1. MINIMUM OF NINE (9) GOOD PALM FRONDS; PRUNE AND TIE FRONDS WITH HEMP TWINE. SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY- EMERGING GROWTH.
2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
3. FIVE (5) 18"L, 2X4 WOOD BATTENS. UNTREATED, #2
4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
5. THREE (3) 8'L 2X4 SUPPORTS. NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
8. 3" SPECIFIED MULCH
9. FINISH GRADE
10. 24"L (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
11. PREPARED PLANTING SOIL AS SPECIFIED
12. CONTRACTOR SHALL PAINT ALL STAKES BENJAMIN MOORE, EXTERIOR GRADE PAINT FLAT MATTE BLACK, 2 COATS.
13. ALTERNATE PALM ANCHORING SYSTEMS MAY BE SUBSTITUTED UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE AFTER REVIEW BY LANDSCAPE ARCHITECT

ALTERNATE SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

B Palm Planting and Staking
SECTION NTS

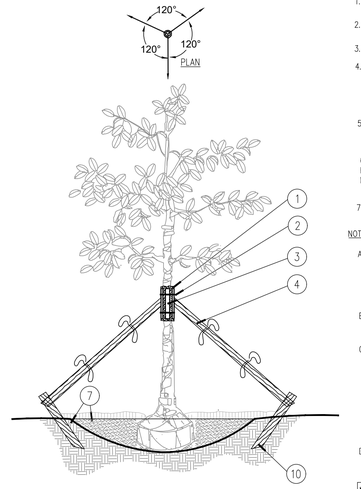


1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X2 STAKE. ALL WOOD SHALL BE #2 UNTREATED. CONTRACTOR SHALL PAINT ALL STAKES BENJAMIN MOORE, EXTERIOR GRADE PAINT FLAT MATTE BLACK, 2 COATS.
3. #12X2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK OXIDE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

NOTE:
IF SPATIAL REQUIREMENTS PRECLUDE STAKING WITH THIS METHOD, SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLING PLANT.

* Refer to details B and E for planting

C Staking – up to 65 gal. or B&B to 3-1/2" Cal.
PLAN/SECTION NTS



1. FIVE (5) LAYERS OF BURLAP TO PROTECT TRUNK
2. TWO STEEL BANDS TO SECURE BATTENS
3. FIVE 2 X 4 X 18"L WOOD BATTENS
4. THREE (3) 2" X 8' LODGE POLES. DRILL, USING GALVANIZED SCREWS, TO BATTENS AND 2" X 4" STAKES. NO SCREWS SHALL PENETRATE TREE. FLAG AT MIDPOINT AND AT BASE.
5. 2" x 4" x 3' (MIN), P.T. WOOD STAKES BURIED 3" BELOW FINISHED GRADE.
6. CONTRACTOR SHALL PAINT ALL STAKES BENJAMIN MOORE, EXTERIOR GRADE PAINT FLAT MATTE BLACK, 2 COATS.
7. FINISHED GRADE (SEE GRADING PLAN)

NOTES:

A. ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

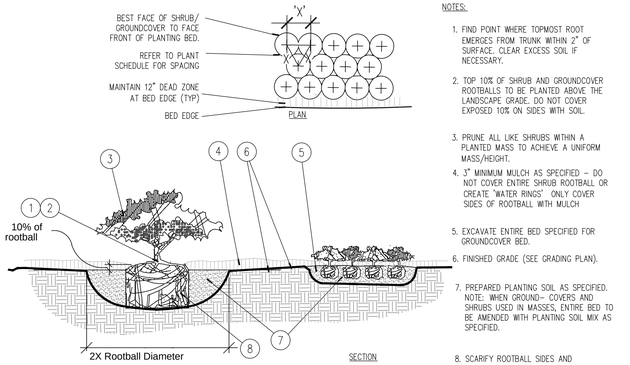
C. ALTERNATE TREE ANCHORING SYSTEMS MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE AFTER REVIEWED BY LANDSCAPE ARCHITECT.

ALTERNATE SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

D. RUBBER HOSE/WIRE SYSTEMS ARE NOT ALLOWED.

* Refer to details B and D for planting

D Large Tree Staking – 100 Gal + or B&B 4" +
SECTION NTS

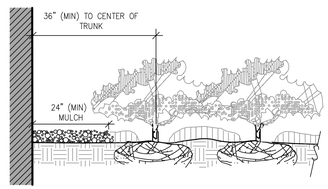


NOTES:

1. FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2" OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
2. TOP 10% OF SHRUB AND GROUNDCOVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
3. PRUNE ALL LIKE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS/HEIGHT.
4. 3" MINIMUM MULCH AS SPECIFIED – DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE 'WATER RINGS' ONLY COVER SIDES OF ROOTBALL WITH MULCH
5. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
6. FINISHED GRADE (SEE GRADING PLAN).
7. PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND- COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
8. SCARIFY ROOTBALL SIDES AND BOTTOM.

* ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

E Shrub / Groundcover Planting
PLAN/SECTION NTS



NOTES

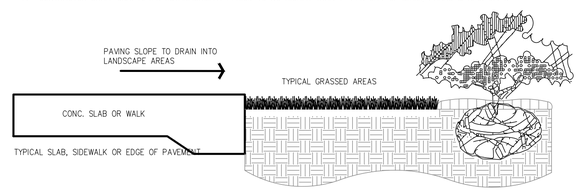
* CLEAR ZONE: 36" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

* STONE MULCH: 24" MIN. FROM BUILDING, INSTALL STONE MULCH. MULCH TYPE TO BE GRAY GRANITE OR OWNER'S REPRESENTATIVE APPROVED EQUAL. STONE MULCH TO BE INSTALLED TO A DEPTH OF 3" (MIN.) CONTRACTOR SHALL SUBMIT SAMPLE FOR APPROVAL.

F Plantings Adjacent to Buildings
SECTION NTS

1. TYPICAL SOLID SOD LAID LEVEL WITH TIGHT JOINTS SET ADJACENT TO EDGE OF PAVEMENT SUCH THAT THE TOP OF SOD WHEN FRESHLY MOWED IS FLUSH WITH TOP OF PAVEMENT IN ORDER NOT TO IMPEDE THE FLOW OF RUNOFF INTO LANDSCAPE AREAS AND TO APPEAR NEAT AND WELL MAINTAINED.
2. ALL SOD LAID ADJACENT TO THE SHRUB OR GROUNDCOVER PLANTING AREAS SHALL HAVE WELL DEFINED BEDLINES, AND SHALL BE INSTALLED A DISTANCE BACK FROM THE FACE EDGE OF PLANT MATERIALS TO ALLOW FOR GROWTH OF THE PLANTS. THE TOP OF THE SOD AND THE FINISHED GRADE OF THE 2" MULCH COVER SHALL BE FLUSH AND LEVEL.
3. SOD SET ON PREPARED GRADE WHICH IS LEVEL OR GRADED TO MEET THE REQUIREMENTS OF THE ENGINEERED SITE DRAINAGE PLANS.
4. PROVIDE 60 DAYS MAINTENANCE TO ESTABLISH THE NEW SOD. MAINTENANCE INCLUDES ROLLING, FERTILIZING MONTHLY, WEED AND INSECT CONTROL (PRE- & POST- EMERGENT). MOWING WITH REEL TYPE MOWERS, TRIMMING, AND EDGING.

FOR SOD BEING USING AS SPORTS FIELD:
1. CONTRACTOR SHALL COORDINATE METHODOLOGY FOR INSTALLATION & SOD GROWING PERIOD PERIOD WITH CITY OF MIAMI'S PARKS AND REC DEPT SPORTS FIELD MANAGER PRIOR TO PROCUREMENT & INSTALLATION. ALL PRODUCTS, INCLUDING FERTILIZER & PEST/WEED CONTROL SHALL BE APPROVED BY CITY OF MIAMI SPORTS FIELD MANAGER.
2. CONTRACTOR SHALL MOW AFTER ESTABLISHMENT PERIOD TO NO HIGHER THAN 1" PER CITY OF MIAMI, PARKS & REC. DEPT.



G Typical Sod Planting Detail
SECTION NTS

Sunshine811
Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig!

No.	REVISIONS	DATE	BY

Kimley»Horn
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355 ALHAMBRA CIRCLE, SUITE 1400, CORAL GABLES, FL 33134
PHONE: 305-673-2025
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REGISTERED LANDSCAPE ARCHITECT STATE OF FLORIDA No LA6667406 11/17/2021

KKHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MW
DRAWN BY CF
CHECKED BY MW

LANDSCAPE DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-250

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS ($100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SUBMITTAL
MULCH	PRODUCT DATA
TOPSOIL MIX	AMENDMENT MIX/ PRODUCT DATA/ TEST RESULTS
PLANTS	PHOTOGRAPHS OF ONE (1) OF EACH SPECIES (OR TAGGED IN NURSERY) WITH MEASURING POLE INDICATE SIZES (HEIGHT/WIDTH) AND QUALITY PER SPEC. CLIENT-REQUESTED TAGGING MAY SUBSTITUTE PHOTOS.
FERTILIZER	PRODUCT DATA
INNOCULANT	PRODUCT DATA
HERBICIDE	PRODUCT DATA

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

1. SOIL MIXTURE (PLANTING MEDIUM FOR PLANTERS) SHALL CONSIST OF 70% SAND, 30% NORTH FLORIDA PEAT, AS DESCRIBED BELOW:
2. SOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANTERS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. SHALL HAVE A PH BETWEEN 5.5 AND 7.0 - SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.
3. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE ORTONA MINED SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY THE OWNER.
4. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.
5. CONTRACTOR SHALL PROVIDE PH TEST RESULTS FOR ALL MIX COMPONENTS.
6. CONTRACTOR SHALL PROVIDE PENETROMETER ON-SITE AT ALL TIMES FOR COMPACTION INSPECTION AT THE DISCRETION OF THE LANDSCAPE ARCHITECT.
7. PENETROMETER CRITERIA / SPECIFICATION SHALL RANGE FROM APPROX. 75 PSI TO LESS THAN 300 PSI OR AS DETERMINE BY LANDSCAPE ARCHITECT.
8. SOIL SHALL BE SUPPLIED BY ATLAS PEAT & SOIL INC. 9612 STATE RD,BOYNTON BEACH,FLORIDA 33472. PHONE: 561-734-7300 OR APPROVAL EQUAL.
9. FINAL MIX SHAL BE TESTED TO HAVE SATURATED WEIGHT OF NO MORE THAN 110 POUNDS PER CUBIC FOOT WHEN COMPACTED TO 85% STANDARDS PROCTOR.
10. MINIMUM DEPTH OF SOIL SHALL BE 3'-0" IN PLANTERS. IN PLANTERS WITH EXISTING TREES, SOIL SHALL BE REMOVED TO A DEPTH REQUIRED TO ELIMINATE SOD CONDITION TO REWORK THE ORIGINAL SOIL CONDITION WITH NEW SOIL, WHILE PRESERVING EXISTING TREE ROOTS AND AVOIDING ADVERSE IMPACT OF ROOTS.

F. WATER

1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC.. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

2. CONTRACTOR SHALL INSURE ALL PLANT MATERIAL RECEIVES APPROPRIATE WATER THROUGHOUT THE GUARANTEE PERIOD SO PLANT MATERIAL THRIVES AND ESTABLISHES READILY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF 3 INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). TYPE OF MATERIAL: "FLORIMULCH" OR SHREDDED, STERILE EUCALYPTUS MULCH

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.
3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.
4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.
5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.
3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL - 811 - TO LOCATE UTILITIES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED COMPACTED MATERIAL FROM ALL PROPOSED TREE, PALM, SHRUB, AND GROUNDCOVER LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36" AND ALL PROPOSED LAWN/SOD AREAS TO A MINIMUM OF 6". REFER TO SECTION E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, MIX, SOIL MIX). REFER TO E.10 FOR EXCAVATION ADJACENT TO TREE ROOTS. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND ADEQUATE PERCOLATION CAN NOT BE ACHIEVED, CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING.
4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.
5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE , PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES, METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.
6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.
7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK (ANSI260.1),, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.
8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).
11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, BASKETS, ETC.., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.
13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" TO ACHEIVE SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.
15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.
16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.
4. SODDING
   - A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.
   - B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.
   - C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED - REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.
5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.
6. LAWN MAINTENANCE:
   - A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).
   - B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

S. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
2. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING", AT NO ADDITIONAL COST TO THE OWNER.
3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.
4. THE CONTRACTOR SHALL REPLACE ALL PLANT MATERIAL IN SHOCK PRIOR TO ISSUANCE OF A C.O. AS DETERMINED BY THE LANDSCAPE ARCHITECT AND THE COUNTY AT THE CONTRACTOR'S OWN EXPENSE.

V. ROOT PRUNING

1. ROOT PRUNING SHALL BE CONDUCTED FOR A MINIMUM PERIOD OF 90 DAYS/ UNTIL NEW ROOT GROWTH IS OBSERVED / AS DIRECTED BY AN ISA CERTIFIED ARBORIST. ROOT PRUNING TIMEFRAME VARY PER SPECIES AND CONDITION OF EXISTING MATERIALS AND SHALL BE AS DIRECTED BY AN ISA CERTIFIED ARBORIST. STAKING AND IRRIGATION SHALL BE PROVIDED DURING ROOT PRUNING PROCESS. ANY CANOPY TRIMMING / PRUNING SHALL BE COORDINATED AND DIRECTED BY ISA CERTIFIED ARBORIST RELATIVE TO THE ROOT PRUNING PROCESS TO INSURE THERE ARE NO ADVERSE EFFECTS O THE EXISTING MATERIAL BEING PREPARED FOR RELOCATION.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MATTHEW VINCENT WISNIEWSK LA6667406 ON DATE ADJACENT TO SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MATTHEW VINCENT WISNIEWSKI LA6667406 ON THE DATE ADJACENT TO THE SEAL.

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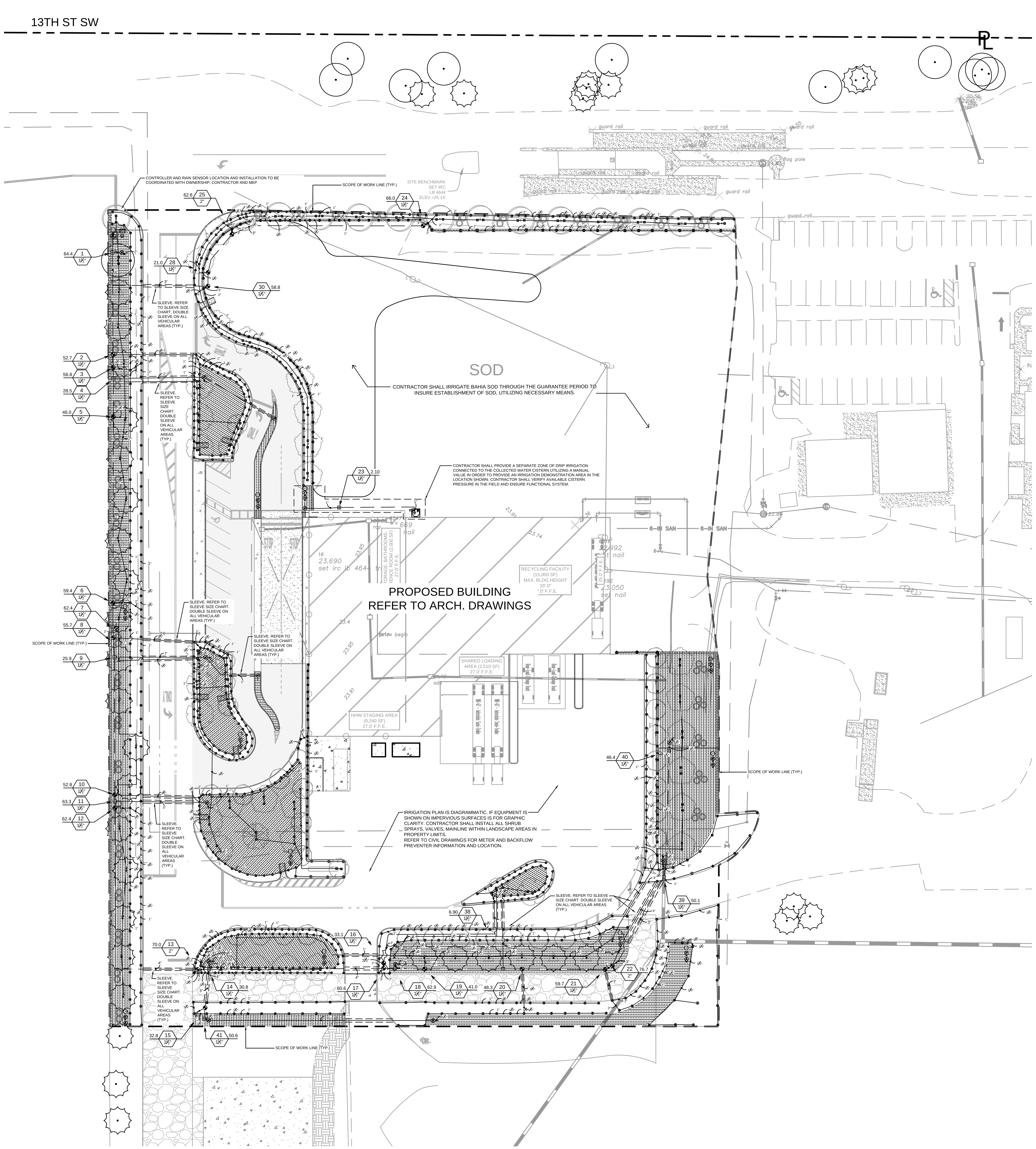
REGISTERED LANDSCAPE ARCHITECT
Matthew Vincent Wisniewski
No LA6667406
11/17/2021
STATE OF FLORIDA

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MW
DRAWN BY	CF
CHECKED BY	MW

LANDSCAPE NOTES & SPECIFICATIONS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-251



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
4 6 8 10 12 15 18	RAIN BIRD 1806-PRS ADJ SHRUB SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. WITH PRESSURE REGULATING DEVICE.	714
EST LCS RCS CST SST	RAIN BIRD 1812-PRS 15 STRIP SERIES SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. WITH PRESSURE REGULATING DEVICE.	3
Q T H F	RAIN BIRD 1812-PRS 8 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. WITH PRESSURE REGULATING DEVICE.	1
4 6 8 10 12 15 18	RAIN BIRD 1812-PRS ADJ SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. WITH PRESSURE REGULATING DEVICE.	101
1401 1402 1404 1408	RAIN BIRD 1800-1400 FLOOD 1401 FIXED FLOW RATE (0.25-2.0GPM), FULL CIRCLE BUBBLER, 1/2" FIPT.	162

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD XCZ-150-LCS HIGH FLOW CONTROL ZONE KIT, FOR LARGE COMMERCIAL DRIP ZONES. 1-1/2" PEB GLOBE VALVE WITH SINGLE 1-1/2" PRESSURE REGULATING (40PSI) QUICK-CHECK BASKET FILTERS. FLOW RANGE: 15-62GPM.	11
	PIPE TRANSITION POINT IN DRIP BOX PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP TUBING WITH RISER IN 6" (150MM) DRIP BOX.	15
F	RAIN BIRD MDCFCAP DRIPLINE FLUSH VALVE CAP IN COMPRESSION FITTING COUPLER.	11
A	RAIN BIRD ARV050 1/2" AIR RELIEF VALVE, MADE OF QUALITY RUST-PROOF MATERIALS, WITH A 6.0" DRIP VALVE BOX (SEB 7XB EMITTER BOX). USE WITH INSTALLATION BELOW SOIL. THE VALVE WILL ALLOW AIR TO ESCAPE THE PIPELINE, THUS PREVENTING WATER HAMMER OR BLOCKAGE.	11
OP	RAIN BIRD OPERIND DRIP SYSTEM OPERATION INDICATOR, STEM RISES 6" FOR CLEAR VISIBILITY WHEN DRIP SYSTEM IS CHARGED TO A MINIMUM OF 20PSI. INCLUDES 16" OF 1/4" DISTRIBUTION TUBING WITH CONNECTION FITTING PRE-INSTALLED.	10
OP2	RAIN BIRD OPERIND DRIP SYSTEM OPERATION INDICATOR, STEM RISES 6" FOR CLEAR VISIBILITY WHEN DRIP SYSTEM IS CHARGED TO A MINIMUM OF 20PSI. INCLUDES 16" OF 1/4" DISTRIBUTION TUBING WITH CONNECTION FITTING PRE-INSTALLED.	1
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-09-12 XFS SUB-SURFACE PRESSURE COMPENSATING DRIPLINE W/COPPER SHIELD TECHNOLOGY. 0.9 GPH EMITTERS AT 12" O.C. LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	32,956 L.F.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	19
BF	FEBCO 825Y 2" REDUCED PRESSURE BACKFLOW PREVENTER	1
C	RAIN BIRD ESP8LXMEF-LXMM-LXMMPED WITH (03) ESPLXMSM12 44 STATION CAPABLE COMMERCIAL CONTROLLER. MOUNTED ON A POWDER-COATED METAL PEDESTAL. FLOW SENSING AND WATER MANAGEMENT CAPABILITIES.	1
RS	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1
M	WATER METER 2" REFER TO CIVIL PLANS	1
P.O.C. #2	POINT OF CONNECTION COLLECTED WATER CISTERN (REFER TO CIVIL DRAWINGS)	1
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	10,290 L.F.
	IRRIGATION MAINLINE: PVC SCHEDULE 40	1,366 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40	635.7 L.F.

Valve Callout
- Valve Number
- Valve Flow
- Valve Size

LEGEND

- R/W — PL: RIGHT-OF-WAY LINE / PROPERTY LINE
- PROP. BUILDING OUTLINE
- PROP. ASPHALT
- PROP. CONC.
- PROP. GRAVEL ROAD
- SCOPE OF WORK LINE

NORTH

GRAPHIC SCALE IN FEET
0 20 40 80

SLEEVING CHART

SLEEVE SIZE SCHEDULE (SCH 40)

PIPE SIZE	SLEEVE SIZE
1"	2"
1 1/2"	4"
2"	4"
2 1/2"	6"
3", 4"	6"
5", 6"	8"
7", 8"	10"

*CONTRACTOR SHALL USE THE ABOVE SCHEDULE TO SIZE SLEEVES. THE PIPE SIZE IN THE ABOVE SCHEDULE SHALL REFLECT THE CUMULATIVE VALUE OF ALL PIPES GRAPHICALLY SHOWN THROUGH SLEEVE.
*SLEEVING ON VEHICULAR AREAS / DRIVEWAYS / PARKING SHALL BE DOUBLE.

IRRIGATION NOTES

1. REFER TO LANDSCAPE PLANS FOR THE LOCATIONS OF PLANTING MATERIAL.
2. INSTALLATION WORK SHALL BE COORDINATED WITH OTHER CONTRACTORS IN SUCH A MANNER AS TO ALLOW FOR SPEEDY AND ORDERLY COMPLETION OF ALL WORK ON THE SITE.
3. ALL PROPOSED TREES AND SHRUBS SHALL BE IRRIGATED BY A 100% AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
4. IRRIGATION SYSTEM SHALL BE CAPABLE OF SUPPLYING AN AVERAGE OF 1" OF WATER PER WEEK WITHIN WATERING RESTRICTIONS AS APPLICABLE.
5. IRRIGATION SYSTEM SHALL NOT BE INSTALLED THROUGH EXISTING, OR PRESERVED PLANT COMMUNITIES.
6. IRRIGATION SPRINKLER ZONES SHALL BE SEPARATED FOR HIGH AND LOW WATER REQUIREMENTS AND OPERATING ON DIFFERENT WATERING CYCLES.
7. IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS SHALL BE MINIMIZED.
8. A RAIN SENSOR OR SOIL MOISTURE SENSOR SHALL BE INSTALLED WITH THE IRRIGATION CONTROL SYSTEM, INSTALLED AT A LOCATION TO BE COORDINATED WITH OWNER.
9. IRRIGATION PIPING INSTALLED UNDER ROADS AND SIDEWALKS SHALL BE IN SCHEDULE 40 PVC SLEEVING AT 2X THE PIPE SIZE. ALL SLEEVING SHALL BE FREE OF STONES AND DEBRIS.
10. IRRIGATION SYSTEM TO USE THE LOWEST QUALITY WATER AVAILABLE WHICH ADEQUATELY AND SAFELY MEETS THE WATER NEEDS OF THE SYSTEM. STORM WATER REUSE, RECLAIMED WATER USE, AND GRAY WATER IRRIGATION SYSTEMS SHALL BE USED WHERE FEASIBLE. IRRIGATION CONTRACTOR TO VERIFY THE SYSTEM MAY BE CONNECTED TO A FUTURE RE-USE WATER MAIN WHEN IT BECOMES AVAILABLE.
11. IRRIGATED AREAS SHALL BE FULLY IRRIGATED WITH SPRAY HEADS & ROTORS SPACED TO PROVIDE 100% HEAD TO HEAD COVERAGE. ALL PROPOSED TREES AND PALMS SHALL BE IRRIGATED WITH TREE BUBBLERS.
12. CONTRACTOR SHALL PROVIDE LANDSCAPE ARCHITECT WITH SHOP DRAWINGS DEPICTING IRRIGATION DESIGN FOR APPROVAL PRIOR TO PROCUREMENT AND CONSTRUCTION.
13. CONTRACTOR SHALL PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER AT SUBSTANTIAL COMPLETION BEFORE RECEIVING FINAL PAYMENT.
14. POINT OF CONNECTION TO BE DETERMINED BY IRRIGATION CONTRACTOR AND VERIFIED WITH THE LANDSCAPE ARCHITECT. IRRIGATION SYSTEM CONNECTIONS TO THE CITY OR COUNTY SERVICE SHALL COMPLY WITH ALL APPLICABLE CODES.
15. IRRIGATION SYSTEM CONNECTION TO POTABLE WATER SUPPLY WILL REQUIRE A DEDICATED IRRIGATION METER AND BACKFLOW PREVENTER, AS REQUIRED BY GOVERNING MUNICIPALITY. IRRIGATION CONTRACTOR RESPONSIBLE FOR ASSOCIATED PERMITTING AND FEES.
16. CONTRACTOR SHALL REFER TO THE IRRIGATION DETAILS, IRRIGATION SCHEDULE, SPECIFICATIONS, AND ALL CONTRACT DOCUMENTS FOR FURTHER AND COMPLETE INSTRUCTIONS.
17. IRRIGATION QUANTITIES ARE PROVIDED FOR CONVENIENCE, IN THE EVENT OF QUANTITY DISCREPANCIES, THE DRAWING SHALL TAKE PRECEDENCE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BIDDING.
18. ANY SUBSTITUTIONS FOR SPECIFIED IRRIGATION EQUIPMENT MUST BE APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION.
19. CONTRACTOR SHALL FIELD ADJUST LOCATION OF IRRIGATION EQUIPMENT AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR INTERFERE WITH EXISTING ABOVE GROUND ELEMENTS. ALL FIELD ADJUSTMENTS SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
20. CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH THE LIMITS OF WORK AND EXISTING CONDITIONS AND VERIFY ALL INFORMATION. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING WITHIN SEVEN CALENDAR DAYS OF NOTICE TO PROCEED.
21. IRRIGATION PLAN IS DIAGRAMMATIC, EQUIPMENT SHOWN ON IMPERVIOUS SURFACES IS FOR GRAPHIC CLARITY UNLESS OTHERWISE NOTED. CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITHIN LANDSCAPE AREAS IN PROPERTY LIMITS.
22. LATERAL, MAINLINE, BUBBLER, AND VALVE LOCATIONS SHOWN FOR DIAGRAMMATIC PURPOSES ONLY.
23. RUN ALL PIPES THROUGH PLANTER AREAS AND ALONGSIDE OTHER SLEEVING TO MAXIMUM EXTENT POSSIBLE.
24. TRENCH ALONG SIDEWALKS, CURBS, AND FENCES AS MUCH AS POSSIBLE.
25. AVOID TRENCHING ALONG DRIPLINES OF EXISTING TREES TO MAXIMUM EXTENT POSSIBLE. IF IT IS NOT POSSIBLE TO AVOID TRENCHING UNDER DRIPLNES, CONTRACTOR IS TO NOTIFY LANDSCAPE ARCHITECT PRIOR TO TRENCH EXCAVATION FOR APPROVAL.
26. GROUP AND LOCATE VALVES INSIDE PLANTER AREAS (TYP).
27. THE IRRIGATION SYSTEM SHALL PROVIDE 100% COVERAGE FOR ALL PROPOSED LANDSCAPE AREAS.
28. ZONES SHALL BE SEPARATED BY WATER NEED AND EQUIPMENT. BUBBLERS, DRIPLINES, AND SPRAYS SHALL BE SEPARATE.
29. CONTRACTOR SHALL IRRIGATE BAHIA SOD THROUGH THE GUARANTEE PERIOD TO INSURE ESTABLISHMENT OF SOD, UTILIZING CISTERN COLLECTED WATER OR OTHER NECESSARY MEANS.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MATTHEW VINCENT WISNIEWSK LA6667406 ON DATE ADJACENT TO SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MATTHEW VINCENT WISNIEWSKI LA6667406 ON THE DATE ADJACENT TO THE SEAL.

REGISTERED LANDSCAPE ARCHITECT
Matthew Vincent Wisniewski
No LA6667406
11/17/2021
STATE OF FLORIDA

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No. | REVISIONS | DATE | BY

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MW
DRAWN BY CF
CHECKED BY MW

IRRIGATION PLAN

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-300

UNDERGROUND IRRIGATION SYSTEM

PART I: GENERAL
1.01 SCOPE

A. The work covered by this specification shall include the furnishing of all labor, materials, tools and equipment necessary to perform and complete the installation of an automatic irrigation system as specified herein and as shown on the drawings and any incidental work not shown or specified which can reasonably be determined to be part of the work and necessary to provide a complete and functional system.

B. The work covered by this specification also includes all permits, federal, state and local taxes and all other costs, both foreseeable and unforeseeable at the time of construction.

C. No deviation from these specifications, the accompanying drawings, or agreement is authorized or shall be made without prior written authorization signed by the Owner or his duly appointed representative.

1.02 QUALITY ASSURANCE

D. Installer Qualifications: A firm specializing in irrigation work with not less than five (5) years of experience in installing irrigation systems similar to those required for this project.

E. Coordination: Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and efficiently as possible.

F. Inspection of Site: The Contractor shall acquaint himself with all site conditions, including underground utilities before construction is to begin. Contractor shall coordinate placement of underground materials with contractors previously working underground in the vicinity or those scheduled to do underground work in the vicinity. Contractor is responsible for minor adjustments in the layout of the work to accommodate existing facilities.

G. Protection of Existing Plants and Site Conditions: The Contractor shall take necessary precautions to protect site conditions to remain. Should damages be incurred, this Contractor shall repair the damage to its original condition at his own expense. Any disruption, destruction, or disturbance of any existing plant, tree, shrub, or turf, or any structure shall be completely restored to the satisfaction of the Owner and his representatives, solely at the Contractor's expense.

H. Protection of Work and Property: The Contractor shall be liable for and shall take the following actions as required with regard to damage to any of the Owner's property.

1. Any existing building, equipment, piping, pipe coverings, electrical systems, sewers, sidewalks, roads, grounds, landscaping or structure of any kind (including without limitation, damage from leaks in the piping system being installed or having been installed by Contractor) damaged by the Contractor, or by his agents, employees, or subcontractors, during the course of his work, whether through negligence or otherwise, shall be replaced or repaired by Contractor at his own expense in a manner satisfactory to Owner, which repair or replacement shall be a condition precedent to Owner's obligation to make final payment under the Contract.

2. Contractor shall also be responsible for damage to any work covered by these specifications before final acceptance of the work. He shall securely cover all openings into the systems and cover all apparatus, equipment and appliances, both before and after being set in place to prevent obstructions on the pipes and the breakage, misuse or disfigurement of the apparatus, equipment or appliance.

3. All trenching or other work under the leaf canopy of any and all trees shall be done by hand or by other methods so that no branches are damaged in any way.

   Buildings, walks, walls, and other property shall be protected from damage. Open ditches left exposed shall be flagged and barricaded by the Contractor by approved means. The Contractor shall restore disturbed areas to their original condition.

4. The Contractor shall be responsible for requesting the proper utility company to stake the exact location of any underground lines including but not limited to electric, gas, telephone service, water, and cable.

   The Contractor shall take whatever precautions are necessary to protect these underground lines from damage. In the event damage does occur, all damage shall be completely repaired to its original condition, at no additional cost to the Owner.

5. The Contractor shall request the Owner, in writing, to locate any private utilities (i.e., electrical service to outside lighting) before proceeding with any excavation. If, after such requests and necessary staking, private utilities which were not staked are encountered and damaged by the Contractor, they shall be repaired by the Owner at no cost to the Contractor. If the Contractor damages staked or located utilities, they shall be repaired at the Contractor's expense.

J. Codes and Inspections: The entire installation shall comply fully with all local and state laws and ordinances and with all established codes arrange for all necessary inspections and shall pay all fees and expenses in connection with same, as part of the work under this Contract. Upon completion of the work, he shall furnish to the "Owner" all inspection certificates customarily issued in connection with the class of work involved.

K. The Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Owner, or Owner's representative.

L. The superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor.

M. The Owner's Landscape Architect or designated individual shall have full authority to approve or reject work performed by the Contractor. The Owner's Authorized Representative shall also have full authority to make field changes that are deemed necessary.

N. Final Acceptance: Final acceptance of the work may be obtained from the Owner upon the satisfactory completion of all work. Acceptance by the Landscape Architect and/or Owner in no way removes the Contractor of his responsibility to make further repairs, corrections and adjustments to eliminate any deficiencies which may later be discovered.

O. Guarantee: All work shall be guaranteed for one year from date of final acceptance against all defects in material, equipment and workmanship to the satisfaction of the Owner. Repairs, if required, shall be done promptly at no cost to the Owner.

1. The guarantee shall also cover repair of damage to any part of the premises resulting from leaks or workmanship, to the satisfaction of the Owner. The Contractor shall not be responsible for work damaged by others. Repairs, if required, shall be done promptly. The guarantee shall state the name of the Owner, provide full guarantee terms, effective and termination date, name and license number of Contractor providing guarantee, address, and telephone number. It shall be signed by the chief executive of the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.

2. If, within ten (10) days after mailing of written notice by the Owner to the Contractor requesting repairs or replacement resulting from a breach of warranty, the Contractor shall neglect to make or undertake with due diligence to make the same, the Owner may make such repairs at the Contractor's expense; provided, however, that in the case of emergency where, in the judgment of the Owner, delay would cause serious loss or damage, repairs or replacement may be made without notice being sent to the Contractor, and Contractor shall pay the cost thereof.

P. The Contractor shall provide full, 100% irrigation coverage in all areas designed with proposed plantings, in accordance with the site's governing permitting requirements and as designed.

Q. On-site Observation: At any time during the installation of the irrigation system by the Contractor, the Owner or Landscape Architect may visit the site to observe work underway. Upon request, the Contractor shall be required to uncover specified work as directed by the Owner or material, workmanship or method of installation not meet the standards specified herein, the Contractor shall replace the work at his own expense.

R. Workmanship: All work shall be installed by qualified, skilled personnel, proficient in the trades required, in a neat, orderly, and responsible manner with recognized standards of workmanship. The Contractor shall have had considerable experience and demonstrated ability in the installation of sprinkler irrigation systems of this type.

1.04 SUBMITTALS

All materials shall be those specified and/or approved by the Landscape Architect.

A. Product Data: After the award of the Contract and prior to beginning work, the Contractor shall submit for approval by the Owner and Landscape Architect, two copies of the complete list of materials, manufacturer's technical data, and installation instructions which he proposes to install.

B. Commence no work before approval of material list and descriptive material by the Landscape Architect.

C. Record Drawings: The Contractor shall record on reproducibles, all changes that may be made during actual installation of the system. Provide controller sequencing and control valve locations.

1. Immediately upon installation of any piping, valves, wiring, sprinklers, etc., in locations other than shown on the original drawings or of sizes other than indicated, the Contractor shall clearly indicate such changes on a set of blueline prints. Records shall be made on a daily basis. All records shall be neat and subject to the approval of the Owner.

2. The Contractor shall also indicate on the record prints the location of all wire splices, original or due to repair, that are installed underground in a location other than the controller pedestal, remote control valve box, power source or connection to a valve-in-head sprinkler.

3. These drawings shall also serve as work progress sheets. The Contractor shall make neat and legible notations thereon daily as the work proceeds, showing the work as actually installed. These drawings shall be available at all times for review and shall be kept in a location designated by the Owner's Representative.

4. Progress payment request and record drawing information must be approved by Landscape Architect before payment is made.

5. If in the opinion of the Owner or his representative, the record drawing information is not being properly or promptly recorded, construction payment may be stopped until the proper information has been recorded and submitted.

6. Before the date of the final site observation and approval, the Contractor shall deliver one set (copies) of reproducible record drawing plans and notes to the Landscape Architect. Record drawing information shall be approved by the Landscape Architect prior to submittal to Owner for final payments, including retentions.

D. The contractor shall provide detailed engineered shop drawings for irrigation system design for review and approval by landscape architect prior to procurement and fabrication of system. The contractor shall certify in writing that the irrigation system provided in shop drawing complies with Section 926.11 Irrigation Standards.

E. Operations and Maintenance Manuals: The Contractor shall prepare and deliver to the Owner, or his designated representative within ten (10) calendar days prior to completion of construction, a hard cover binder with three rings containing the following information:

1. Index sheet stating the Contractor's address and business telephone number, list of equipment with name(2) and address(es) of local manufacturer's representative(s).

2. Catalog and parts sheets on every material and equipment installed under this Contract.

3. Complete operating and maintenance instruction on all major equipment. Include initial controller schedule and recommended schedule after establishment period.

4. Demonstrate to and provide the Owner's maintenance personnel with instructions for major equipment and show evidence in writing to the Owner, or his designated representative at the conclusion of the project that this service has been rendered.

1.05 EXPLANATION OF DRAWINGS

A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings and sleeves which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of the work and plan his work accordingly, furnishing such offsets, fittings and sleeves as may be required to meet such conditions.

B. The drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting and architectural features. Deviations shall be brought to the Landscape Architects attention.

C. All work called for a on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.

D. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been known in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect. In the event that notification is not performed, the Contractor shall assume full responsibility for any revision necessary.

E. If, in the opinion of the Landscape Architect, the labor furnished by the Contractor is incompetent, unskilled, or unreliable, his equipment inadequate, improper or unsafe, or if the Contractor shall fail to continuously and diligently execute the construction, the Landscape Architect or Owner shall, in writing, instruct the Contractor to remove all such causes of noncompliance and the Contractor shall promptly comply.

F. The Contractor shall be responsible for full and complete coverage of all irrigation areas. The Landscape Architect shall be notified of any necessary adjustments at no additional cost to the Owner. Any revisions to the irrigation system must be submitted and answered in written form, along with any change in Contract price. Layout may be modified, if necessary to obtain coverage. Spacing not to exceed 60% of the diameter.

PART II: PRODUCTS

2.01 MATERIALS

Material and equipment shall be supplied by the Contractor. No substitutions shall be allowed without the prior written approval of the Owner/Landscape Architect. The Contractor shall inspect all materials and equipment prior to installation, and defective materials shall be replaced with the proper materials and equipment. Those items used in the installation found to be defective, improperly installed or not as specified, shall be removed and the proper materials and equipment installed in the proper manner, as interpreted by the Owner/Landscape Architect. The Contractor shall remove all damaged and defective pipe and equipment from the site.

2.02 PIPING

A. General Provisions: All materials throughout the system shall be new and in perfect condition unless otherwise directed by the Landscape Architect.

B. Polyvinyl Chloride Pipe (PVC): (Where indicated on plan, use non-potable purple piping.)

1. Laterals: PVC shall conform to the requirements of ASTM Designation D 2241, Class 1120 or 1220. All lateral piping less than 3" in diameter shall be Class 200 SDR-21.

2. Main Line Under Pressure: PVC shall conform to the requirements of ASTM Designation D 2241, Class 1120 or 1220, Schedule 40 with belled end for solvent weld connection.

3. Pipe Markings: All PVC pipe shall bear the following markings:
   - o Manufacturer's Name
   - o Nominal Pipe Size
   - o Schedule or Class
   - o Pressure Rating of PSI
   - o NSF (National Sanitation Foundation) Approval
   - o Date of Extrusion

2.04 PVC JOINTS

Joints in PVC pipe smaller than 3" shall be solvent welded in accordance with the recommendations of the pipe manufacturer; the solvent cleaner and welding compound furnished with the pipe.

2.05 THREADED CONNECTIONS

A. Threaded PVC connections shall be made up using Teflon tape only.

B. Connection between mainline pipe fittings and automatic or manual control valves shall be made using Schedule 80 threaded fittings and nipples.

2.06 SOLVENT CEMENT

A. General: Provide solvent cement and primer for PVC solvent weld pipe and fittings recommended by the manufacturer. Pipe joints for solvent weld pipe to be belled end. Pipe joints for gasketted pipe to be intrical ring type. Insert gaskets will not be accepted.

B. Thrust Blocks: Main line piping 3" or greater in diameter shall have thrust blocks sized and placed in accordance with the pipe manufacturer's recommendations or, in the absence of specified recommendations by the pipe manufacturer. 3000 PSI concrete thrusts shall be properly installed at tees, elbows, 45's, crosses, reducers, plugs, caps and valves.

2.07 PIPE AND WIRE SLEEVES

A. Sleeves to be installed:

1. The Contractor shall install irrigation system pipe and wire sleeves conforming to the following:

   a. All pipe sleeves shall extend a minimum of 36" beyond the edges of pavement.

   b. All pipe sleeves to be installed beneath future/existing road surfaces shall be PVC pipe Schedule 40 or jack and bore steel pipe as per FDOT specifications, and as shown on plans.

   c. All irrigation system wires shall be sleeved seperately from main or lateral lines.

   d. All pipe sleeves shall be installed at the minimum depth specified for main lines, lateral lines, and electric wire.

   e. Contractor shall coordinate all pipe sleeve locations and depths prior to initiating installation of the irrigation system.

2.08 SPRINKLER HEADS

A. Spray Sprinklers: The sprinkler shall be a fixed spray type designed for in-ground installation. The nozzle shall elevate 6" (or as designated on plan) when in operation. The body of the sprinkler shall be constructed of non-corrosive heavy duty Cycolac. A filter screen shall be in the nozzle piston. All sprinkler parts shall be removable through the tip of the unit by removal of a threaded cap.

Riser mounted spray shall be as indicated on the plans. The sprinkler shall consist of a nozzle and body. The body of the riser-mount sprinkler shall be constructed of non-corrosive materials. A cone strainer shall be a separate part with the nozzle assembly to allow for easy flushing of the sprinkler. Maximum working pressure at the base of the sprinkler shall be 40 PSI.

No.	REVISIONS	DATE	BY

Kimley»Horn
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REGISTERED LANDSCAPE ARCHITECT No LA6667406 11/17/2021 STATE OF FLORIDA

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MW
DRAWN BY	CF
CHECKED BY	MW

IRRIGATION SPECIFICATIONS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-350

2.09 AUTOMATIC CONTROL VALVE

The automatic remote control valves shall be as specified on the plans, or approved equal.

2.10 GATE VALVES

A. Gate valves for 3/4" through 2-1/2" shall be of brass or bronze construction, solid wedge, IPS threads, non-rising stem with wheel operating handle, for a continuous working pressure of 150 PSI.

B. Gate valves for 3" and larger: Iron body, brass or bronze mounted AWWA gate valves, with a clear waterway equal to the full nominal diameter of the valve, rubber gasket for a continuous working pressure of 150p PSI. Valve shall be equipped with a square operating nut.

2.11 VALVE BOXES

A. For gate valves, use AMETEK #10-181-014 box with #10-181-015 locking lid, or as per the drawings.

B. For control valves 3/4" through 2", the drip valve assemblies, use AMETEK #10-181-014 box with #10-181-015 locking lid, or sized as necessary to effectively house the equipment

C. For control wiring splices, use AMETEK #10-181-014 box with #10-181-015 locking lid, or as per the drawings.

2.12 IRRIGATION WIRING

A. Wiring used for connecting the electric control valves to the controllers shall be Type UF, 600 volt, single strand, solid copper with PVC insulation 4/64" thick. Size shall be 14 gauge, red for "hot" or lead wires, and common wire to be 14 gauge, white in color.

B. Contractor shall perform an ohm test on ground to assure adequate protection against surges and indirect lightning strikes.

2.13 MISCELLANEOUS MATERIALS

A. Drainage Backfill: Cleaned gravel or crushed stone, graded from 1" maximum to 3/4" minimum.

B. Metalized Underground Tape: The detectable, underground utility marking tape shall consist of a minimum: 5 mil (0.005") overall thickness; five-ply composition; ultra-high molecular weight, 100% virgin polyethylene; acid, alkaline and corrosion resistant; with no less than 150 pounds of tensile break strength per 6" width; color-code impregnated with color stable, lead-free, organic pigments suitable for direct burial. Tapes utilizing reprocessed plastics or resins shall not be acceptable. The detectable, underground utility marking tape shall have a 35 gauge (0.0035") solid aluminum foil, core encapsulated within a 2.55 mil (0.00255") polyethylene backing and a 0.6 mil (0.006") PET cover coating. The laminate on each side shall consist of a 0.75 mil (0.00075") layer of hot LPDE, poly-fusing the "sandwich" without use of adhesives.

2.14 AUTOMATIC CONTROL SYSTEM

An Independent Station Controller: Furnish a solid state controller, as specified on the plans.
Each station shall be capable of timing from zero (0) minute to 99 minutes per station in one (1) minute increments.

Each station shall be capable of operating two (2) 7VA electric valve-in-head solenoids.

The stand-alone controller shall have two (2) possible programs.

The stand-alone controller shall provide global percentage increase/decrease (water budget) for all stations simultaneously, from ten (10) to two hundred (200) percent, in ten (10) percent increments.

All stations shall be able to be turned on/off manually buy operating timing mechanism or by manual switch at station output.

The stand-alone controller shall incorporate an integral MOV surge protection into the terminal block for each of its 24 VAC field wire outputs. Controller power input wires will also incorporate surge protection.

The control panel shall provide continuous display time. It shall have alphanumeric displays of descriptive English menus and legend identifiers with cursor selection of function and precision value adjustment by rotary dial input.

The stand-alone controller shall be UL listed and FCC approved.

The stand-alone controller shall have 117 VAC, 60 Hz input, 26.5 VAC, 60 Hz output for operating 24 VAC solenoids.

The stand-alone controller cabinet shall be a lockable and weather-resistant outdoor cabinet. Mount as noted on plans.

The controller shall be equipped with lightening protection, by the Contractor, on both the primary (120v) and each secondary (24v) circuit. The controller circuits shall be grounded to a copper clad grounding rod located at each controller.

The controller shall be equipped for a water conservation device. as specified.

PART III: EXECUTION

3.01 INSPECTION

The Contractor shall examine the areas and conditions under which landscape irrigation system is to be installed and notify the Landscape Architect in writing of conditions detrimental to the proper and timely completion of the work. The Contractor shall proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Landscape Architect.

3.02 PREPARATION

The Contractor shall provide sleeves to accommodate piping under walks or paving. The Contractor shall coordinate with other trades and install to accurate levels prior to paving work. Cutting and patching of paving and concrete will not be permitted. The Contractor shall maintain all warning signs, shoring, barricades, flares and red lanterns, as required by any local codes, ordinances or permits.

3.03 TRENCHING AND BACKFILLING

A. Excavation: The Contractor shall stake out the location of each run of pipe, sprinkler heads, sprinkler valves and isolation valves prior to trenching. Excavation shall be open vertical construction sufficiently wide to provide free working space around the work installed and to provide ample space or backfilling and tamping. Trenches for pipe shall be cut to required grade lines, and compacted to provide accurate grade and uniform bearing for the full length of the line. The bottom of the trenches shall be free of rock or other sharp edged objects. Minimum cover shall be as follows:

Pipe and Wire Depth

Pressure Mainline	18" at top of pipe from Finish Grade
Lateral Piping (rotor)	12" at top of pipe from Finish Grade
Lateral Piping (pop-up)	12" at top of pipe from Finish Grade
Control Wiring	Side of main Line

B. Minimum Clearances: All pipelines shall have a minimum clearance of six inches from each other and from lines of other crafts. Parallel lines shall not be installed directly over one another. No lateral line shall be installed in the main-line trench.

3.04 INSTALLATION OF PIPING

A. PVC Pipe and Joints: The Contractor shall not install solvent wild pipe when air temperature is below 40ø F. Installation shall be in accordance with the manufacturer's instructions.

1. Only the solvent recommended by the pipe manufacturer shall be used. All PVC pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer, and it shall be the Contractor's full responsibility to make arrangements with the pipe manufacturer for any field assistance that may be necessary. The Contractor shall assume full responsibility for the correct installation.

3.05 BACKFILLING PROCEDURES

Initial backfill on PVC lines shall be pulverized native soil, free of foreign matter. Within radius of 4" of the pipe shall be clean soil or sand. Plant locations shall take precedence over sprinkler and pipe locations. The Contractor shall coordinate the location of trees and shrubs with the routing of lines and final head locations.

A. Backfill and Compaction: The Contractor shall leave trenches slightly mounded to allow for settlement after the backfilling is completed. The Contractor shall clean the site of the work continuously of excess waste materials as the backfilling progresses, and leave in a neat condition. No trenches shall be left open for a period of more than 48 hours. Protect open trenches as required.

The Contractor shall carefully backfill excavated materials approved for backfilling, consisting of earth, loam, sand, and other approved materials, free of rock and debris over 1" in size. Backfill shall be compacted to original density of surrounding soil without dips, sunken areas, or irregularities.

The Contractor shall conform to DOT requirements for methods and required compaction percentages, for roads and paving.

The Contractor shall hand place the first 6" of backfill (or to top of pipe) and have it walked on so as to secure the position of the pipe and wire.

No wheel rolling will be allowed. The Contractor shall remove rock or debris extracted from backfill materials and dispose of offsite. The Contractor shall fill any voids left in backfill with approved backfill materials.

B. Existing Lawns: Where trenching is required across existing lawns, uniformly cut strips of sod 6" wider than trench. The Contractor shall remove sod in rolls of suitable size for handling and keep moistened until replanted. The Contractor shall replant sod within 48 hours after removal, roll and water generously. The Contractor shall resod any areas not in healthy condition equal to adjoining lawns 10 days after replanting.

C. Seeded Area: Trenching will be required across existing seeded areas, primarily roadway edging. The Contractor shall conform to the requirements of seeding, Section 02930 for the reseeding of the disturbed trench area.

D. Pavements: Jack and bore or directional bore piping under paving materials as per local regulatory codes. No cutting and patching of pavement will be permitted.

3.06 VALVES

A. Isolation Valves: Shall be sized corresponding to adjacent pipe size. Specified valve boxes shall be installed flush with finish grade in such a manner that surface forces applied to their exposed area will not be transmitted to the piping in which the valve is installed nor any other piping, wiring or other lines in the vicinity of said valves.

B. Gate Valves: Install where shown, in valve boxes.

C. Electric Control Valves: Shall be installed in specified valve boxes. The valve shall have 6" of 3/4" pea gravel installed below the bottom of the valve. If the valve box does not extend to the base of the valve, a valve box extension shall be installed. Electric control valves shall be installed where shown and grouped together where practical. The Contractor shall place no closer than 24" to walk edges, bikeway edges, buildings and walls. The Contractor shall adjust the valve to provide flow rate or rated operating pressure required for each sprinkler circuit.

3.07 CONDUIT AND SLEEVES

A. Conduit and Sleeves for Control Wiring and Main/Lateral Pipe: The Contractor shall provide and install where necessary. Contractor shall coordinate locations of previously installed sleeving with the General Site Contractor.

The Contractor shall coordinate installation of sleeves with work of other disciplines.

3.08 CONTROLS

A. The Contractor shall connect electric control valves to controllers in a clockwise sequence to correspond with station settings beginning with Stations 1, 2, 3, etc. Automatic controllers shall be provided and installed by the Contractor as noted on the drawings. All zones will be labeled on the controller.

B. Controllers shall be equipped with lightning protection and grounded to a standard 5/8" copper clad steel ground rod driven a minimum of 8' into the ground and clamped.

C. The electrical service to the controllers shall be performed by an electrical subcontractor in compliance with NEC requirements.

3.09 CONTROL WIRE

A. Control wiring between the controller and electric valves shall be buried in main line trenches or in separate trenches. Electrical connection at valve will allow for pigtail so solenoid can be removed from valve with sufficient slack to allow ends to be pulled 12" above ground for examination and cleaning.

B. An expansion loop shall be provided at every valve at 100' o.c. Expansion loop shall be formed by wrapping wire at least eight times around a 3/4" pipe and withdrawing pipe.

C. The wire shall be bundled and taped every ten feet. The wire shall be laid in the trench prior to installing the pipe being careful to install wire beneath and 6" to the side of the main pipe line.

D. Electrical connections to electric control valves shall be made with Rainbird Pen-Tite or Techdel GT-3-GEL - Tite connectors or equal.

Power Connections: Electrical connections to power and signal wires shall be made using 3M 82-A2 power cable splice kits.

3.10 SPRINKLER HEADS

A. General Provisions:

1. Sprinkler heads shall be installed as designated on the shop drawings. Heads shall be installed on flexible PVC. Top to be flush with finish grade or top of curb.

2. Spacing of heads shall not exceed the maximum indicated on the shop drawings (unless directed by the Landscape Architect). In no case shall the spacing exceed the maximum recommended by the manufacturer.

B. Head Types:

1. Pop-up- Rotary Sprinkler Heads: Shall be installed on flex joint and be set with top of head flush with finish grade. Heads installed at curb shall have 6" to 10" between perimeter of head and concrete. Heads placed at edge of pavement having no curb shall be installed 24" from edge of pavement.

2. Spray Pop-up Sprinkler Heads: Shall be installed on flexible PVC and be set with top of head flush with finished grade. Sprinkler heads placed adjacent to curbs will be installed 9" from concrete. Sprinkler heads placed adjacent to pavement having no curb shall be installed 24" from the edge of pavement.

3.11 COMPLETION

A. Flushing: Before sprinkler heads are set, the Contractor shall flush the lines thoroughly to make sure there is no foreign matter in the lines.

The Contractor shall flush the main lines from dead end fittings for a minimum of five minutes under a full head of pressure.

B. Testing: The Contractor shall notify Landscape Architect and Owner forty-eight (48) hours in advance of testing.

Prior to backfilling of main line fittings, Contractor shall fill the main line piping with water, in the presence of the Owner/Landscape Architect, taking care to purge the air from it by operating all the sprinkler control valves one or more times and/or such other means as may be necessary. A small, high pressure pump or other means of maintaining a continuous water supply shall be connected to the main line and set so as to maintain 100 PSI in the main line system for two (2) hours without interruption. When this has been accomplished and while the pressure in the system is still 100 PSI, leakage testing shall be performed in accordance with AWWA Standard C-600. Pressure readings shall be noted and make up water usage shall be recorded. Should the rate of make up water usage indicate significant leakage, the source of such leakage shall be found and corrected and the system then retested until the Owner/Landscape Architect is satisfied that the system is reasonably sound. Lateral line testing shall be conducted during the operating testing of the system by checking visually the ground surface until no leaks in this portion of the system are evident. Leaks shall be repaired or paid for by the Contractor at any time they appear during the warranty period.

C. Adjustment and Coverage of System: Coordinate pressure testing with adjustments and coverage test of system so both may occur at the same time. The Contractor shall balance and adjust the various components of the system so that the overall operation of the system is most efficient. This includes a synchronization of the controllers, adjustments to pressure regulators, pressure relief valves, part circle sprinkler heads, and individual station adjustments on the controllers.

3.12 WARRANTY

A. The Contractor shall fully warrant the landscape irrigation system for a period of one (1) year after the written final acceptance and will receive a written confirmation from the Landscape Architect that the warranty period is in effect.

B. During the warranty period, the Contractor will enforce all manufacturer's and supplier's warranties as if made by the Contractor himself. Any malfunctions, deficiencies, breaks, damages, disrepair, or other disorder due to materials, workmanship, or installation by the Contractor and his suppliers shall be immediately and properly corrected to the proper order as directed by the Owner and/or Landscape Architect.

C. Any damages caused by system malfunction shall be the responsibility of the Contractor who shall make full and immediate restoration for said damages.

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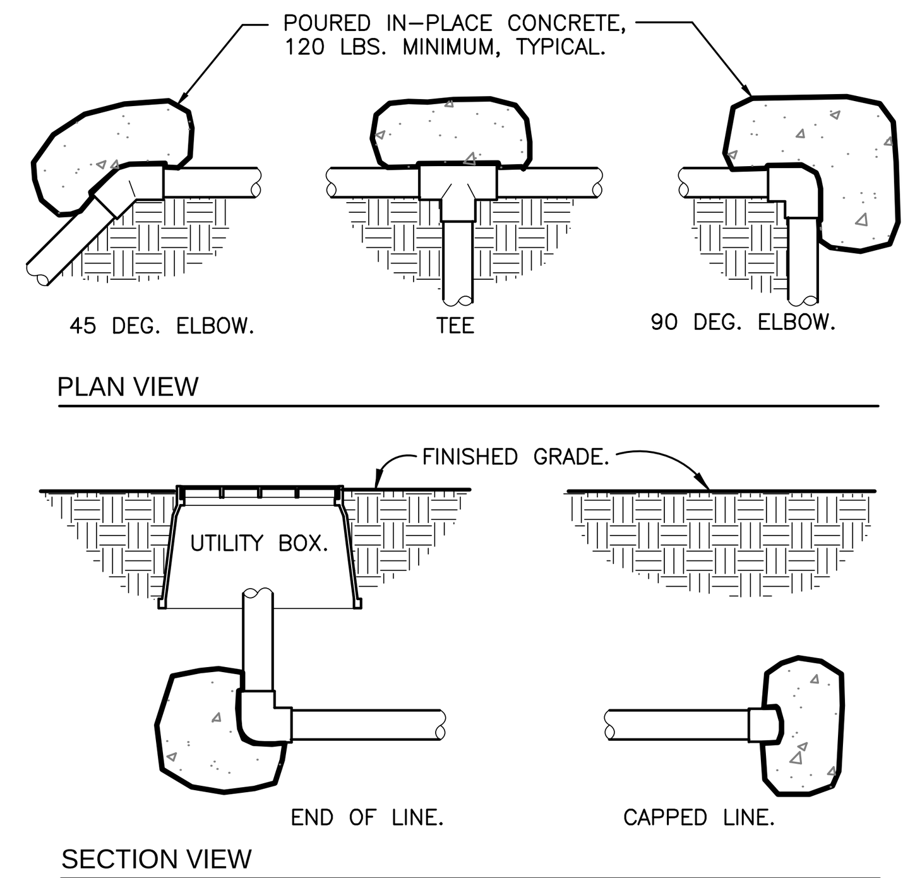
REGISTERED LANDSCAPE ARCHITECT MATTHEW WINCHENSK No LA6667406 STATE OF FLORIDA
11/17/2021

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MW
DRAWN BY CF
CHECKED BY MW

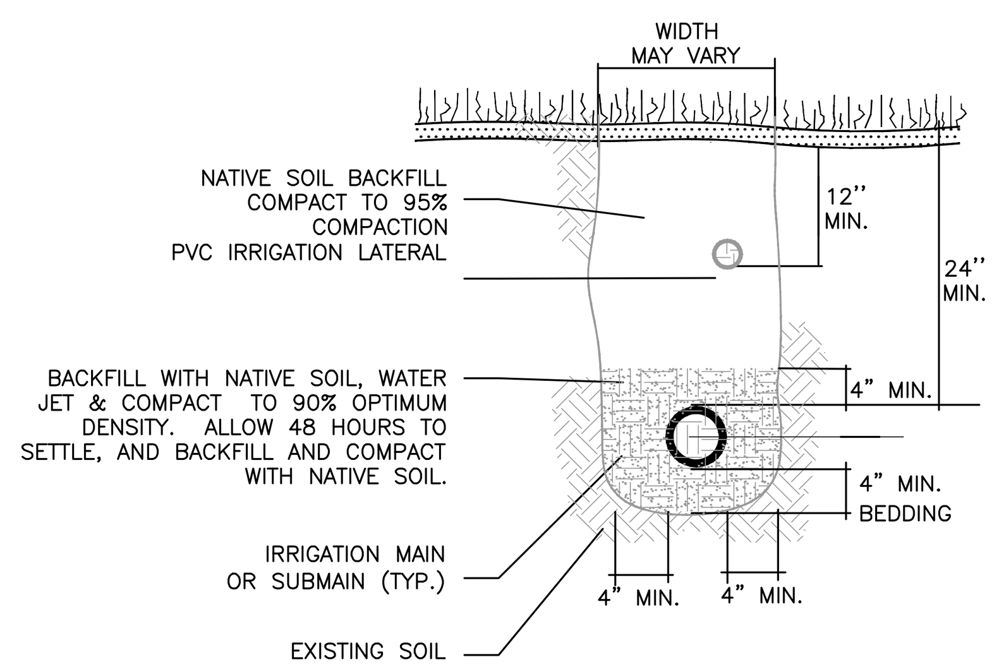
IRRIGATION SPECIFICATIONS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

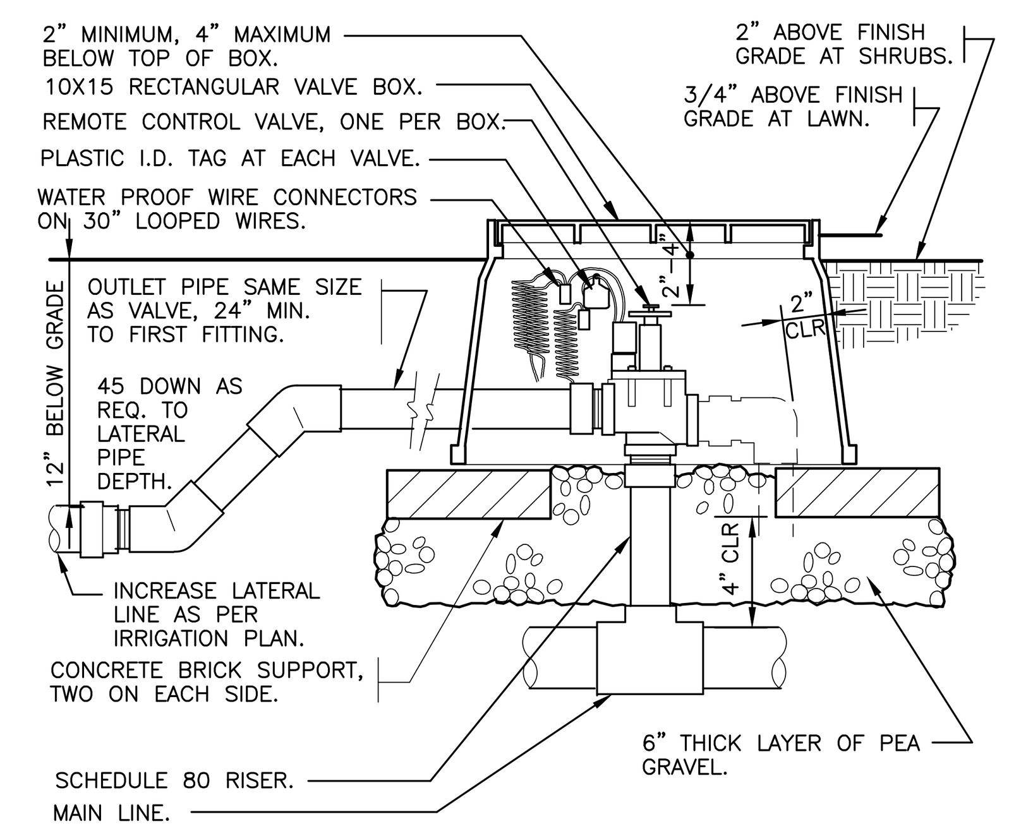
SHEET NUMBER
L-351



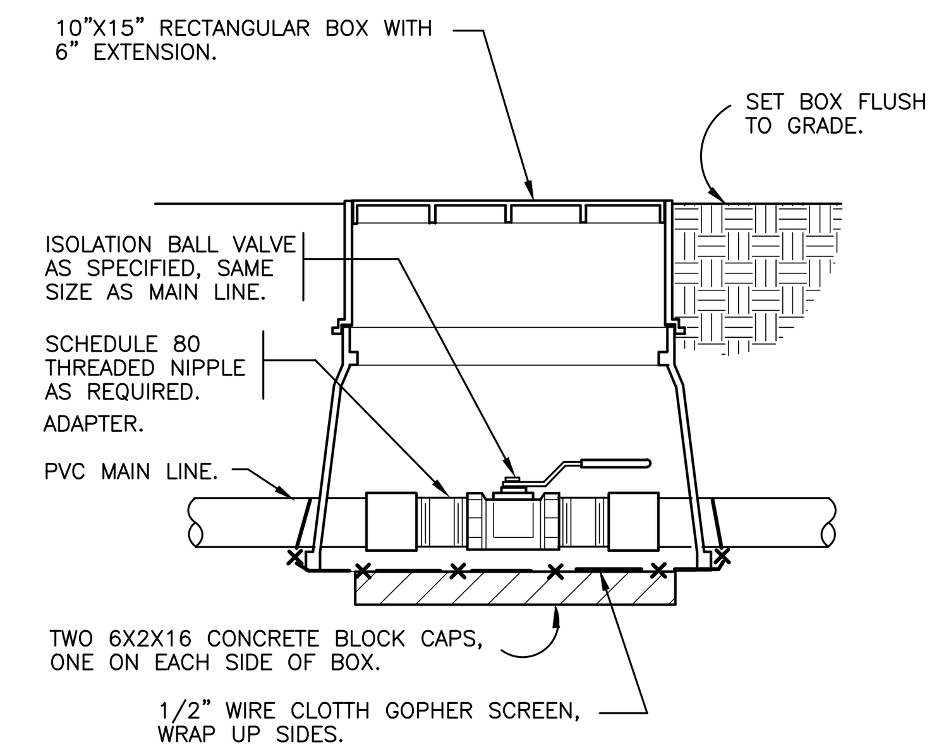
1 THRUST BLOCKING
3/4" = 1'-0"



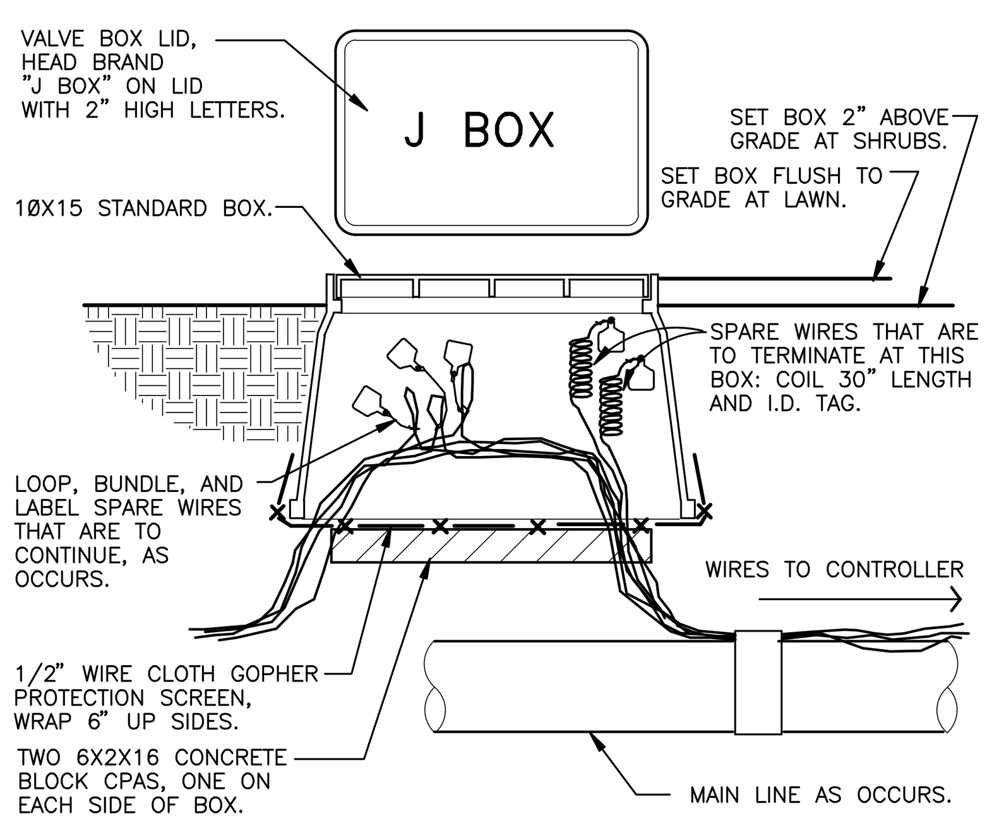
2 TRENCHING DETAIL
NOT TO SCALE



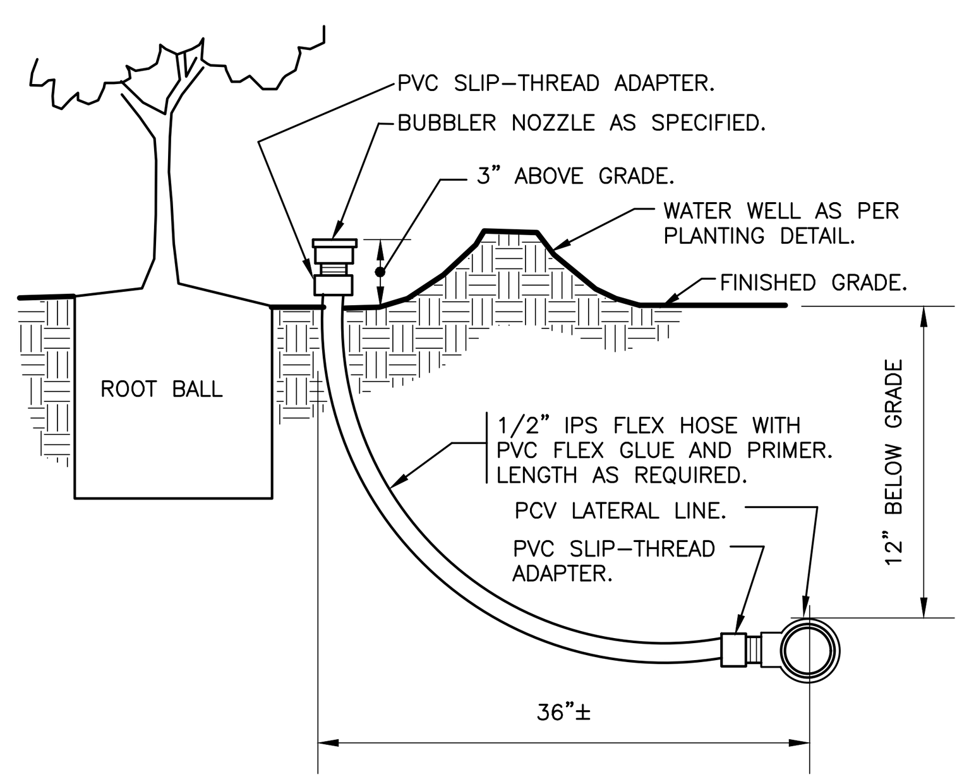
3 ELECTRIC REMOTE CONTROL VALVE
1 1/2" = 1'-0"



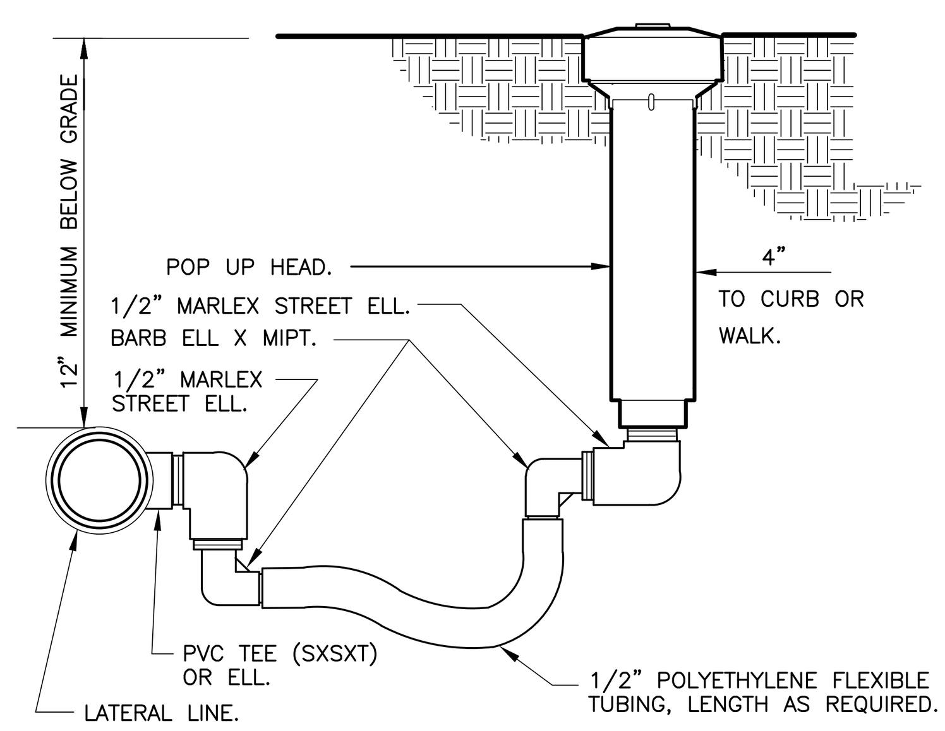
4 BRASS BALL ISOLATION VALVE
1 1/2" = 1'-0"



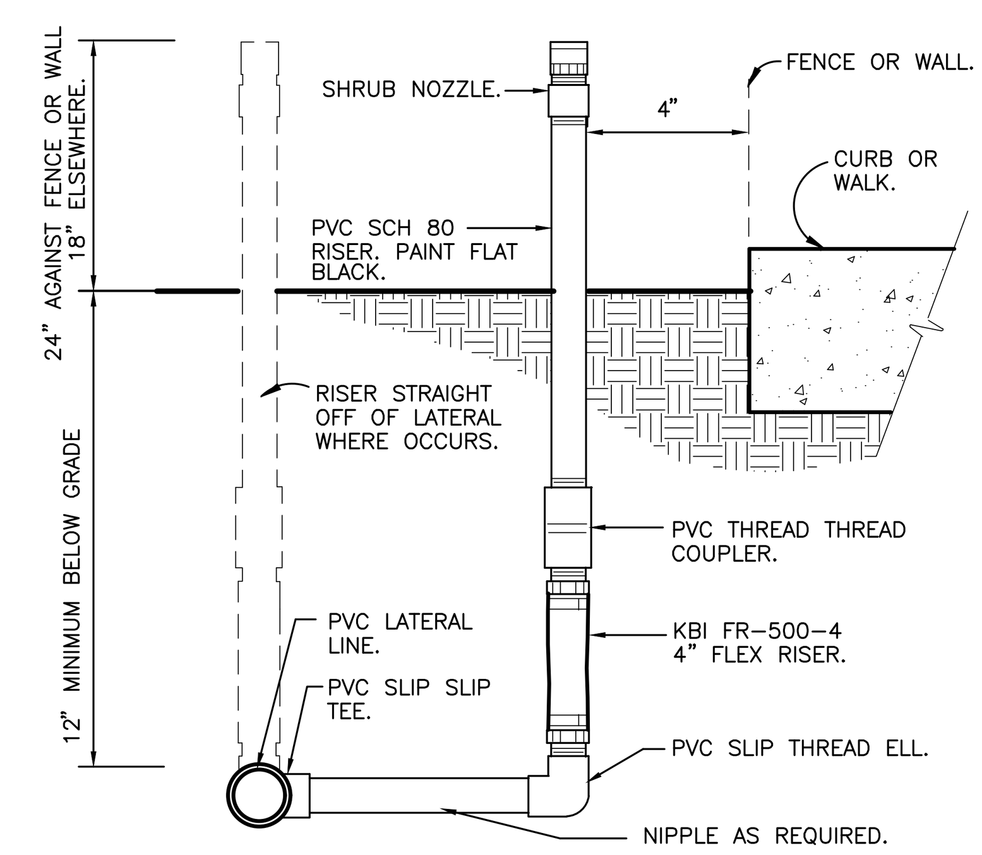
5 WIRE BUNDLE JUNCTION BOX
1 1/2" = 1'-0"



6 BUBBLER ON FLEX HOSE RISER
3" = 1'-0"

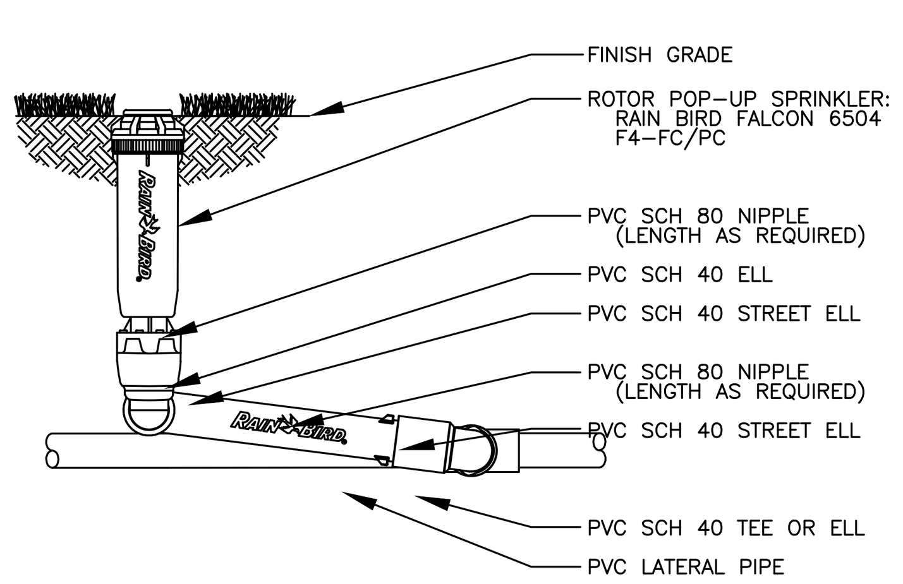


7 POP-UP SPRAY FLEX ASSEMBLY
3" = 1'-0"

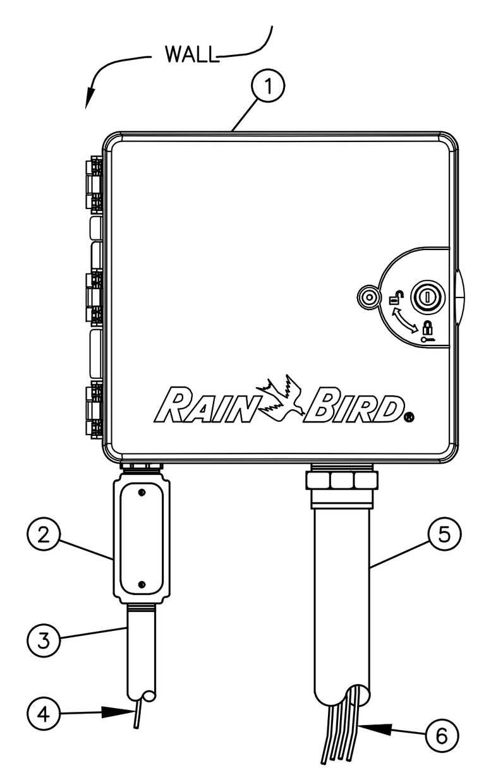


8 SHRUB SPRAY FIXED RISER
3" = 1'-0"

32 8403.23-01



9 ROTOR POP UP SPRINKLER
NOT TO SCALE

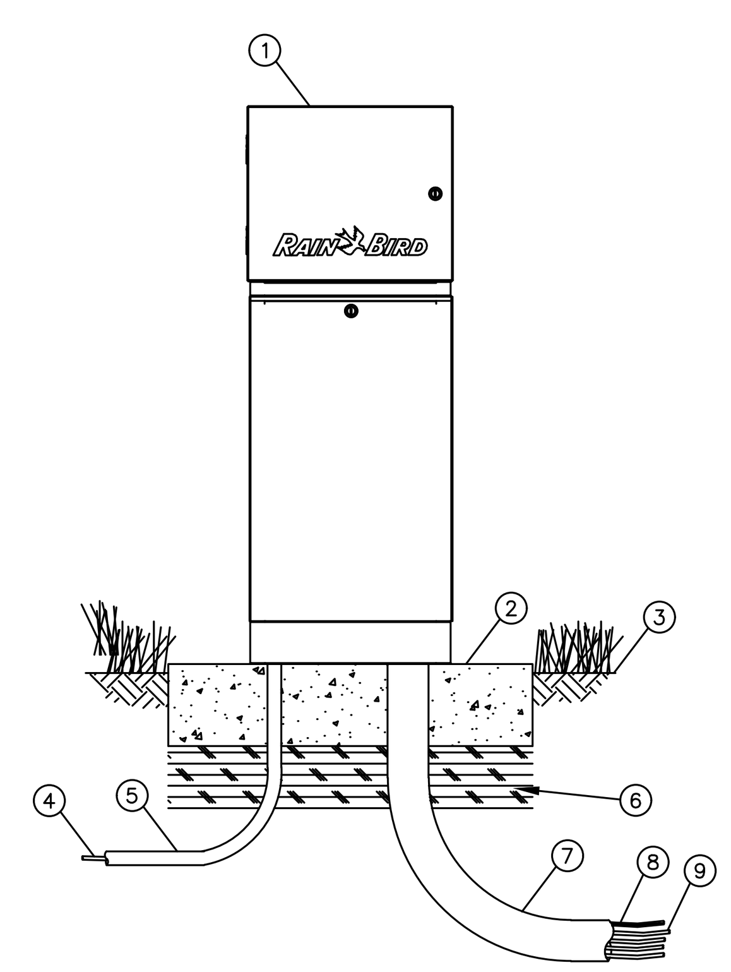


1. IRRIGATION CONTROLLER: RAIN BIRD ESP-LXME CONTROLLER IN PLASTIC CABINET WITH WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2.
3. JUNCTION BOX
4. 1-INCH CONDUIT AND FITTINGS TO POWER SUPPLY
5. POWER SUPPLY WIRE
6. 2-INCH CONDUIT AND FITTINGS FOR STATION WIRES

WIRES TO REMOTE CONTROL VALVES

NOTES:
1. ESP-LXMEF CONTROLLER IS AVAILABLE IN 8- OR 12-STATION BASE MODELS. ADDITIONAL MODULES IN 4-, 8- AND 12-STATION VERSIONS MAY BE ADDED TO BRING THE CONTROLLER UP TO 48 STATIONS MAXIMUM.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

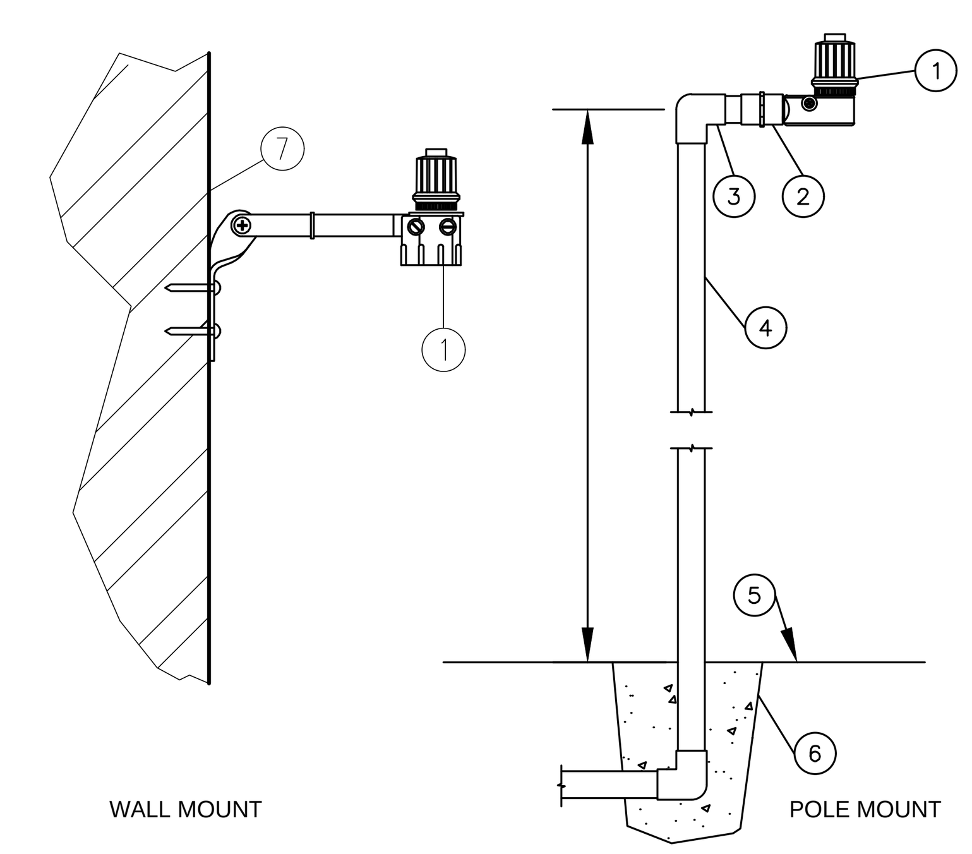
10 ESP-LXMEF CONTROLLER IN PLASTIC CABINET
NOT TO SCALE



1. IRRIGATION CONTROLLER: RAIN BIRD ESP-LXMEF CONTROLLER WITH FLOW SMART MODULE IN LXMM METAL CABINET AND LXMMPED METAL PEDESTAL. INSTALL CONTROLLER, CABINET AND PEDESTAL PER MANUFACTURER'S RECOMMENDATIONS.
2. CONCRETE PAD: 6-INCH MINIMUM THICKNESS
3. FINISH GRADE
4. POWER SUPPLY WIRE
5. 1-INCH SCH 40 PVC CONDUIT, FITTINGS AND SWEEP ELL FOR POWER SUPPLY
6. COMPACTED SUBGRADE
7. 3-INCH SCH 40 PVC CONDUIT, FITTINGS AND SWEEP ELL FOR STATION WIRES
8. FLOW SENSOR WIRE (PE 39, 89 OR 54) TO FLOW SENSOR
9. MASTER VALVE AND REMOTE CONTROL VALVE WIRES

NOTES:
1. ESP-LXMEF CONTROLLER IS AVAILABLE IN 8- OR 12-STATION BASE MODELS. ADDITIONAL MODULES IN 4-, 8- AND 12-STATION VERSIONS MAY BE ADDED TO BRING THE CONTROLLER UP TO 48 STATIONS MAXIMUM.
2. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

11 ESP-LXMEF CONTROLLER IN STAINLESS STEEL PEDESTAL - LXMMS SPED
NOT TO SCALE



1. RAIN SENSOR: RAIN BIRD WR2 WIRELESS
2. FEMALE ADAPTER (SLIP X FIPT)
3. GALVANIZED 90° EL (1 OF 2)
4. 3/4-INCH GALVAVIZED PIPE
5. FINISHED GRADE
6. CONCRETE BASE
7. EXTERIOR WALL (SEE NOTES BELOW)

NOTES:

MOUNT SENSOR ON SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY. COORDINATE MOUNTING WITH OWNER AND ARCHITECT.

PAINT PIPE SEMI GLOSS BLACK AND SISTER THE PIPE TO A LIFT STATION FENCE POST WITH SS PIPE CLAMPS

12 RAIN SENSOR
NOT TO SCALE

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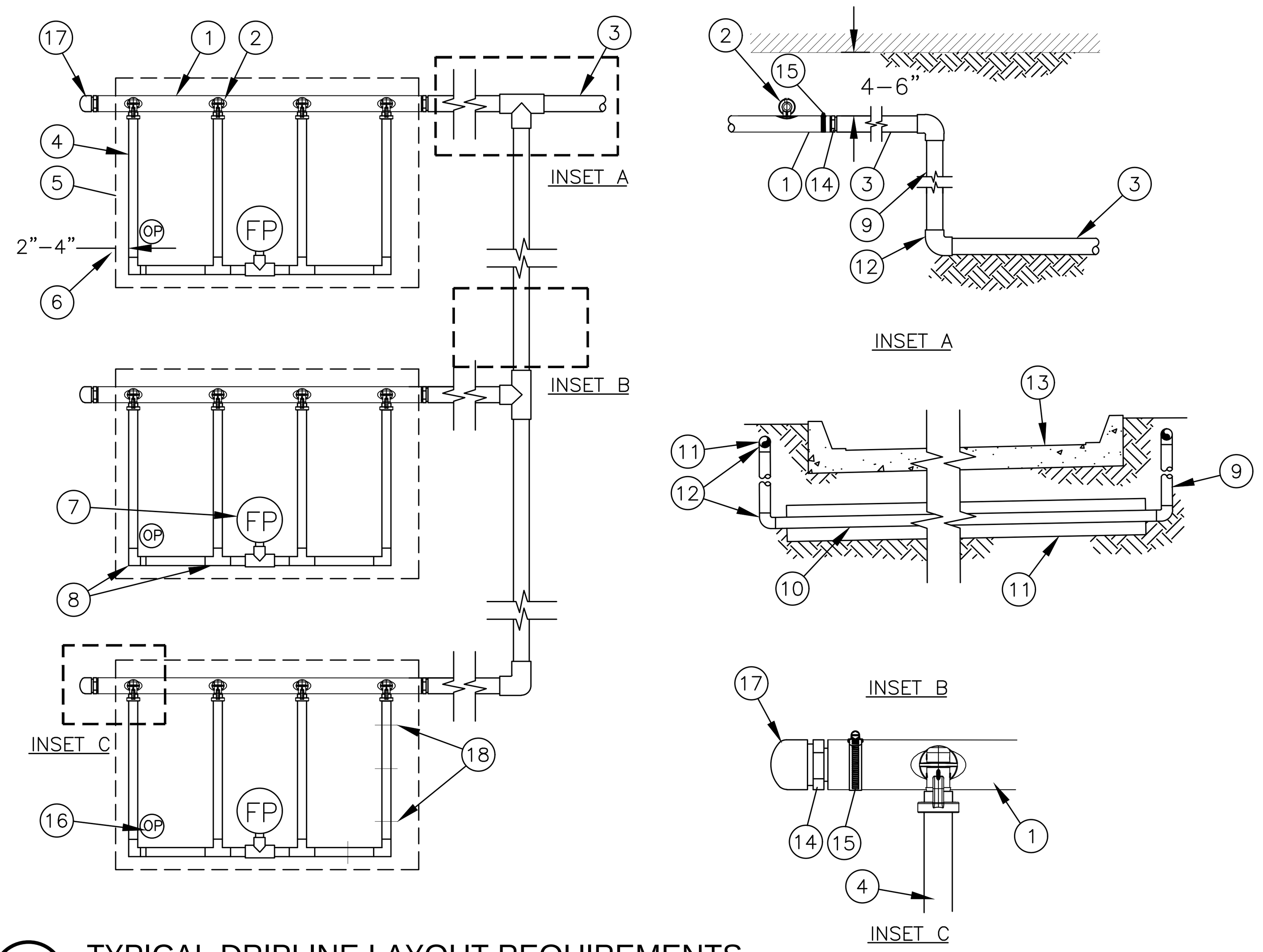
REGISTERED LANDSCAPE ARCHITECT
MATTHEW VINCENT WISNIEWSKI
No LA6667406
11/17/2021
STATE OF FLORIDA

KHA PROJECT 143228000
DATE JULY 2021
SCALE AS SHOWN
DESIGNED BY MW
DRAWN BY CF
CHECKED BY MW

IRRIGATION DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-352



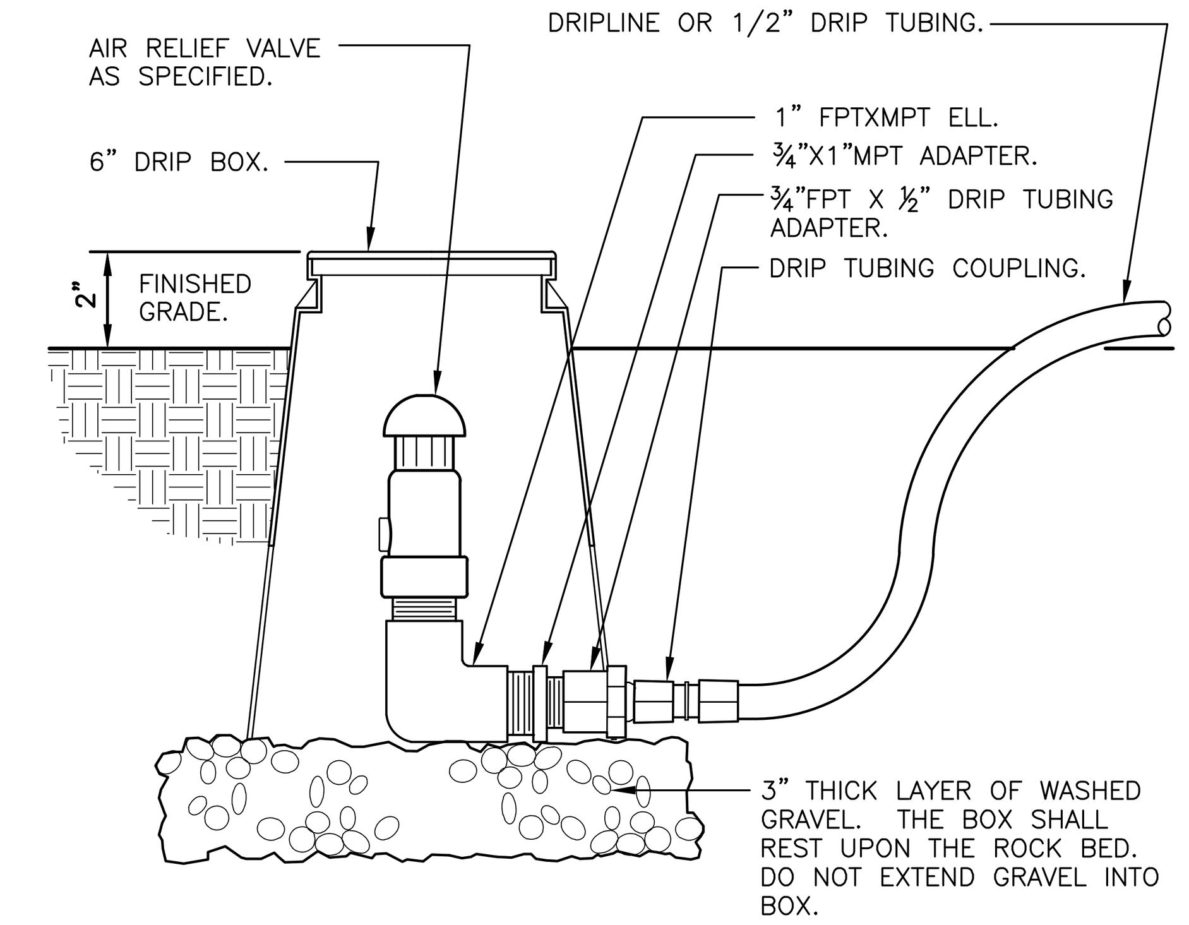
1. QF–SUPPLY HEADER
2. PRE–INSTALLED BARB FITTING
3. PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
4. RAIN BIRD XFS SERIES DRIPLINE (TYPICAL)
5. PERIMETER OF AREA
6. PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"–4" FROM PERIMETER OF AREA
7. FLUSH POINT (TYPICAL) – SEE RAIN BIRD XFD DETAILS FOR FLUSH POINT INSTALLATION
8. BARB X BARB INSERT TEE OR ELL: RAIN BIRD XFF–TEE OR RAIN BIRD XFF–ELBOW (TYPICAL)
9. PVC RISER PIPE
10. PVC SUPPLY MANIFOLD
11. PVC SCH 40 SLEEVE PIPE SIZED TWICE THE SIZE OF MANIFOLD PIPE SIZE
12. PVC SCH 40 TEE OR ELL (TYPICAL)
13. PAVEMENT AND CURB
14. MALE ADAPTER INSERT
15. STAINLESS STEEL, OETIKER OR MURRAY CLAMP
16. OPERATION INDICATOR RAIN BIRD MODEL: OPERIND
17. PVC SCH 40 CAP
18. XF SERIES TIE–DOWN STAKES (TDS–050) REFER TO RAIN BIRD DRIPLINE DESIGN GUIDE FOR PROPER SPACING

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
3. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
4. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE–DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

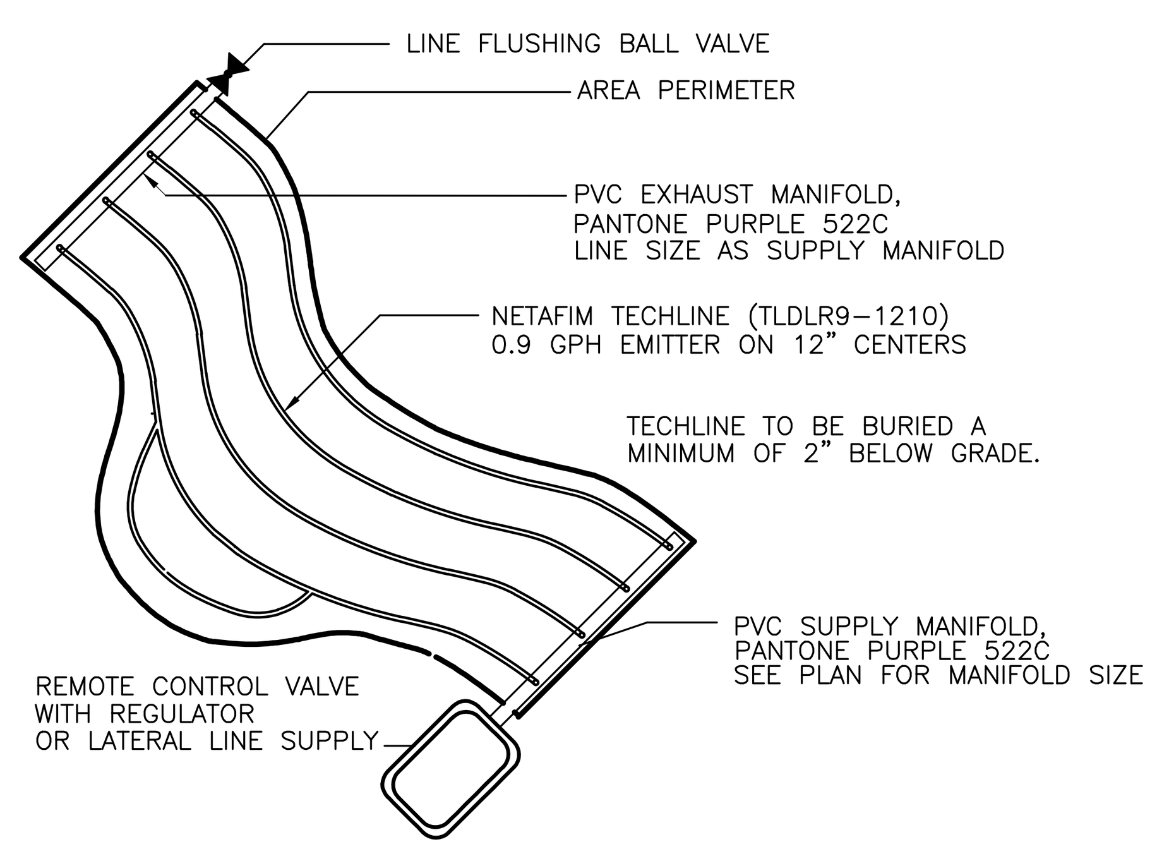
XFS Dripline Maximum Lateral Lengths (Feet)

	12" Spacing		18" Spacing		24" Spacing	
Inlet Pressure psi	Nominal Flow (gph)		Nominal Flow (gph)		Nominal Flow (gph)	
	0.6	0.9	0.6	0.9	0.6	0.9
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474
50	417	285	528	420	720	488
60	460	290	596	455	780	514

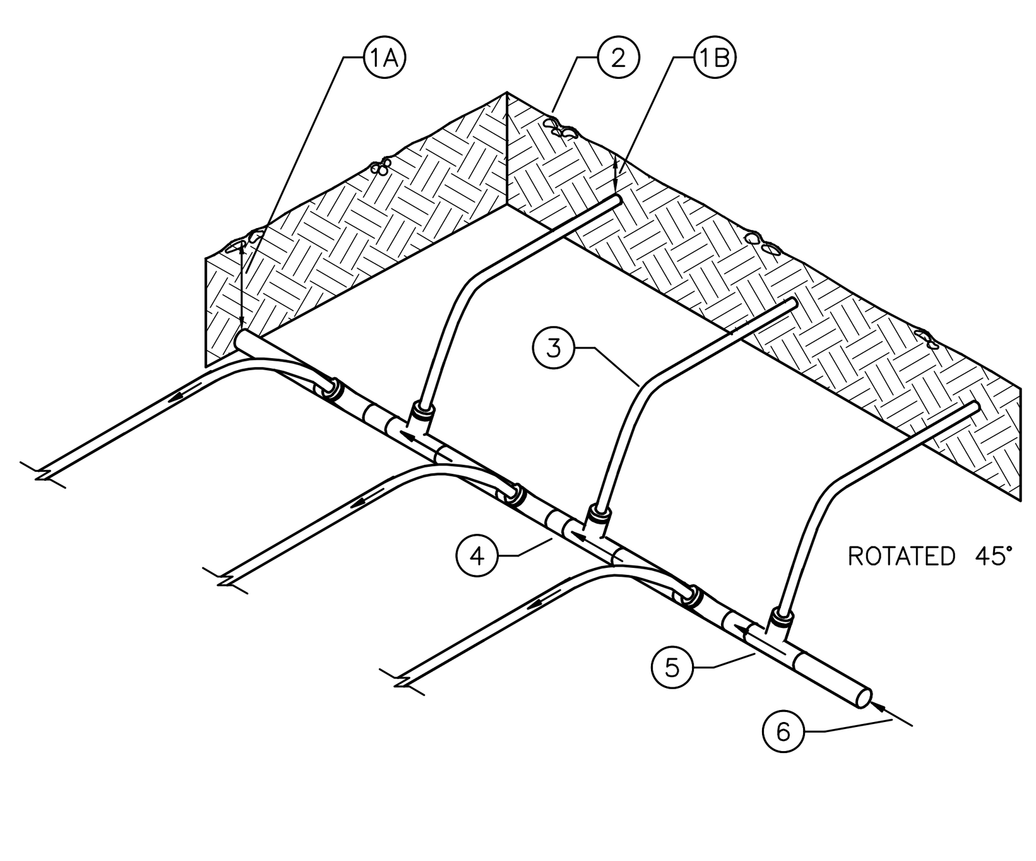
1 TYPICAL DRIPLINE LAYOUT REQUIREMENTS
NOT TO SCALE
DETAIL–FILE



2 DRIP AIR RELIEF VALVE IN BOX
3" = 1'–0"
32 8413.53–03

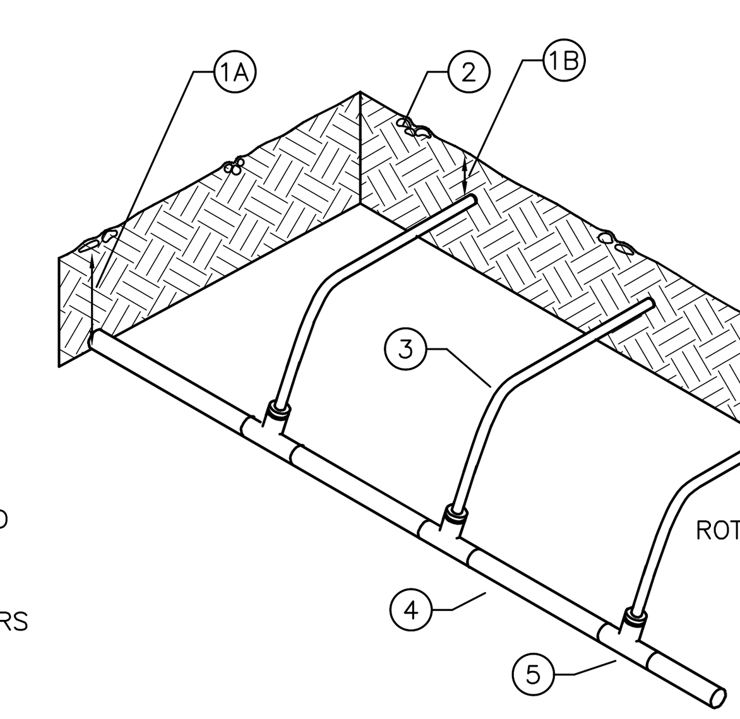


3 IRREGULAR AREAS
NOT TO SCALE



1A 12"
1B 3"
2 FINISHED GRADE
3 NETAFIM TECHLINE (TYP.)
4 PVC SUPPLY MANIFOLD
5 PVC TEE TO TECHLINE COMPRESSION ADAPTERS
6 FLOW FROM VALVE

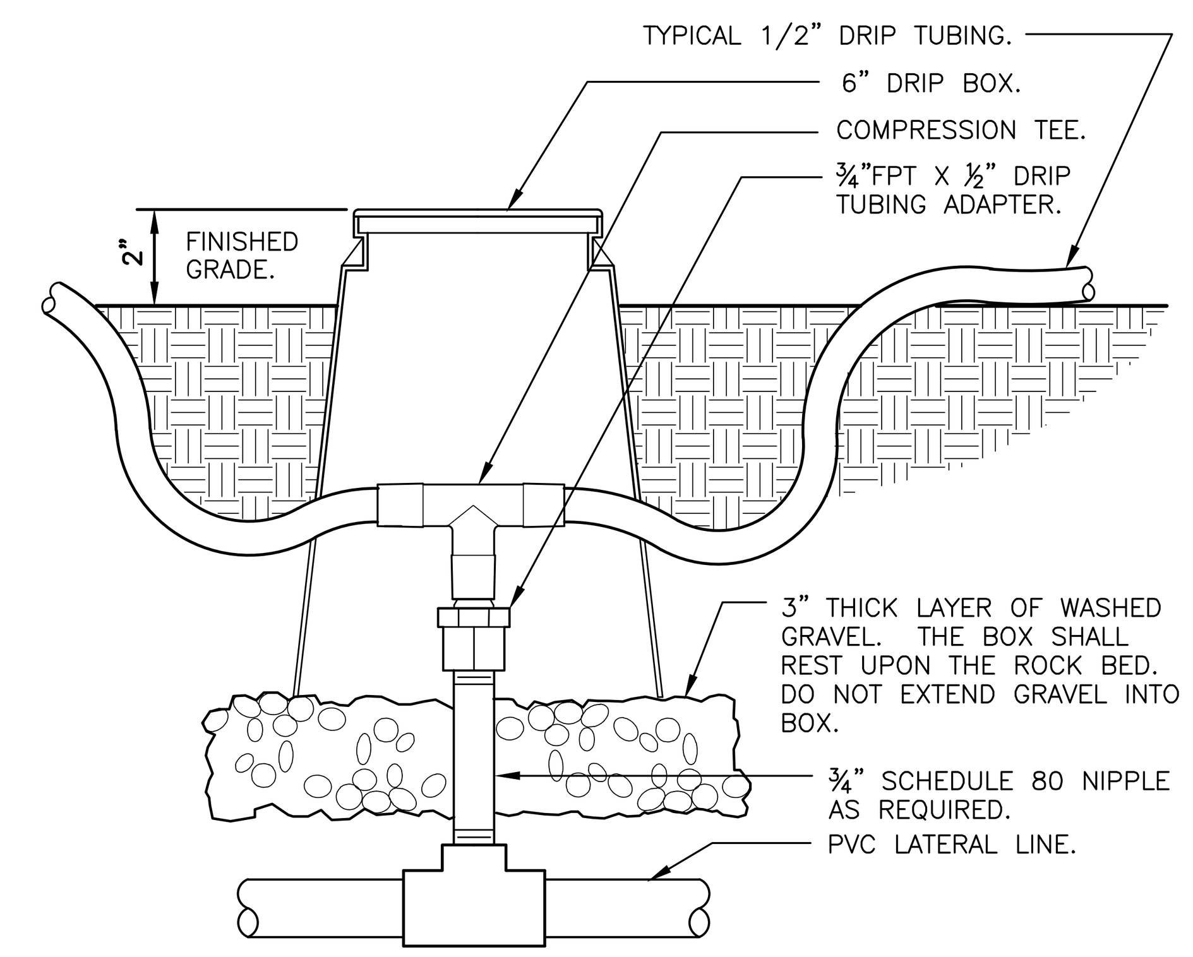
CENTER FEED SUPPLY MANIFOLD



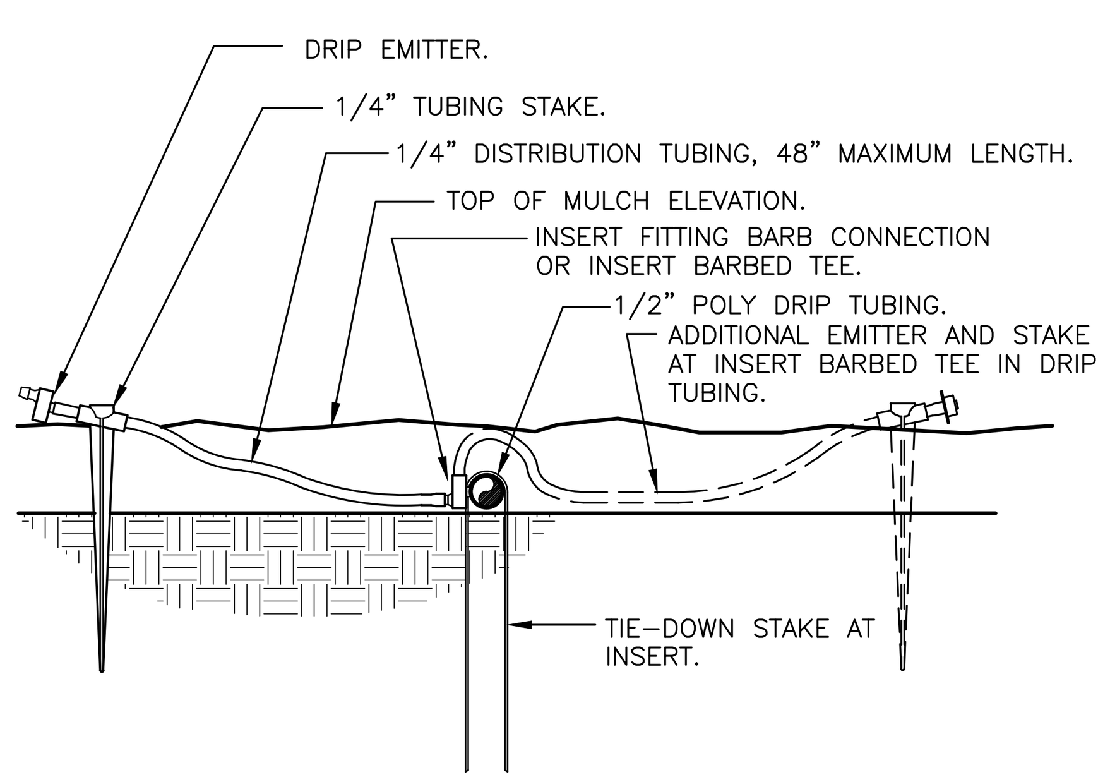
1A 12"
1B 3"
2 FINISHED GRADE
3 NETAFIM TECHLINE (TYP.)
4 PVC SUPPLY/EXHAUST MANIFOLD
5 PVC TEE TO TECHLINE COMPRESSION ADAPTERS

SUPPLY/EXHAUST MANIFOLD

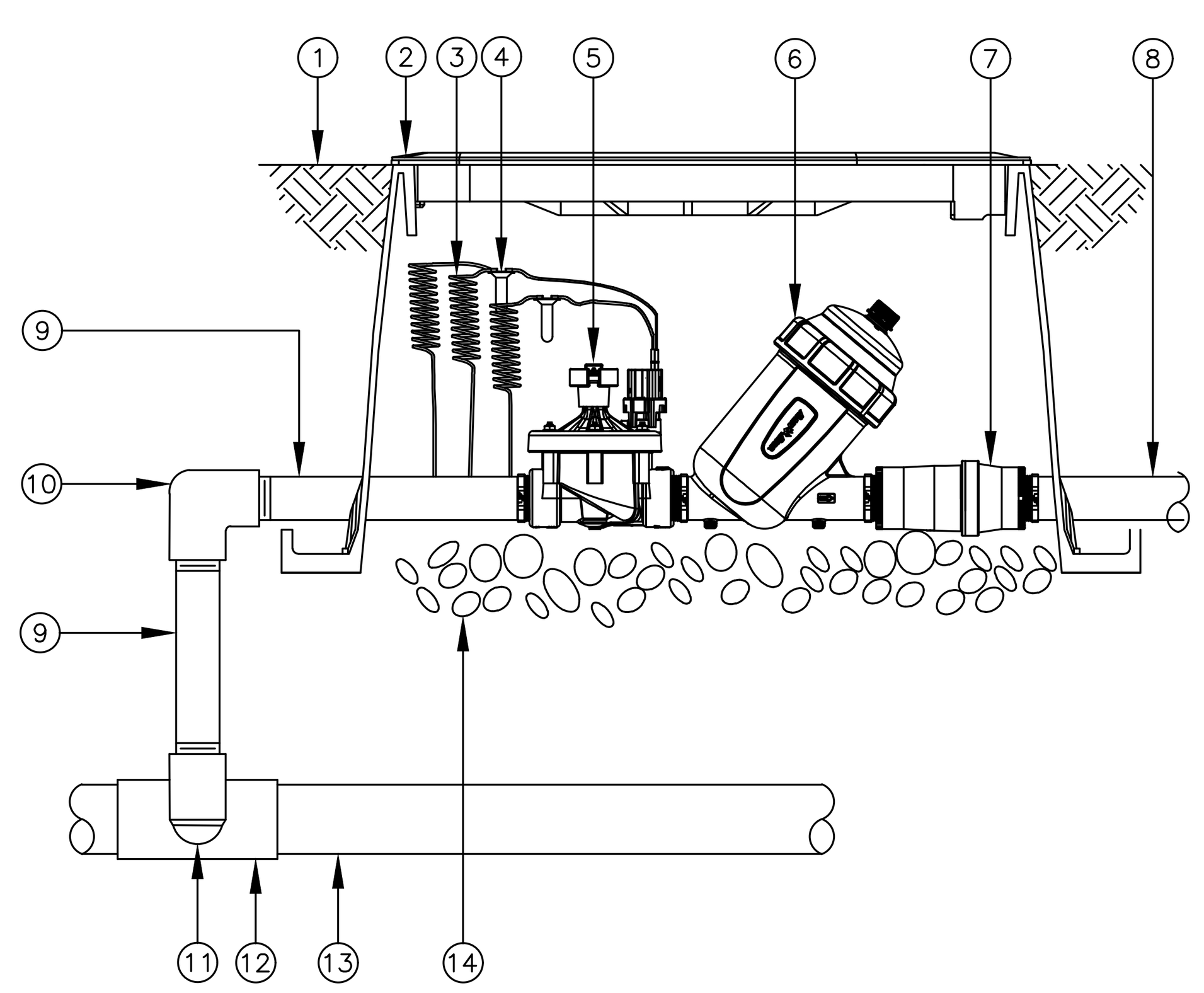
4 LATERAL TO DRIP FEED DETAILS
NOT TO SCALE



5 ZONE CONTROL
3" = 1'–0"
32 8413.46–03

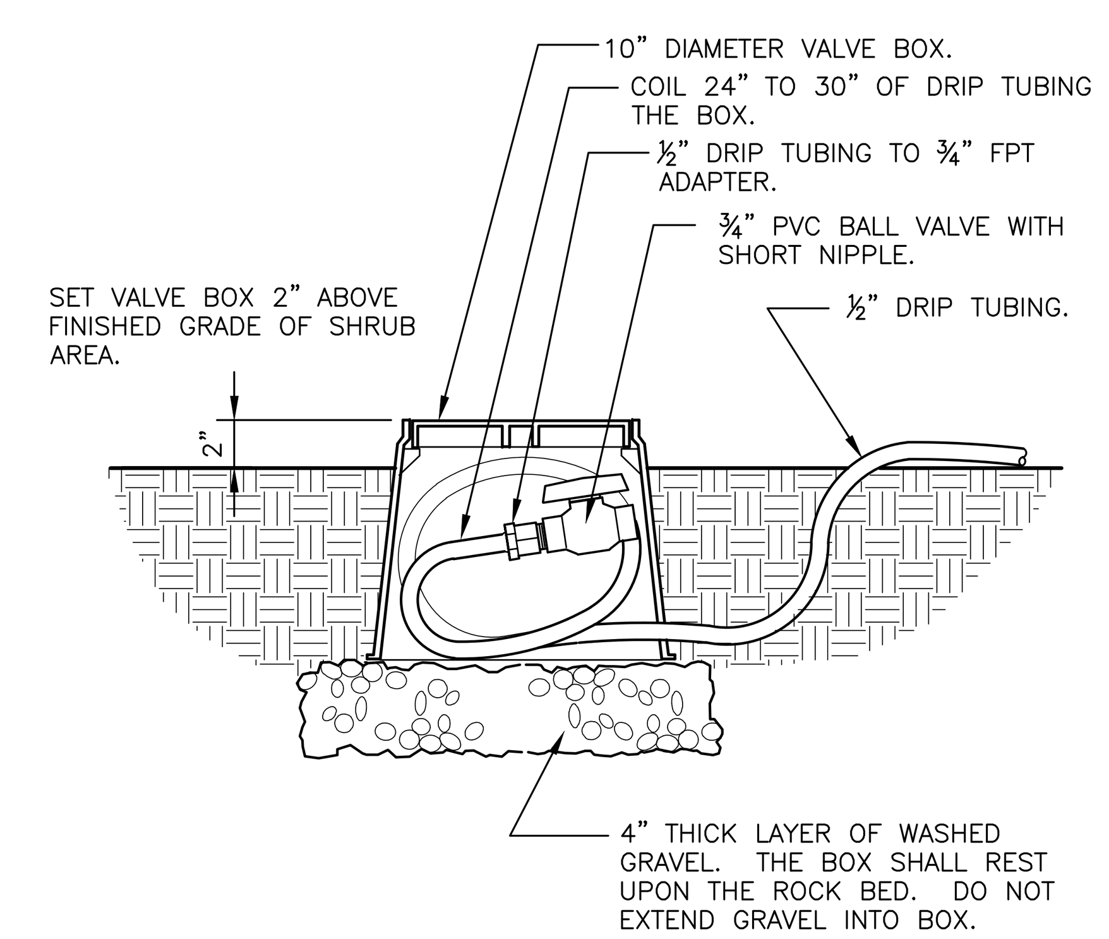


6 DRIP EMITTER AT 1/4" TUBING
3" = 1'–0"
32 8413.13–13



1. FINISH GRADE/TOP OF MULCH
2. JUMBO VALVE BOX WITH COVER: RAIN BIRD VB–JUMBO
3. 30–INCH LINEAR LENGTH OF WIRE, COILED
4. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
5. 1 1/2" PEB VALVE (INCLUDED IN XCZ–150–LCS KIT)
6. 1 1/2" FILTER – RAIN BIRD LARGE CAPACITY SCREEN FILTER (INCLUDED IN XCZ–150–LCS KIT)
7. 1 1/2" HIGH FLOW PRESSURE REGULATOR (INCLUDED IN XCZ–150–LCS KIT)
8. LATERAL PIPE
9. PVC SCH 80 NIPPLE 1 1/2"
10. PVC SCH 40 ELBOW
11. PVC SCH 80 NIPPLE (2" LENGTH, HIDDEN) AND PVC 40 ELBOW
12. PVC SCH 40 TEE OR ELBOW
13. MAINLINE PIPE
14. 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

7 DRIP ZONE CONTROL VALVE KIT IN JUMBO VALVE BOX



8 DRIP FLUSH VALVE
1 1/2" = 1'–0"
32 8413.49–03

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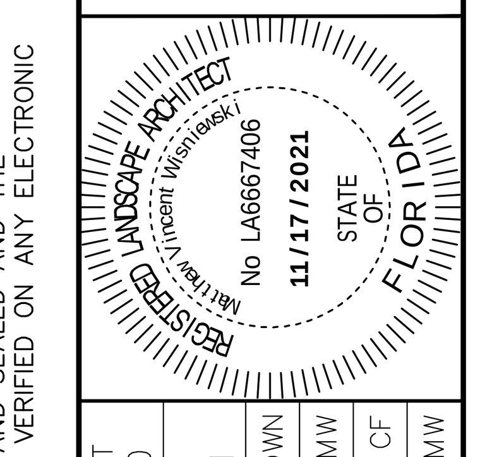

KHA PROJECT	143228000
DATE	JULY 2021
SCALE	AS SHOWN
DESIGNED BY	MW
DRAWN BY	CF
CHECKED BY	MW

IRRIGATION DETAILS

IRC LANDFILL
PREPARED FOR
INDIAN RIVER COUNTY
INDIAN RIVER COUNTY FL

SHEET NUMBER
L-353

GENERAL MECHANICAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2020 FLORIDA BUILDING CODE 7TH EDITION - MECHANICAL. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, ALL DRAWINGS AND SPECIFICATIONS COMPLY WITH MINIMUM EXISTING CODES.
2. CONTRACTOR SHALL PROVIDE ALL WORK CUSTOMARILY INCLUDED IF NOT SPECIFICALLY CALLED FOR ON THE PLANS. ALL WORK SHALL BE IN ACCORDANCE WITH BASE BUILDING PLANS AND SPECIFICATIONS.
3. CONTRACTOR TO CONSULT BUILDING OWNER FOR BUILDING STANDARDS AND CONTROL SEQUENCES.
4. CONTRACTOR SHALL CONFIRM THE EXISTENCE OF FIRE DAMPERS AS REQUIRED BY CODE IN ANY DUCT PENETRATING EXISTING FIRE RATED PARTITIONS.
5. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELF WITH ALL DETAILS OF THE WORK AND EXISTING CONDITIONS. THE INTENT OF THESE NOTES AND MECHANICAL NOTES ON DRAWINGS IS TO CLARIFY THE SCOPE OF WORK AND ALERT CONTRACTOR OF EXISTING CONDITIONS. CONTRACTOR SHALL VERIFY ALL CLEARANCES BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSET AND/OR CHANGES IN DUCT SIZES TO MEET FIELD CONDITIONS AND COORDINATE WITH ELECTRICAL AND PLUMBING SUBCONTRACTOR BEFORE ANY CONSTRUCTION WORK.
6. CONTRACTOR SHALL PROVIDE A COPY OF THE INDEPENDENT TEST AND BALANCE REPORT AT THE FINAL INSPECTION. CONTRACTOR SHALL ALSO PROVIDE ALL REPORTS AS REQUIRED BY THE SPECIFICATIONS.
7. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TRADES INSTALLATION SCHEDULES. FIXED WORK SUCH AS DUCTWORK AND PLUMBING SHALL BE INSTALLED PRIOR TO ANY TRADE WORK THAT CAN BE EASILY RELOCATED OR OFFSET SUCH AS ELECTRICAL CONDUITS AND SMALL WATER LINES, ETC.
8. CONTRACTOR SHALL REVIEW STRUCTURAL DRAWINGS BEFORE INSTALLATION TO AVOID ANY BEAM CONFLICTS AND COORDINATE PIPING AND HVAC DUCTWORK ACCORDINGLY.
9. BALANCE AIR DISTRIBUTION SYSTEMS TO QUANTITIES AS INDICATED ON DRAWINGS.
10. ALL SUPPLY TAKE-OFFS ARE CONNECTED TO HARD TRUNK DUCT WITH SPIN-IN FITTING (WITH MANUAL DAMPER) OF SIZE EQUAL TO DIFFUSER INLET AND DUCT CONNECTION. FLEXIBLE DUCT SHALL BE STRAIGHT WITH NO SAGS OR EXCESS DUCT. TOTAL TURNS SHALL NOT EXCEED 135 DEGREES. FLEX CONNECTIONS ARE NOT TO EXCEED 8 FEET IN LENGTH. PROVIDE HARD DUCT FOR OVER 8 FEET OR AS SPECIFICALLY CALLED FOR ON THE PLANS. THERMA-FLEX OR EQUAL INSULATED FLEX DUCT CONFORMING TO NFPA-90A AND UL 181 FOR "AIR DUCT CONNECTOR."
11. ALL EXHAUST VENTS MUST BE AT LEAST 10' FROM ANY OUTSIDE AIR INTAKE. CONTRACTOR TO ADJUST VENTS ACCORDINGLY.
12. ALL DUCT SIZES INDICATED ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS.
13. ALL DUCTWORK SHALL BE FIBERBOARD WITH 1.5" THICK INSULATION, EXCLUDING FLEX DUCT CONNECTIONS. ALL FLEXIBLE DUCT SHALL BE ATCO BRAND (CLASS 1) WITH AN INSULATION VALUE OF R6. ALL JOINTS MUST BE MECHANICALLY FASTENED AND SEALED TO 100% CLOSURE. METHODS FOR ATTACHMENT AND SEALING SHALL BE APPROVED METHOD AS STATED IN FBCM TABLE 603 AND SECTIONS 603.1 THRU 603.17. ALL DUCTWORK CONSTRUCTION SHALL MEET SECTION C403 OF THE FBC ENERGY CONSERVATION.
14. ALL CEILING MOUNTED DIFFUSERS SHALL BE 4-WAY THROW UNLESS OTHERWISE NOTED.
15. CONTRACTOR SHALL PROVIDE CONCEALED DAMPER REGULATOR OR ACCESS PANEL OF ALL MANUAL VOLUME DAMPERS/SPIN-IN DAMPERS ABOVE HARD CEILINGS OR OTHERWISE INACCESSIBLE AREAS ABOVE CEILING.
16. IN GENERAL, PLANS AND DIAGRAMS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.
17. COORDINATE AIR DEVICE LOCATIONS WITH LIGHTING FIXTURES.
18. PROVIDE ADDITIONAL DUCTWORK AND PIPING SUPPORTS ON BOTH SIDES AND WITHIN 18" OF FIRE RATED WALL. DUCTWORK OR PIPING SHALL NOT BE SUPPORTED FROM ANY FIRE RATED WALL.
19. TURNING VANES SHALL BE PROVIDED IN ALL SUPPLY DUCT RECTANGULAR ELBOWS WITH ANGLES BETWEEN 15 DEGREES AND LESS THAN 90 DEGREES PER SMACNA.
20. DUCTWORK SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
21. ALL WALL MOUNTED THERMOSTATS AND/OR TEMPERATURE SENSORS SHALL BE INSTALLED AT AN ELEVATION OF 48" A.F.F. ALL THERMOSTATS NEED TO BE RECALIBRATED BY A MECHANICAL CONTRACTOR IF THEY ARE RELOCATED. THERMOSTATS SHALL BE FASTENED BY PLASTIC SHIELD AND SCREWS.
22. OUTSIDE AIR SUPPLY RATES CONFORM TO ASHRAE 62-2016 STANDARDS.
23. UNLESS OTHERWISE NOTED, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO BOTTOM OF STRUCTURE. COORDINATE DUCT ELEVATION WITH WATER PIPING, SANITARY DRAINS AND MAJOR ELECTRICAL CONDUITS.
24. PROVIDE ALL SUPPLEMENTARY STEEL REQUIRED TO INSTALL MECHANICAL EQUIPMENT AND MATERIALS.
25. INSTALL AND INSULATE REFRIGERANT PIPING AS PER MANUFACTURER.
26. CONDENSATE PIPING SHALL BE COPPER. PROVIDE A TRAP IN ALL CONDENSATE PIPING LOCATED AT THE AIR HANDLING UNIT. INSULATE ALL CONDENSATE LINES WITH 1/2" THICK CLOSED CELL FOAM INSULATION. SLOPE CONDENSATE LINES AT 1/8" PER FOOT MINIMUM.
27. INSTALLATION OF MECHANICAL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATIONS AND CLEARANCE REQUIREMENTS.
28. MATCH DIFFUSER MOUNTING FRAME WITH CEILING TYPE.
29. ALL DASHED LINED EQUIPMENT AND DUCTWORK ARE EXISTING. ALL SOLID LINED EQUIPMENT AND DUCTWORK ARE NEW UNDER TENANT WORK EXCEPT FOR DIFFUSERS.
30. FOR DUCTWORK PENETRATING ONE HOUR FIRE RATED WALL: THE ENTIRE DUCT SYSTEM TO BE CONSTRUCTED PER SMACNA STANDARDS WITH A MINIMUM OF 26 GAUGE STEEL DUCT AND SHALL CONTINUE IN THE HORIZONTAL DIRECTION WITHOUT ANY GRILLE OR OPENING FOR NOT LESS THAN 5'-0" FROM THE WALL AND DUCT SHALL NOT EXCEED SQUARE INCH REQUIREMENTS OF LOCAL CODE, OTHERWISE A FIRE DAMPER SHALL BE PROVIDED.
31. PENETRATIONS THROUGH SMOKE OR FIRE RATED ASSEMBLIES: PENETRATIONS FOR PIPES, CONDUITS OR OTHER PURPOSES THROUGH ASSEMBLIES (FLOORS, ROOF, WALLS PARTITIONS, ETC.) WITH A REQUIRED FIRE RESISTANCE RATING SHALL BE SEALED TO THE PENETRATING MEMBER IN AN APPROVED MANNER WHICH MAINTAINS THE REQUIRED FIRE RESISTANCE RATING OF THE ASSEMBLY.
32. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH SECTION AND CHAPTER 633, FLORIDA STATUTES. FBC 110.8.4.4 2020.

FMC TABLE 403.3.1.1 VENTILATION REQUIREMENTS

REQUIRED OUTSIDE AIR

CONFERENCE: 12 PEOPLE X 5 CFM/PERSON + 329 SQ FT X 0.06 CFM/SQ FT = 80 CFM
OFFICE: 2 PEOPLE X 5 CFM/PERSON + 232 SQ FT X 0.06 CFM/SQ FT= = 24 CFM

AVAILABLE OUTSIDE AIR

NEW MAIN AIR HANDLER SERVING THE CONDITIONED SPACES ARE DESIGNED TO DELIVER A TOTAL OF 150 CFM OF OUTSIDE AIR.

AIR BALANCE

OUTSIDE AIR	
AHU-1	150 CFM
TOTAL OUTSIDE AIR	150 CFM

EXHAUST AIR	
EF-1	70 CFM
EF-2	70 CFM
TOTAL EXHAUST	140 CFM

TOTAL	
OUTSIDE AIR	+ 150 CFM
EXHAUST	- 140 CFM
TOTAL CONDITIONED AREA PRESSURE	+ 10 CFM

MECHANICAL LEGEND

MVD	MANUAL VOLUME DAMPER
EXIST.	EXISTING
RA	RETURN AIR
OA	OUTSIDE AIR
	DUCT REDUCTION IN DIRECTION OF FLOW
SD	DUCT MOUNTED SMOKE DETECTOR
	MOTORIZED DAMPER
	RETURN (OR EXHAUST) GRILLE
	SUPPLY DIFFUSER
ETR	EXISTING TO REMAIN
RE	RELOCATE EXISTING
ER	EXISTING RELOCATED
	FIRE DAMPER
	EXISTING FIRE DAMPER
S	SMOKE TIGHT DUCT SEAL
SD	SMOKE DAMPER
SD	FIRE/SMOKE DAMPER
	NEW HARD DUCT
	EXISTING HARD DUCT
	NEW FLEXIBLE DUCT
	EXISTING FLEXIBLE DUCT
T	THERMOSTAT
	NEW CONNECTION
BD	BACKDRAFT DAMPER
RTS	REMOTE TEST STATION

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HOUSEHOLD HAZARDOUS WASTE
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Indian River County, Florida

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2	FIELD COORDINATION	11.05.2021

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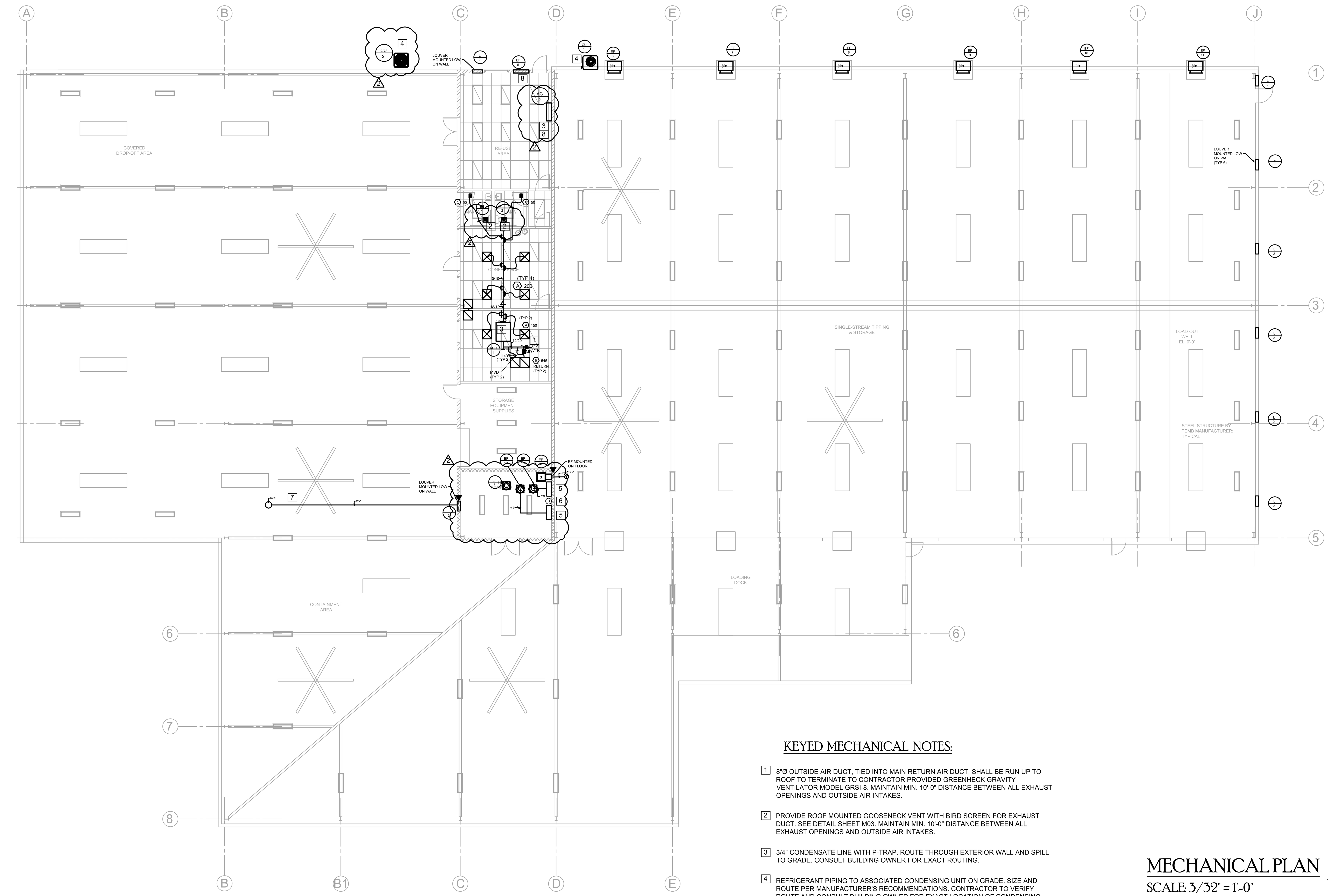
SHEET TITLE
MECHANICAL NOTES

SHEET NO.
M101



KEYED MECHANICAL NOTES:

1. 8"Ø OUTSIDE AIR DUCT, TIED INTO MAIN RETURN AIR DUCT, SHALL BE RUN UP TO ROOF TO TERMINATE TO CONTRACTOR PROVIDED GREENHECK GRAVITY VENTILATOR MODEL GRSI-8. MAINTAIN MIN. 10'-0" DISTANCE BETWEEN ALL EXHAUST OPENINGS AND OUTSIDE AIR INTAKES.
2. PROVIDE ROOF MOUNTED GOOSENECK VENT WITH BIRD SCREEN FOR EXHAUST DUCT. SEE DETAIL SHEET M03. MAINTAIN MIN. 10'-0" DISTANCE BETWEEN ALL EXHAUST OPENINGS AND OUTSIDE AIR INTAKES.
3. 3/4" CONDENSATE LINE WITH P-TRAP. ROUTE THROUGH EXTERIOR WALL AND SPILL TO GRADE. CONSULT BUILDING OWNER FOR EXACT ROUTING.
4. REFRIGERANT PIPING TO ASSOCIATED CONDENSING UNIT ON GRADE. SIZE AND ROUTE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO VERIFY ROUTE AND CONSULT BUILDING OWNER FOR EXACT LOCATION OF CONDENSING UNIT.
5. CONTRACTOR TO DUCT 10" ROUND EXHAUST FROM ROOF MOUNTED EXHAUST FAN TO VENDOR PROVIDED BULKING HOOD. CONTRACTOR TO CONSULT VENDOR FOR FUTURE CONNECTIONS TO BULKING HOOD. (2)
6. CONTRACTOR TO PROVIDE H2 SENSOR AND MONITORING SYSTEM. MOUNT SENSOR ABOVE BULKING HOODS' EXHAUST INTAKE.
7. CONTRACTOR TO PROVIDE INTAKE WITH 40 FEET MINIMUM FROM H2 STORAGE. CONTRACTOR TO RUN DUCTWORK TIGHT TO STRUCTURE BEFORE ROOF PENETRATION.
8. WHEN SWITCH IS TURNED ON, EF-5 SHALL BE ENERGIZED AND AC-2 SHALL TURN OFF. WHEN SWITCH IS TURNED OFF EF-5 SHALL DE-ENERGIZE AND AC-2 WILL TURN ON. (2)

MECHANICAL PLAN

SCALE: 3/32" = 1'-0"

N

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SHEET TITLE
MECHANICAL PLAN

SHEET NO.
M102

SPLIT SYSTEM AIR HANDLING UNIT SCHEDULE

REMARKS:

ALL AHUS TO UTILIZE R-410A REFRIGERANT AND TO HAVE MINIMUM 13.0 SEER RATING

MARK AHU NO.	MIN O.A. CFM	MAX O.A. CFM	FAN DATA			COOLING DATA				ACCESORY HEATER DATA					ELECTRICAL DATA			WEIGHT (LBS)	BASIS OF DESIGN	SEER	ACCESSORIES
			CFM	EXT. SP "WG	MOTOR HP	EDB °F	EWB °F	TOTAL CAP MBH	SENS. CAP MBH	V/ϕ	(KW)	STEPS	MCA	MOCP	V/ϕ	MCA	MOCP				
AHU-1	0	150	1200	0.5	0.5	80	67	34	27.4	460/3	10	1	19.3	20	208/1	5.1	15	163	CARRIER FV4CMB006L00	14.0	1 2 3 4 5 6 7 8

ACCESSORIES:

1. AUXILIARY DRAIN PAN WITH FLOAT SWITCH. UNIT TO SHUT DOWN UPON WATER DETECTION. CONDENSATE DRAIN SHALL BE FULL SIZE FROM UNIT. PROVIDE CONDENSATE PUMP AND ROUTE CONDENSATE TO NEAREST BASE BUILDING CONDENSATE RISER.
2. SINGLE POINT ELECTRICAL CONNECTION.
3. 1" DISPOSABLE FILTERS.
4. PROGRAMMABLE DIGITAL THERMOSTAT.
5. DISCONNECTS BY DIVISION 16.
6. VARIABLE SPEED FAN.
7. PROVIDE WITH ACCESSORY DUCT HEATER WARREN WKF1005A
8. PROVIDE RAWAL/APR DEIVICE FOR CAPACITY CONTROL

SPLIT SYSTEM CONDENSING UNIT SCHEDULE

REMARKS:

1. SIZE AND ROUTE REFERIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.
2. COORDINATE EXACT LOCATION OF UNIT WITH OWNER.
3. ALL AHUS TO UTILIZE R-410A REFRIGERANT.

MARK CU NO.	PAIR WITH	LOCATION	ELECTRICAL DATA			BASIS OF DESIGN	WEIGHT (LBS)	ACCESSORIES
			V/ϕ	MCA	MFS (amps)			
CU-1	AHU-1	GRADE	460/3	21.5	30	CARRIER 24ABB336A006	170	1 2

ACCESSORIES: 1 DISCONNECTS BY DIVISION 16 2 PROVIDE WITH LOW AMBIENT CONTROLS

AIR DISTRIBUTION SCHEDULE

REMARKS:

1. COORDINATE FRAME & BORDER TYPE WITH CEILING TYPE. REFER TO ARCHITECTURAL PLANS.
2. COORDINATE WITH BLDG MGT FOR BLDG STANDARDS.

MARK	CFM	NECK SIZE (INCHES)	FACE SIZE (INCHES)	BASIS OF DESIGN	ACCESSORIES
A	0-120	6"Ø	24"x24"	SUPPLY DIFFUSER EQUAL TO TITUS MODEL PAS TO MATCH EXISTING. INSULATE BACK OF ALL DIFFUSERS.	
	121-250	8"Ø	24"x24"		
	251-350	10"Ø	24"x24"		
	351-450	12"Ø	24"x24"		
B	0-1600	22"x22"	24"x24"	PERFORATED RETURN/TRANSFER GRILLE EQUAL TO TITUS PAR TO MATCH EXISTING. INSULATE BACK OF ALL DIFFUSERS.	
C	0-120	6"Ø	11.75"x7.75"	SUPPLY GRILLE EQUAL TO PRICE MODEL 640.	

FAN SCHEDULE

MARK	SERVICE	LOCATION	CFM	EXT. SP "WG	MOTOR HP	MOTOR V/ϕ	MAX RPM	DRIVE TYPE	WEIGHT	INTERLOCK	BASIS OF DESIGN	ACCESSORIES
EF-1	RESTROOM	CEILING	70	0.25	74.7 W	115/1	1400	DIRECT	26 lbs	LIGHTS	COOK GEMINI GC-146	1 2
EF-2	RESTROOM	CEILING	70	0.25	74.7 W	115/1	1400	DIRECT	26 lbs	LIGHTS	COOK GEMINI GC-146	1 2
EF-3	H-2 STORAGE	ROOF	1200	0.5	.25	460/3	1725	BELT	127 lbs	CONTINUOUS	COOK ACRU-B	1 3 4 5 10 11 12
EF-4	H-2 STORAGE	WALL	400	0.25	0.25	460/3	1140	BELT	282 lbs	CONTINUOUS	COOK SQI-HP	1 3 4 5
EF-5	RE-USE AREA	WALL	850	0.25	0.25	460/3	1140	BELT	64 lbs	SWITCH	COOK ACW-B	1 3 4 5
EF-6 EF-7 EF-8 EF-9 EF-10 EF-11	SINGLE STREAM TIPPING	WALL	6850	0.25	0.948	460/3	840	BELT	572	SWITCH	COOK AWB	1 13 14 15
EF-12 EF-13	H-2 STORAGE	ROOF	600	1.0	.293	460/3	1538	BELT	106 lbs	SWITCH	COOK ACE-B	1 3 4 5 10 11 12 A3

ACCESSORIES:

1. SPEED CONTROLLER
2. MOTOR WITH THERMAL OVERLOAD
3. EXPLOSION PROOF MOTOR
4. BACKDRAFT DAMPER
5. EXPLOSION PROOF DISCONNECT
6. OSHA BELT GUARD
7. INLET SAFETY SCREEN
8. OSHA BELT GUARD
9. VIBRATION ISOLATORS
10. AMCA A CONSTRUCTION
11. MANUFACTURER'S ROOF CURB + BIRD SCREEN
12. MIAMI-DADE HURRICANE RATED CONSTRUCTION
13. PREMIUM EFFICIENCY MOTOR
14. GRAVITY SHUTTER
15. WALL COLLAR
16. MOTORIZED DAMPER

LOUVER SCHEDULE

MARK	DESCRIPTION
L-1	12"x12" INTAKE LOUVER. COOK MODEL SG-10 FINISH TBD BY ARCH
L-2	26"x26" INTAKE LOUVER. COOK MODEL SG-24 FINISH TBD BY ARCH

DUCTLESS FAN COIL UNIT SCHEDULE

MARK A/C #	FAN DATA				COIL DATA				FILTER DATA		BASIS OF DESIGN	ELECTRIC MCA	ELECTRICAL MOCP	REMARKS
	CFM	EXT. SP "WG	MOTOR HP	V/0/	EDB °F	EWB °F	TOTAL CAP MBH	SEN. CAP. MBH	TYPE	AREA SQ FT				
2	775	-	-	230/1	80	67	24.0	-	-	-	MITSUBISHI PKA-A24HA4	1.0	SEE CU	1 2 3 4

1. PROVIDE DIGITAL THERMOSTAT FOR EACH UNIT
2. PROVIDE LOW AMBIENT COOLING.
3. POWER FEED FROM CONDENSING UNIT
4. PROVIDE CONDENSATE PUMP
4. CONDENSATE TO BE ROUTED TO EXTERIOR

DUCTLESS AIR COOLED CONDENSING UNIT SCHEDULE

A3

MARK CU #	LOC'N.	PAIRED WITH A/C-#...	V/0/	ELECTRICAL DATA		BASIS OF DESIGN	REMARKS
				MCA	MOCP		
2	ON GRADE	AC-1	230/1	18	30	MITSUBISHI PUY-A24NHA4	1 2 3

1. 95 OUT DOOR AIR TEMP.
2. ROUTE REFRIGERANT LINE TO ROOF.
3. CONDENSING UNIT ON ROOF, LOCATION TO BE COORDINATED WITH BUILDING OWNER.

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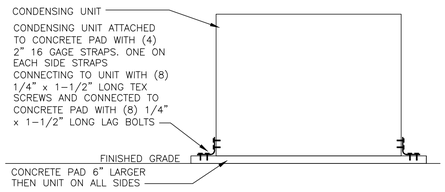
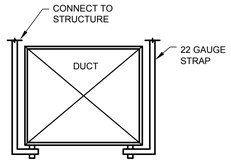
SHEET TITLE
MECHANICAL SCHEDULES

SHEET NO.
M103



CONDENSING UNIT MOUNTED DETAIL

NTS



DUCT SUPPORT DETAIL

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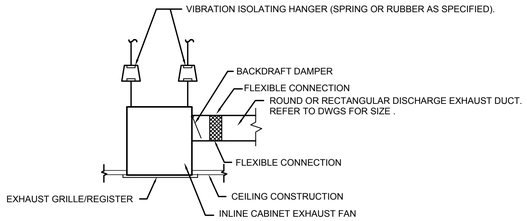
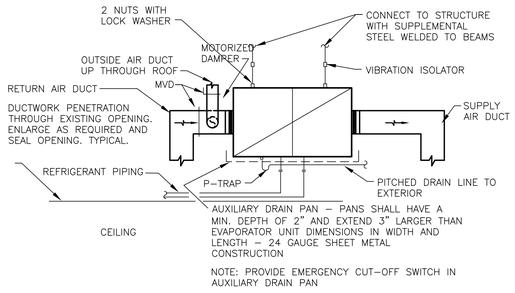


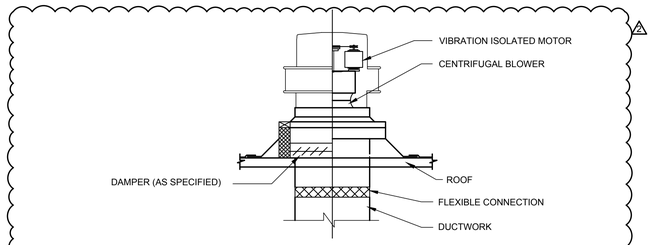
CABINET EXHAUST FAN DETAIL

NTS



AIR HANDLING UNIT INSTALLATION DETAIL

NTS



EXHAUST FAN DETAIL

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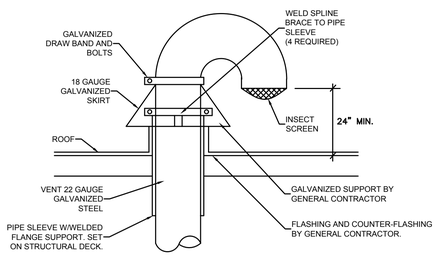
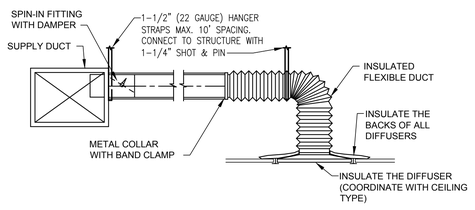


DUCT GOOSENECK DETAIL

NTS



SUPPLY DIFFUSER FLEX SUPPORT DETAIL

NTS

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