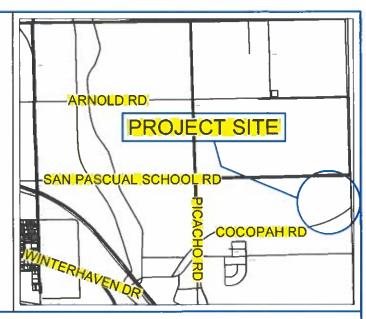


JUL 19 2023 COMPLETE



## **CONTRACTOR NOTES**

THIS WORK REQUIRES IID UNDERGROUND INSPECTION. FOR THE UNDERGROUND INSPECTION PROCESS, SEE DETAIL PAGES 7 THRU 11 FROM THE DEVELOPER ENERGY PLANNING GUIDE, ALL EQUIPMENT OR MATERIAL INSTALLED. COVERED. OR **ENCLOSED** CONTRACTOR PRIOR TO IID INSPECTION SHALL BE REMOVED OR UNCOVERED FOR INSPECTION, AND REINSTALLED, AT NO EXPENSE TO IID. IID WILL NOT ACCEPT OR ENERGIZE FACILITIES THAT FAIL TO MEET THE REQUIREMENTS OUTLINED IN THE PROCESS

**DETAIL PAGES** 

DETAIL PAGES REFER TO THE DEVELOPER ENERGY PLANNING GUIDE REV. 5.21 2020,

IT CAN BE OBTAINED ON THE IID WEBSITE WWW.IID.COM/ENERGY/NEW-CONSTRUCTION



CAUTION: ENERGIZED STRUCTURES & CABLE DO NOT PERFORM ANY TYPE OF WORK ON OR AROUND ENERGIZED STRUCTURES. A QUALIFIED IID ELECTRICAL WORKER MUST BE PRESENT AT JOB SITE BEFORE ANY CONDUIT OR ANY TYPE OF WORK IS PERFORMED PLEASE CONTACT IID INSPECTION DESK AT LA QUINTA @:(760) 398-5828; IMPERIAL @:(760) 482-3300. INSPECTION SCHEDULES ARE SUBJECT TO A MINIMUM 48 HOUR ADVANCE NOTICE AND ARE BY APPOINTMENT ONLY

#### UNDERGROUND SERVICE ALERT

1-800-422-4133 CALL USA/SC FOR UNDERGROUND LOCATING 2 WORKING DAYS BEFORE YOU DIG

REV.#	PG#	DATE	BY:	DESCRIPTION
	-			

### WINTERHAVEN **LOCATION MAP**

T.16S, R.22E, SEC.25

NORTH

☐DIST. SUPERVISOR	☐ PROJECT MANAGER	□ EXTRA
□INSPECTOR	☐ GIS UNIT	OTHER
CUSTOMER		

NOTES:

PROJECT LOCATION:

(RURAL)

670 BASELINE RD, WINTERHAVEN CA 92283

CUSTOMER CONTACT: DEAN BAGNESCHI PHONE NUMBER: 559-294-1300

PROJECT DEVELOPMENT PLANNER: J.LOPEZ

CONTACT NUMBER: 760-457-7688

PROJECT DEVELOPMENT ESTIMATOR: A.RODRIGUEZ

CONTACT NUMBER: 760-791-1274

SUBSTATION: WINTERHAVEN

CIRCUIT: A-65

SERVICE NOTIFICATION: 4034736 SERVICE ORDER: 60140743

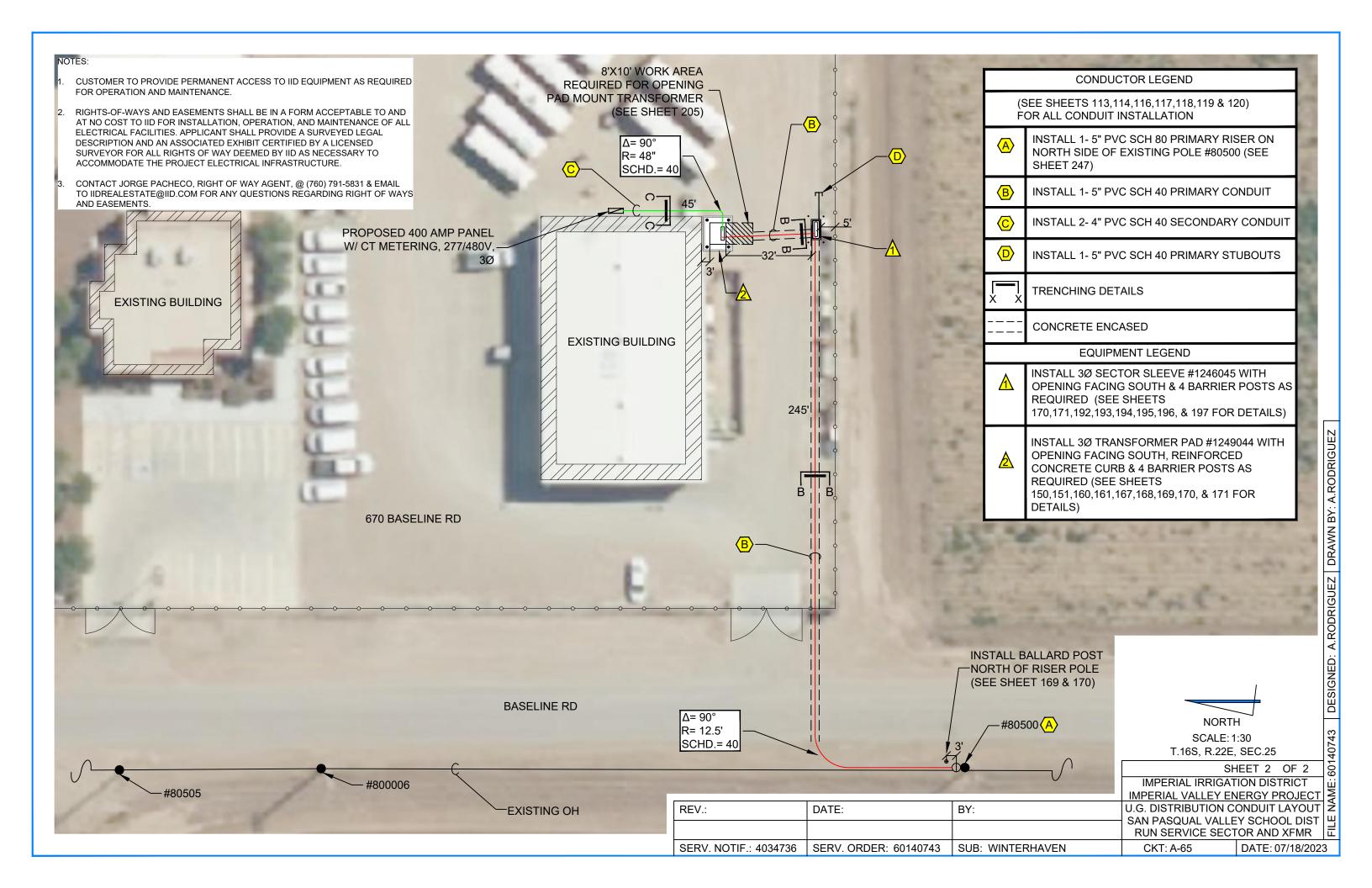
DESIGNED BY: AR 6

U.G. INSPECTION ACTIVITY #: 0070

SHEET 1 OF

DATE: 07/18/2023

IMPERIAL IRRIGATION DISTRICT 60140743 IMPERIAL VALLEY ENERGY PROJECT U.G DISTRIBUTION CONDUIT LAYOUT SAN PASQUAL VALLEY SCHOOL DISTRICT RUN SERVICE, RISER, SECTOR & TRANSFORMER NAME APPROVED BY: DATE: / CHECKED BY DATE: そーこう FILE





# IMPERIAL IRRIGATION DISTRICT

Customer Project Development • 333 S. Waterman Ave • El Centro, CA 92243

NOTE: CONTACT IID AT (760) 482-3300 TO SCHEDULE A PRE-CONSTRUCTION MEETING <u>BEFORE</u> PROJECT TRENCHING GETS UNDERWAY AND TO REVIEW U.G. INSPECTION SCHEDULE.

#### UNDERGROUND INSPECTION PROCESS

- 1. Pre -construction meeting with Electrical Contractor.
  - A. IID Inspector and Contractor to meet **BEFORE** any construction or excavating. IID Inspector will explain and/or highlight general installation notes according to the job. IID Inspector will also answer any questions the contractor has to avoid any delays in the future.
- 2. Trench depth and inspection of primary or secondary conduit installation.
  - A. Verify minimum primary and secondary trench depth is met.
  - B. Verify correct conduit(s) is being used, schedule 40 for below ground and schedule 80 for above ground use.
  - C. Verify approved diameter of conduit is being installed; see Contractor's Notes (drawing).
  - D. Verify spacing between conduits (3") is met and spacers are installed at every six feet.
- 3. Concrete encasement of conduit(s) where required or 12 inches of "native soil or sand."
  - A. Concrete encasement is required for street crossings, parking lots, driveways, and sidewalks. Encasement to be three sack mix at 2,000 p.s.i sand slurry. When these applications are not the case, then two sack slurry mix to be used.
  - B. Verify there is a three-inch envelope of encasement all around conduit (spacers must be installed prior to encasing)
- 4. Caution tape over encasement or 12 inch of backfill.
- 5. Cadweld connection of ground wire to ground rod located at the bottom of the trench for all transformer precast pads, single phase sector precast pads, and three phase sector sleeves.
  - A. Verify ground rods are 5/8" x 10'
  - B. Verify copper strand is 2/0 wire.
- 6. Backfill of trench and compaction.
  - A. Backfill of trench shall or excavated areas must be a minimum of 90% compaction.



# IMPERIAL IRRIGATION DISTRICT

Customer Project Development • 333 S. Waterman Ave • El Centro, CA 92243

#### Continued:

- 7. Stub out markers are installed where applicable.
- 8. Backfill of all transformer precast pads, single phase sector precast pads, and sector sleeve locations.
- 9. Verification of compaction test results for all transformer precast pads and all single phase sector precast pads.
  - A. Location of all transformer precast pad and single phase sector precast pads to be a compaction of 90% minimum by contractor/developer.
  - B. Compaction will be performed at a minimum of 2' beyond proposed transformer and single phase sector precast pads on all four sides.
  - C. Contractor to contact IID Inspector after compaction has been completed. IID Inspector must pass visual compaction prior to compaction test.
  - D. After IID Inspector passes compaction by contractor, the contractor will obtain a compaction test.
    - a) <u>NOTE</u>: A maximum of ½" of sand fill will be approved for leveling of compaction area. If the sand fill exceeds the maximum requirement, the IID Inspector will fail the compaction.
  - E. All transformer and single phase sector precast pads will not be installed until compaction test report has been received and reviewed by IID Inspector.
  - F. After compaction test report is reviewed by IID Inspector, the inspector must be present when contractor installs all transformer precast pads.
    - a) <u>NOTE</u>: After compaction test has been reviewed by IID Inspector, transformer precast pad must be installed within 24 hours. If transformer precast pad is not installed within allotted time, IID will require a re-test of compaction from contractor/developer.
- 10. Installation of any concrete vault, transformer precast pad, sector sleeve or secondary pullbox.
  - A. Verify there are no visible cracks on all transformer precast pads, single phase sector precast pads, concrete vaults, and sector sleeves.
  - B. Verify vaults, all transformer precast pads, sector sleeves, and secondary pullboxes are installed above their appropriate final grade (See Developers Energy Planning Guide).

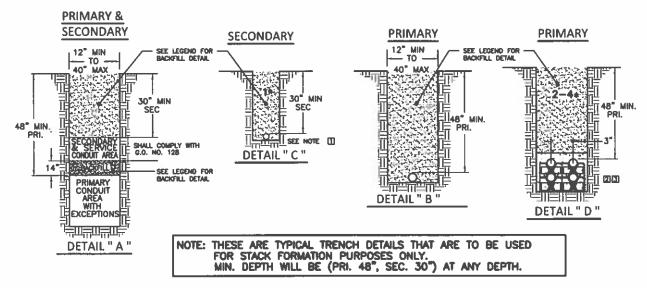


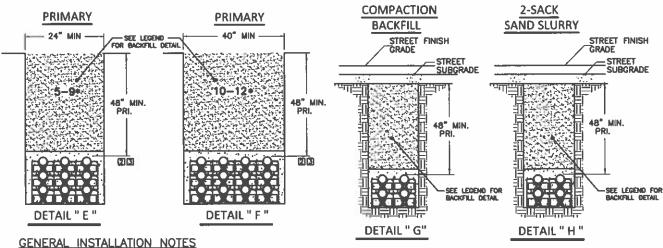
# IMPERIAL IRRIGATION DISTRICT

Customer Project Development • 333 S. Waterman Ave • El Centro, CA 92243

#### Continued:

- 11. Framing and pouring concrete pad for customer meter panel.
- 12. Installation of customer meter panel.
- 13. Barrier post installation (when applicable).
  - A. Verify footing is 36" in depth and 18" in diameter.
  - B. Barrier post is set 30" below finish grade.
  - C. Barrier post is 4" steel pipe.
  - D. Barrier post is painted High Visibility Yellow.
- 14. Final: Cold and/or hot mandrel inspection.





1. USE PLASTIC SPACERS THAT PROVIDE 3" SEPARATION.

\*IDENTIFY # OF CONDUITS

- 2. PLASTIC SPACERS SHALL BE USED ON CONDUIT RUNS TO BE CONCRETE ENCASED BOTH AS SINGLE OR BANKED INSTALLATIONS AND ON DUCT BANKS NOT ENCASED. (REFER TO NOTE 3.48).
- 3. CONDUIT RUNS SHALL NOT CROSS EACH OTHER WHEN ON THE SAME LEVEL AND/OR PLANE. (REFER NOTE 3.23)
- 4. THE MAXIMUM OBTAINABLE SEPARATION BETWEEN POWER FACILITIES AND ALL OTHER SUBSTRUCTURES SHALL BE MAINTAINED AT ALL TIMES, 12" MIN. WHEN PARALLELING AND 12" MIN. WHEN CROSSING ENCASED IN CONCRETE.
- 5. WHEN CONCRETE ENCASEMENT IS SPECIFIED ON THE JOB, ENCASEMENT SHALL BE A 3 SACK MIX (2000 PI) WITH SAND SLURRY WILL BE USED BELOW STREETS, PARKING LOTS, DRIVEWAYS, AND SIDEWALKS. WHEN STREETS, PARKING LOTS, DRIVEWAYS, AND SIDEWALKS DO NOT EXIST OVER THE DUCT SYSTEM, A 2 SACK SAND SLURRY MAY BE USED. (REFER TO NOTES 3.18, 3.19).
- 6. ENCASE IN CONCRETE 3" ENVELOPE WHERE REQUIRED. SEE CONDUIT LAYOUT SHEETS (JOB COPY) FOR LOCATION OF CONCRETE TRENCHES.
- 7. LINE GUARD TAPE REQUIRED IN ALL TRENCHES. (REFER TO NOTE 3.46 STANDARD100.5).

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		IMPERIAL	IRRIGATION	DISTRICT
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LEGEND

O CONDUIT

3 SACK MIX SAND SLURRY

2 SACK SAND SLURRY

2 SAUK SAND SLUKKI

90% COMPACTION BACKFILL
(BACKFILL TO BE NATIVE SOIL OR
CALTRANS CLASS 2 AGGREGATE BASE OR
CRUSHER FINE WITH 3/B INCH ROCK).

- 3.26 Conduit runs shall not cross each other when on the same level and/or plane.
- 3.27 Primary conduits shall be buried a minimum depth of 4 feet. Secondary and service conduits shall be buried a minimum depth of 2 ½ feet (2.5').
- 3.28 Sizes and arrangements of conduits shall be as shown on the drawings.
- 3.29 Where the external diameter of the conduit is smaller than the diameter of the opening in the vault wall, the reduction in the conduit diameter shall take place 2 feet (24") from the external wall of the vault. (Refer to 3.30, Vault Side View, and Standard 100.142).
- 3.30 The maximum obtainable separation between power facilities and all other substructures shall be maintained at all times, 12 inch (1') minimum when paralleling and 6 inch minimum when perpendicular and encased in concrete. (Refer to 3.27). (12 inch minimum refers to compacted backfill).

- 3.32 All conduits shall meet and/or exceed UL-651 and/or NEMA TC-2. All conduits shall be:
  - 3.32.1 Schedule 40 for below ground installation:
    - 3.32.1.1 PVC Heavy Wall
    - 3.32.1.2 PVC Cellular Core
  - 3.32.2 Schedule 80 above ground installation:
    - 3.32.2.1 PVC Heavy Wall
- 3.33 All conduit sweeps shall meet and/or exceed UL-651 and/or NEMA TC-3.
- 3.34 Conduit sweeps in duct runs shall not have less than a 12 feet 6 inches (12.5') horizontal radius unless shown otherwise on the Contractor Notes. (See Radius Index 3.33.1 (Horizontal) Table 4).
  - 3.34.1 Table 4 Conduit Radius Index Horizontal

	CONDUIT RADIUS INDEX (HORIZONTAL) Table 4					
	PRIMARY					
CONDUIT DIA.	RADIUS	CONDUCTOR SIZE	PVC SCHEDULE			
4"	12.5' Radius	1-1/0 Conductor	40			
5"	12.5' Radius	3-1/0 Conductors	40			
6"	25' Radius Typical	3-750 MCM Conductors	40			
6"	*50' Radius as Specified	3-750 MCM Conductors	40			

- \*Contact your IID Customer Service Project Manager for instructions
- 3.35 Conduit sweeps in vertical runs (pole risers and equipment risers) shall be installed in accordance with Table 5, (3.37.1 Riser Sweep Radius Vertical).
- 3.36 All 2 inch and 3 inch service and/or secondary conduit (vertical) risers which enter buildings, service panels, secondary boxes, transformer pads, meter panels, etc., shall have a minimum 2 foot radius (24"), see Table 5, (3.37.1 Riser Sweep Radius Vertical).
- 3.37 All 4 inch primary conduit (vertical) risers which enter transformer pads, primary metering panels, underground switch gear panels and pole risers, shall have a 4 foot (48") Radius for 4 inch duct, see Table 5, (3.37.1 Riser Sweep Radius Vertical).
- 3.38 All 5 inch and 6 inch primary conduit risers which enter transformer pads, primary metering panels, underground switch gear panels and pole risers, shall have a minimum of 4 foot (48") radius for 5 inch ducts, and 5 foot radius (60") for 6 inch ducts, see Table 5, (3.37.1 Riser Sweep Radius Vertical). Contact your IID Customer Project Development Services for further instructions or questions.

#### 3.38.1 Table 5 Riser Sweep Radius - Vertical

	RI	SER SWEEP RA	DIUS INDEX (VE	RTICAL) TABLE	5	
SECONDARY	Radius	Pole Riser	Equip. Riser	Trans. Pad	Secondary	Meter Panels
Conduit Dia.		PVC SCH	PVC SCH	PVC SCH	PVC SCH	PVC SCH
2"	24" Radius	N/A	40	40	40	40
3"	36" Radius	80	40	40	40	40
4"	*36"-48"	80	40	40	40	40
	Radius					
PRIMARY	Radius	Pole Riser	Equip. Riser	Trans. Pad	Secondary	Meter Panels
Conduit Dia.		PVC SCH	PVC SCH	PVC SCH	PVC SCH	PVC SCH
4"	48" Radius	80	40	40	N/A	N/A
5"	*48"-60"	80	40	40	N/A	N/A
อ	Radius				INIA	NA
6"	60" Radius	80	N/A	N/A	N/A	N/A

<sup>\*</sup>Contact your IID Customer Service Project Manager for instructions. N/A = Not Applicable

- 3.39 The installation of the conduit system will be conducted by a single contractor or other entity to give the project continuity, reducing the possibility of deviations from the G.O. 128 regulations, Authority having jurisdiction, and IID standards. Developer/Contractor will accept the most strict or highest requirements from the entities mentioned above.
- 3.40 Marking Tape over Conduits:
  - 3.40.1 Contractor shall install 2 inch line guard III tape, red in color with black lettering "CAUTION BURIED ELECTRIC LINE BELOW" (See 3.46, Standard 100.5)
  - 3.40.2 Contractor will install tape 12 inches (1') above the power conduits. When conduit(s) is/are encased in concrete, Developer/Contractor shall back fill with compacted (90%) native soil to meet the 12 inch (1') requirement. (See 3.46, Standard 100.5)

#### 3.41 Mandrel

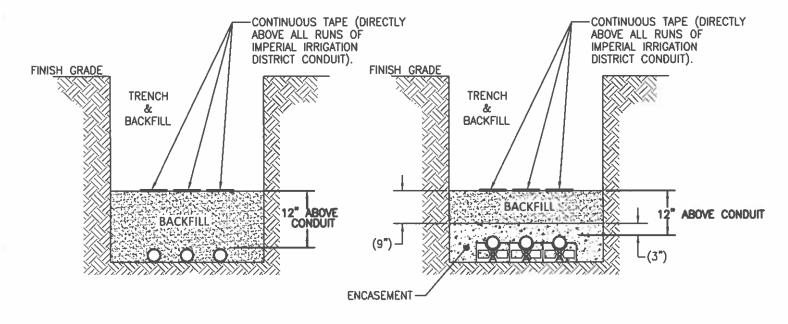
- 3.41.1 The installation contractor shall mandrel all primary ducts and secondary service ducts. IID shall provide the mandrel and the IID inspector for the mandrel process. Refer to 3.41.1 Pulling Rope, Table 8 Conduit rope/Measured Rope Requirements for Primary Pulls. Inspection field check schedules are subject to a minimum 48 hour advance notice and are by appointment only; Imperial (760) 482-3300; La Quinta (760) 398-5828
- 3.41.2 IID Inspector will conduct a field check prior to mandrel test to ensure IID structures are:
  - 3.41.2.1 Not damaged
  - 3.41.2.2 Clear of debris
  - 3.41.2.3 No obstructions to IID structures (accessibility)
- 3.41.3 If mandrel is requested from IID structure to meter panel, IID Inspector will field check the following:

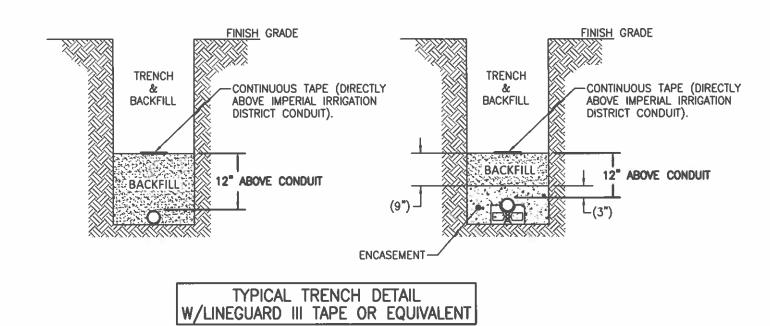
- 3.41.3.1 Scratch coat or brown coat must be installed on residence/building
- 3.41.3.2 Wallboard must be installed on the wall the meter panel is located.
- 3.42 After field checks are approved by IID Inspector:
  - 3.42.1 Cold Mandrel: Can continue per IID Inspectors instructions
  - 3.42.2 Hot Mandrel: Will be scheduled at a later date to an IID Troubleshooter
- 3.43 IID Inspector is required to be in attendance on all mandrel tests
- 3.44 Pulling rope: In all duct runs, the installation contractor is to furnish and install the following:
  - 3.44.1 Polypropylene rope usually yellow in color is acceptable
  - 3.44.2 All conduits may be filled with polypropylene rope, <u>knots & splices are not allowed at any time</u>.
    - 3.44.2.1 <u>Note</u>: If pulling wire at a later date (any time after construction),

      Developer/Contractor is responsible and required to pull in new rope that have no splices.
    - 3.44.2.2 <u>Note:</u> When multiple conduits are installed, Mule tape, ½" wide with foot markers, is required in <u>one</u> conduit. Mule tape will meet or exceed 1,250 lbs. tensile strength.
    - 3.44.2.3 *Note:* Detectable mule tape, rope, or wire is prohibited

#### 3.45 Table 8 Conduit Rope/Measured Rope Requirements

CONDUIT ROPE/MEASURED ROPE REQUIREMENTS				
Rope Туре	Conduit Length	Conduit which will contain Wire	Rope Tensile Strength (Average Breaking Strength)	
1)Polypropylene 3/2"	0' - 1000'	No Knots	1,250 lbs. Min.	
2)Polypropylene ½"	1000' – Greater	No Knots	2,500 lbs. Min.	





#### NOTES:

1. INSTALL LINE GUARD III TAPE (RED, MINIMUM 2" WIDE). TAPE TO BE FURNISHED & INSTALLED BY CONTRACTOR AND SHALL READ:

"CAUTION: BURIED ELECTRIC LINE BELOW".

2. TAPE WILL BE INSTALLED 12" ABOVE HIGHEST PRIMARY OR SECONDARY IMPERIAL IRRIGATION DISTRICT CONDUIT TRENCH.

		IMPERIAL	IRRIGATION	DISTRICT		
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REVIEWED	-420		.7		0114BB W T4BE	
APPROVED	ME			LINE	GUARD III TAPE	
REVISION	REV 5		radin			
DATE	12-31-2013		100.5			

- 3.47 All conduit spacers shall be made of polystyrene or high impact polymer material; see representation (A) below, (Refer to 3.49 Table 6 for spacer clearances). Spacers shall provide the conduit separation shown in 3.49 Table 6 below.
- 3.48 Conduit spacers will be installed every 6 feet (72").



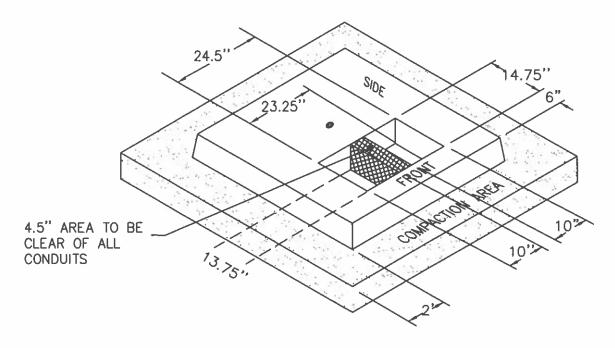
Spacer representation (A) (See 3.47)

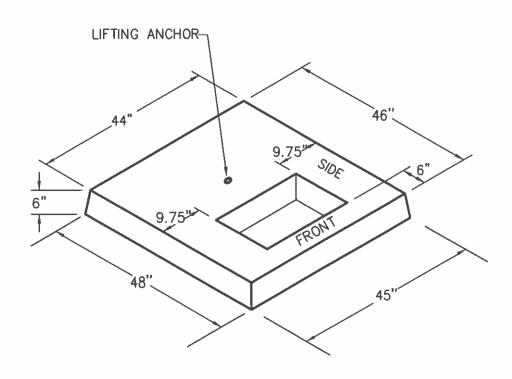
### 3.49 Table 6 Spacers Clearances

TABLE 6 CONDUIT SPACER CLEARANCES					
CONDUIT SIZE	DUCT TO DUCT SEPARATION		CLEARANCE TRENCH TO CONDUIT		
	HORIZONTAL	VERTICAL	SIDE	воттом	TOP
3"	3"	3"	3"	3"	3"
4"	3"	3"	3"	3"	3"
5"	3"	3"	3"	3"	3"
6"	3"	3"	3"	3"	3"

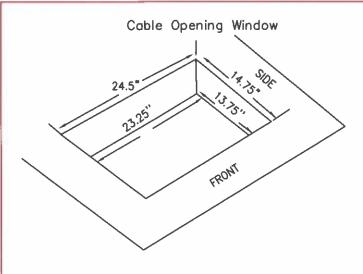
- All conduits entering transformer pads shall be cut off 0 inch to 1 inch from above the top of the pad. All conduits will be required to be capped using low density polyethylene (LDPE) plugs with pull tabs. See 5.28, Table 7, Poly Plug (dimensions shown shall be approximate).
- 5.2 Single phase transformer pads installed adjacent to roads shall have the primary conduits installed closest to the road, and secondary conduits installed away from the road. (Contact the appropriate IID Customer Service Project Manager).
- Precast Pad inspection; when the contractor receives or installs a precast pad that has a continuous crack across three sides (side, top, and inside window) this pad will be rejected by the IID inspector. When a crack is non-continuous and the crack exceeds 1/32 inch (.032") wide, the contractor may make appropriate repairs to the crack with a manufacture approved epoxy equal to CIA-GEL 7000. The contractor must inform the IID inspector of any crack repair(s) to be made <u>before</u> repair is made.
- 5.4 No other utility will be allowed to occupy the area under a transformer pad. See 3.12 standard 100.41 Section A A.
- 5.5 All Transformer, single phase Sector precast pads, and Sector Sleeves will <u>not</u> be installed until the following compaction process has been completed:
  - 5.5.1 Location of all transformer precast pad, single phase sector precast pads, and sector sleeves to be a compaction of 90% minimum by Developer/Contractor.
  - 5.5.2 Compaction material will conform to Caltrans Class 2 aggregate base or crusher fines with 3/8 inch rock.
  - 5.5.3 Compaction will be performed at a minimum of 2 feet (24") beyond proposed transformer and single phase sector precast pads on all four sides.
  - 5.5.4 Compaction depth will be a minimum of 1 foot (12") depth.
  - 5.5.5 Developer/Contractor will contact IID Inspector after compaction has been completed. IID Inspector must pass visual compaction prior to compaction test.
  - 5.5.6 After IID Inspector visually passes compaction, at the expense of the Developer/Contractor, will obtain a compaction test.
    - 5.5.6.1 NOTE: A maximum of ½ inch (.50") of sand fill will be approved for leveling of compaction area. If the sand fill exceeds the maximum requirement, the IID Inspector will fail the compaction.

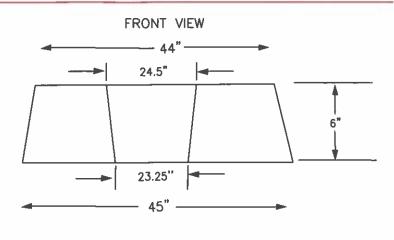
- 5.5.7 Compaction testing should conform to ASTM D6938 (Nuclear Gauge).
- 5.5.8 IID Inspector will identify a minimum of 3 testing points to a maximum of 4 testing points at the discretion of the IID Inspector.
- 5.5.9 Testing probe (source rod) will extend to a minimum depth of 8 inches on all identified testing points.
- 5.5.10 After compaction test report is reviewed by the IID Inspector, the Inspector must be present when Developer/Contractor installs all precast pads.
  - 5.5.10.1 NOTE: After compaction test has been reviewed by IID Inspector, all precast pad(s) must be installed within 24 hours. If precast pad(s) is not installed within allotted time, IID will require a re-test at the Developer's expense.
- 5.6 Single Phase Transformer Pad 25 KVA to 167 KVA. Used in Imperial Valley. See 5.7 and 5.8 standard 135 and 135.1
  - 5.6.1 Approved single phase transformer pad manufacturers see 5.8 standard 135.1

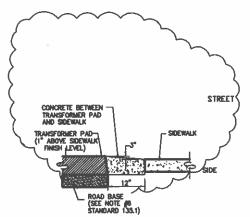


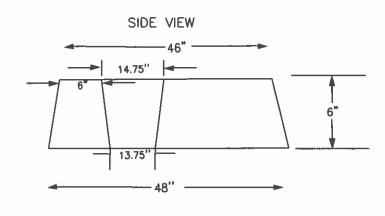


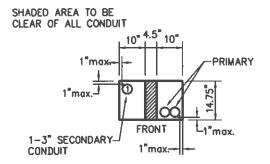
		IMPERIAL IRRIGATION	N DISTRICT	
Drawn By	Bryan A.	DISTRICT		
Reviewed	Francisco F.		PRECAST CONCRETE PAD DETAIL FOR SINGLE-PHASE TRANSFORMER	PAGE 1 OF 2
Approved	Francisco F.	1	15KVA TO 167KVA	TAGE TOT 2
Revision	REV-4	refer		
Date	3-17-2022	135		

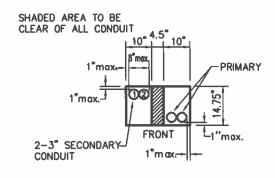


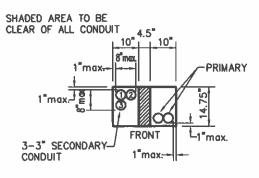


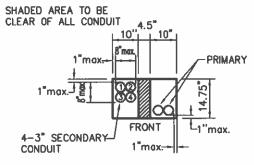












		IMPERIAL IRRIGATION	DISTRICT	
Drawn By	Bryan A.	DISTRICT		
Reviewed	Francisco F.		PRECAST CONCRETE PAD DETAIL FOR SINGLE-PHASE TRANSFORMER	PAGE 2 OF 2
Approved	Francisco F.		15KVA TO 167KVA	TAGE 2 OF 2
Revision	REV-4	roba		
Date	3-17-2022	135	<del></del>	

- 1. A PRECAST CONCRETE PAD SHALL BE USED.
- 2. APPROVED MANUFACTURERS AND STRUCTURES.

SINGLE PHASE 15 kVA - 167 kVA TRANSFORMER PAD IMPERIAL					
MANUFACTURER	PHONE No.	STRUCTURE No.	DIMENSIONS FRONT/SIDE/THICKNESS		
SUPERIOR READY MIX	(760)352-4341	3421 HLR	44"(F) X 46"(S) X 6"(T)		
JENSON PRECAST	1-800-257-6100	PD4446-T6-25	44"(F) X 46"(S) X 6"(T)		
OLD CASTLE	1-800-626-3860	IID 4846-06 PAD	44"(F) X 46"(S) X 6"(T) Bottom		

(F) = FRONT

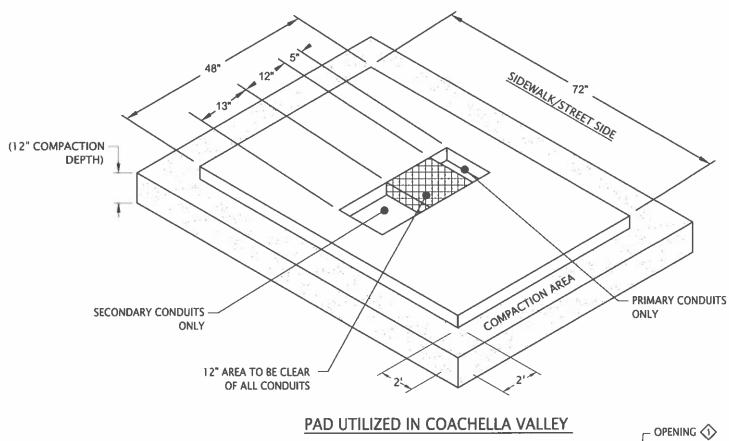
(S) = SIDE

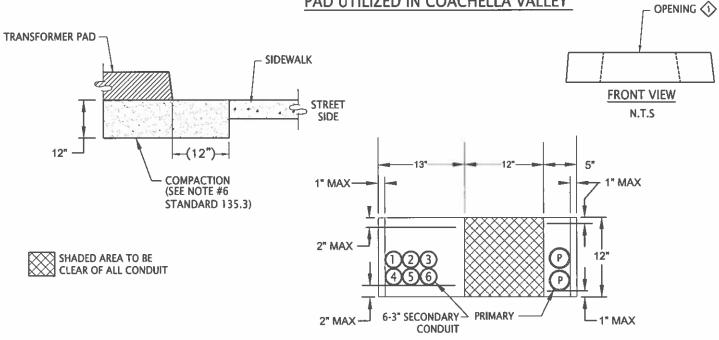
(T) = THICKNESS

- CONTRACTOR TO PROVIDE TWO 5/8"x10' COPPERWELD GROUND RODS PER PAD (INSTALLATION BY CONTRACTOR).
- 4. SIZE AND NUMBER OF CONDUITS IN EACH PAD TO BE AS SHOWN ON CONDUIT LAYOUT.
- 5. ANCHORAGE TO BE SET BY I.I.D. WHEN TRANSFORMER IS INSTALLED.
- 6. CONTRACTOR SHALL PROVIDE & INSTALL 12" OF CLASS 2 AGGREGATE ROAD BASE MATERIAL OR CRUSHER FINES WITH ¾" ROCKS UNDERNEATH TRANSFORMER PAD, AND COMPACT ALL ROAD BASE UNDERNEATH TRANSFORMER PAD TO A MINIMUM COMPACTION OF 90%. SEE STANDARD 135 SECTION 3, 3.4.
- CONDUITS TO TERMINATE 1" ABOVE TOP OF TRANSFORMER PAD.

		IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	ge.		ON THE	PRECAST CONCRETE PAD DETAIL FOR
REVIEWED	-40			
APPROVED	ME		*//	SINGLE-PHASE TRANSFORMER
REVISION	REV 7		noin	25KVA TO 167KVA
DATE	9-27-2016		135.1	

- 5.9 Single Phase Transformer Pad 25 kVA to 167 kVA. Used in Coachella Valley. See 5.10 and 5.11 standard 135.2 and 135.3
  - 5.9.1 Approved single phase transformer pad manufacturers see 5.11 standard 135.3





#### NOTE:

WINDOW OPENING ON TOP OF PAD IS SLIGHTLY SMALLER THAN BOTTOM OPENING A RESULT OF FORM CONSTRUCTION

		IMPERIAL IF	RIGATION	DISTRICT
DRAWN BY	2		DISTRICT	PRECAST CONCRETE PAD DETAIL FOR
REVIEWED	-65		P	
APPROVED	ME	COACHELLA VALLEY	z.Fin	SINGLE-PHASE TRANSFORMER
REVISION	REV 3		FORM	25KVA TO 167KVA
DATE	1-23-2017		135.2	
16			156	

- 1. A PRECAST CONCRETE PAD SHALL BE USED.
- 2. APPROVED MANUFACTURERS AND STRUCTURES.

SINGLE PHASE	SINGLE PHASE 15 kVA- 167 kVA TRANSFORMER PAD - LA QUINTA					
MANUFACTURER PHONE No. STRUCTURE No. DIMENSIONS FRONT/SIDE/THICKNESS						
JENSON PRECAST	1-800-257-6100	PD4872-T6-25	46"(F) X 70"(S) X 6"(T)			
OLD CASTLE	1-800-626-3860	IID-4872-06TP	48"(F) X 72"(S) X 6"(T)			

(F) = FRONT

(S) = SIDE

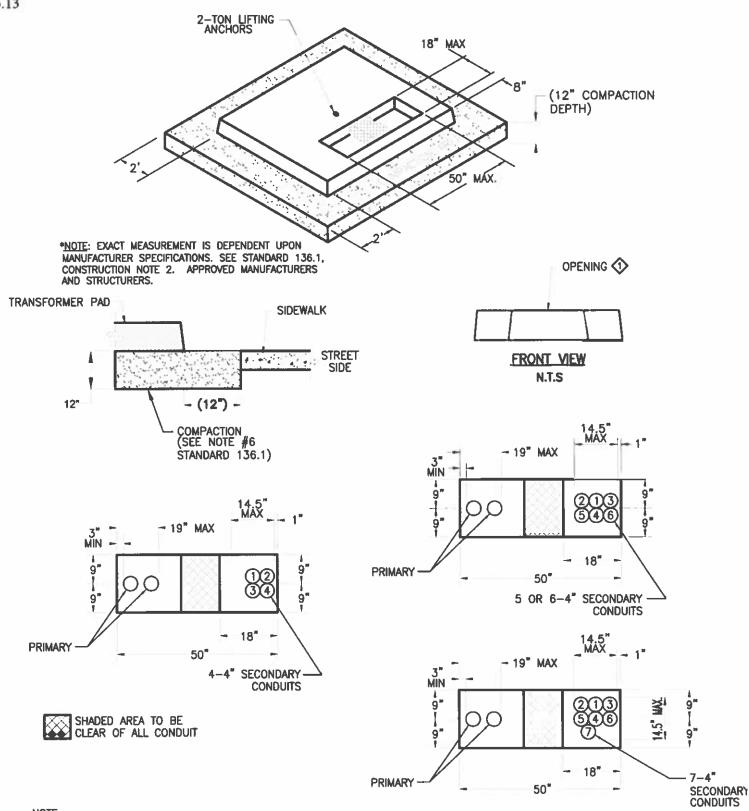
(T) = THICKNESS

- CONTRACTOR TO PROVIDE TWO 5/8"x10' COPPERWELD GROUND RODS PER PAD (INSTALLATION BY CONTRACTOR).
- 4. SIZE AND NUMBER OF CONDUITS IN EACH PAD TO BE AS SHOWN ON CONDUIT LAYOUT.
- 5. ANCHORAGE TO BE SET BY 1.1.D. WHEN TRANSFORMER IS INSTALLED.
- 6. CONTRACTOR SHALL PROVIDE & INSTALL 12" OF CLASS 2 AGGREGATE ROAD BASE MATERIAL OR CRUSHER FINES WITH ¾" ROCKS UNDERNEATH TRANSFORMER PAD, AND COMPACT ALL ROAD BASE UNDERNEATH TRANSFORMER PAD TO A MINIMUM COMPACTION OF 90%. SEE STANDARD 135, SECTION 3, 3.4.
- CONDUITS TO TERMINATE 1" ABOVE TOP OF TRANSFORMER PAD.
- 8. PRECAST PAD UTILIZED IN LA QUINTA

		IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	gc .		DISTRICT	PRECAST CONCRETE PAD DETAIL FOR
REVIEWED	-60	COACHELLA VALLE		
APPROVED	ME	COACHELLA VALLE		SINGLE-PHASE TRANSFORMER
REVISION	REV 3		Heart.	25KVA TO 167KVA
DATE	9-27-2016		135.3	

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- 5.12 Three Phase Transformer Pad 45 kVA to 500 kVA. See 5.13 and 5.14 standard 136 and 136.1
  - 5.12.1 Approved three phase transformer pad manufacturers see 5.14 standard 136.1



#### NOTE:

WINDOW OPENING ON TOP OF PAD IS SLIGHTLY SMALLER THAN BOTTOM OPENING A RESULT OF FORM CONSTRUCTION

		IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	90	January St. January Const.	District.	PRECAST CONCRETE PAD DETAIL FOR
REVIEWED	-60			
APPROVED	ME			THREE-PHASE TRANSFORMERS
REVISION	REV 7		REED	45KVA TO 500KVA
DATE	9-27-2016		136	

- 1. A PRECAST CONCRETE PAD SHALL BE USED.
- 2. APPROVED MANUFACTURERS AND STRUCTURES.

50 kVA - 500 kVA TRANSFORMER PAD						
MANUFACTURER	PHONE No.	STRUCTURE No.	FRONT/SIDE/THICKNESS DIMENSIONS			
SUPERIOR READY MIX	(760) 352-4341	3426 HLR	94"(F) X 73"(S) X 8"(T)			
JENSEN PRECAST	1-775-3 <b>5</b> 2-2700	PD7296-T8-25	96"(F) X 72"(S) X 8"(T)			
OLD CASTLE	1-800-626-3860	IID-7296-8-TP	96"(F) X 72"(S) X 8"(T)			

(F) = FRONT

(S) = SIDE

(T) = THICKNESS

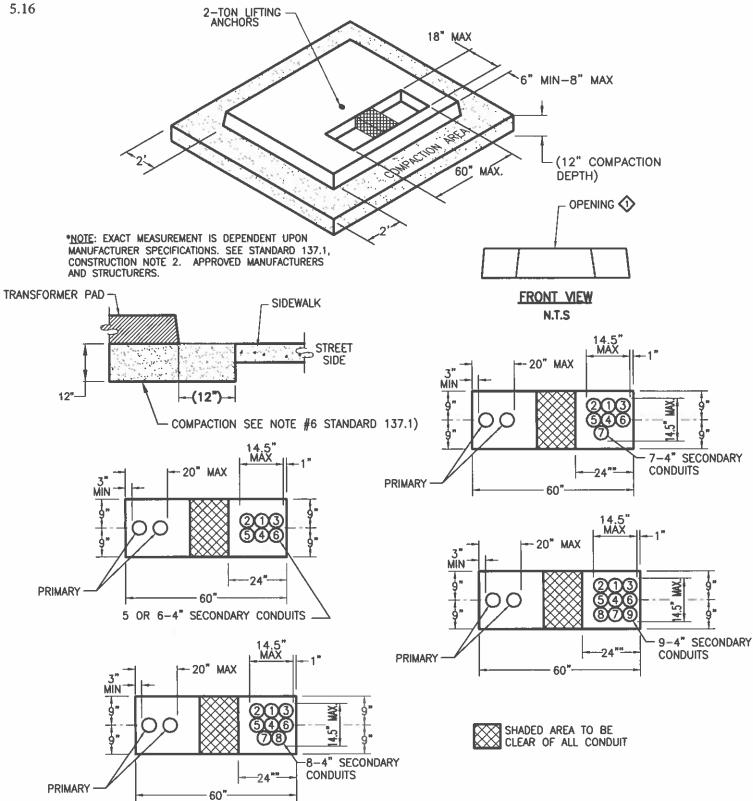
- CONTRACTOR TO PROVIDE TWO 5/8"x10' COPPERWELD GROUND RODS PER PAD (INSTALLATION BY CONTRACTOR).
- 4. SIZE AND NUMBER OF CONDUITS IN EACH PAD TO BE AS SHOWN ON CONDUIT LAYOUT.
- 5. ANCHORAGE TO BE SET BY I.I.D. WHEN TRANSFORMER IS INSTALLED.
- 6. CONTRACTOR SHALL PROVIDE & INSTALL 12" OF CLASS 2 AGGREGATE ROAD BASE MATERIAL OR CRUSHER FINES WITH 36" ROCKS UNDERNEATH TRANSFORMER PAD, AND COMPACT ALL ROAD BASE UNDERNEATH TRANSFORMER PAD TO A MINIMUM COMPACTION OF 90%. SEE STANDARD 136. SECTION 3, 3.4.
- CONDUITS TO TERMINATE 1" ABOVE TOP OF TRANSFORMER PAD.

		IMPERIAL	IRRIGATION	DISTRICT
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REVIEWED	200		- 1	
APPROVED	ME		1	THREE-PHASE TRANSFORMER
REVISION	REV 7			45KVA TO 500KVA
DATE	9-27-2016		138.1	

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- 5.15 Three Phase Transformer Pad 750 kVA to 2500 kVA. See 5.16 and 5.17 standard 137 and 137.1
  - 5.15.1 Approved three phase transformer pad manufacturers see 5.17 standard 137.1





NOTE:

WINDOW OPENING ON TOP OF PAD IS SLIGHTLY SMALLER THAN BOTTOM OPENING A RESULT OF FORM CONSTRUCTION

		IMPERIAL	IRRIGATION	DISTRICT
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APPROVED	ME		1.//	THREE-PHASE TRANSFORMERS
REVISION	REV 7		reio	750KVA TO 2500KVA
DATE	9-27-2016		137	

- 1. A PRECAST CONCRETE PAD SHALL BE USED.
- 2. APPROVED MANUFACTURERS AND STRUCTURES:

750 kVA - 2500 kVA TRANSFORMER PAD					
MANUFACTURER PHONE No. STRUCTURE No. DIMENSIONS FRONT/SIDE/THICKNE					
SUPERIOR READY MIX	(760)352-4341	3427HLR	96"(F) X 96"(S) X 8"(T)		
JENSON PRECAST	1-800-257-6100	9696-T8-25	96"(F) X 96"(S) X 8"(T)		
OLD CASTLE	1-800-626-3860	IID-9696-08P	96"(F) X 96"(S) X 8"(T)		

(F) = FRONT

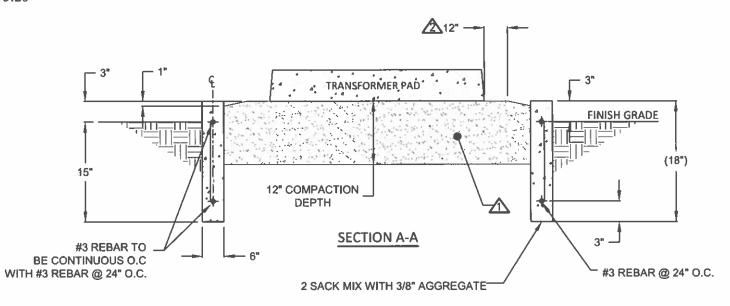
(S) = SIDE

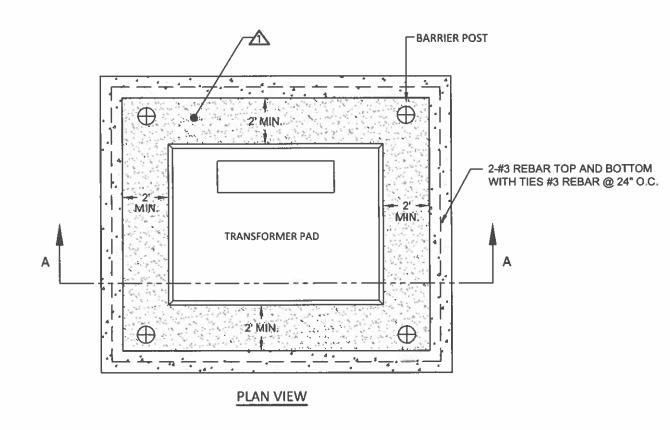
(T) = THICKNESS

- 3. CONTRACTOR TO PROVIDE TWO 5/8"x 10' COPPERWELD GROUND RODS PER PAD (INSTALLATION BY CONTRACTOR.)
- 4. SIZE AND NUMBER OF CONDUITS IN EACH PAD TO BE AS SHOWN ON CONDUIT LAYOUT.
- 5. ANCHORAGE TO BE SET BY I.I.D. WHEN TRANSFORMER IS INSTALLED.
- 6. CONTRACTOR SHALL PROVIDE & INSTALL 12" OF CLASS 2
  AGGREGATE ROAD BASE MATERIAL OR CRUSHER FINES WITH 36"
  ROCKS UNDERNEATH TRANSFORMER PAD, AND COMPACT ALL
  ROAD BASE UNDERNEATH TRANSFORMER PAD TO A MINIMUM
  COMPACTION OF 90%. SEE STANDARD 135. SECTION 3, 3.4.
- 7. CONDUITS TO TERMINATE 1" ABOVE TOP OF TRANSFORMER PAD.

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APPROVED	ME		1000	THREE-PHASE TRANSFORMERS
REVISION	REV 8		nin	750KVA TO 2500KVA
DATE	9-27-2016		137.1	

- 5.18 No landscaping will be allowed including sprinkler systems within the compacted area.
- 5.19 A concrete curb will be required when compaction grade level does not meet finished grade level. See 5.20 Standard 100.9





#### NOTES:

COMPACTED AREA SHALL BE CALTRANS CLASS 2 AGGREGATE BASE OR CRUSHER FINES WITH 3/8" ROCKS.

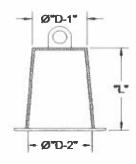
SECTION 5.5 COMPACTION PROCESS.

A MAXIMUM OF 1/2" OF SAND FILL WILL BE APPROVED FOR LEVELING OF COMPACTION AREA. SECTION 5.5 COMPACTION PROCESS.

		IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	ge.		DISTRICT	TRANSFORMER DAD
REVIEWED	-(2)	]		TRANSFORMER PAD
APPROVED	ME		1	CONCRETE RE-ENFORCEMENT
REVISION	REV 3		spirit.	CURB DETAIL
DATE	9-27-2016		100.9	

- All transformer precast pads, sector sleeves, pull boxes, manholes, vaults, and switch pad installations shall be installed 3 inches above final grade (where not installed along sidewalks) and flush with final sidewalk for those types of installations. In areas with sloping contours greater than 1/4" (.25") to the foot, the top edge shall be set as shown below highest point of slope. (In no case shall there be more than 3 inches of slope in 1 foot (12") of horizontal measurement).
- 5.22 Contractor/Developer shall keep all debris away from IID's transformer pads, primary vaults, secondary pull boxes, and other IID equipment to give IID personnel access during the duration of the project.
- 5.23 Excavation for vaults, junction pads, secondary pullboxes and conduits shall be made to the proper depth (Refer to 3.26). After proper installation and inspection have been completed, compacted backfill (native soil or Caltrans Class 2 aggregate base or crusher fines with 3/8 inch rock) shall be made to the finished level. All surplus excavation shall be disposed of in a satisfactory manner.
- 5.24 Contractor is responsible for permanent and waterproof markings on all interior vault knockouts, any and all conduits, conduit runs, and stub outs, with the conduit number corresponding to the number shown on the plans.
- 5.25 Contractor shall seal or grout around seams, lid sections, and ducts entering vaults and pullboxes to prevent soil and water entering at joints or openings.
- 5.26 Where the external diameter of the conduit is smaller than the diameter of the opening in the vault wall, the reduction in conduit diameter shall take place 2 feet (24") from the external wall of the vault. (Refer to 3.28 and 3.30 Standard 100.142).
- 5.27 All conduits entering secondary pull boxes or splice boxes shall be cut off 7 inches to 9 inches above the pea gravel. All conduits will be required to be capped using polyethylene plugs with pull tabs. See 5.28 Table 7, Poly Plugs.

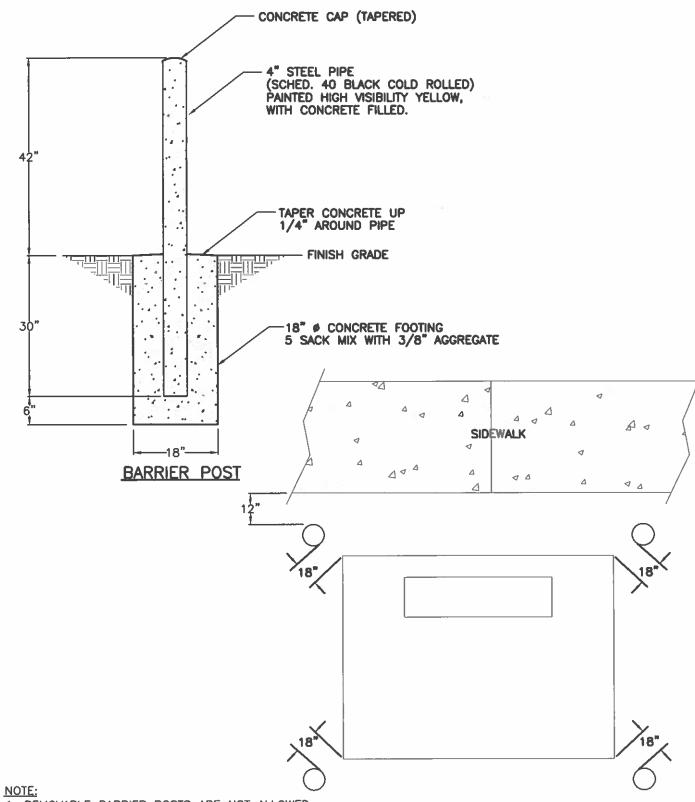




### 5.28 Table 7 Poly Plugs

Trade Size	"L"	Ø "D – 1"	Ø "D – 2"
3"	3.750"	2.875"	3.500"
4"	3.875"	3.750"	4.500"
5"	3.750"	4.875"	5.625"
6"	3.875"	5.625"	6.875"

- 5.29 Barrier posts shall be 4" diameter pipe schedule 40 black cold rolled steel, painted high visibility yellow.
- 5.30 Barrier posts require a concrete fill/foundation. See 5.32 Standard 181.6.
- 5.31 IID will not accept removable barrier posts.

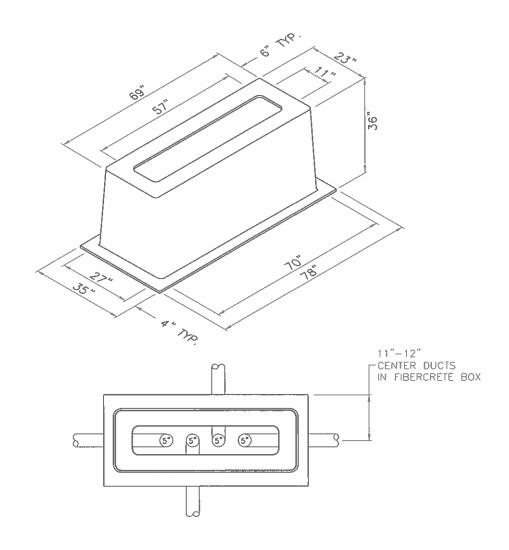


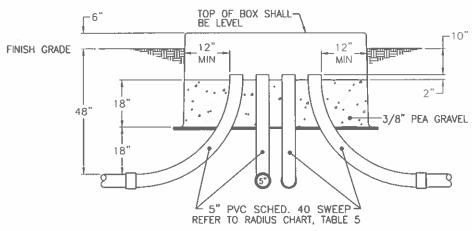
- 1. REMOVABLE BARRIER POSTS ARE NOT ALLOWED.
- 2. IMPERIAL VALLEY TRANSFORMER PAD SHOWN.

		IMPERIAL	IRRIGATION	DISTRICT	
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REVIEWED	-(22		- 2		P031
APPROVED	ME		100	DETAIL	
REVISION	REV 5		reion		
DATE	9-27-2016		181.6		

- 5.33 To comply with California General Order 128, rule 21.5A, the contractor is required to provide and install, a minimum of 2 5/8" x 10' ground rods. Copperweld ground rods shall be installed at each transformer pad and junction pad, and primary vault. (See 5.22.1 5.22.4).
- 5.34 The Developer/Contractor is responsible for driving any and all ground rods in the system that is a joint trench. This will be predetermined and completed before IID construction crews arrive on the job.
- 5.35 Trench and pad grounding:

5.35.1	Single phase transformer see 5.36 and 5.36.1 Standard 190.2-190.21
5.35.2	Three phase transformer see 5.37 and 5.37.1 Standard 190.3-190.31
5.35.3	Single phase sector see 5.38 and 5.38.1 Standard <u>190.4-190.41</u>
5.35.4	Three phase sector see 5.39 and 5.39.1 Standard <u>190.5-190.51</u>





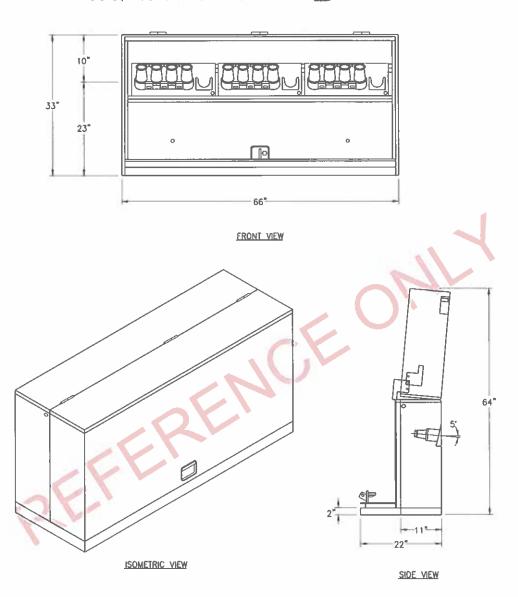
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		100 1 H 10 1	THREE PHASE SECTOR
-65			
MK		200	SLEEVE INSTALLATION DETAILS
REV 7		reto	
12-19-2016		171.2	
	REV 7	REV 7	REV 7

- COMPACT ALL BACKFILL FOR EXCAVATION UNDER SECTOR SLEEVE TO 90% BEFORE FIBERCRETE BOX PAD INSTALLATION.
- 2. CONTRACTOR SHALL PROVIDE & INSTALL 3/8" PEA GRAVEL MATERIAL UNDERNEATH SECTOR SLEEVE, AND 18" INSIDE OF BOX FOR SUPPORT AND DRAINAGE.
- 3. CONTRACTOR TO PROVIDE TWO  $5/8" \times 10"$  COPPERWELD GROUND RODS PER SECTOR SLEEVE (INSALLATION BY CONTRACTOR.
- 4. SIZE AND NUMBER OF CONDUITS IN EACH SECTOR SLEEVE TO BE AS SHOWN ON CONDUIT LAYOUT.
- 5. CONDUITS NEED TO BE CENTERED IN FIBERCRETE BOX.
- ALL PRIMARY SWEEPS TO BE PVC SCHEDULE 40, REFER TO TABLE 5 RISER SWEEP RADIUS.
- 7. GUARD POSTS MAY BE REQUIRED AT DISCRETION OF I.I.D. INSPECTOR.
- 8. ANCHORAGE TO BE SET BY I.I.D. WHEN TRANSCLOSURE IS INSTALLED.
- 9. APPROVED MANUFACTURERS AND STRUCTURES:

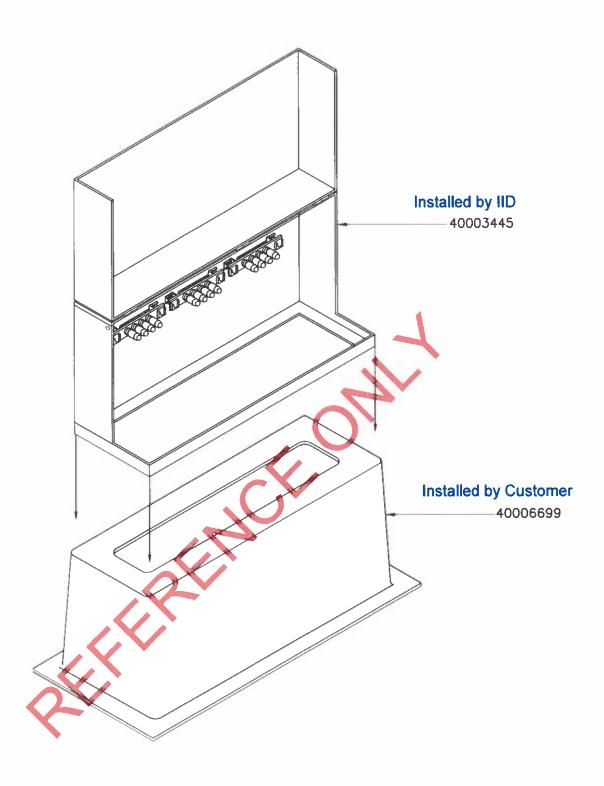
MANUFACTURER	PHONE No.	STRUCTURE No.
CONCAST, INC	REXEL (760) 352-4941	FC-23-69-36-1157

		IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	ge_		100 44 24	THREE PHASE SECTOR
REVIEWED	-(3)			
APPROVED	ME			SLEEVE INSTALLATION DETAILS
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DATE	12-09-2013		171.21	

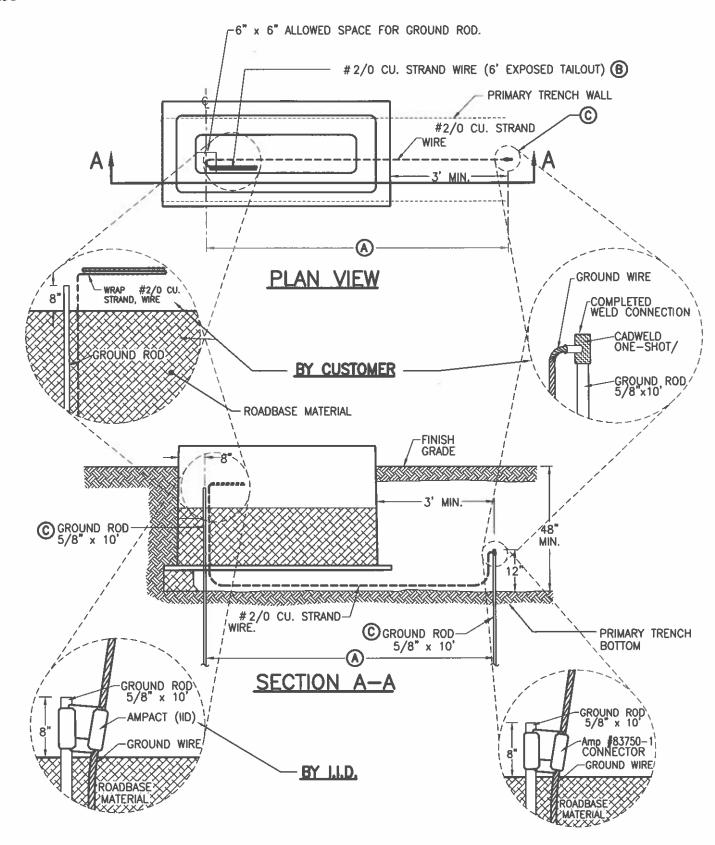
SCOPE: THIS STANDARD SHOWS THE PAD-MOUNTED, THREE-PHASE, LOW PROFILE CABLE TERMINATING CABINET, PREFERRED INSTALLATION WHEN TERMINATING 4/0 AND SMALLER CABLE.



		IMPERIAL	IRRIGATION	DISTRICT
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APPROVED	ME	40003445	-X./	THREE PHASE SECTOR
REVISION	REV 3		rein	
DATE	1.3.2017		170.3	



		IMPERIAL	IRRIGATION	DISTRICT	
DRAWN BY	98.		106.7888.7	-	
REVIEWED	-60		2		AN DAY DID
APPROVED	ME			THREE PHASE SECTOR	ON BOX PAD
REVISION	REV 4		agin /		
DATE	1.3.2017		174.2		



		IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	<b>%</b>		COSTRUCT	THREE BLACE CECTOR CLEDA
REVIEWED	40		2	THREE PHASE SECTOR SLEEVE
APPROVED	ME			GROUNDING DETAIL
REVISION	REV 7		nán)	TO BE INSTALLED BY CONTRACTOR
DATE	11-21-2016		190.5	

- (A) GROUND RODS TO HAVE A 6'-0" MINIMUM SEPARATION.
- (B) WRAP 6' OF WIRE (EXPOSED TAILOUT)
- © LOCATE GROUND RODS SO THEY DO NOT TOUCH CONDUITS. GENERAL ORDER 128 REQUIRES GROUND RODS TO BE DRIVEN.

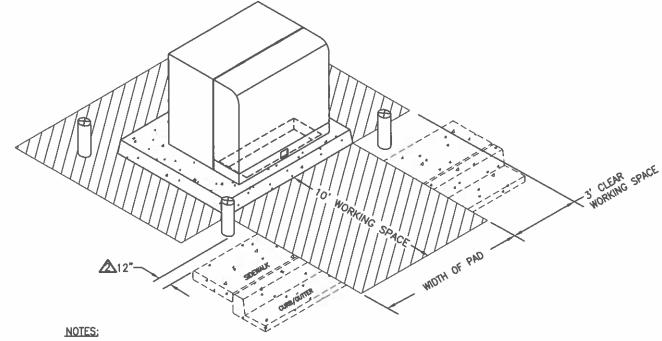
#### BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	STOCK No.	PAGE No.
1	1	SECTOR SLEEVE SEE STANDARD 171.2		
2	1	CADWELD, ONE-SHOT/ Amp #83750-1 CONNECTOR	40003365	
3	20'	WIRE - COPPER 00 2/0 STRAND, SOFT DRAWN BARE	40004222	
4	2	GROUND ROD, 5/8" x 10', COPPERWELD	40003814	

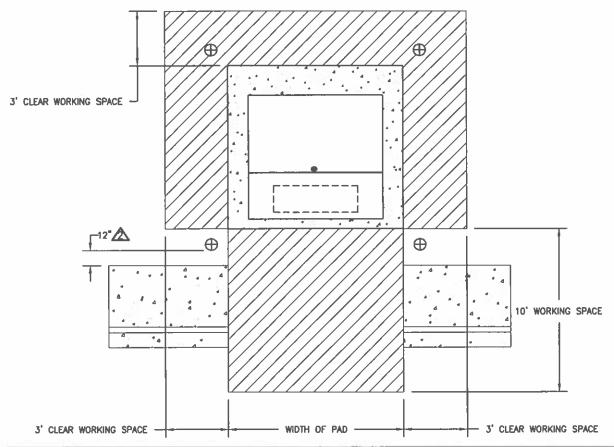
#### NOTES:

THE SERVICE TRENCH IS ON PRIVATE PROPERTY AND BELONGS TO THE CUSTOMER, THEREFORE, THE TRENCH GROUND WIRE <u>SHOULD NOT</u> BE INSTALLED IN THE CUSTOMER TRENCH.

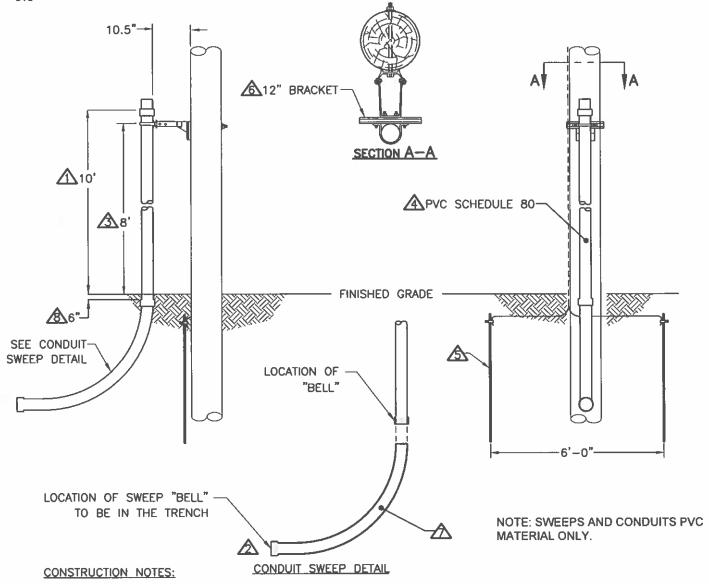
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APPROVEO	ME			GROUNDING DETAIL
REVISION	REV 7		suite.	TO BE INSTALLED BY CONTRACTOR
DATE	11-21-2016		190.51	



- 1. THE PURPOSE OF THIS DRAWING IS TO ILLUSTRATE THE REQUIRED CLEARANCES FROM AN I.I.D TRANSFORMER TO OTHER UTILITIES (18") AND MINIMUM HOT STICK CLEARANCE.
- WHEN BARRIER POSTS ARE REQUIRED, REFER TO BARRIER POST DETAIL 181.6, SECTION 5.32. IF BARRIER POSTS ARE NOT REQUIRED, TRANSFORMER PRECAST PAD SHALL HAVE A 12" (1') OFFSET BEHIND SIDEWALK.



7 11/25 111	Variety of the	IMPERIAL	IRRIGATION	DISTRICT
DRAWN BY	98		OPE CHART	PRECAST TRANSFORMER PAD
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APPROVED	ME			SPATIAL CLEARANCES
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DATE	9-29-2016		202.4	- NO.



CONDUIT INSTALLATION TO BE COMPLETED BY THE CUSTOMER OR CONTRACTOR UP TO 10' ABOVE FINISHED GRADE AS SHOWN.

AREFER TO CONTRACTORS NOTES DISTRIBUTION PLAN FOR DIRECTION OF THE SWEEP AND RISER POSITION.

AFIRST CONDUIT BRACKET TO BE INSTALLED APPROXIMATELY 8 FEET ABOVE FINISHED GRADE.

AREFER TO CONTRACTORS NOTES DISTRIBUTION PLAN FOR SIZE OF SCHEDULE 80 PVC ABOVE GROUND.

SGROUND RODS TO BE INSTALLED BY IID.

BRACKETS TO BE SUPPLIED BY IID UNLESS OTHERWISE NOTED.

ACONDUIT SWEEP TERMINATING AT RISER POLE SHALL BE SCHEDULE 80 WITH A MINIMUM 4' (48") RADIUS, SEE STANDARD 100.12. REFER TO CONTRACTORS NOTE 4H AND REFER TO TABLE 5 RISER SWEEP RADIUS.

#### ALL RISER SWEEPS TO BE INSTALLED 6" BELOW FINISHED GRADE.

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APPROVED	ME			PRIMARY RISER POLE		
REVISION	REV 05		notice .			
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