

Q-STREET CONDUIT TRENCH DETAIL

NOTES:

1. Pull tape and detectable pull tape shall be installed in continuous, unbroken runs from pull box to pull box. Detectable pull tape shall not be removed. Pull tape shall be used for cable or innerduct installation.
2. Warning tape shall be centered over conduit and installed at a depth of 6"-8" below finished grade. The warning tape shall be 4 mil inert plastic and shall be a minimum of 3" wide bearing the words "CAUTION-FIBER OPTIC CABLE BURIED BELOW" in black letters on an orange background. Fiber optic warning tape shall extend into pull boxes.
3. Conduit shall be blown out with compressed air and have a metal disk mandrel pulled through prior to use. The size of the mandrel shall be 90% of the inside diameter of the conduit.
4. Conduit shall be Schedule 40 PVC, unless otherwise called for on the Project Plans.
5. All native backfill material shall be compacted to 95% of maximum density.
6. Conduit horizontal and vertical alignment offsets are to be accomplished by a uniform rate of conduit deflection over a distance equal to or greater than ten (10) times the offset distance.
7. When conduit is installed via open trench under existing pavement or sidewalk, the trench shall be backfilled with 1/2 sack CLSM from the bottom of trench to the bottom of asphalt or sidewalk. Asphalt mix and surface treatment shall be as directed by the Engineer, and conform to Town of Queen Creek standards.
8. Duct spacers shall be placed at 10' intervals and shall provide 1 1/2" min. between conduit. Duct spacers shall be approved by the Engineer prior to installation.

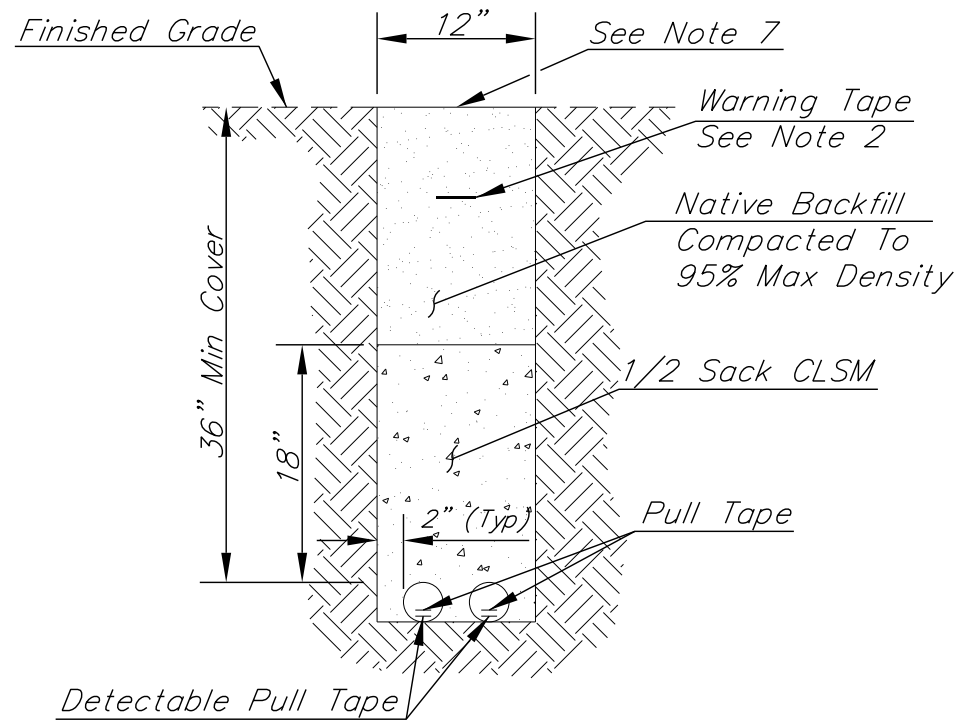
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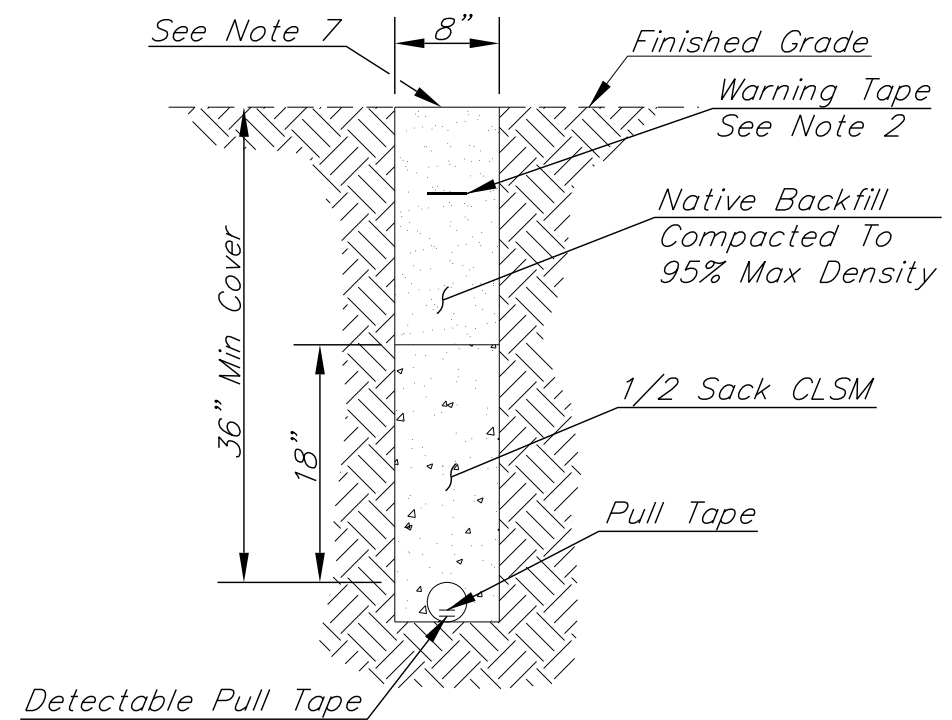
**TOWN OF QUEEN CREEK  
STANDARD DETAIL**

**Q-STREET CONDUIT  
TRENCH DETAIL**

**ITS-01**



2-3" CONDUIT TRENCH DETAIL



1-3" CONDUIT TRENCH DETAIL

NOTES:

1. Pull tape and detectable pull tape shall be installed in continuous, unbroken runs from pull box to pull box. Detectable pull tape shall not be removed. Pull tape shall be used for cable or innerduct installation.
2. Warning tape shall be centered over conduit and installed at a depth of 6"-8" below finished grade. The warning tape shall be 4 mil inert plastic and shall be a minimum of 3" wide bearing the words "CAUTION-FIBER OPTIC CABLE BURIED BELOW" in BLACK letters on an orange background. Fiber optic warning tape shall extend into pull boxes.
3. Conduit shall be blown out with compressed air and have a metal disk mandrel pulled through prior to acceptance. The size of the mandrel shall be 90% of the inside diameter of the conduit.
4. Conduit shall be Schedule 40 PVC.
5. All native backfill material shall be compacted to 95% of maximum density.
6. Conduit horizontal and vertical alignment offsets are to be accomplished by a uniform rate of conduit deflection over a distance equal to or greater than ten (10) times the offset distance.
7. When conduit is installed via open trench under existing pavement or sidewalk, the trench shall be backfilled with 1/2 sack CLSM from the bottom of trench to the bottom of asphalt or sidewalk. Asphalt mix and surface treatment shall be as directed by the Engineer, and conform to Town of Queen Creek standards.

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





**TOWN OF QUEEN CREEK  
STANDARD DETAIL**

**INTERCONNECT CONDUIT  
TRENCH DETAILS**

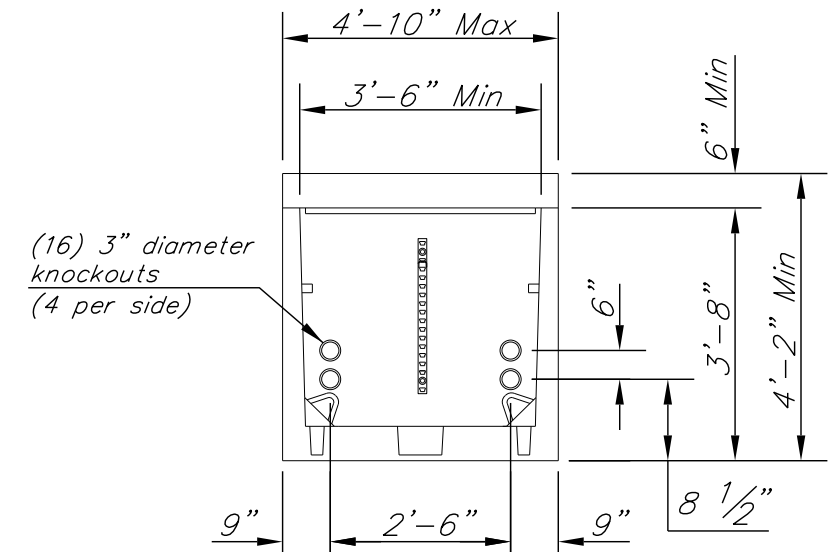
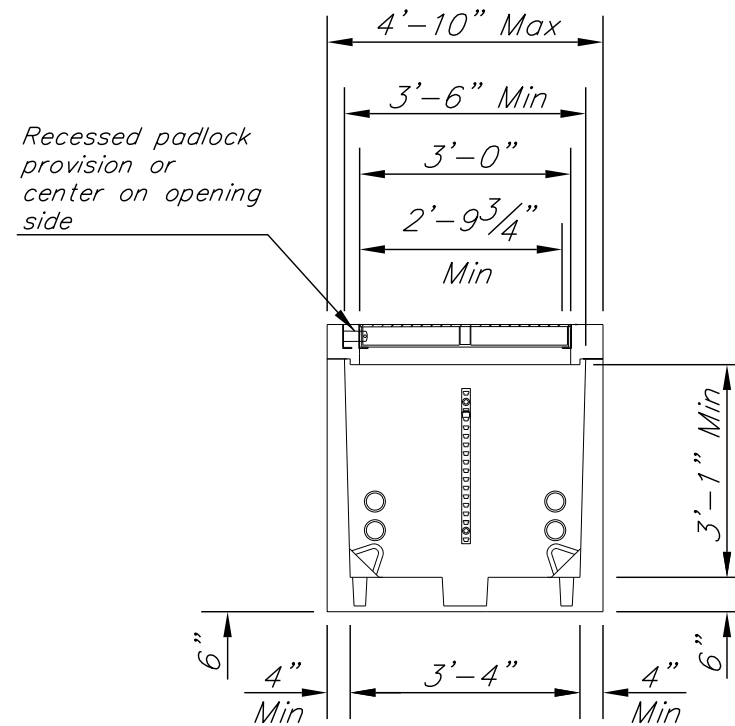
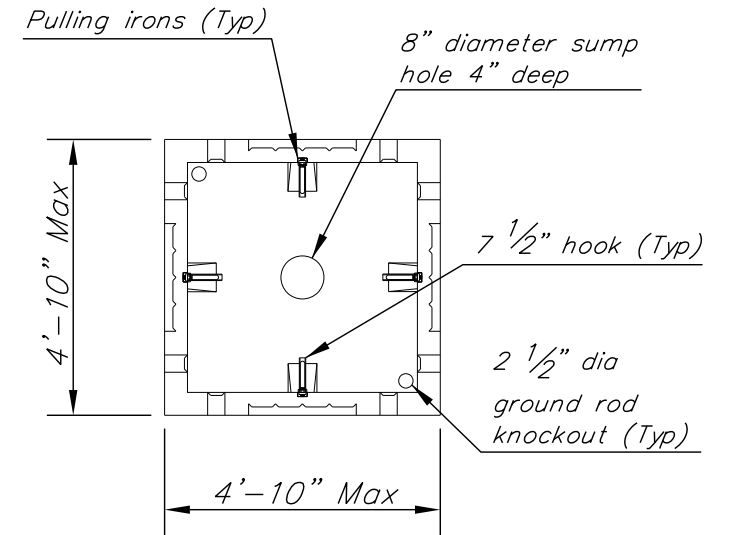
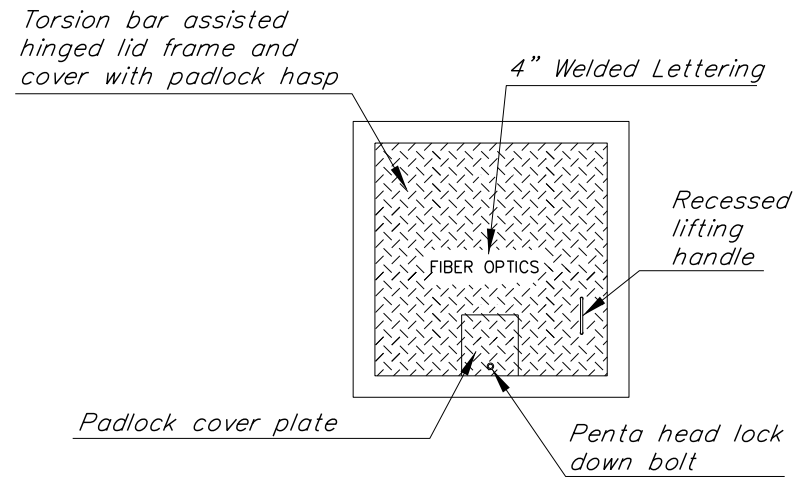
**ITS-02**

**RACKING PACKAGE**

-  4 - 18 Hole Rack
-  8-1/2" SPRING
-  NUTS AND BOLT
-  8-7 1/2" HOOKS

**NOTES:**

1. CONCRETE: 28 DAY COMPRESSIVE STRENGTH  $f'_c = 4,500$  PSI, Min
2. REBAR ASTM A-615 GRADE 60
3. MESH: ASTM A-185 GRADE 65
4. DESIGN: ACI-318-99 BUILDING CODE AND ASTM C-857 "MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE LOADING STRUCTURES"
5. LOADS: HS20-44 WHEEL LOADING IN OFF-STREET LOCATIONS WHERE NOT SUBJECTED TO HIGH DENSITY TRAFFIC.  
80 PSF LATERAL LIVE LOAD  
SOIL: 40 PCF LATERAL SOIL PRESSURE ABOVE WATER  
TABLE 80 PCF LATERAL SOIL PRESSURE BELOW WATER  
TABLE 120 PCF SOIL DENSITY
6. SOIL COVER: 0' TO 5' (MAX)
7. WATER TABLE: 5'-0" BELOW GRADE
8. "FIBER OPTICS" SHALL BE THE TITLE INSCRIBED ON LID.
9. GROUND LUG SHALL BE ATTACHED TO LID FRAME FOR COVER GROUNDING, PER NEC.
10. COVER SHALL OPEN TO 180-DEGREE POSITION.
11. MAX FORCE REQUIRED TO OPEN/CLOSE = 30 LBS
12. ALL NEW NO. 9 PULL BOXES SHALL BE FURNISHED WITH RACKS AND HOOKS INSTALLED.



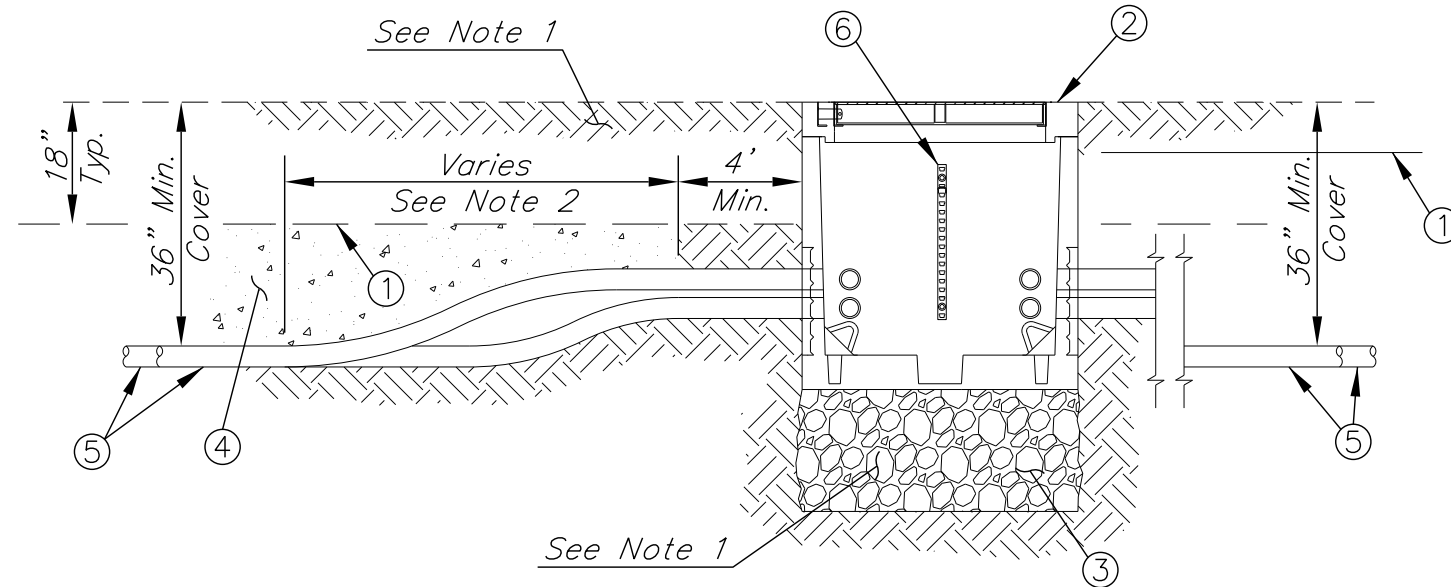
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**TOWN OF QUEEN CREEK  
STANDARD DETAIL**

**No. 9 PULL BOX**

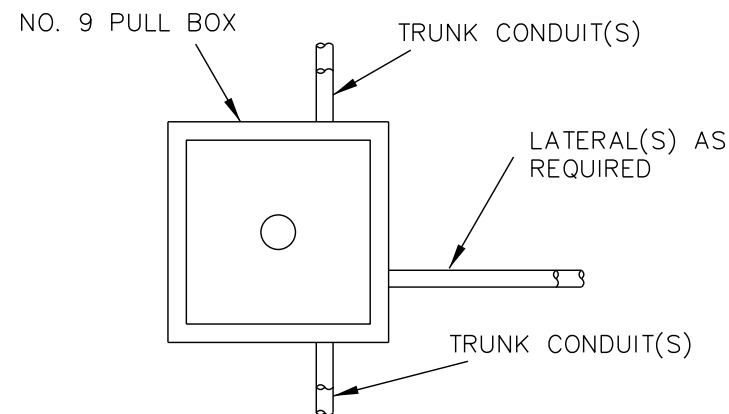
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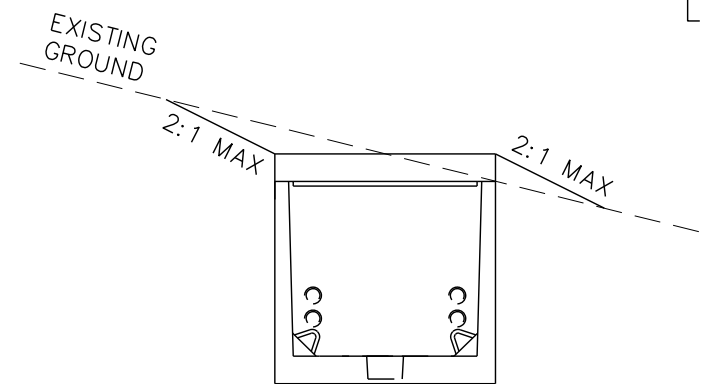
CONDUIT TRANSITION AND INSTALLATION

NOTES:

1. BACKFILL WITH DESIGNATED SIZE NO. 57 AGGREGATE BELOW PULL BOX. BACKFILL AROUND SIDES OF PULL BOX WITH SELECT EXCAVATED MATERIAL, AND COMPACT TO 95% MAXIMUM DENSITY.
2. CONDUIT ALIGNMENT OFFSETS ARE TO BE ACCOMPLISHED BY A GRADUAL RATE OF CONDUIT DEFLECTION OVER A DISTANCE EQUAL TO OR GREATER THAN TEN (10) TIMES THE OFFSET DISTANCE.
3. PROVIDE 50 FEET OF FIBER CABLE SLACK FOR EACH CABLE ENTERING ANY NO. 9 PULL BOX WHERE CABLE WILL BE SPLICED. PROVIDE 100 FEET OF SLACK FOR EACH CABLE ENTERING ANY NO. 9 PULL BOX THAT IS NOT BEING SPLICED AS PART OF THIS PROJECT. SLACK REQUIREMENTS APPLY TO ALL FIBER TRUNK AND BRANCH CABLES.
4. EACH CONDUIT END SHALL BE PLUGGED BY A TOWN-APPROVED WATERPROOF DUCT PLUG, WITH THE DETECTABLE ELEMENT EXTENDED OUTSIDE THE PLUG AND CONNECTED TO OTHER DETECTABLE ELEMENTS FROM OTHER CONDUITS, RESULTING IN A CONTINUOUS CIRCUIT.
5. ALL CABLES SHALL BE IDENTIFIED WITH CABLE TAGS, INDICATING FIBER COUNT AND ORIGIN/DESTINATION.
6. FINAL SET ELEVATION OF PULL BOX SHALL CONSIDER ADJACENT LANDSCAPING MATERIALS, TO PREVENT INTRUSION INTO OPEN BOX.



LATERAL CONDUIT INSTALLATION



INSTALLATION IN SLOPED AREAS

MATERIAL LIST	
ITEM	DESCRIPTION
1	WARNING TAPE
2	NO. 9 PULL BOX (CONCRETE)
3	DESIGNATED SIZE NO. 57 AGGREGATE
4	1/2 SACK CLSM
5	SCHEDULE 40 PVC CONDUIT, PER PLANS
6	RACK & HOOK (EACH WALL TYP)

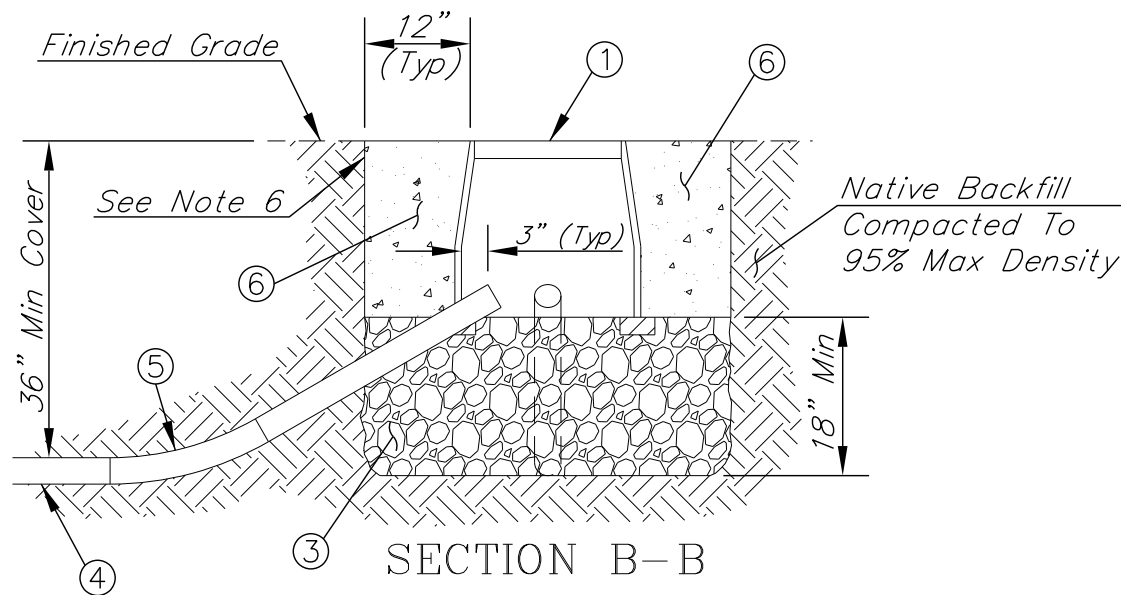
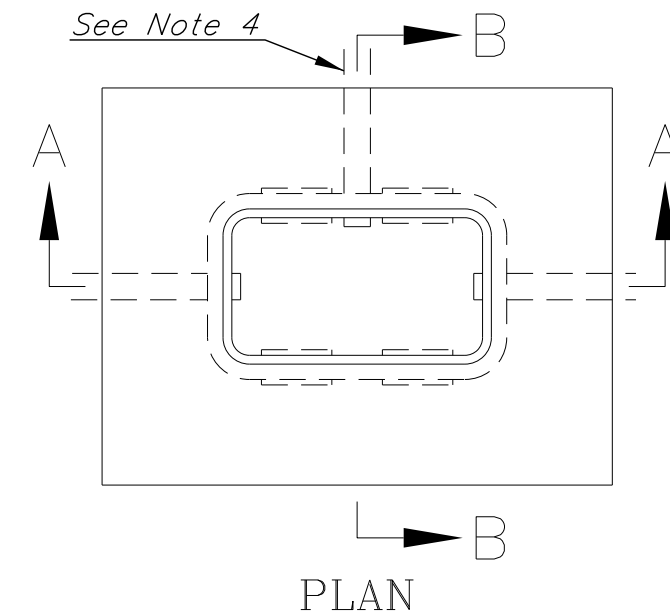
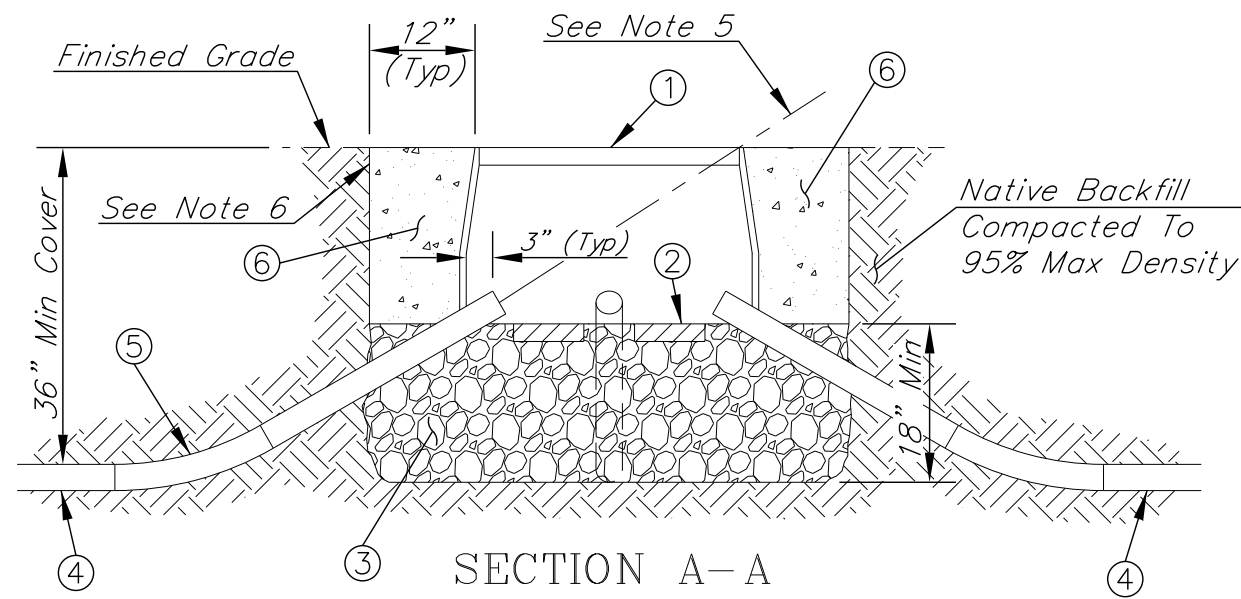
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**TOWN OF QUEEN CREEK  
STANDARD DETAIL**

**No. 9 PULL BOX INSTALLATION**

**ITS-04**



**NOTES:**

1. Numbers in circles refer to items in materials list.
2. "FIBER OPTICS" shall be the title inscribed on the lid.
3. Pull box lids and exposed portions of pull box top lip shall be skid-resistant and provided with two bolt-downs.
4. Pull box shall be and ADOT No. 7 HD pull box, 18" deep, and on the ADOT Approved Products list.
5. Conduit shall extend a minimum 2" above aggregate.
6. Conduit C/L shall be aligned to top edge of pull box to facilitate cable pulling.
7. Contractor shall form the top 4" of protective concrete.
8. Contractor shall install end bells on all conduits entering pull box, prior to cable installation.

MATERIAL LIST	
ITEM	DESCRIPTION
1	ADOT NO.7 HD POLYMER PULL BOX
2	8"X1 1/2"X16" CONCRETE BLOCK
3	DESIGNATED SIZE NO. 57 AGGREGATE
4	CONDUIT, PER PLANS
5	36" RADIUS SWEEP
6	ADOT CLASS S CONCRETE

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**TOWN OF QUEEN CREEK  
STANDARD DETAIL**

**COMMUNICATION  
No. 7 PULL BOX W/ EXTENSION**

**ITS-05**