



Individual Space Description

Open Work/ Storage Area

Spatial Program:

- total of 376 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Near Circulation

Activities and Uses:

- Office Storage of Files, Manuals, Drawing, etc.
- Lay-out/ Huddle Space
- Shared-Use
- Utilizes Circulation Area to Provide Additional Uses

Atmosphere and Environment:

- Orderly, Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Copier/ Printer

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Operations Center

Spatial Program:

- 1 at 830 SF each, total of 830 SF

Adjacencies and Access:

- Offices
- Large Meeting Room
- Direct Exterior Access

Activities and Uses:

- Group Work
- Operations Planning/ Monitoring

Atmosphere and Environment:

- Welcoming, Business-like
- Daylighting

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- White Marker Board
- Computer Workstations Counters
- Storage Cabinets and Shelving

Furniture and Equipment:

- Computers (Hard Wired)
- Projector and Screen
- Tables and Chairs

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System
- Wi-Fi

Comments:

- Provide for possible future upgrade to Emergency Operations Center and/or Traffic Monitoring System

Individual Space Description

File/ Storage Room

Spatial Program:

- 1 at 200 SF each, total of 200 SF

Adjacencies and Access:

- Offices/ Open Offices

Activities and Uses:

- Storage of Files
- Supply Storage

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Vinyl Tile

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Storage Racks
- Document Scanner (Future)

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Men's Locker/ Shower

Spatial Program:

- 1 at 400 SF each, total of 400 SF

Adjacencies and Access:

- Uniform Storage
- Restrooms
- Visual Privacy at Entrance
- Drinking Fountain
- Direct Access to Exterior
- Near Work Vehicle Parking

Activities and Uses:

- Changing
- Uniform Pick-up

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Showers (1)
- Lockers (30 - 35)
- Recessed Hose Bib

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Electric/ Intercom

Comments:



Individual Space Description

Women's Locker/ Shower

Spatial Program:

- 1 at 265 SF each, total of 265 SF

Adjacencies and Access:

- Uniform Storage
- Restrooms
- Visual Privacy at Entrance
- Drinking Fountain
- Direct Access to Exterior
- Near Work Vehicle Parking

Activities and Uses:

- Changing
- Uniform Pick-up

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Showers (1)
- Lockers (10 - 15)
- Recessed Hose Bib

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Electric/ Intercom

Comments:





Individual Space Description

Uniform Storage

Spatial Program:

- 1 at 300 SF each, total of 300 SF

Adjacencies and Access:

- Direct Access to Locker Rooms

Activities and Uses:

- Uniform Drop-off/ Pick-up
- Cleaning Service Use

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Open Closets for Uniform

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Hot/ Cold Water
- Electric/ Campus Intercom

Comments:

Transportation Yard

INSPECTIONS & MATERIALS LAB

Activity Area Requirements

Inspections & Materials Lab

Description:

The Inspections and Materials Lab is primarily responsible for the construction inspection and materials testing of public roadway improvements located in Riverside County. Staff provides inspection of private land development improvements and the Transportation Department's Capital Improvement Projects. Materials Lab provides soil, base, asphalt, and concrete testing.

Site/ Department Adjacencies and Access:

- High Public/ Contractor Interaction
- High Staff Interaction
- Near Public Lobby and Conference Rooms
- Near Engineering and Survey
- Grouped with other Office Functions to make use of Shared Areas
- Materials Lab should be separated from Office due to noise
- Materials Lab needs to be near storage
- Materials Lab receives Testing Samples/ Cores

Program Philosophy and Goals:

- Provide Functional Flexible Spaces
- Efficiently Organized to coincide with Work Flow
- Open Groupings based on Function

Anticipated Uses and Future Plan Uses:

- Provide for Inspections and Materials Office and Support Uses
- Materials Testing

Additional Comments:



Transportation Yard

INSPECTIONS & MATERIALS LAB

Space Summary Table:

TYPE OF SPACE	QUANTITY	SQ. FT. SPACE	TOTAL AREA (SF)
INSPECTION AND MATERIALS (OFFICES)			
LARGE OFFICE	1	280	280
MEDIUM OFFICES	2	180	360
SMALL OFFICES	5	150	750
OPEN OFFICES/ CUBICLES (MEDIUM)	15	70	1,050
OPEN OFFICES/ CUBICLES (SMALL)	16	36	576
OPEN WORK/ STORAGE AREA	3	200	600
WORK ROOM	1	292	292
LARGE FILE/ STORAGE ROOM	1	612	612
FILE/ STORAGE ROOM	2	245	490
LIBRARY	1	140	140
FLEX OFFICE	1	120	120
CONFERENCE ROOM	1	150	150
INSPECTION AND MATERIALS SUBTOTAL:			5,420

MATERIALS LAB

LAB RECEPTION	1	212	212
MEDIUM OFFICE	1	200	200
OPEN OFFICES/ CUBICLES (MATERIALS)	4	80	320
OPEN WORK/ STORAGE AREA	1	120	120
LAB RECEIVING	1	612	612
LAB	1	2,400	2,400
SOUND PROOF LAB ROOM	1	180	180
NUCLEAR EQUIPMENT STORAGE	1	75	75
LAB STORAGE	1	110	110
MOIST STORAGE	1	138	138
LARGE STORAGE	1	1,160	1,160
LAB BREAK ROOM/ WORKROOM	1	465	465
RESTROOM/ LOCKER ROOM	2	160	320
EXTERIOR COVERED STORAGE (AREA NOT INCLUDED)	1	2,000	(2,000)
MATERIALS LAB SUBTOTAL:			6,312

TOTAL INSPECTION & MATERIALS LAB

(Not Including Exterior Areas/ Circulation/ Utility Rooms)

11,732



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Large Office

Spatial Program:

- 1 at 280 SF each, total of 280 SF

Adjacencies and Access:

- Administrative Assistant (Gatekeeper)
- Indirect Access from Public
- Conference Room
- Offices

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (6)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Medium Office

Spatial Program:

- 2 at 180 SF each, total of 360 SF

Adjacencies and Access:

- Administrative Assistant (Gatekeeper)
- Indirect Access from Public
- Conference Room
- Offices

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Small Office

Spatial Program:

- 5 at 150 SF each, total of 750 SF

Adjacencies and Access:

- Waiting/ Reception Area
- Offices

Activities and Uses:

- Individual Office Work
- Individual Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet
- Marker board

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Desk

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

Individual Space Description

Open Offices/ Cubicles (Medium)

Spatial Program:

- 15 at 70 SF each, total of 1,050 SF

Adjacencies and Access:

- Offices
- Open Work/ Storage Area

Activities and Uses:

- Individual Office Work

Atmosphere and Environment:

- Open, Orderly and Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Open Offices/ Cubicles (Small)

Spatial Program:

- 16 at 36 SF each, total of 576 SF

Adjacencies and Access:

- Offices
- Open Work/ Storage Area

Activities and Uses:

- Individual Office Work

Atmosphere and Environment:

- Open, Orderly and Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Open Work/ Storage Area

Spatial Program:

- 3 at 200 SF each, total of 600 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Near Circulation

Activities and Uses:

- Office Storage of Files, Manuals, Drawing, etc.
- Lay-out/ Huddle Space
- Shared-Use
- Utilizes Circulation Area to Provide Additional Uses

Atmosphere and Environment:

- Orderly, Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Copier/ Printer

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Workroom

Spatial Program:

- 1 at 292 SF each, total of 292 SF

Adjacencies and Access:

- Reception
- Open Offices/ Cubicles
- Offices
- Centrally Located for Shared Use

Activities and Uses:

- Group Work
- Office Work
- Office Supply Storage

Atmosphere and Environment:

- Welcoming, Business-like
- Daylighting

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Workstations/ Counters
- Storage Cabinets and Shelving

Furniture and Equipment:

- Computers (Hard Wired)
- Printer/ Copier/ Fax
- Filing Cabinets

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Large File/ Storage Room

Spatial Program:

- 1 at 612 SF each, total of 612 SF

Adjacencies and Access:

- Offices/ Open Offices

Activities and Uses:

- Storage of Files
- Supply Storage

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Vinyl Tile

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

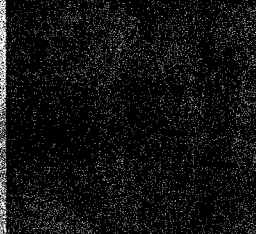
Furniture and Equipment:

- File Storage
- Storage Racks
- Document Scanner (Future)

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

File/ Storage Room

Spatial Program:

- 2 at 245 SF each, total of 490 SF

Adjacencies and Access:

- Offices/ Open Offices
- One Dedicated to Inspections
- One Dedicated to Materials Office Use

Activities and Uses:

- Storage of Files
- Supply Storage
- Storage of Project Binders

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Vinyl Tile

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Storage Racks
- Document Scanner (Future)

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

INSPECTIONS & MATERIALS (OFFICES)

Individual Space Description

Library

Spatial Program:

- 1 at 140 SF each, total of 140 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles

Activities and Uses:

- Group Work
- Individual Work
- Research

Atmosphere and Environment:

- Welcoming, Business-like
- Sound Insulation

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Countertop/ Workstations
- Shelving and Storage
- Lay-out Area

Furniture and Equipment:

- Table and Chairs

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

Individual Space Description

Flex Office

Spatial Program:

- 1 at 120 SF each, total of 120 SF

Adjacencies and Access:

- Centrally located to serve Inspections, Materials and Survey
- Located for Visiting Agency or Itinerant Staff Use

Activities and Uses:

- Individual Office Work
- Individual Meetings
- Flexible Use for Consultants, Visitors, or Contractors

Atmosphere and Environment:

- Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet
- Marker board

Built-in Cabinetry, Displays, and Fixtures:

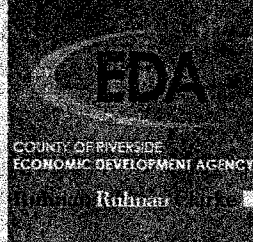
Furniture and Equipment:

- Storage
- Desk or Table

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Conference Room

Spatial Program:

- 1 at 150 SF each, total of 150 SF

Adjacencies and Access:

- Offices
- Centrally located to serve Inspections, Materials and Survey

Activities and Uses:

- Meetings (Internal)
- Flexible Use

Atmosphere and Environment:

- Friendly, Inviting and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet
- Marker board

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Conference Table to Seat (8 minimum)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Lab Reception

Spatial Program:

- 1 at 212 SF each, total of 212 SF

Adjacencies and Access:

- Lab Entry
- Lab Receiving
- Office

Activities and Uses:

- Entrance/ Reception to Materials Lab
- Waiting Area
- Secretarial Support
- Materials Delivery Check In

Atmosphere and Environment:

- Welcoming, Warm and Friendly
- Attractive, Comfortable and Daylighting

Finishes and Materials:

- Walk-off Carpet
- Tackable Wall Surface

Built-in Cabinetry, Displays, and Fixtures:

- Reception Desk

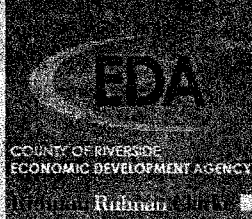
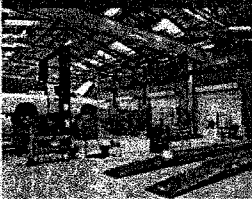
Furniture and Equipment:

- Waiting Area Seating

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

Individual Space Description

Medium Office

Spatial Program:

- 1 at 200 SF each, total of 200 SF

Adjacencies and Access:

- Reception
- Open Offices/ Cubicles (Materials)

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Open Offices/ Cubicles (Materials Lab)

Spatial Program:

- 4 at 80 SF each, total of 320 SF

Adjacencies and Access:

- Office
- Open Work/ Storage Area

Activities and Uses:

- Individual Office Work

Atmosphere and Environment:

- Open, Orderly and Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:





Individual Space Description

Open Work/ Storage Area

Spatial Program:

- 1 at 120 SF each, total of 120 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Near Circulation

Activities and Uses:

- Office Storage of Files, Manuals, etc.
- Lay-out/ Huddle Space
- Shared-Use
- Utilizes Circulation Area to Provide Additional Uses

Atmosphere and Environment:

- Orderly, Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Copier/ Printer

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:

Individual Space Description

Lab Receiving

Spatial Program:

- 1 at 612 SF each, total of 612 SF

Adjacencies and Access:

- Reception
- Direct Exterior Access
- Direct Access to the Lab
- Near Moist Storage
- Near Storage

Activities and Uses:

- Receiving
- Processing and Preparation of Materials
- Lab Work
- Materials Storage

Atmosphere and Environment:

- Organized, Business-like

Finishes and Materials:

- Sealed Concrete
- Roll-up or Oversized Double Doors to the Exterior
- Oversized Double Doors to the Lab

Built-in Cabinetry, Displays, and Fixtures:

- Workstations/ Counters
- Storage Cabinets and Shelving

Furniture and Equipment:

- Sample Racks
- Sample Oven
- Sulfur Table and Vent
- Shakers

Technology and Utilities:

- Electric/Data/Phone
- Intercom
- Water/ Gas/ Compressed Air

Comments:



Individual Space Description

Lab

Spatial Program:

- 1 at 2,400 SF each, total of 2,400 SF

Adjacencies and Access:

- Office/ Open Offices
- Direct Access to the Lab Receiving
- Moist Storage
- Nuclear Equipment Storage
- Sound Proof Lab Room
- Storage
- Locker Rooms

Activities and Uses:

- Materials Lab Testing including Soil, Base, Asphalt and Concrete Testing
- Preparation of Materials to be Tested
- Storage of Testing Materials

Atmosphere and Environment:

- Organized, Business-like
- Temperature Controlled

Finishes and Materials:

- Sealed Concrete
- Oversized Double Doors to the Lab Receiving

Built-in Cabinetry, Displays, and Fixtures:

- Workstations/ Counters
- Storage Cabinets and Shelving

Furniture and Equipment:

- Sample Racks
- Ventilation Hoods
- Sample Ovens
- Sulfur Table and Vent
- Shakers
- Presses and Various Compactors
- R-value Machine
- Mixers
- Eye Wash/ Deluge Shower

Technology and Utilities:

- Electric/Data/Phone
- Intercom
- Water/ Gas/ Compressed Air

Comments:



Individual Space Description

Sound Proof Lab Room

Spatial Program:

- 1 at 180 SF each, total of 180 SF

Adjacencies and Access:

- Direct Access to the Lab
- Isolated from Office Spaces due to Noise

Activities and Uses:

- Processing and Preparation of Materials for Testing
- Use of Noisy/ Dusty Equipment

Atmosphere and Environment:

- Organized, Business-like
- Sound Proofing/ Isolation and Ventilation

Finishes and Materials:

- Sealed Concrete
- Concrete Masonry Unit Walls

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Rattler
- Testing Screens
- Ventilation Hood

Technology and Utilities:

- Electric

Comments:



Individual Space Description

Nuclear Equipment Storage

Spatial Program:

- 1 at 75 SF each, total of 75 SF

Adjacencies and Access:

- Lab
- Utilize 3 Lock System for Security
- Away from Office Area/ Frequently Occupied Areas
- Possible utilization of "maze" type design

Activities and Uses:

- Authorized Location for Storage of Nuclear Equipment/ Gauges

Atmosphere and Environment:

- Secure, Safe, Organized Utility Space

Finishes and Materials:

- Sealed Concrete
- Concrete Masonry Unit Walls
- Finishes/ Shielding As Required by Use Authorization (Concrete, Lead, and/or Polyethylene)

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets/ Racks
- Signage As Require by Use Authorization

Furniture and Equipment:

- Nuclear Equipment/ Gauges

Technology and Utilities:

- Electric

Comments:



Individual Space Description

Lab Storage Room

Spatial Program:

- 1 at 110 SF each, total of 110 SF

Adjacencies and Access:

- Main Lab

Activities and Uses:

- Supply Storage
- Lab Storage

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Storage Racks

Technology and Utilities:

- Electric

Comments:



Individual Space Description

Moist Storage Room

Spatial Program:

- 1 at 138 SF each, total of 138 SF

Adjacencies and Access:

- Main Lab
- Lab Receiving

Activities and Uses:

- Sample Storage

Atmosphere and Environment:

- Organized Utility Space
- Moist Environment as required for Samples

Finishes and Materials:

- Sealed Concrete Floor with Curb and Drain
- Sealed/ Moisture Resistant Ceiling and Walls

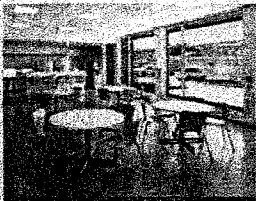
Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Storage Racks

Technology and Utilities:

Comments:





Individual Space Description

Large Storage Room

Spatial Program:

- 1 at 1,160 SF each, total of 1,160 SF

Adjacencies and Access:

- Main Lab
- Exterior Covered Storage

Activities and Uses:

- Supply Storage
- Lab Storage
- Sample Storage
- Archive for Inspections and Materials
- Possible Future Expansion Area

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets
- Work Countertop

Furniture and Equipment:

- Storage Racks

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:

- Exterior Secure Covered Area Required for Two Trailers and Storage

Individual Space Description

Lab Break Room/ Workroom

Spatial Program:

- 1 at 465 SF each, total of 465 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Lab
- Restrooms

Activities and Uses:

- Group Work
- Meetings
- Computer Work
- Break
- Flexible Use

Atmosphere and Environment:

- Welcoming, Flexible and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Countertop/ Workstations
- Kitchenette with Sink

Furniture and Equipment:

- Table and Chairs
- Refrigerator
- Ice Machine
- Computer Stations

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Restroom/ Locker Room

Spatial Program:

- 2 at 160 SF each, total of 320 SF

Adjacencies and Access:

- Break Room/ Workroom
- Visual Privacy at Entrance

Activities and Uses:

- Changing/ Personal Storage

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Lockers (10 - 15)
- Lavatory
- Low Flow Toilet
- Electric Hand Dryer
- Hand Towel Dispenser
- Recessed Hose Bib

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Hot/ Cold Water
- Electric/ Intercom

Comments:



Activity Area Requirements

Survey

Description:

The County Surveyor's Division is responsible for all land surveying functions within the Transportation Department and offers its services to other County Departments and local agencies. This Division performs field surveys including preliminary, property, construction and geodetic (including GPS) surveys; provides public information and keeps land surveying and public right-of-way records; performs office analysis of all field surveys; performs and reviews right-of-way work for Transportation projects and private developments, reviews LAFCO documents, and checks and recommends for approval of street names; performs Tract and Parcel Map checking, Record of Survey and Corner Record checking, and the review of Lot Line Adjustments, Mergers, and Certificates of Compliance.

Site/Department Adjacencies and Access:

- Direct Survey Crew Access, Securely Controlled
- Near Service (Survey) Vehicle Parking
- Grouped with other Office Functions to make use of Shared Areas
- High Staff Interaction
- Limited Public Interaction

Program Philosophy and Goals:

- Provide a Functional Flexible Space
- Provide the Transportation Department, other County Departments and the public with information and assistance

Anticipated Uses and Future Plan Uses:

- Provide for Field Survey Crews office/ support needs

Additional Comments:



Transportation Yard

SURVEY

Space Summary Table:

TYPE OF SPACE	QUANTITY	SQ. FT. SPACE	TOTAL AREA (SF)
---------------	----------	---------------	-----------------

SURVEY

MEDIUM OFFICES	2	180	360
OPEN OFFICES/ CUBICLES (SURVEY CREW BULLPEN)	16	36	576
OPEN WORK/ STORAGE AREA	1	300	300
PRINTER/ PLOTTER	1	100	100
WORKROOM	1	300	300
FILE/ STORAGE ROOM	1	195	195
ICE MACHINE (INCLUDED IN SHARED AREAS)			
MEN'S LOCKER ROOM	1	172	172
WOMEN'S LOCKER ROOM	1	102	102

TOTAL SURVEY (Not Including Exterior Areas/ Circulation/ Utility Rooms)			2,105
--	--	--	--------------



Transportation Yard

Individual Space Description

Medium Office

Spatial Program:

- 2 at 180 SF each, total of 360 SF

Adjacencies and Access:

- Indirect Access from Public
- Conference Room
- Offices

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

Individual Space Description

Open Offices/ Cubicles (Survey Crew Bullpen)

Spatial Program:

- 16 at 36 SF each, total of 576 SF

Adjacencies and Access:

- Office
- Open Work/ Storage Area
- Printer/ Plotter

Activities and Uses:

- Individual Office Work

Atmosphere and Environment:

- Open, Orderly and Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

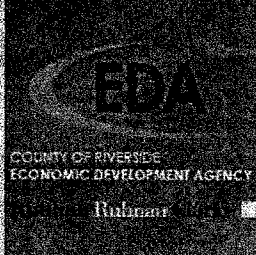
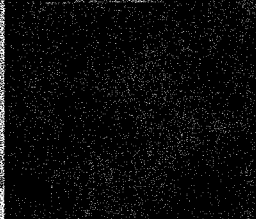
- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:

- Possible to use Two Survey Crew Workstations combined to form One Shared Cubicle



Individual Space Description

Open Work/ Storage Area

Spatial Program:

- 1 at 300 SF each, total of 300 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Near Circulation

Activities and Uses:

- Office Storage of Files, Manuals, etc.
- Lay-out/ Huddle Space
- Shared-Use
- Utilizes Circulation Area to Provide Additional Uses

Atmosphere and Environment:

- Orderly, Professional
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Copier/ Printer

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

SURVEY

Individual Space Description

Printer/ Plotter Area

Spatial Program:

- 1 at 100 SF each, total of 100 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Near Storage

Activities and Uses:

- Printing/ Plotting/ Scanning

Atmosphere and Environment:

- Orderly, Professional

Finishes and Materials:

- Vinyl Tile Flooring

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets (Uppers)

Furniture and Equipment:

- Plotter
- Copier/ Printer

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Workroom

Spatial Program:

- 1 at 300 SF each, total of 300 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Offices

Activities and Uses:

- Group Work
- Office Work
- Office Supply Storage
- GPS Charging

Atmosphere and Environment:

- Welcoming, Business-like
- Daylighting

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Workstations/ Counters
- Storage Cabinets and Shelving
- Lay-out Area with Oversized Flat Storage
- GPS Charging/ Storage Stations

Furniture and Equipment:

- Computers (Hard Wired)
- Printer/ Copier/ Fax
- Filing Cabinets

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

File/ Storage Room

Spatial Program:

- 1 at 195 SF each, total of 195 SF

Adjacencies and Access:

- Offices/ Open Offices

Activities and Uses:

- Storage of Files
- Supply Storage

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Vinyl Tile

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Storage Racks
- Document Scanner (Future)

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Men's and Women's Locker Room

Spatial Program:

- 1 Men's Locker Rm. at 172 SF
- 1 Women's Locker Rm. at 102 SF

Adjacencies and Access:

- Restrooms
- Near Survey Crew Parking
- Shared with Inspections as needed
- Visual Privacy at Entrance

Activities and Uses:

- Changing/ Personal Storage

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Men's Lockers (25 - 30)
- Women's Lockers (8 -10)
- Benches

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Electric/ Intercom

Comments:



Activity Area Requirements

Engineering (Annex)

Description:

The Engineering Annex includes the various programs and services currently located at the Transportation Departments 14th Street Annex, including Environmental Planning, Project Development, Traffic Engineering and Funding Programs.

Site/Department Adjacencies and Access:

- Grouped with other Office Functions to make use of Shared Areas
- Close to Public Reception/ Waiting
- High Public Interaction
- Limited Interaction with Shops/ Garage/ Warehouse
- Interaction with Inspections
- Possible Second Floor Location with Direct Access to First Floor Lobby

Program Philosophy and Goals:

- Provide a Functional Flexible Space
- Open Groupings of Functions with High Interaction between Groups
- Shared Use and Collaboration

Anticipated Uses and Future Plan Uses:

- Engineering, Planning and Funding Functions
- Flexibility for Differing Office Functions over time

Additional Comments:



Transportation Yard

ENGINEERING (ANNEX)

Space Summary Table:

TYPE OF SPACE	QUANTITY	SQ. FT. SPACE	TOTAL AREA (SF)
ENGINEERING (ANNEX)			
RECEPTION / WAITING (INCLUDED IN SHARED AREAS)			
LARGE OFFICES	4	280	1,120
MEDIUM OFFICES	8	180	1,440
SMALL OFFICES	12	150	1,800
OPEN OFFICES/ CUBICLES (LARGE)	9	120	1,080
OPEN OFFICES/ CUBICLES (MEDIUM)	26	80	2,080
OPEN OFFICES/ CUBICLES (SMALL)	7	36	252
OPEN WORK/ STORAGE AREAS	3	150	450
OPEN COLLABORATION AREAS	3	120	360
OPEN DRAWING STORAGE/ LAYOUT AREAS	1	740	740
LARGE CONFERENCE ROOM (INCLUDED IN SHARED AREAS)			
CONFERENCE ROOM (INCLUDED IN SHARED AREAS)			
PLOTTER ROOM	1	192	192
LIBRARY/ WORKROOM	1	350	350
FILE/ STORAGE ROOMS	2	185	370
ARCHIVE STORAGE	1	840	840

TOTAL ENGINEERING (ANNEX)

(Not Including Exterior Areas/ Circulation/ Utility Rooms)

11,074



Individual Space Description

Large Office

Spatial Program:

- 4 at 280 SF each, total of 1,120 SF

Adjacencies and Access:

- Administrative Assistant (Gatekeeper)
- Indirect Access from Public
- Conference Room
- Offices

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (6)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Medium Office

Spatial Program:

- 8 at 180 SF each, total of 1,440 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Conference Room
- Offices
- Open Lay-out Areas
- Open Collaboration Areas

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Small Office

Spatial Program:

- 12 at 150 SF each, total of 1,800 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Conference Room
- Offices
- Open Lay-out Areas
- Open Collaboration Areas

Activities and Uses:

- Individual Office Work
- Individual Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet
- Marker board

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Desk

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Open Offices/ Cubicles (Large)

Spatial Program:

- 9 at 120 SF each, total of 1,080 SF

Adjacencies and Access:

- Offices
- Open Work/ Storage Area
- Open Offices/ Cubicles

Activities and Uses:

- Individual Office Work
- Small Group/ Team Meetings

Atmosphere and Environment:

- Open, Orderly and Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Workstation
- Drawing Racks

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Open Offices/ Cubicles (Medium)

Spatial Program:

- 26 at 80 SF each, total of 2,080 SF

Adjacencies and Access:

- Offices
- Open Work/ Storage Area
- Open Offices/ Cubicles

Activities and Uses:

- Individual Office Work

Atmosphere and Environment:

- Open, Orderly and Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Workstation
- Drawing Racks

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Open Offices/ Cubicles (Small)

Spatial Program:

- 7 at 36 SF each, total of 252 SF

Adjacencies and Access:

- Offices
- Open Work/ Storage Area
- Open Offices/ Cubicles

Activities and Uses:

- Individual Office Work

Atmosphere and Environment:

- Open, Orderly and Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Open Work/ Storage Area

Spatial Program:

- 3 at 150 SF each, total of 450 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Near Circulation

Activities and Uses:

- Office Storage of Files, Manuals, Drawing, etc.
- Lay-out/ Huddle Space
- Shared-Use
- Utilizes Circulation Area to Provide Additional Uses

Atmosphere and Environment:

- Orderly, Professional

Finishes and Materials:

- Tackable Wall Surface
- Carpeting

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Copier/ Printer

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Open Collaboration Areas

Spatial Program:

- 3 at 120 SF each, total of 360 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Open Drawing Storage/ Layout Areas
- Plotters

Activities and Uses:

- Lay-out/ Huddle Space
- Shared-Use

Atmosphere and Environment:

- Orderly, Professional

Finishes and Materials:

- Tackable Wall Surface
- Carpeting

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Table and Chairs

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Open Drawing Storage/ Layout Areas

Spatial Program:

- total of 740 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Plotter Room

Activities and Uses:

- Office Storage of Drawings and Manuals
- Lay-out/ Huddle Space
- Shared-Use
- Utilizes Circulation Area to Provide Additional Uses

Atmosphere and Environment:

- Orderly, Professional

Finishes and Materials:

- Tackable Wall Surface
- Carpeting

Built-in Cabinetry, Displays, and Fixtures:

- Flat Drawing Storage Cabinets

Furniture and Equipment:

- Drawing Racks
- Light Table
- Drafting Table

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Plotter Room

Spatial Program:

- 1 at 192 SF each, total of 192 SF

Adjacencies and Access:

- Offices
- Open Office/ Cubicles
- Open Drawing Storage/ Layout Areas
- Open Collaboration Areas

Activities and Uses:

- Printing/ Plotting/ Scanning
- Printing Supply Storage

Atmosphere and Environment:

- Orderly, Professional
- Sound Insulation

Finishes and Materials:

- Tackable Wall Surface
- Carpeting

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- Plotter
- Copier/ Printer
- Scanner

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:





Individual Space Description

Library/ Workroom

Spatial Program:

- 1 at 350 SF each, total of 350 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Offices

Activities and Uses:

- Group Work
- Office Work
- Research
- Storage

Atmosphere and Environment:

- Welcoming, Business-like
- Sound Insulation and Day lighting

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Workstations/ Counters
- Shelving
- Lay-out Area

Furniture and Equipment:

- Table and Chairs
- Computers (Hard Wired)
- Printer/ Copier/ Fax

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

File/ Storage Room

Spatial Program:

- 2 at 185 SF each, total of 370 SF

Adjacencies and Access:

- Offices/ Open Offices

Activities and Uses:

- Storage of Files
- Supply Storage

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Vinyl Tile

Built-in Cabinetry, Displays, and Fixtures:

- Storage Cabinets

Furniture and Equipment:

- File Storage
- Storage Racks
- Document Scanner (Future)

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:

Individual Space Description

Archive Storage

Spatial Program:

- 1 at 840 SF each, total of 840 SF

Adjacencies and Access:

- Located for Possible Expansion

Activities and Uses:

- Archive Storage of Drawings, Binders, Manuals, Files, etc.

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Vinyl Tile

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Storage Racks

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Activity Area Requirements

Shops (Sign/ Paint/ Signal)

Description:

The Shops include a Sign Shop, Paint Shop, and a Signal Shop maintain and install signage, signals, and lighting within the County Maintained Road System. These Shops operate under the Highway Operations Section.

Site/Department Adjacencies and Access:

- Direct Crew Access, Securely Controlled
- Near Service Vehicle Parking
- Grouped with each other to make use of Shared Areas
- Near Warehouse, Loading Dock, and Highway Operations

Program Philosophy and Goals:

- Provide a Functional Flexible Space
- Provide Shared Use Space and Proximity between Groups for Synergy and Efficiency between Highway Operations Groups

Anticipated Uses and Future Plan Uses:

- Maintenance and Installations on the County Maintained Road System
- Organization/ Supervision of Road Crews

Additional Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Space Summary Table:

TYPE OF SPACE	QUANTITY	SQ. FT. SPACE	TOTAL AREA (SF)
---------------	----------	---------------	-----------------

SHOPS (SHARED)

LOBBY	1	300	300
MEDIUM OFFICE	1	180	180
MEETING ROOM	1	375	375
STORAGE	1	165	165
MEN'S LOCKER ROOM	1	150	150
WOMEN'S LOCKER ROOM	1	100	100
SHOPS (SHARED) SUBTOTAL:			1,270

PAINT SHOP

SMALL OFFICE (PAINT)	1	150	150
PAINT OPEN OFFICES	1	600	600
PAINT SHOP	1	1,120	1,120
PAINT STORAGE	1	840	840
PAINT BEAD STORAGE	1	400	400
PAINT SHOP SUBTOTAL:			3,110

SIGNAL SHOP

SMALL OFFICE (SIGNAL)	1	150	150
SIGNAL OPEN OFFICES	1	1,090	1,090
SIGNAL SHOP	1	1,700	1,700
SIGNAL STORAGE	1	1,325	1,325
SIGNAL SHOP SUBTOTAL:			4,265

SIGN SHOP

SMALL OFFICE (SIGN)	1	150	150
SIGN SHOP	1	1,200	1,200
SIGN STORAGE (INCLUDED IN WAREHOUSE)			
SIGN SHOP SUBTOTAL:			1,350

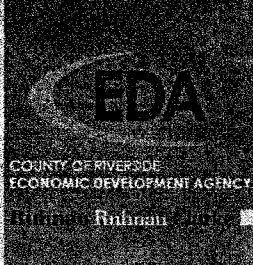
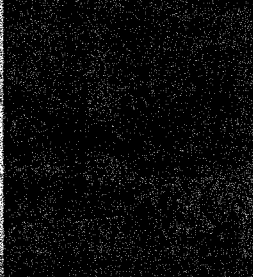
SHOP EXTERIOR AREAS

SIGNAL POST STORAGE RACKS	4	1,000	(4,000)
COVERED PAINT SCRAPING/ CLEANING	1	1,000	(1,000)
COVERED TRAILER PARKING	2	300	(600)
SHOP EXTERIOR AREAS SUBTOTAL:			(5,600)

TOTAL SHOPS (SIGNAL/ PAINT/ SIGN)

(Not Including Exterior Areas/ Circulation/ Utility Rooms)

9,995



COUNTY OF RIVERSIDE
ECONOMIC DEVELOPMENT AGENCY
Rubnan

Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Lobby

Spatial Program:

- 1 at 300 SF each, total of 300 SF

Adjacencies and Access:

- Entry from Complex Interior to Shops
- Between Shops
- Offices
- Meeting Room
- Direct Access from Courtyard/ Exterior
- Near Break Room (Shared)

Activities and Uses:

- Entrance/ Reception to Shops/ Offices
- Waiting Area for Meetings
- Secretarial Support

Atmosphere and Environment:

- Welcoming, Warm and Friendly
- Durable
- Daylighting

Finishes and Materials:

- Walk-off Carpet
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Waiting Area Seating

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Medium Office

Spatial Program:

- 1 at 180 SF each, total of 180 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Meeting Room
- Offices
- Centralized to Shops

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Meeting Room

Spatial Program:

- 1 at 375 SF each, total of 375 SF

Adjacencies and Access:

- Lobby
- Office/ Open Offices
- Centralized for Shared Use among Shops

Activities and Uses:

- Flexible Use
- Staff Training
- Meetings

Atmosphere and Environment:

- Friendly, Inviting and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Vinyl Tile
- Marker board
- Movable Partitions

Built-in Cabinetry, Displays, and Fixtures:

- Counter and Storage

Furniture and Equipment:

- Conference Table
- Chairs
- Projector Screen/ Projector

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Storage

Spatial Program:

- 1 at 165 SF each, total of 165 SF

Adjacencies and Access:

- Centralized for Shared Use among Shops
- Near Meeting Room
- Office/ Open Offices

Activities and Uses:

- Storage of Supplies/ Files
- Custodial Use
- Chairs and Tables

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Storage Racks and Bins

Technology and Utilities:

- Electric

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Men's and Women's Locker Room

Spatial Program:

- 1 Men's Locker Rm. at 150 SF
- 1 Women's Locker Rm. at 100 SF

Adjacencies and Access:

- Restrooms
- Near County Vehicle Parking
- Shared with Warehouse as needed
- Visual Privacy at Entrance

Activities and Uses:

- Changing/ Personal Storage

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Men's Lockers (15 - 20)
- Women's Lockers (4 -8)
- Benches

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Electric/ Intercom

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Small Office

Spatial Program:

- 3 at 150 SF each, total of 450 SF
- 1 for each Shop

Adjacencies and Access:

- Open Offices/ Cubicles
- Offices

Activities and Uses:

- Individual Office Work
- Individual Meetings

Atmosphere and Environment:

- Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet (Verify with Department)
- Marker board

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- File Storage
- Desk

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Open Offices

Spatial Program:

- 1 at 600 SF for Paint
- 1 at 1,090 SF for Signal

Adjacencies and Access:

- Offices
- Shop

Activities and Uses:

- Individual Office Work
- Informal Small Group Meetings

Atmosphere and Environment:

- Open, Orderly and Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Countertops/ Storage

Furniture and Equipment:

- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Shops

Spatial Program:

- 1 at 1,120 SF for Paint Shop
- 1 at 1,700 SF for Signal Shop
- 1 at 1,200 SF for Sign Shop

Adjacencies and Access:

- Offices/ Open Offices
- Shop Storage/ Warehouse
- Direct Access to Exterior
- Loading Dock/ Loading Area
- Near County Vehicle Parking

Activities and Uses:

- Dedicated Workshops
- Production, Preparation, and Maintenance
- Informal Meetings
- Equipment Setup and Testing (Signal)

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters and Storage Cabinets

Furniture and Equipment:

- Shop Equipment
- Storage Racks

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom
- Water, Air, and Gas as needed

Comments:



Transportation Yard

SHOPS (SIGN/ PAINT/ SIGNAL)

Individual Space Description

Shop Storage

Spatial Program:

- 1 at 840 SF for Paint Storage
- 1 at 400 SF for Paint Bead Storage
- 1 at 1,325 SF for Signal Storage
- Sign Shop Storage Included in the Warehouse

Adjacencies and Access:

- Direct Access through Exterior
- Direct Access to Shop
- Loading Dock/ Loading Area
- Near County Vehicle Parking

Activities and Uses:

- Storage of Shop/ Field Supplies
- Signal Trailer Storage
- Receiving and Loading

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Storage Racks and Bins

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:



Transportation Yard

WAREHOUSE

Activity Area Requirements

Warehouse

Description:

The Warehouse provides for storage, receiving and delivery of parts and materials used throughout the Transportation Yard, particularly the Shop areas and Garage.

Site/Department Adjacencies and Access:

- Direct Delivery Access to Loading Docks, Securely Controlled
- Small Delivery Access from Public Entry
- Central Location for Efficient Distribution of Parts and Materials
- Near Shops and Garage

Program Philosophy and Goals:

- Provide a Functional Flexible Space
- Provide Shared Use Space and Proximity between Groups for Synergy and Efficiency between Highway Operations Groups

Anticipated Uses and Future Plan Uses:

- The Warehouse is easily accessed from the Garage and Shops for storage of goods and materials.
- Procurement/ Organization/ Inventory of Parts and Materials

Additional Comments:



Transportation Yard

WAREHOUSE

Space Summary Table:

TYPE OF SPACE	QUANTITY	SQ. FT. SPACE	TOTAL AREA (SF)
WAREHOUSE			
MEDIUM OFFICE	1	180	180
STOCK CLERKS WORK AREA/ PICK-UP	1	550	550
WAREHOUSE STORAGE	1	7,600	7,600
VEHICLE PARTS STORAGE	1	1,250	1,250
VEHICLE PARTS PICK-UP	1	188	188
SECURE STORAGE	1	500	500
WAREHOUSE WORK AREA	1	650	650
WAREHOUSE STAGING/ RECEIVING AREA/ FORKLIFT CHARGING	1	2,225	2,225
WAREHOUSE SIGN STORAGE	1	1,200	1,200

WAREHOUSE (EXTERIOR AREAS)

LOADING DOCK (EXTERIOR/ COVERED)	3 BAYS		
EXTERIOR COVERED STORAGE		6,000	(6,000)
EXTERIOR UNCOVERED STORAGE		10,000	(10,000)

TOTAL WAREHOUSE (Not Including Exterior Areas/ Circulation/ Utility Rooms)	14,343
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Individual Space Description

Medium Office

Spatial Program:

- 1 at 180 SF each, total of 180 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Offices
- Accounting
- Part's Pick-up

Activities and Uses:

- Individual Office Work
- Small Group Meetings

Atmosphere and Environment:

- Dignified, Organized and Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:



Individual Space Description

Stock Clerk's Work Area/ Pick-up

Spatial Program:

- 1 at 550 SF each, total of 550 SF

Adjacencies and Access:

- Offices
- Warehouse
- Lobby
- Secure Storage

Activities and Uses:

- Individual Office Work
- Informal Small Group Meetings
- Small Item Pick-up
- Temporary Storage/ Sorting

Atmosphere and Environment:

- Open, Orderly and Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Countertops/ Storage
- Roll-up Door
- Over the counter Window

Furniture and Equipment:

- File Storage
- Workstation
- Warehouse Racks

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:





Individual Space Description

Warehouse Storage

Spatial Program:

- 1 at 7,600 SF each, total of 7,600 SF

Adjacencies and Access:

- Direct Access to Exterior
- Loading Docks
- Staging/ Receiving/ Forklift Charging
- Stock Clerk Work Area
- Parts Storage
- Secure Storage
- Sign Storage

Activities and Uses:

- Warehouse Storage

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters and Storage Cabinets

Furniture and Equipment:

- Warehouse Storage Racks

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:

Individual Space Description

Vehicle Parts Storage

Spatial Program:

- 1 at 7,600 SF each, total of 7,600 SF

Adjacencies and Access:

- Warehouse Storage
- Vehicle Parts Pick-up

Activities and Uses:

- Secured Vehicle Parts Storage

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters and Storage Cabinets

Furniture and Equipment:

- Warehouse Storage Racks
- Sorting Bins

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:



Individual Space Description

Vehicle Parts Pick-up

Spatial Program:

- 1 at 188 SF each, total of 188 SF

Adjacencies and Access:

- Garage
- Vehicle Parts Storage
- Offices

Activities and Uses:

- Vehicle Parts Pick-up
- Parts Tracking

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized Doors
- Sealed Concrete
- Over the counter Window/ Roll-up opening

Built-in Cabinetry, Displays, and Fixtures:

- Work Counter and Storage Cabinets

Furniture and Equipment:

- Sorting Bins

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:



Transportation Yard

WAREHOUSE

Individual Space Description

Secure Storage

Spatial Program:

- 1 at 500 SF each, total of 500 SF

Adjacencies and Access:

- Warehouse Storage
- Stock Clerks Work Area/ Pick-up

Activities and Uses:

- Secure Warehouse Storage

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters and Storage Cabinets

Furniture and Equipment:

- Warehouse Storage Racks

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:



Individual Space Description

Warehouse Work Area

Spatial Program:

- 1 at 650 SF each, total of 650 SF

Adjacencies and Access:

- Offices
- Open to Warehouse
- Open to Staging/ Receiving

Activities and Uses:

- Warehouse Tracking
- Temporary Storage/ Sorting

Atmosphere and Environment:

- Open, Orderly and Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters with Storage

Furniture and Equipment:

- File Storage
- Workstation
- Warehouse Racks

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Warehouse Staging/ Receiving/ Forklift

Spatial Program:

- 1 at 2,225 SF each, total of 2,225 SF

Adjacencies and Access:

- Direct Access to Exterior
- Loading Docks
- Stock Clerk Work Area
- Warehouse Work Area
- Sign Storage

Activities and Uses:

- Staging for Loading
- Receiving/ Sorting
- Forklift afterhours Storage

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Warehouse Storage Racks

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:



Individual Space Description

Warehouse Sign Storage

Spatial Program:

- 1 at 1,200 SF each, total of 1,200 SF

Adjacencies and Access:

- Sign Shop
- Warehouse Storage
- Staging/ Receiving

Activities and Uses:

- Sign and Post Storage

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Warehouse Storage Racks

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:



Activity Area Requirements

Garage

Description:

The Garage is responsible for the repair and maintenance of Transportation Department vehicles and road equipment. They also prepare new vehicles for use, installing equipment as needed. The Garage includes regular and oversized repair bays, tire changing, oil and fluid servicing, and a metal shop. The Garage operates under the Highway Operations Section and includes Accounting Offices that work alongside Warehousing.

Site/Department Adjacencies and Access:

- Direct Access, Securely Controlled
- Vehicle Staging/ Parking
- Near Shops, Highway Operations, and Warehouse

Program Philosophy and Goals:

- Provide a Functional Flexible Space
- Provide Shared Use Space and Proximity between Groups for Synergy and Efficiency between Highway Operations Groups

Anticipated Uses and Future Plan Uses:

- Servicing, Repair and Maintenance of Vehicles and Road Equipment
- Vehicle Installation of Equipment

Additional Comments:



Transportation Yard

GARAGE

Space Summary Table:

TYPE OF SPACE	QUANTITY	SQ. FT. SPACE	TOTAL AREA (SF)
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GARAGE (OFFICE AREAS)

MEDIUM OFFICES (GARAGE)	2	180	360
MEDIUM OFFICE (ACCOUNTING)	1	180	180
OPEN OFFICES/ CUBICLES (SMALL)	5	48	240
BREAK ROOM/ MECHANICS LIBRARY	1	1,250	1,250
COPY ROOM/ WORK ROOM	1	188	188
MEN'S RESTROOM	1	252	252
WOMEN'S RESTROOM	1	266	266
MEN'S LOCKER ROOM	1	276	276
WOMEN'S LOCKER ROOM	1	132	132
LOBBY	1	300	300
GARAGE (OFFICE AREAS) SUBTOTAL:			3,774

GARAGE (WORK SPACES)

LARGE VEHICLE REPAIR/ MAINTENANCE BAYS	2	2,200	4,400
VEHICLE REPAIR/ MAINTENANCE BAYS	11	1,100	12,100
TIRE BAYS	2	1,100	2,200
TIRE STORAGE (INTERIOR)	1	2,150	2,150
METAL SHOP	1	3,600	3,600
METAL STORAGE (INTERIOR)	1	1,000	1,000
OIL CHANGING BAYS	2	1,100	2,200
OIL/ FLUID STORAGE	1	890	890
TOOL STORAGE	1	1,200	1,200
UNISEX RESTROOM	1	65	65
PART STORAGE (INCLUDED IN WAREHOUSE)			
GARAGE (WORK SPACES) SUBTOTAL:			29,805

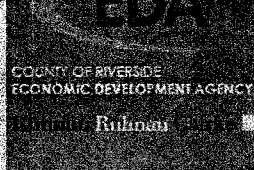
GARAGE (EXTERIOR AREAS)

EXTERIOR TIRE STORAGE	1	4,000	(4,000)
EXTERIOR METAL YARD	1	6,000	(6,000)
VEHICLE PRESSURE WASH (COVERED)	1	2,000	(2,000)
WASTE OIL	1	1,000	(1,000)
FUEL ISLAND (COVERED)	1	10,000	(10,000)

TOTAL GARAGE AREA

(Not Including Exterior Areas/ Circulation/ Utility Rooms)

33,579





Individual Space Description

Medium Office

Spatial Program:

- 2 at 180 SF each, total of 360 SF (Garage)
- 1 at 180 SF each, total of 180 SF (Accounting)

Adjacencies and Access:

- Open Offices/ Cubicles
- Offices
- Copy Room/ Work Room
- Break Room/ Mechanics Library
- Garage (Work Spaces)

Activities and Uses:

- Individual Office Work
- Small Group Meetings
- Supervision of Garage
- Accounting

Atmosphere and Environment:

- Dignified, Organized, Business-like
- Sound Insulation and Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Wall Unit with Lockable Cabinets and Shelves

Furniture and Equipment:

- Desk and Credenza
- Conference Table to Seat (4)

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System

Comments:

Individual Space Description

Open Offices/ Cubicles (Small)

Spatial Program:

- 5 at 48 SF each, total of 240 SF

Adjacencies and Access:

- Offices
- Lobby
- Copy/ Work Room
- Break Room/ Mechanics Library

Activities and Uses:

- Individual Office Work
- Reception

Atmosphere and Environment:

- Open, Orderly, Professional
- Daylighting

Finishes and Materials:

- Tackable Wall Surface
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

- Reception Counter

Furniture and Equipment:

- File Storage
- Workstation

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Break Room/ Mechanics Library

Spatial Program:

- 1 at 1,250 SF each, total of 1,250 SF

Adjacencies and Access:

- Offices
- Garage (Work Spaces)
- Restrooms
- Exterior Access

Activities and Uses:

- Flexible Use for Dining and Meetings
- Staff Development/ Training Workshops
- Kitchenette
- Research/ Mechanics Library

Atmosphere and Environment:

- Clean, Bright, Comfortable, and Inviting
- Sound Insulation and Daylighting
- Flexible and Functional

Finishes and Materials:

- Vinyl Tile
- Tackable Wall Surface
- Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Kitchenette Countertop with Sink and Storage
- Work Countertops with Open Shelving

Furniture and Equipment:

- Dining Table Seating
- Refrigerator/ Freezer
- Microwave
- Ice Machine
- Vending Machines
- Wall Mounted TV
- Vehicle Manuals and Binders

Technology and Utilities:

- Electric/Data/Phone
- Intercom and Video System
- Water

Comments:



Individual Space Description

Copy Room/ Work Room

Spatial Program:

- 1 at 188 SF each, total of 188 SF

Adjacencies and Access:

- Open Offices/ Cubicles
- Offices
- Centrally Located for Shared Use

Activities and Uses:

- Group Work
- Office Work
- Office Supply Storage

Atmosphere and Environment:

- Welcoming, Business-like
- Day lighting

Finishes and Materials:

- Carpet
- Tackable Wall Surface
- White Marker Board

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters
- Storage Cabinets and Shelving

Furniture and Equipment:

- Computers (Hard Wired)
- Printer/ Copier/ Fax
- Filing Cabinets

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:



Individual Space Description

Restrooms

Spatial Program:

- 1 Men's Restroom at 252 SF
- 1 Women's Restroom at 266 SF

Adjacencies and Access:

- Break room/ Mechanics Library
- Visual Privacy at Entrance
- Drinking Fountains
- Locker Rooms
- Shared Use with Warehouse

Activities and Uses:

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror above Lavatory
- Floor mounted, Overhead Braced Toilet/Urinal Partitions

Built-in Cabinetry, Displays, and Fixtures:

- Lavatories
- Low Flow Toilets and Urinals
- Electric Hand Dryer
- Hand Towel Dispenser
- Recessed Hose Bib
- Emergency Eyewash/ Shower (Outside Restrooms)

Furniture and Equipment:

Technology and Utilities:

- Hot/ Cold Water
- Electric/ Campus Intercom
- Floor Drain(s)

Comments:





Individual Space Description

Locker Rooms

Spatial Program:

- 1 Men's Locker Rm. at 276 SF
- 1 Women's Locker Rm. at 132 SF

Adjacencies and Access:

- Restrooms
- Shared with Warehouse as needed
- Visual Privacy at Entrance

Activities and Uses:

- Changing/ Personal Storage

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror

Built-in Cabinetry, Displays, and Fixtures:

- Men's Lockers (30 - 35)
- Women's Lockers (5 -10)
- Benches

Furniture and Equipment:

- Uniform Racks

Technology and Utilities:

- Electric/ Intercom

Comments:

Transportation Yard

GARAGE

Individual Space Description

Lobby

Spatial Program:

- 1 at 300 SF each, total of 300 SF

Adjacencies and Access:

- Entry from Complex Exterior to Accounting/ Warehouse/ Garage
- Offices
- Meeting Room
- Direct Access from Courtyard/ Exterior
- Near Break Room (Shared)

Activities and Uses:

- Entrance/ Reception to Shops/ Offices
- Waiting Area for Meetings
- Pick-up Area for Warehouse Small Items

Atmosphere and Environment:

- Welcoming, Warm, and Friendly
- Durable
- Day lighting

Finishes and Materials:

- Walk-off Carpet
- Carpet

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Waiting Area Seating

Technology and Utilities:

- Electric/Data/Phone
- Intercom

Comments:





Individual Space Description

Large Vehicle Repair/ Maintenance Bays

Spatial Program:

- 2 at 2,200 SF each, total of 4,400 SF

Adjacencies and Access:

- Vehicle Repair/ Maintenance Bays
- Oil Changing Bays
- Tire Bays
- Tool Storage

Activities and Uses:

- Dedicated Garage Bays
- Servicing, Repair and Maintenance of Vehicles and Road Equipment
- Vehicle Installation of Equipment
- Flexible Use for Metal Shop Installations/ Work

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Exhaust Ventilation
- Overhead Hose Reels

Furniture and Equipment:

- Garage Equipment and Tools
- Oversized Vehicle Lifts
- Overhead Crane (Shared between Garage Bays)

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom
- Water, Air, and Gas as needed

Comments:



Individual Space Description

Vehicle Repair/ Maintenance Bays

Spatial Program:

- 11 at 1,100 SF each, total of 12,100 SF

Adjacencies and Access:

- Large Vehicle Repair/ Maintenance Bays
- Oil Changing Bays
- Tire Bays
- Tool Storage
- Metal Shop

Activities and Uses:

- Dedicated Garage Bays
- Servicing, Repair and Maintenance of Vehicles and Road Equipment
- Vehicle Installation of Equipment
- Flexible Use for Metal Shop Installations/ Work

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Exhaust Ventilation
- Overhead Hose Reels

Furniture and Equipment:

- Garage Equipment and Tools
- Vehicle Lifts
- Overhead Crane (Shared between Garage Bays)

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom
- Water, Air, and Gas as needed

Comments:

Transportation Yard

GARAGE

Individual Space Description

Tire Bays

Spatial Program:

- 2 at 1,100 SF each, total of 2,200 SF

Adjacencies and Access:

- Vehicle Repair/ Maintenance Bays
- Oil Changing Bays
- Tire Storage (Interior and Exterior)

Activities and Uses:

- Dedicated Garage Bays
- Servicing, Repair and Maintenance of Vehicles and Road Equipment
- Tire Changing and Repair

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized Roll-up Doors
- Sealed Concrete
- Fencing around Equipment

Built-in Cabinetry, Displays, and Fixtures:

- Exhaust Ventilation as needed
- Overhead Hose Reels

Furniture and Equipment:

- Garage/ Tire Equipment and Tools
- Overhead Crane (Shared between Garage Bays)

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom
- Water, Air, and Gas as needed

Comments:





Individual Space Description

Tire Storage (Interior)

Spatial Program:

- 1 at 2,150 SF each, total of 2,150 SF

Adjacencies and Access:

- Direct to Tire Bays
- Exterior Tire Storage Yard
- Repair/ Maintenance Bays
- Garage Staging/ Parking

Activities and Uses:

- Storage of Tires and Equipment Used by the Tire Shop

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Storage Racks and Bins
- Tire Shop Equipment

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:

- 4,000 SF of Exterior Metal Storage Yard



Individual Space Description

Metal Shop

Spatial Program:

- 1 at 3,600 SF each, total of 3,600 SF

Adjacencies and Access:

- Direct to Metal Shop Storage
- Exterior Metal Storage Yard
- Repair/ Maintenance Bays
- Loading Dock/ Loading Area
- Garage Staging/ Parking

Activities and Uses:

- Dedicated Metal Shop

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Work Counters and Storage Cabinets

Furniture and Equipment:

- Shop Equipment
- Storage Racks

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom
- Water, Air, and Gas as needed

Comments:



Individual Space Description

Metal Shop Storage (Interior)

Spatial Program:

- 1 at 1,000 SF each, total of 1,000 SF

Adjacencies and Access:

- Direct to Metal Shop
- Exterior Metal Storage Yard
- Repair/ Maintenance Bays
- Loading Dock/ Loading Area
- Garage Staging/ Parking

Activities and Uses:

- Storage of Metal and Equipment Used by the Metal Shop

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Storage Racks and Bins

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:

- 6,000 SF of Exterior Metal Storage Yard

Individual Space Description

Oil Changing Bays

Spatial Program:

- 2 at 1,100 SF each, total of 2,200 SF

Adjacencies and Access:

- Vehicle Repair/ Maintenance Bays
- Oil/ Fluid Storage
- Tire Bays
- Garage Staging/ Parking

Activities and Uses:

- Dedicated Garage Bays
- Servicing, Repair and Maintenance of Vehicles and Road Equipment
- Oil/ Fluid Changing

Atmosphere and Environment:

- Functional and Durable

Finishes and Materials:

- Oversized Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Exhaust Ventilation
- Overhead Hose Reels

Furniture and Equipment:

- Garage Equipment and Tools
- Vehicle Lifts
- Overhead Crane (Shared between Garage Bays)

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom
- Water, Air, and Gas as needed

Comments:





Individual Space Description

Oil/ Fluid Storage

Spatial Program:

- 1 at 890 SF each, total of 890 SF

Adjacencies and Access:

- Vehicle Repair/ Maintenance Bays]
- Tire Bays
- Oil Change Bays
- Garage Staging/ Parking

Activities and Uses:

- Storage of Oil/ Fluids
- Receiving/ Loading of Oil/ Fluids
- Air Compressor

Atmosphere and Environment:

- Organized Utility Space

Finishes and Materials:

- Oversized/ Roll-up Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

Furniture and Equipment:

- Storage Racks and Bins
- Air Compressor

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:

Individual Space Description

Tool Storage

Spatial Program:

- 1 at 1,200 SF each, total of 1,200 SF

Adjacencies and Access:

- Direct Access from Repair/ Maintenance Bays
- Near Offices (Garage)

Activities and Uses:

- Storage of Mechanics Tools
- Storage of Specialty Tools

Atmosphere and Environment:

- Organized Utility Space
- Secured

Finishes and Materials:

- Oversized Doors
- Sealed Concrete

Built-in Cabinetry, Displays, and Fixtures:

- Lockable Cabinets for Individual Mechanic's Tool Boxes
- Secured Specialty Tool Area with Cabinets and Pegboard Storage

Furniture and Equipment:

- Storage Racks and Bins

Technology and Utilities:

- Electrical/ Data/ Phone
- Intercom

Comments:





Individual Space Description

Unisex Restroom

Spatial Program:

- 1 at 65 SF each, total of 65 SF

Adjacencies and Access:

- Vehicle Repair/ Maintenance Bays]
- Tire Bays
- Oil Change Bays
- Opposite End of Repair Bays from Shared Restrooms
- Near Eye Wash

Activities and Uses:

Atmosphere and Environment:

- Bright, Sanitary
- Sound Insulation

Finishes and Materials:

- Ceramic Tile Flooring with Floor Drain
- Full Height Ceramic Tile Walls
- Dark Grout at Floors and Wainscot Height
- Mirror above Lavatory

Built-in Cabinetry, Displays, and Fixtures:

- Lavatories
- Low Flow Toilet
- Electric Hand Dryer
- Hand Towel Dispenser
- Recessed Hose Bib

Furniture and Equipment:

Technology and Utilities:

- Hot/ Cold Water
- Electric/ Campus Intercom
- Floor Drain(s)

Comments:

EXHIBIT "D"

MASTER PROJECT SCHEDULE

Description	Date
1. Commencement of Planning/Programming Phase	1 day after execution of agreement, estimated to be January 15 th , 2013
2. Completion of Planning/Programming Phase	February 14 th , 2013
3. Commencement of Schematic Design Phase	February 18 th , 2013
4. Completion of Schematic Design Phase	March 14 th , 2013
5. Commencement of Design Development Phase	March 18 th , 2013
6. Completion of Design Development Phase	June 13 th , 2013
7. Commencement of Final Construction Documents Phase	June 17 th , 2013
50% Completion Submission Date	August 5 th , 2013
75% Completion Submission Date	September 16 th , 2013
Submission to Governmental Authorities Date	October 14 th , 2013
Final Construction Documents Completion Date	December 2 nd , 2013
8. Commencement of Bidding/Negotiation Phase	January 6 th , 2014 Date to be confirmed, pending construction financing
9. Completion of Bidding/Negotiation Phase	February 10 th , 2014 Date to be confirmed, pending construction financing
10. Commencement of Construction	April 14 th , 2014 Date to be confirmed, pending construction financing
11. Construction Period (Estimated only. Actual construction period will be established when the Construction Contract is executed by Contractor and County)	18 months

EXHIBIT "E"

KEY PERSONNEL LIST

Name:	Job Title:
Roger Clarke	Architect of Record
David Nack	Mechanical Engineer of Record
Stev Fajiek	Electrical Engineer of Record
David Nack	Plumbing Engineer of Record
Jeff Cross	Civil Engineer of Record
Larry Kaprielian	Structural Engineer of Record
Scott Wilson	Landscape Architect of Record
Cummings Clarke	Estimator
Philip Stewart	Project Manager
Rick Stanphill	Architectural Designer
James Imbonski	Transportation/ Facilities Engineer
Matthew Nicholson	Architectural Job Captain
Ron Olufson	Architectural Director, Construction Operations

EXHIBIT "F"

SUBCONSULTANTS AND COUNTY CONSULTANTS LIST

Subconsultants retained by Architect:

Mechanical Engineer

Nack and Associates
4645 North Avenue, Suite B
Oceanside, CA 92056

Telephone: (760) 407-2700
Facsimile: (760) 407-2999

Estimator

Cumming Clarke

27201 Puerta Real, Suite 370

Mission Viejo, CA 92691
(949) 900-0440
(949) 900-0450

Transportation/ Facilities Engineer

Parsons Brinckerhoff

451 E. Vanderbilt Way, Suite 200
San Bernardino, CA 92408
(714) 564-2741

Electrical Engineer

FBA Engineering
3420 Irvine Avenue, Suite 200
Newport Beach, CA 92660

Telephone: (949) 852-9995
Facsimile: (949) 852-1657

Civil Engineer

Flores Lund Consultants/
Berger ABAM

506 W. Graham Ave, Suite
104 Lake Elsinore, CA 92530

(951) 471-1625

Landscape Architect

Wilson Associates

11262 Warmington Street
Riverside, CA 92503

(951) 353-2436
(951) 353-1103

Plumbing Engineer

Nack and Associates
4645 North Avenue, Suite B
Oceanside, CA 92056

Telephone: (760) 407-2700
Facsimile: (760) 407-2999

Landscape Architect

Wilson Associates

11262 Warmington Street
Riverside, CA 92503

(951) 353-2436
(951) 353-1103

County Consultants retained by County:

Furniture Design

Name: to be determined

Address:

Telephone:
Facsimile:

Telecommunications Engineer

Name: RCIT Rich Corrigan

Address: 6147 Rivercrest,
Riverside, CA 92507

Telephone: 951-486-7728
Facsimile: 951-486-9424
Cell: 951-315-9424

Moving Consultant

Name: to be determined

Address:

Telephone:
Facsimile:



EXHIBIT "F"

SUBCONSULTANTS AND COUNTY CONSULTANTS LIST

Third Party Estimator

Name: to be determined

Address:

Telephone:
Facsimile:

Geotechnical Engineer

Name: to be determined

Address:

Telephone:
Facsimile:

Surveyor

Name: County of Riverside

Address:

Telephone:
Facsimile:

Materials Testing/ Deputy
Inspections

Name: to be determined

Address:

Telephone:
Facsimile:

Peer/ Plan Reviewer

Name: to be determined

Address:

Telephone:
Facsimile:

Environmental Consultant

Name: Helix

Address:

Telephone:
Facsimile:

Name:

Address:

Telephone:
Facsimile:

Commissioning Agent

Name: to be determined

Address:

Telephone:
Facsimile:

Name:

Address:

Telephone:
Facsimile:

EXHIBIT "G"

REIMBURSABLE EXPENSES SCHEDULE

<u>Description</u>	<u>Max. Unit Price</u>	<u>Unit of Measure</u>
<u>Agreed Rates for Reimbursable Expenses:</u>		
Large Document Copying		
Copies (8.5"x11" white bond)	\$0.05	/Sheet
Blueprints (bond)	\$0.08	/S.F.
Blueprints (color bond)	\$0.09	/S.F.
Presentation bond	\$1.25	/S.F.
Vellums	\$1.75	/S.F.
Erasable vellum	\$1.99	/S.F.
Mylar	\$2.00	/S.F.
Disks	\$9.75	EA.
Plotting Services		
From PDF/ JPEG	\$0.03	/S.F.
From PLT	\$0.05	/S.F.
From DWG	\$0.75	/S.F.
Scanning	\$1.00	EA.
Copying to CD	\$9.75	EA.
Bindery		
Staple	\$0.45	E.A.
Edge Bind	\$0.75	E.A.
3 HP	\$0.003	E.A.
Screw Post	\$2.00	/SHEET
Copying Services		
8.5 x 11 White Bond	\$0.05	EA.
8.5 x 14 White Bond	\$0.07	EA.
11 x 17 White Bond	\$0.15	EA.
8.5 x 11 Color Bond	\$0.06	EA.
8.5 x 14 Color Bond	\$0.08	EA.
11 x 17 Color Bond	\$0.16	EA.
8.5 x 11 Color Copies	\$0.69	EA.
8.5 x 14 Color Copies	\$0.79	EA.
11 x17 Color Copies	\$0.99	EA.

EXHIBIT "G"

REIMBURSABLE EXPENSES SCHEDULE

Agreed Markups:

Architect's Markup on Direct Costs	10%	Actual Cost
Architect's Markup on Subconsultant Costs	5 %	Actual Cost
Subconsultant Markup on Subconsultant Costs	5 %	Actual Cost

Reimbursable Expenses Not-to-Exceed Amount \$3,000.00
(individual):

Reimbursable Expenses Not-to-Exceed Amount \$90,000.00
(aggregate):

EXHIBIT "H"

HOURLY RATES SCHEDULE

Construction Coordinator	\$78.00	/Hr.
Principal	\$180.00	/Hr.
Project Manager	\$135.00	/Hr.
Construction Administrator	\$135.00	/Hr.
Job Captain	\$88.00	/Hr.
Senior CADD Operator	\$75.00	/Hr.
Secretarial	\$75.00	/Hr.
Designer	\$95.00	/Hr.
Assistant Project Manager	\$90.00	/Hr.

EXHIBIT "I"

PAYMENT SCHEDULE

Phase:

Payment Percentage:

Planning/Programming Phase	5%
Schematic Design Phase	15%
Design Development Phase	20%
Final Construction Documents Phase	30%
Bidding Phase	5%
Construction Phase	20%
Post-Completion Phase	5%

EXHIBIT "J"

REFERENCE DOCUMENTS LIST

The Architect shall take into consideration in its preparation of the Design Documents the constraints, requirements and recommendations contained in the existing studies, reports and documents provided by the County or otherwise available as a matter of public record, including but not limited to the following Reference Documents:

Reference Document:	Prepared By:	Dated:
1. Site Survey	Riverside County Trans. Dept./Survey Div.	February, 2012
2. Boundary Survey	Riverside County Trans. Dept./Survey Div.	February, 2012
3. Topographic Map	Riverside County Trans. Dept./Survey Div.	February, 2012
4. Soils/Geotechnical Report		
5. Master Plan		
6. Zoning Plan		
7. C C & R's		
8. Traffic Report	If necessary, to be supplied in future	
9. Acoustical Report		
10. As-Built Documents for Existing Improvements	See survey and topographic map	
11. Environmental Impact Report	To be prepared as part of design process, to be supplied in future	
12. Hazardous Materials Survey(s)		
a. Phase I Environmental Site Assessment (ESA)	EEI Geotechnical & Environmental Solutions	March 28, 2011
b. Phase II (if applicable)	If applicable, to be determined as part of environmental impact report	
c. Abatement Reports (if applicable)	See Phase 1 report. It is known that site has concrete pads, inactive water well, septic system.	

EXHIBIT "J"

REFERENCE DOCUMENTS LIST

13. CEQA compliance documentation and associated Mitigation Monitoring and Reporting Program (which may include, but not be limited to, other technical studies such as Air Quality, Biological Resources, and Cultural Resources)	EPD to conduct MSCHP consistency analysis (BIO), fees estimated on 20 acres are \$131,940; SKR fees if applicable; Tribal monitoring with Pechanga will be required. Documents to be supplied in future	
13. Preliminary Title Report	Stewart Title of California, inc,	February 14, 2011
14. ALTA Plain Language Commitment	First American Title Insurance Co., National Commercial Services	July 13, 2011
15. RCIT Communications Specifications Documents	RCIT	July 16, 2012
	Telecommunications Specifications	April 30, 2012
	Systems Furniture Telecommunications Standards	July 6, 2006
	Outside Plant Specifications	



We help make Riverside County run.

Outside Plant Specifications

For Leased and County-owned Facilities

Communications Bureau

July 17, 2006

Table of Contents

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Section 2	Service Entrance Requirements
Section 3	Exterior Pathways
Section 4	Maintenance Holes
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1.0 Design Specifications

1.1 General

- 1.1.1 All communications requirements shall conform to the standards of Riverside County Information Technology (RCIT) and the serving public telephone company as noted below.
- 1.1.2 The **RIVERSIDE COUNTY INFORMATION TECHNOLOGY (RCIT) COMMUNICATIONS BUREAU TELECOMMUNICATIONS ENGINEER** shall be consulted during the Programming, Design and Construction stages to plan the design for the Telecommunications Infrastructure.
- 1.1.3 Meet requirements of the latest editions of the following telecommunications standards, the National Electrical Safety Code (NESC), the National Electrical Code (NEC).
 - 1.1.3.1 EIA/TIA-569-A, Commercial Building Standard for Telecommunications Pathways and Spaces (ANSI)
 - 1.1.3.2 EIA/TIA-606, Administrative Standard for the Telecommunications Infrastructure of Commercial Buildings (ANSI).
 - 1.1.3.3 TIA/EIA-607, Commercial Building Grounding and Bonding Requirements for Telecommunications (ANSI).
 - 1.1.3.4 TIA/EIA-768, Customer Owned Outside Plant Telecommunications Cabling standard (ANSI).
 - 1.1.3.5 The Exterior Communications Pathways will provide a campus distribution system for all system cabling that will be served by the TRBs. The pathways for a campus distribution system may include all or some of the following, maintenance holes, hand holes, inner duct for both in conduits and direct buried, conduit, multi-cell conduits, All pathways must be approved in writing by **Riverside County Information Technology** prior to design completion. Exterior pathway design shall follow all BICSI TDMM and BICSI Customer Owned Outside Plant Design Manual design recommendations and TIA568B and 569A standards. Riverside County Information Technology must approve all final design in writing. A detailed T0 and Pathway logical drawing will be required for all Pathway Plans, for more information on drawing detail see BICSI TDMM 10th Edition.
 - 1.1.3.6 **Conduit pathways built for telecommunication cabling have more stringent bending and pull box requirements than electrical cabling and must be adhered to (i.e. a telecommunications conduit can have no more than 180**

degrees of cumulative bends between pull points where as a conduit installed for electrical wiring may have 360 degrees of bends between pull points).

2.0 Service Entrance Specifications

2.1 General

- 2.1.1 This section provides the requirements for service entrance to buildings. All outside plant conduit, maintenance holes, and vaults shall be designed and/or approved in writing by Riverside County Information Technology.

2.2 Service entrance Conduit

- 2.2.1 Conduit sizing and quantities shall be determined by **Riverside County Information Technology**. Minimum requirements are outlined in the following paragraphs. All campus buildings shall be connected to the nearest maintenance hole, vault, or new maintenance hole if one is to be installed.
- 2.2.2 Underground Entrance – Recommended size of conduit used in an underground entrance is 4 inches diameter. A spare conduit of equal size shall be installed for future. Conduit duct banks for buildings larger than 10,000 sq. ft. shall be sized with the assistance of **Riverside County Information Technology**. It is desirable for buildings over 10,000 sq. ft. to have more than one service entrance.
- 2.2.3 Provide entrance conduits based on anticipated number and type of telecommunication circuits that will be brought into the building. A Vault will be installed between the property line and the building entrance for up to four conduits. A Maintenance Hole will be installed between the property line and the building entrance for conduits of 5 or more.
- 2.2.4 The termination of entrance conduit within a building shall meet one of the following requirements:
- 2.2.4.1 Through Finished Floor – extend 4 inches above the finished floor.
 - 2.2.4.2 Through Walls – turn conduits down into space and extend them to 8 feet 6 inches above the finished floor.
 - 2.2.4.3 Through Ceiling – extend to 8 feet 6 inches above the finished floor.

The following chart shall be referenced for underground entrances.

Underground Entrance Conduits

1-99 sq. ft.	One 2 inch conduit plus 1 spare
100-2000 sq. ft.	Two 4 inch conduit plus 1 spare
2001-3000 sq. ft.	Three 4 inch conduit plus 1 spare
3001-5000 sq. ft.	Four 4 inch conduit plus 1 spare
5000-7000 sq. ft.	Five 4 inch conduit plus 1 spare
7001-9000 sq. ft.	Six 4 inch conduit plus 1 spare

3.0 Exterior Pathways

3.1 General

3.1.1 Before proceeding with trenching: Investigate the proposed location to determine subsurface conditions or the existence of foreign pipes or ducts. If foreign substructures are found in or along the trenching path, trenching will be stopped until their purpose and ownership is investigated for proper installation of underground conduits to each of the Bldg locations as outlined. It may be necessary to utilize an electronic locating device or dig Test Holes to locate any underground obstacles.

3.1.2 Sizes indicated for conduits and inner duct are trade sizes in all cases.

3.2 Conduit

3.2.1 All conduits will be trade-size 4 Rigid Non-metallic underground conduit Schedule 40.

3.2.2 A drain slope towards the vault of no less than 1 percent grade is required.

3.2.3 The installed underground conduits will not be less than 36 inches below finished grade. Measurement shall be taken from the top of the conduit.

3.2.4 Conduits must have the ends plugged upon installation to keep debris from entering them.

3.2.5 Conduit runs shall contain no continuous sections longer than 600 feet. If runs total more than 600 feet, pull points need to be inserted.

3.2.6 Conduit shall have no more than 180 degrees of cumulative bends between pull points or more than 90 degrees of bends at any one point.

3.2.7 Two 90-degree sweeps separated by less than 10 feet is not permissible.

3.2.8 All bends must be long, sweeping bends with a radius not less than ten times the internal diameter of conduits.

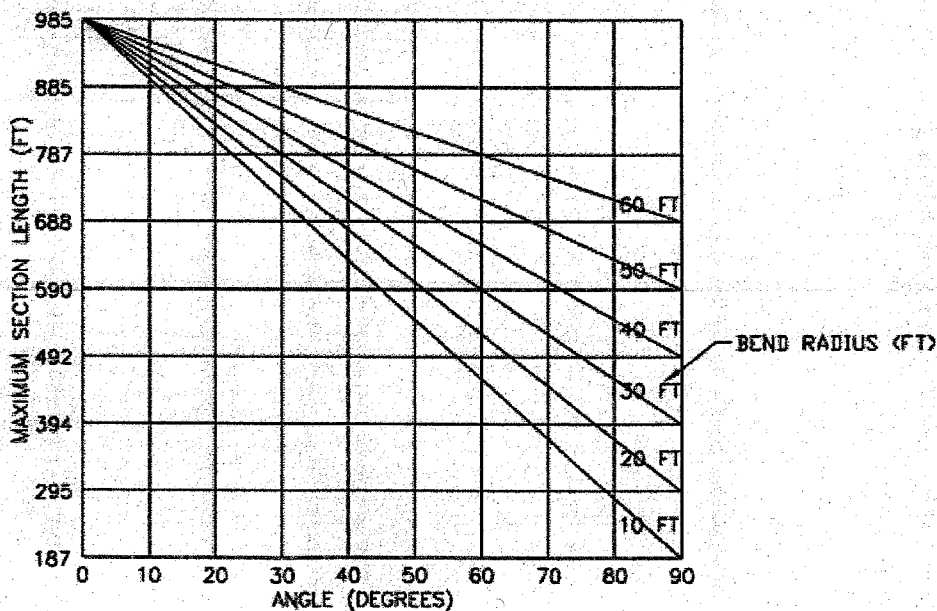
3.2.9 Rigid Galvanized Steel Conduit shall be installed at 90 degree bend location with a minimum 12.5' radius.

- 3.2.10 Install pull rope in each conduit immediately after the conduit has been cleaned and mandreled. Pull rope to be ¼-inch diameter polypropylene or polyethylene rope, braided or twisted. Leave a minimum of 10 feet looped and tied off at each end of the conduit to universal duct plugs.
- 3.2.11 Plug & Seal conduit ends with universal duct plugs.
- 3.2.12 Conduits shall maintain a 3" separation from each other and be supported on factory fabricated, non-metallic, duct/conduit support spacers. The spacers shall be modular, keyed interlocking type, "built-up" to accommodate quantity, size orientation and spacing of installed conduits. The spacers shall maintain a constant distance between adjacent conduit supports and hold conduits in place during conduit encasement and trench backfill operations. The utilization of rebar rods along the conduit length and anchored in the ground to prevent the "rising" of the conduits during concrete encasement. Minimum support spacer installation interval along with length of conduits shall be not less than 8 ft.
- 3.2.13 Conduits shall be separated from adjacent conduits of similar systems (100 volts and less) by a minimum of 2 inches; conduits for non-power systems (100 volts or less to ground) shall be separated by a minimum of 6 inches from power circuits (over 100 volts to ground).
- 3.2.14 Conduits shall be separated from hot water piping, exhaust flues/chimneys and steam piping by a minimum of 12 inches.
- 3.2.15 Conduit must be supported with spacers @ 10' intervals. (See attachment)
- 3.2.16 All conduits must be mandreled prior to turning over to Riverside county Information Technology for occupancy with a mandrel ¼" less than the inside diameter of the conduit.
- 3.2.17 All ends of conduit must be reamed.
- 3.2.18 All conduits entering a building must be pitched to drain away from the building to avert water intrusion.
- 3.2.19 To prevent conduit shearing, conduits entering through the outside walls of a building shall be metal and extend to undisturbed earth, particularly where such backfill is susceptible to load bearing tension.
- 3.2.20 All conduits that do not have inner duct installed inside of them shall be threaded with pull ropes with footage markers.
- 3.2.21 Rigid Galvanized Steel Conduit shall be hot-dipped galvanized steel, including threads.
- 3.2.22 Rigid Non-Metallic PVC Conduit
- 3.2.23 Heavy wall conduit: Schedule 40, constructed of polyvinyl chloride, rated for use with 90 degree C conductors, and UL listed for direct burial and concrete encasement.
- 3.2.24 Conduit or duct section length shall not exceed 600ft between MH's.
- 3.2.25 Refer to Figure G4030-1 for maximum section lengths between MH's. Increase the radius of bends significantly extends the length of duct between MH's. When bend radius of less than 10ft are used, section lengths are reduced drastically.
- 3.2.26 All necessary precautions shall be taken by the contractor during construction

to prevent the lodging of dirt, plaster or trash in all conduit, tubing, fittings and boxes. All conduits in floors, concrete or below grade shall be swabbed free of debris and moisture before wires are pulled. After installation, all conduits shall be verified clean, dry, unobstructed, capped for protection, labeled for identification, reamed and fitted with bushings prior to acceptance by the **Riverside County Information Technology**. To verify that no obstructions exist in each duct cell, the contractor shall pull a mandrel through each duct cell in the presence of the **Riverside County Information Technology**. Conduits shall be capped for protection, labeled for identification, reamed and fitted with bushings prior to acceptance by the **Riverside County Information Technology**. Seal the inside-the-building end of the conduits to prevent rodents, water or gases from entering the building. Use rubber conduit plugs, water plug, or duct sealer, depending upon field conditions.

- 3.2.27 Utility markers (toning indicators) shall identify ALL conduit and duct bank routes. Toning indicators shall be placed at 50 foot intervals, and at the beginning, middle and end of any sweep or turn. The toning indicators shall be placed on top of the wet concrete no deeper than 5 feet below finished grade. In instances where the top of concrete is greater than 5 feet below finished grade, toning indicators shall be placed horizontally directly above the duct bank within the backfill material, at a vertical elevation of 5 feet below finished grade.

Figure G4030-1: Maximum Section Length Between Maintenance Holes



3.3 Conduit Trench Requirements

- 3.3.1 Top of conduit must be buried at least 36 inches below the ground surface.
- 3.3.2 Trench shall be min 35" wide, 48" deep.
- 3.3.3 Bottoms of trenches shall be cut parallel to "finished grade" elevation.
 - 3.3.3.1 All trenching work shall be in compliance with OSHA guidelines.

3.4 Conduit Depth Requirements

- 3.4.1 Top of conduit must be buried at least 36 inches below the ground surface.
- 3.4.2 Trench shall be min 35" wide, 48" deep.
- 3.4.3 Bottoms of trenches shall be cut parallel to "finished grade" elevation.
- 3.4.4 All trenching work shall be in compliance with OSHA guidelines.

3.5 Encasement

- 3.5.1.1 PVC rigid-non-metallic-type schedule 40 conduit, of any size and any location shall be continuously concrete encased the full length of the conduit installation.
- 3.5.1.2 Concrete for encasement of underground conduits shall be 2500 PSI 28 days cure strength with a maximum of $\frac{3}{4}$ " gravel. Concrete encasement of conduits shall be continuous without voids. The encasement shall extend 3-inches past the edges of all conduits on all sides of the circuit.
- 3.5.1.3 All duct runs shall be inspected and approved by the **Riverside County Information Technology** or appointed owner's representative prior to pouring of concrete. At least 24 hours prior notice will be given to **Riverside County Information Technology** that a pour will be taking place. **Failure of the contractor to schedule inspection and obtain Riverside County Information Technology approval in writing prior to pouring of concrete, will result in the removal and re-installation of the section of duct bank in question.**

3.6 Excavation Temporary Cover:

- 3.6.1.1 Provide temporary steel plating and shoring support for the plates, to completely cover the excavation created across the roadway.
- 3.6.1.2 Temporary steel plating must be provided under one or more of the following conditions:
- 3.6.1.3 Excavations "open" for more than four (4) calendar days;
- 3.6.1.4 Excavations "open" over weekends (Saturday, Sunday) or Holidays,
- 3.6.1.5 The temporary plating shall be a minimum of 0.75-inch thickness steel, but in no case shall the thickness be less than required to

- support AASHO-H20 traffic loading.
- 3.6.1.6 Provide a visible barrier along the excavation path on each side of the roadway with highly visible "Caution Tape" supported to construction cones.

3.7 Backfilling Trenches for Conduits

- 3.7.1.1 Conduit trenches shall be backfilled to within 12 inches of finished grade with damp sand after installation of conduit and concrete is completed. Remainder of backfill shall be native soil. Soil shall have no stones or aggregate greater than 3 inches. Backfill shall be machine vibrated in 6-inch lifts to provide not less than 90 percent compaction.
- 3.7.1.2 Landscaping shall be restored to its original state.
- 3.7.1.3 Provide a continuous 12-inch wide flat plastic tracer tape, located 12 inches above the conduits in the trench. The tracer tape shall be imprinted with "Warning- Fiber Optic Cable" a minimum of 24 inches on center.

3.8 Paving

- 3.8.1.1 Perform patching of the construction work. Patching shall be of the same material, thickness, workmanship and finish as existing and accurately match surrounding work to the satisfaction of the County of Riverside.
- 3.8.1.2 Repaving shall be placed in such a manner that interference with traffic, including pedestrian traffic, will be kept to a minimum. The Contractor shall establish a program of repaving acceptable to the County.

3.9 Conduit Orientation

- 3.9.1 Manufactured conduit spacer shall be used for all conduits in the duct bank so conduits can maintain the same orientation at all points of access.

3.10 Separation From Other Utilities

- 3.10.1 Power up to 1KVA:
- 12 in. of well- packed earth
 - 4 in. of masonry
 - 3 in. of concrete

3.11 Gas, Oil, Water, etc.:

- 12 in. when parallel
- 6 in. when crossing

3.12 Inner ducts

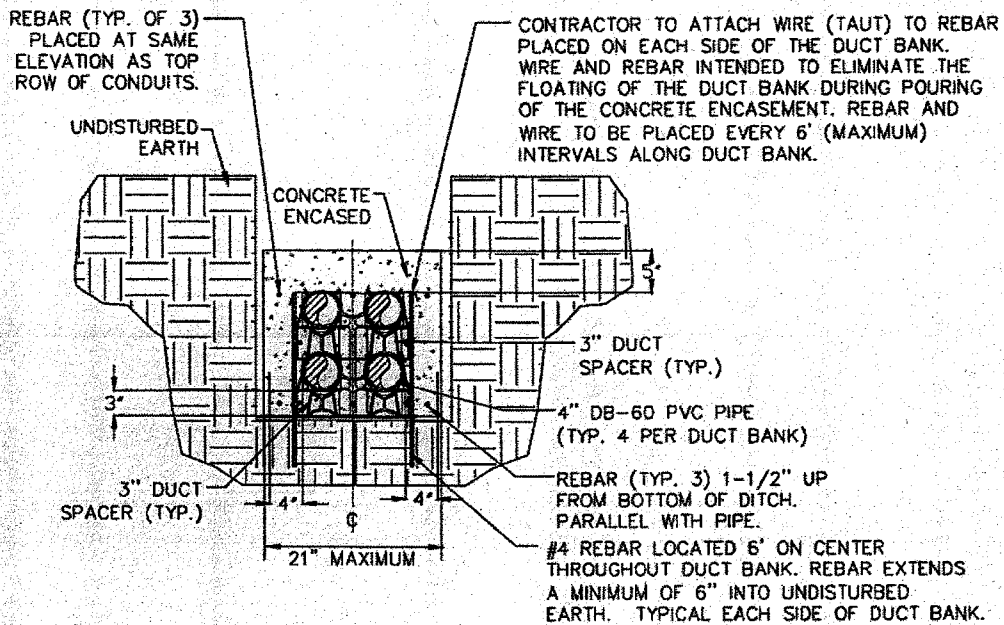
- 3.12.1 Inner ducts must have the ends plugged upon installation to keep debris

from entering them.

3.12.2 All inner ducts shall be threaded with pull ropes with footage markers.

3.12.3 Inner duct shall not be directly buried or concert incased as a replacement to conduits.

Duct Bank Detail - (4) 4" PVC



4.0 Maintenance Holes

4.1 General

4.1.1 Joint Use Maintenance Holes (MHs) are not permitted

4.2 Conduit Entry Points

4.2.1 Conduits entering the MH are to be placed at opposite ends of a MH.

4.3 Covers

4.3.1 Covers shall always be round and centrally located on single- cover

maintenance holes.

4.3.2 Frames and covers used in roads or driveways shall be rated to withstand vehicular traffic.

4.3.3 For MH over 3.7 m (12 ft) long, follow these guidelines:

4.3.4 Between 3.7 m (12 ft) and 6 m (20 ft) use two covers.

4.3.5 Over 6 m (20 ft), use three covers.

4.4 Interior Hardware

4.4.1 All hardware in MHs must be galvanized.

4.4.2 MHs shall be equipped with the following:

4.4.3 Bonding inserts and struts for racking.

4.4.4 Pulling eyes at least 22 mm (7/8 in) in diameter.

4.4.5 A sump of at least 200 mm (8 in) in diameter.

4.4.6 An entry ladder (where feasible).

4.5 Identifying Covers

4.5.1 All covers shall have TELECOMMUNICATIONS pre-marked on the cover for easy identification.

4.6 Concrete Strength

4.6.1 The strength of concrete used for MHs shall be at least 24 000 kPa (3500 psi).

4.6.2 NOTE: Stronger concrete may be stipulated in certain installations.

5.0 Handhole

5.1 General

5.1.1 Handholes (HHs) are smaller than maintenance holes (MHs), but the covers provide full access to the entire space inside the hole. HH shall be used as pull-through points only. HHs shall not be used as splice points, unless specified by the project manager. HH shall not be used in conduit runs that have more than three (3) 4in conduits.

5.1.2 Joint Use HH are not permitted.

5.2 Conduit Entry Points

5.2.1 Conduits entering the HH are to be aligned on opposite walls of the HH at the same elevation.

5.3 Covers

5.3.1 Covers shall always be round and centrally located handholes.

5.3.2 Frames and covers used in roads or driveways shall be rated to withstand vehicular traffic.

5.4 Identifying Covers

5.4.1 All covers shall have RCIT pre-marked on the cover for easy identification.

6.0 Aerial Distribution

- 6.1.1 Aerial distribution of telecommunications cabling at Riverside County facilities is not authorized unless specific approval is granted through the “**Riverside County Information Technology Communication Bureau Telecommunications Infrastructure Engineer**” assigned to the project. In cases where aerial distribution is approved for use, the facility Superintendent or designated representative shall determine that the use of aerial distribution presents no significant risk to physical security at the facility. The design and installation shall also be reviewed, approved, and inspected by the Riverside County Information Technology Communication Bureau Telecommunications Infrastructure Engineer.

7.0 Submittals

7.1 **General**

- 7.1.1 A traffic control plan shall be provided to the County of Riverside and approved before commencing work...
- 7.1.2 A safety plan shall be provided to the County of Riverside and approved before commencing work.

8.0 Product specifications

8.1 **Conduits**

- 8.1.1 Outside direct Buried: Rigid Non-Metallic Schedule 40 PVC coated electrical conduit. Meets NEMA TC 6 requirements. Trade Size #4 (OD 114.30 mm -ID 102.36 mm).
- 8.1.2 Outside above ground: Intermediate Metal Conduit. Trade Size # 4 -OD 4.66 in.
- 8.1.3 Outside around the building foundation: OSP conduit shall transition from PVC to PVC-coated, rigid steel conduit when it enters a 10-foot zone of circumference around the building foundation and shall route from that point to the building Entrance Facility. PVC-coated, rigid steel conduit is intended to provide protection from the shearing effect of excavated ground settling around the building foundation. It also provides protection from future landscaping activities near the building.

8.2 **Underground Vaults – Brooks Product EPB-4505 or Equivalent**

- 8.2.1 3'-0" x 5'-0" x 4'-0" D pre-cast concrete vaults. Concrete to be Class “A” (3000 P.S.I.).
- 8.2.2 Equipped with 6" Diameter Sump. See reference drawing.
- 8.2.3 Install 5' Ground Rod in Sump and attach Bonding Ribbon to Ground Rod using a brass clamp. See reference drawing.

8.2.4 Dual covers – equipped with torsion bar for opening and closing. Parkway and Traffic use as noted.

8.3 Metallic Enclosures – Hoffman product or Equivalent

8.3.1 24"x24"x12"D NEMA 3-R standard

8.4 Above Ground Pedestal – Marconi CCP1016 or Equivalent

8.4.1 Above ground metallic enclosure with capability of housing small distribution equipment.

8.5 Underground Maintenance Hole

8.5.1 Excavate for the installation of 4'6"x 8'6"x 6'6"D precast maintenance hole at the designated locations. Provide 10" deep bedding base of 3" river run gravel in the bottom of the excavation.

8.5.2 Maintenance Hole must be equipped with a SUMP for proper drainage.

8.5.3 Bedding shall be level and well compacted by a minimum of four passes with a plate type mechanical vibrator.

8.5.4 Provide and install 4'6" x 8'6" x 6'6" maintenance hole which allow for end wall entrances with H20 top cover for access. The top of the vault after final placement shall be even with finished grade. Install precast structure per manufactures recommendations to provide a dry watertight installation.

8.5.5 Back fill and compact earth around precast structure after installation of the structure to 90% minimum compaction in 12 inch lifts.

8.5.6 Connections to Precast Structure: All

8.5.7 Precast structure shall be installed to provide for keying and concrete envelope of the conduit/duct line into the wall of the structure. Mechanical vibrators shall be used when this portion of the envelope is poured to assure a seal between the envelope and the wall of the precast structure.

8.5.8 Entrances of conduits/ducts shall terminate with end bells inside the precast entrances into the vault and is a minimum of 29 inches below vault ceiling. Maximum conduit slope shall not exceed 1 inch per "running" foot of conduit.

8.6 Underground Maintenance Hole – Oldcastle Precast

8.6.1 4'-6 x 8'-6" x 6'-6" D pre-cast concrete vault. Concrete to be Class "A" (3000 P.S.I.). (See attachment A)

8.6.2 Equipped with 6" Diameter Sump.

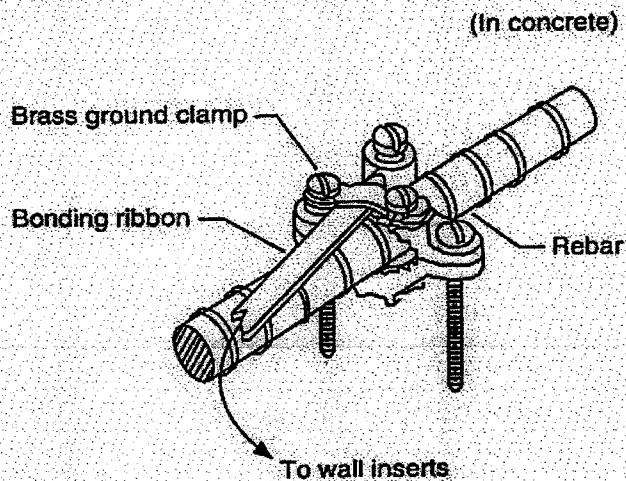
8.6.3 Install 5' Ground Rod in Sump and attach Bonding Ribbon to Ground Rod using a brass clamp.

8.6.4 Traffic Covers – A-1252-B Traffic Cover and Frame with Identification Spot labeled "RCIT" (H20 Traffic Rating). Cover shall be permanently engraved with "RCIT" on (See reference drawing).

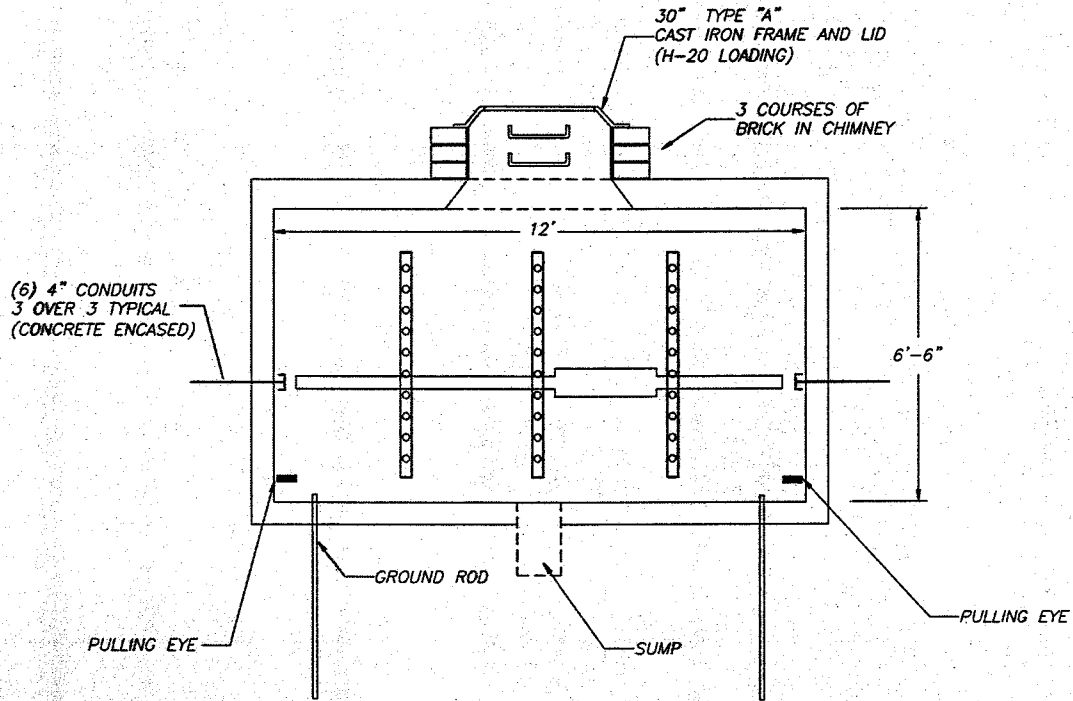
- 8.6.5 Maintenance Hole outer surface shall be coated with a water proofing material at the factory before delivery and an additional coating performed on site to all seals and collars.
- 8.6.6 Frame and Cover: 30" frame and cover minimum.
- 8.6.7 Window and Duct Entry – H style with (2) 4 x 4 4" conduit duct entry in the lower half of the maintenance hole on each end and (2) 4 x 4 4" conduit duct entry in the upper half of the maintenance hole on each end. (See attachment A)
- 8.6.8 Include metal ladder in maintenance hole, steps at 16" on center, latter attached to collar rungs.
- 8.6.9 Install sealant at all joints. Ram-Nek, Kent Seal or approved equal sealants shall be used on all joints.
- 8.6.10 Grounding/Bonding: Provide a minimum of one 3/4" x 10' copper clad steel ground rods, and one #4/0 pigtail for connection to interior ground conductors. Bond metallic hardware in the vault to the pre-cast bonding tabs. Bond the bonding tabs to the ground rod.

Example of a Ground Rod Bonding

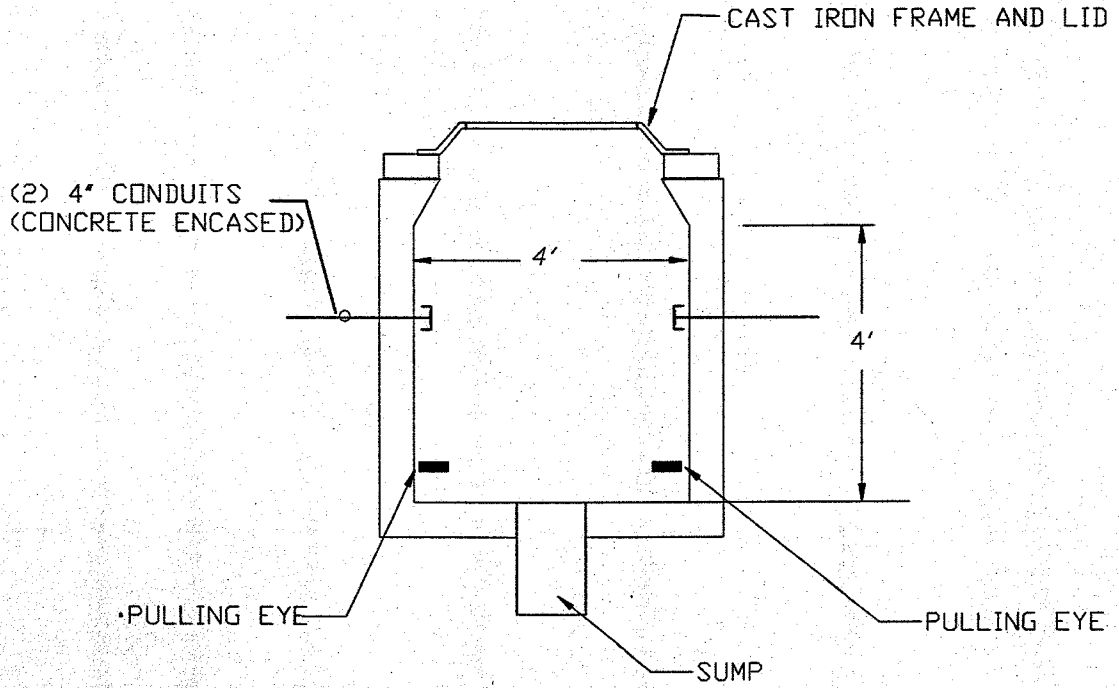
Clamped bonding attachment to rebar for precast or site-poured maintenance hole

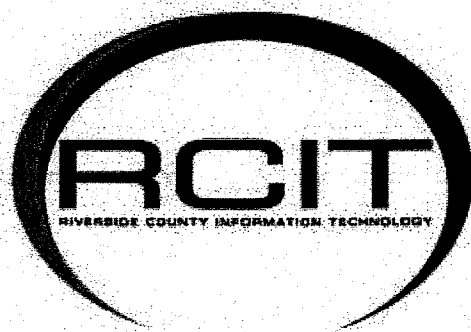


Example of a Maintenance Hole



Example of a Handhole





Telecommunications Infrastructure Specifications

Riverside County

Communications Bureau

July 16, 2012

A. GENERAL REQUIREMENTS

1. All communications requirements shall conform to the standards of Riverside County Information Technology (RCIT) and the serving public telephone company as noted below.
2. **The RIVERSIDE COUNTY INFORMATION TECHNOLOGY (RCIT) COMMUNICATIONS BUREAU TELECOMMUNICATIONS ENGINEER shall be consulted during the Programming, Conceptual Design, Design Development, and Construction Design stages to plan the design and provide input for the Telecommunications Infrastructure.**

B. TELECOMMUNICATIONS ROOM SPECIFICATIONS

1. **Dedicated Use: Telecommunications Rooms must be dedicated to the telecommunications function and related support facilities.** Equipment not related to the support of the Telecommunications Room, such as piping, duct work, and distribution of building power, must not be located in, or pass through the room. The Telecommunications Room shall not be shared with building or custodial services. Cleaning materials such as mops, buckets or solvents must not be located or stored in the Telecommunications Room. Building alarms, fire monitoring equipment and building automation equipment shall not be installed in the Telecommunications Room without written permission of the RCIT Communications Bureau Telecommunications Engineer. In the event the RCIT Communications Bureau Telecommunications Engineer grants such permission, all building alarms and fire-monitoring equipment shall be installed only in the location designated.
2. **Room Physical Specifications - the room must be completed a minimum of thirty (30) days prior to occupancy.** Large projects (more than 20,000 sq. ft.) will require the Telecommunications Room (s) to be completed a minimum of 45 days or as directed by RCIT Communications Bureau Telecommunications Engineer prior to beneficial occupancy. All specifications for said room as outlined in this agreement shall be completed, including, but not limited to, installation of plywood, lighting, electrical circuits, HVAC, ceiling tiles, ground, floor tile and door with lock and three (3) sets of keys.
It should be understood that the contractor will have to schedule various trades in sooner than the normal construction schedule to complete the Telecommunications Room (HVAC, Electrician, Painter, etc.) as required by the RCIT Communications Bureau Telecommunications Engineer.
 - a. **Location:** The Telecommunications Room shall be as close to the geographic center of the occupied space as possible. **Maximum distance from the center of the Telecommunications Room to the farthest WAO**

location shall not exceed a radius of 175 feet unless reviewed and approved by RCIT Communications Bureau Telecommunications Engineer. If occupying more than one floor of a building, a separate Telecommunications Room shall be required on each floor, preferably stacked above one another. In multi-story facilities with three (3) or more floors and multi-Departmental occupancy, an additional Telecommunications Equipment Room shall be provided for building Voice and Data Communication located next to the 1st Floor Telecommunications Room. Provisions shall be made available for easy access into the Telecommunications Room for telephone and data wiring and shall be dedicated for telephone and data use only. Telecommunications Rooms should not be planned next to elevators, restrooms, electrical rooms, airshafts, mechanical rooms, and outside walls. If occupying more than one building, each building will require Telecommunications Rooms that meet the above requirements.

b. Minimum Room Sizes:

The Telecommunications Room shall be rectangular in shape and conform to the following inside room dimensions:

<u>Leased Premises – sq. ft.</u>	<u>Room Size</u>
5,000 sq. ft. Or less	12' x 9'
5,000 – 10,000 sq. ft.	12' x 12'
10,000 – 30,000 sq. ft.*	12' x 14'
30,000 sq. ft. or larger**	12' x 14'

* May require more than one room

** Will require more than one room.

The MPOE shall be rectangular in shape and conform to the following inside room dimensions:

<u>Leased Premises – sq. ft.</u>	<u>Room Size</u>
10,000 sq. ft.* or larger	10' x 10'

The Telecommunications Equipment Room shall be rectangular in shape and conform to the following inside room dimensions:

<u>Leased Premises – sq. ft.</u>	<u>Room Size</u>
3 – 5 Floors and higher	12' x 10'
6 – 10 Floors and higher	12' x 14'
11 – 15 Floors and higher	12' x 20'

c. Plywood Wall Lining: All walls shall be lined with AC grade or better, void-free, 4'x8' sheets of 3/4" plywood. Plywood sheets shall be mounted

vertically from ceiling height towards floor. Plywood must be painted on all sides with one coat of primer and two coats of white fire resistant paint. The plywood should be installed with the grade "C" surface facing the wall.

- d. **Doors:** The door will be a minimum of three (3) feet wide and 80 inches tall and be located as near as possible to a room corner. The door shall be equipped with a lock. Where practical, the door should open outward to provide additional usable space.
- e. **Air Conditioning:** The environmental control systems for the Telecommunications Room should be able to maintain a room temperature between 18°C and 24°C (64°F and 75°F) at all times (24 hours per day, 365 days per year). All building supplied HCAC inlets to the Telecommunications Room shall be controlled using a Variable Air Valve (VAV) with its own thermostat to prohibit heating the Telecommunication Room. The VAV will be installed in such a fashion to introduce conditioned air if the primary split A/C unit fails to cool the room. It will serve two purposes:
 1. Provide ventilation air to the room, cooling only.
 2. Serve as a additional backup

If a building's HVAC system cannot ensure continuous operation (including weekends and holidays), provide a standalone HVAC unit with independent controls for the Telecommunications Room. If an emergency power source is available in the building, connect the HVAC system that serves the Telecommunications Room to the emergency power source. Sensors and controls must be located in the Telecommunications Room, ideally placed 5 feet AFF (thermostat location will be specified on the Telecommunications room drawing provided by RCIT Communications Bureau Telecommunications Engineer). If an in-room air conditioner is installed, the air conditioner will be hard wired to the thermostat and RCIT Communications Bureau Telecommunications Engineer must approve the location before installation. If remote-monitoring equipment is available, this room should have its own independent sensor. Average heat load for equipment is approximately 150 BTU/SQ Ft of Telecommunications Room space (specific heat load will be provided for each room).

- f. If fire sprinklers are located in the Telecommunications Room, the sprinkler shall have a high temperature standard response full circle head with a heavy-duty cover. Sprinkler lines located inside the TR shall not be "charged" under normal conditions. Coordinate placement of the sprinklers with RCIT Communications Bureau Telecommunications Engineer. Sprinkler heads must be a minimum of 10 ft. AFF.
- g. **Room Lighting** – Lighting to provide a minimum of 500 lux (50-foot

candles) measured 3 ft. AFF. Coordinate placement of light fixtures with RCIT Communications Bureau Telecommunications Engineer to avoid interference with low voltage equipment. Light fixtures must be a minimum of 10 ft. AFF. Use white paint on the walls and ceiling to enhance room lighting. Power for the lighting should not come from the power panel located inside the Telecommunications Room.

- h. **Emergency Lighting** – Emergency lighting within the Telecommunications Room shall be provided to ensure that the loss of power to normal lights will not hamper an emergency exit from the room.
- i. **Floors:** The floor shall be capable of supporting a minimum load bearing of one hundred (100) pounds per square foot and maximum concentration loading of 2,000 lbs. per foot. Standard VCT floor covering shall be installed unless otherwise specified.
- j. **Ceiling:** If a ceiling will be installed in the Telecommunications Room, it must be installed at a **minimum of 10' AFF**. Ceiling protrusions (e.g. sprinkler heads) must be placed to assure a minimum clear height of 10 feet that is clear of obstructions, to provide space over the equipment frames for cables and suspended cable trays. Ceiling finish must minimize dust and be light colored to enhance the room lighting. A hard ceiling shall not be allowed in the Telecommunication Room.

C. Electrical Requirements:

- a. **Dedicated Power Feeder** – The Telecommunications Room will have its own dedicated power feeder terminated in an electrical panel located inside the room and flush mounted in the wall. **Location of this electrical sub-panel shall be closely coordinated with RCIT Communications Bureau Telecommunications Engineer to ensure it does not impact the overall design and use of the space within the room. A separate feeder, conduit, and distribution panel should supply power required for other equipment in the room (e.g. fluorescent lighting, motors, air conditioning equipment).** If an emergency power source is available, connect the Telecommunications Room electrical sub-panel into it.
- b. **General Purpose Outlets:** Provide 110 Volt, 20 Amp duplex outlets installed at standard height on all walls of the Telecommunications Room; maximum spacing between outlets shall not exceed 12 feet.
- c. **Telephone System:** Install one (1) dedicated 208 VAC, 20 Amp circuits terminated into a single surface mounted 4S electrical box with a NEMA L6-20 outlet at a height of 18 inches AFF from center. The circuit will have its own separate hot, neutral, and ground wire all the way back to the power distribution panel. The circuit will be clearly labeled on the cover plate and sub-panel.

- d. **Equipment Racks:** Install two (2) dedicated 20 Amp, 110 VAC circuit with isolated ground for each equipment rack (9X12 room – 2 racks, 12X12 room – 3 racks, 12 X 14 room – 4 racks). Install one (1) dedicated 30 Amp, 208 VAC circuit with isolated ground for every two equipment racks. The breaker number shall be identified on each of these outlets. Terminate each circuit on double duplex outlets in a surface mounted 4S box in the vertical cable manager 23" above the floor. Equipment Rack locations, circuit locations and quantity will be specified in the room layout provided by the RCIT Communications Bureau Telecommunications Engineer.
- e. **Paging – A/V: If required, Install** one dedicated 20 Amp, 110 VAC circuit with isolated ground. Terminate on a double duplex outlet in a 4S box. The location of the outlet will be specified in the Telecommunications Room layout provided by the RCIT Communications Bureau Telecommunications Engineer.
- f. **Security:** Install one dedicated 20 Amp, 110 VAC circuit with isolated ground. Terminate on double duplex outlets in a 4S box. The location of the outlet(s) will be specified in the Telecommunications Room layout provided by the RCIT Communications Bureau Telecommunications Engineer.
- g. **Emergency Air Conditioner Outlet (To Support IT Telephone System):** Install one dedicated 208/220 VAC, 20 Amp circuit terminated on a single NEMA 6-20 receptacle. The location of the outlet will be specified in the Telecommunications Room layout provided by the RCIT Communications Bureau Telecommunications Engineer.
- h. **Grounding –** A Telecommunications Main Grounding Busbar (TMGB) shall be installed in the telecommunications room at the location specified in the room layout that will be provided by the RCIT Communications Bureau Telecommunications Engineer. **The Grounding Busbar must be CPI Chatsworth Products, part #13622-020.** The Busbar shall be insulated from its supporting structure by at least two inches of separation. Bond the Busbar to the building AC grounding electrode system. The minimum size of the bonding conductor should be #3 AWG and be sized to carry the maximum short time rating Amps of the building grounding electrode conductor. A supplemental bonding connection is required to be Exothermically Welded to the structural steel of the building and local AC sub-panel located inside the telecommunications room. Resistance should be no more than .1 ohms between the TMGB and the building main grounding source measured following the two-point bonding test method using an earth ground resistance tester. All grounding conductors shall be run in rigid conduit.

D. CONDUIT REQUIREMENTS

1. Work Area Outlets (WAO):

- a. **General Specifications:** Each WAO shall consist of one 4 in. by 4 in. by 2.5 in. deep outlet box with a 2 in. by 4 in. reducing adapter installed.
 - b. **Height Requirements:** Each WAO shall be installed at the same height as the adjacent electrical outlet. The height of jacks for wall telephones shall conform to any ADA rules pertaining to handicapped use. This height is typically 44 inches AFF to the center of the outlet box.
 - c. **Conduits Specifications:**
 - (1) **Accessible Ceilings:** When there is an accessible ceiling such as suspended acoustical tile, provide a rigid trade size 1 conduit (**flex not allowed**) stubbed into the ceiling space from the outlet box. Ceiling must be accessible from the WAO location back to the Telecommunications Room. WAO locations for wall phones install WAO at wall phone height (+44"); install an additional outlet box at standard floor height. Connect a rigid 1-inch conduit from the bottom of the wall height box to the top of the standard floor height box. Ream all conduit ends and fit with insulated bushings. Provide and install two (2) WAO locations for all private offices.
 - (2) **Non-Accessible Ceilings:** When the ceiling is not accessible, provide a rigid 1 1/4-inch conduit (**flex not allowed**) run from the WAO location all the way to the Telecommunications Room or to the nearest accessible ceiling space. Runs cannot have more than the equivalent of two 90-degree bends without installing a pull box (pull box must be accessible upon completion of construction). **All conduits will have a pull string installed.** Where multiple outlets are installed, each location will have its own dedicated conduit run; daisy chaining is allowed.
2. **System Furniture Wall In-feeds:** Wall in-feeds will be one rigid 1.25 in. conduit per 3 WAO locations of systems furniture. The conduit shall be stubbed into the ceiling area from a 4 in. by 4 in. by 2.5 in. deep outlet box. Ream all conduit ends and fit with insulated bushings. In-feed location will be accessible either by cutout or access panel in furniture or placed next to furniture where location will be accessible for service. Consult RCIT Communications Bureau Telecommunications Engineer for location, quantity, and size of in-feeds. Exact location will be verified with furniture vendor.
3. **System Furniture Floor Poke-Thru in-Feeds:** Poke-Thru locations requiring power/voice/data will require Wiremold P/N RC9FFTC Poke-Thru's with EMT 1.25 in. conduit per three (3) WAO locations of systems furniture. Color to be specified by Architect. The conduit shall be continuous and stubbed into the ceiling area of that floor being serviced with pull string installed. No more than two 90's will be allowed, J-Box for furniture supplier power whip connections to

be anchored to the ceiling of the floor below with unistrut. J-Box must be with-in 6' of furniture whip connection. Ream all conduit ends and fit with insulated bushings. Consult RCIT Communications Bureau Telecommunications Engineer for location, and quantity. Exact location will be verified with furniture vendor.

4. **System Furniture Power and Data Floor Boxes:** Floor Box locations requiring power/voice/data will require Wiremold P/N RFB4-C1-1 Floor Box with EMT 1.25 in. conduit per 3 WAO locations of systems furniture for communications. Color to be specified by Architect. The conduit shall be continuous and stubbed into the ceiling area of that floor being serviced with pull string installed. No more than two 90's will be allowed. All boxes shall be configured for dual service which will require accessory items for separation of power and data. All boxes shall include (1) internal duplex receptacle for power, (1) Wiremold P/N RFB-2-SSRT for communications and (1) flanged cover P/N S38BBTCAL. Ream all conduit ends and fit with insulated bushings. Consult RCIT Communications Bureau Telecommunications Engineer for location, and quantity. Exact location will be verified with furniture vendor.
5. **Hard Wall Office Floor Poke-Thru:** Poke-Thru locations requiring power/voice/data will require Wiremold P/N RC4ATC Poke-Thru's with the optional Communications Adapter P/N Com75 installed for Voice and Data conduits. Install two (2) EMT 0.75 in. conduits per location. The conduits shall be continuous and stubbed into the ceiling area of that floor being serviced with pull string installed. No more than two 90's will be allowed. Ream all conduit ends and fit with insulated bushings. Consult RCIT Communications Bureau Telecommunications Engineer for location, quantity, and size of in-feeds. Exact location will be verified with furniture vendor.
6. **Hard Wall Power and Data Floor Boxes:** Floor Box locations requiring power/voice/data will require Wiremold P/N RFB4-C1-1 Floor Box with (1) EMT 1.25 in. conduit for communications. Color to be specified by Architect. The conduit shall be continuous and stubbed into the ceiling area of that floor being serviced with pull string installed. No more than two 90's will be allowed. All boxes shall be configured for dual service which will require accessory items for separation of power and data. All boxes shall include (1) internal duplex receptacle for power, (1) Wiremold P/N RFB-2-SSRT for communications and (1) flanged cover P/N S38BBTCAL. Ream all conduit ends and fit with insulated bushings. Consult RCIT Communications Bureau Telecommunications Engineer for location, and quantity. Exact location will be verified with furniture vendor.
7. **Backbone Pathways:**
 - a. **Telecommunications Rooms on the Same Floor:** When two or more Telecommunications Rooms exist on the same floor, provide two (2) rigid metallic trade size 4 conduits between the main Telecommunications Room and each secondary Telecommunications Room. Conduits are to be run in

the most direct route possible with no more than the equivalent of two 90-degree sweeps without a pull box. The minimum size of a pull box shall be 24" W X 36" L X 12" D. Ream all conduit ends and fit with insulated bushings. Conduits are to be bonded to ground in accordance with all local and national requirements. Location of conduits will be identified on drawings provided by the RCIT Communications Bureau Telecommunications Engineer and provided on a site-by-site basis. The bend radius of the conduit shall be 10 times the outside conduit diameter. **Install a pull string with minimum tensile strength of 30 lbs in each conduit.**

- b. **Telecommunications Rooms on Different Floors:** When two or more Telecommunications Rooms exist on different floors, provide a minimum of two (2) rigid trade size 4 conduits between the main Telecommunications Room and each secondary Telecommunications Room. Conduits are to be run in the most direct route possible with no more than the equivalent of two 90-degree bends without a pull box. The minimum size of a pull box shall be 24" W X 36" L X 12" D. Ream all conduit ends and fit with insulated bushings. Conduits are to be bonded to ground in accordance with all local and national requirements. The bend radius of the conduit shall be 10 times the outside conduit diameter. **Install a pull string with minimum tensile strength of 30 lbs in each conduit.** In multi-level buildings with **stacked Telecommunications Rooms**, sleeves shall be provided from the ceiling of the lowest level to the floor of the top level. Size, quantity, and location will be provided by the RCIT Communications Bureau Telecommunications Engineer.
- c. **MPOE:** In the MPOE (minimum point of entry) provide and install two (2) trade size 4 conduits from the MPOE to the 1st Floor Telecommunications Room. Conduits are to be run in the most direct route possible with no more than the equivalent of two 90-degree bends without a pull box. The minimum size of a pull box shall be 24" W X 36" L X 12" D. Ream all conduit ends and fit with insulated bushings. Conduits are to be bonded to ground in accordance with all local and national requirements. Location of conduits will be identified on drawings provided by the RCIT Communications Bureau Telecommunications Engineer and provided on a site-by-site basis. The bend radius of the conduit shall be 10 times the outside conduit diameter. **Install a pull string with minimum tensile strength of 30 lbs in each conduit.**
- d. **Telecommunications Rooms in Multiple Buildings on Same or Adjacent Properties:** The number of conduits will be determined by the **size and scope of each project.** The items listed below are **BASIC** requirements only and as the scope of the project increases, some or all of the items listed below may undergo major changes:
 - (1) Conduits shall be rigid and shall be four (4) trade size 4. A minimum of two (2) conduits will be installed from the primary Telecommunications Room and each building as defined by the RCIT

Communications Bureau Telecommunications Engineer. Conduits shall be installed in the most direct route possible.

- (2) Conduits shall be buried a minimum of 36 inches below finish grade.
 - (3) Conduits shall be encased in 2,000 PSI concrete where vehicle traffic occurs and encased in slurry everywhere else for the entire length.
 - (4) Tracer tape shall be installed the entire conduit length. Tracer tape shall be 12 inches wide, flat, and metallic and shall be installed 12 inches above concrete encasement. Tape shall be imprinted with the words "WARNING – FIBER OPTIC CABLE" spaced at a minimum of 24 inches on center.
 - (5) No more than the equivalent of two (2) 90-degree sweeps shall be installed without the addition of a pull box, vault, or maintenance hole, which size and requirements will be defined by the RCIT Communications Bureau Telecommunications Engineer.
 - (6) Conduit runs in excess of 500 feet shall have a pull box, vault, or maintenance hole installed, which size and requirements will be defined by the RCIT Communications Bureau Telecommunications Engineer. All sweeps shall have a minimum bending-radius of 10 times the diameter of the conduit.
 - (7) All four inch conduits should have a minimum ¼-inch nylon pull rope. All four inch conduits over 400 feet should have a minimum 3/8-inch nylon pull rope. The size and requirements of pull boxes, vaults, or maintenance holes can only be determined by the scope of the project and will be defined by the RCIT Communications Bureau Telecommunications Engineer.
8. **Firewalls:** If any firewalls are present, conduit/sleeve access through the wall must be provided by the contractor. The ends of any conduit/sleeve penetrating a firewall will be sealed with the appropriate fire stop. Identification of the areas that must be sealed shall be identified by the contractor at the time of wiring. Size and location of the sleeves will be determined by the RCIT Communications Bureau Telecommunications Engineer. Sleeves should penetrate the wall a minimum of 3 inches. Ream each end of conduit and fit with insulated bushing.

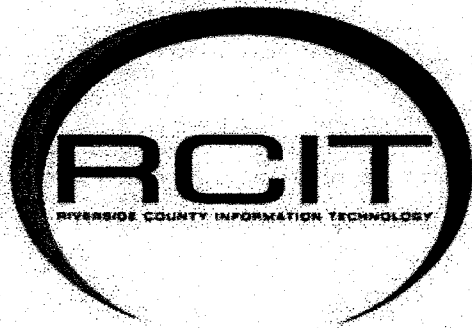
9. **Primary Service Conduit Requirements (New Construction):**

- a. The number of all primary service conduits will be determined by the size and scope of each project. The items listed below are **BASIC** requirements only and as the scope of the project increases, some or all of the items listed below may undergo major changes:
 - (1) Entrance conduits shall be rigid and shall be four (4) trade size 4. A **minimum** of two (2) conduits will be installed into the Telecommunications Room. Conduits shall be installed in the most direct route possible.

- (2) Conduits shall be buried a minimum of 36 inches below finish grade.
- (3) Conduits shall be encased in slurry for sections identified by RCIT Communications Bureau Telecommunications Engineer as no traffic or low risk.
- (4) Conduits shall be encased in 2,000 PSI concrete for sections not identified in section 5a3.
- (5) Tracer tape shall be installed the entire conduit length. Tracer tape shall be 12 inches wide, flat, and metallic and shall be installed 12 inches above concrete encasement. Tape shall be imprinted with the words "WARNING – FIBER OPTIC CABLE" spaced at a minimum of 24 inches on center.
- (6) No more than the equivalent of two (2) 90-degree sweeps shall be installed without the addition of a pull box, vault, or maintenance hole, which size and requirements will be defined by the RCIT Communications Bureau Telecommunications Engineer.
- (7) Conduit runs in excess of 500 feet shall have a pull box, vault, or maintenance hole installed, which size and requirements will be defined by the RCIT Communications Bureau Telecommunications Engineer. All bends shall have a minimum-bending radius of 10 times the diameter of the conduit.
- (8) All four-inch conduits should have a minimum ¼-inch nylon pull rope. All four-inch conduits over 400 feet should have a minimum 3/8-inch nylon pull rope. The size and requirements of pull boxes, vaults, or maintenance holes can only be determined by the scope of the project and will be defined by the RCIT Communications Bureau Telecommunications Engineer.

E. CABLE TRAYS:

1. If the structural ceiling height is greater than 16' AFF or the occupied space is greater than 15,000 square feet, a cable tray system will be required to support the voice and data wiring. Consult with the RCIT Communications Bureau Telecommunications Engineer requirements to assist in the design of the cable tray system. A structural Engineer will be required to design the cable tray system to code and manufacturer specification and submit design to the RCIT Communications Bureau Telecommunications Engineer for approval.



System's Furniture Telecommunications Standards

July 29, 2009

1. Work Area Outlets

- 1.1. **Definition: Work Area Outlet (WAO)** – consists of a telecommunications faceplate and its component(s) – what telephones and PC's are plugged into at a user's desk location or work area.
- 1.2. Furniture communications outlet openings (WAO's) shall accommodate the installation of an industry-standard electrical, single gang faceplate, with a minimum opening of 2 inches by 3 inches.
 - 1.2.1. Two (2) factory or field-installed threaded openings shall be provided for single gang faceplate mounting and shall accommodate a 10x22 screw.
 - 1.2.2. All Work Area Outlet (WAO) mountings must be factory installed and permanently affixed to the furniture frame to eliminate any movement of the WAO.
- 1.3. Furniture communications outlet openings (within the furniture) shall provide a minimum mounting depth of 3.5".
 - 1.3.1. If required, extender plates shall be provided by the furniture vendor at the time of delivery to meet the minimum depth indicated above.

2. Cabling Pathways

- 2.1. Furniture pathways shall have the capacity to accommodate a minimum of (4) Standard Work Area Outlets. Each Work Area Outlet is to be cabled with qty 3 - .30" diameter cables for a total of (12) .30" communications cables. Pathway capacity shall not exceed 40%.
 - 2.1.1. Remaining pathway capacity will be utilized to accommodate future moves, adds, and changes (MAC's).
 - 2.1.2. This requirement applies to ALL areas of the furniture pathway INCLUDING comers, panel to panel pathways, etc.
 - 2.1.3. Consideration will include space used in furniture for connecting hardware.
- 2.2. Furniture system shall completely conceal all communications cabling in all cabling pathways.
- 2.3. Entire communications cabling pathway shall contain a continuous and rigid support infrastructure within each base panel.
- 2.4. All other supports within each panel shall be no more than 18" apart.
- 2.5. When communications cabling pathways run parallel to electrical pathways:
 - 2.5.1. A metallic barrier shall be provided (i.e. metallic divider, conduit, corrugated or solid) and shall be bonded to ground.
 - 2.5.2. Electrical components shall not impede on communications cabling pathways so as to restrict in any way the fill requirements noted above.
- 2.6. The minimum size pathway shall not force the cable bend radius to be less than 25 mm (1.3 in) under conditions of maximum cable fill.
- 2.7. Metallic pathway edges shall utilize protective bushings.

2.8. All panels shall be equipped with at least one (1) of the following raceways and shall singularly conform to all of the above noted cabling pathway requirements:

2.8.1. Base Raceway

2.8.2. Top Raceway

2.8.3. Belt Line Raceway

3. Furniture In-Feeds

3.1. Furniture in-feeds shall have capacity for a minimum of (4) Standard Work Area Outlets with (3) .30" diameter cables to each location for a total of (12) .30" communications cables and not exceed 40% of pathway capacity.

3.1.1. Remaining pathway capacity will be utilized to accommodate future moves, adds, and changes (MAC's).

3.1.2. Consideration will include space used in furniture for connecting hardware.

3.2. Furniture in-feeds shall have the ability to provide for separate entry points for power and communications cabling.

3.2.1. Where entry points are closer than 6 inches, a physical / mechanical barrier shall be provided to separate cabling entry points.

3.3. Metallic in-feed edges shall utilize protective bushings.

3.4. One furniture in-feed shall be provided for every four (4) WAO's (Work Area Outlets).

3.5. Placement/quantity of furniture in-feeds shall be coordinated and verified by County IT.

3.6. The proper attachments, bushings, fittings, etc. for both floor and hard wall in-feeds shall be provided by the furniture vendor.

3.7. Open access shall be provided for all hard wall electrical and communications in-feeds.

EXHIBIT "K"

STANDARD FORM OF GENERAL CONDITIONS

GENERAL CONDITIONS OF
THE STANDARD FORM CONSTRUCTION CONTRACT
BETWEEN COUNTY AND CONTRACTOR

(LONG FORM)

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